WEST VALLEY COTTON GROWERS
10030 West Mount Whitney Ave.
Riverdale, CA 93656
Attn: Tom Pires

PM10 & TOTAL PARTICULATE TESTING BATTERY CONDENSER & #3 DRYER/CLEANER CYCLONES

OCTOBER 28, 1993

Prepared By:

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Results Verified By:
Tom Porter
Vice President - Air Test Division

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BTC ENVIRONMENTAL INCORPORATED

TABLE OF CONTENTS

TABLE OF CONTENTS (Cont)

PARTICULATE EMISSION SUMMARY

BATTERY CONDENSER CYCLONE

	Run #1	Run #2	Run #3	Average
Total Particulate				
gr/DSCF	0.0152	0.0131	0.0131	*0.0138*
lb/hr	0.84	0.81	0.78	*0.81*
lb/bale	0.05	0.04	0.03	*0.04*
Particule Size Distribution				
+10µ (%)	56.13	49.51	75.68	*60.44*
+10µ (lb/hr)	0.47	0.40	0.59	*0.49*
+10µ (lb/bale)	0.03	0.02	0.03	*0.03*
−10µ (%)	43.87	50.49	24.32	*39.56*
−10µ (lb/hr)	0.37	0.41	0.19	*0.32*
−10µ (lb/bale)	0.02	0.02	0.01	*0.02*
Average Bales/hr	16.0	20.9	22.3	*19.7*

#3 DRYER/CLEANER CYCLONE

	Run #1	Run #2	Run #3	Average
Total Particulate				
gr/DSCF	0.0441	0.0346	0.0307	*0.0365*
lb/hr	0.74	0.60	0.53	*0.62*
lb/bale	0.03	0.02	0.02	*0.03*
Particule Size Distribution				
+10µ (%)	63.77	71.86	58.81	*64.81*
+10µ (lb/hr)	0.47	0.43	0.31	*0.40*
+10µ (lb/bale)	0.02	0.02	0.01	*0.02*
−10µ (%)	36.23	28.14	41.19	*35.19*
−10µ (lb/hr)	0.27	0.17	0.22	*0.22*
−10µ (lb/bale)	0.01	0.01	0.01	*0.01*
Average Bales/hr	23.2	24.3	22.7	*23.4*

I. INTRODUCTION

INTRODUCTION

On October 28, 1993, BTC Environmental performed source emissions tests for Total and PM-10 particulate matter on a Condenser Battery and a #3 Dryer/Cleaner Cyclone. The cyclones are located at West Valley Cooton Growers Gin, 10030 West Mount Whitney Ave., Riverdale, California. Sampling was done in triplicate for total particulate and PM-10 particule size distribution. Production rates, in bales per hour, were taken by West Valley Cotton Growers personnel. No problems were encountered during the sampling. The exhaust stacks were candy canes attached to the top of the cyclones and continued in a vertical position. The testing was conducted with two (2) ports. The Battery Condenser duct is 36 inches in diameter and the ports ports were located 18 inches upstream and 75 inches downstream from the nearest disturbance. The #3 Dryer/Cleaner duct is 17 inches in diameter and the ports ports were located 18 inches upstream and 180 inches downstream from the nearest disturbance.

SAMPLING AND ANALYTICAL PROCEDURES

STACK GAS ANALYSIS: The oxygen and carbon dioxide content of the exhaust gases were assumed to be ambient air. Oxygen = 20.9% and Carbon Dioxide = 0.05%.

STACK GAS VELOCITY: The stack gas velocity was determined using an "S" type pitot tube connected to a magnehelic gauge. The "S" type pitot was used to determine the stack velocity profile for each run. A total of 24 (12 points per port) traverse points were utilized on each duct.

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.

TOTAL PARTICULATE EMISSIONS: A CARB Method 5 sampling train was utilized to determine the total particulate emission from the cyclones. The sample train consisted of a stainless steel nozzle, a heated stainless steel probe, a heated glass fiber filter and cooled impingers. After the weight is obtained from the filter, probe and nozzle rinses; the total solids in the impingers is added to the front-end catch to satisfy SJVUAPCD rules.

PARTICULE SIZE DISTRIBUTION: A sample was taken isokinetically from the stack using a GII cascade impactor. A modified CARB Method 501 was utilized. The impactor consisted of two (2) slotted discs, a back up filter and cooled impingers. The first two (2) discs are +10µ and the backup filter, probe and impingers are -10µ. The total weights obtained from each fraction were added together to obtain the total particulate weight. The total weight was used to determine the % of the +10µ and the -10µ fraction. The total weight obtained from the total particulate runs are used to determine the +10µ and the -10µ results reported in grains/dscf, lb/hr and lb/bale.

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 SJVUAPCD standard conditions ($60^{o}F$ & 29.92 in Hg).

All glassware was inspected before and after each run to insure that no breakage had occured during the sampling. No problems were encountered during the sampling.

If you have any questions concerning the above results please contact the undersigned at 805-644-1095.

Respectfully submitted,
BTC Environmental, INC.

Tom Porter
Vice President - Air Test Division

II. WET TEST METHODS DATA SUMMARIES

FIELD DATA SUMMARY
TOTAL PARTICULATE
BATTER CONDENSER CYCLONE

	Run#1	Run#2	Run#3
Vlc - Volume of water collected, ml	9.4	9.4	5.7
Vm - Gas volume, meter cond., dcf	42.290	47.473	47.135
Y - Meter calibration factor	1.003	1.003	1.003
Pbar - Barometric pressure, in. Hg	29.74	29.74	29.63
Pg - Stack static pressure, in. H20	0.00	0.00	0.00
ΔH - Avg. meter press. diff., in. H20	1.534	1.828	1.743
Tm - Absolute meter temperature, °R	533.8	553.3	570.1
Vm(std) - Standard sample gas vol., dscf	41.2190	44.6671	42.8770
Bws - Water vapor part in gas stream	1.0	1.0	0.6
CO2 - Dry concentration, volume %	0.1	0.1	0.1
O2 - Dry concentration, volume %	20.9	20.9	20.9
Md - Mol wt. stack gas, dry, g/gmole	28.844	28.844	28.844
Ms - Mol wt. stack gas, wet, g/gmole	28.730	28.739	28.777
Cp - Pitot tube coef., dimensionless	0.827	0.827	0.827
Δp - Avg. of sq. roots of each Δp	0.284	0.318	0.310
Ts - Absolute stack Temp. °R	530.1	541.6	550.4
A - Area of stack, square feet	7.07	7.07	7.07
Qstd - Volumetric flow rate, dscfm	6474	7163	6937
An - Area of nozzel, square feet	0.0007467	0.0007467	0.0007467
ø - Sampling time, minutes	60	60	60
I - Isokinetic variation, percent	100.2 ✓	98.1 ✓	97.3 ✓

FIELD DATA SUMMARY
TOTAL PARTICULATE
#3 CLEANER CYCLONE

	Run#1	Run#2	Run#3
Vlc - Volume of water collected, ml	7.5	5.9	5.2
Vm - Gas volume, meter cond., dcf	38.777	40.128	37.023
Y - Meter calibration factor	1.003	1.003	1.003
Pbar - Barometric pressure, in. Hg	29.49	29.49	29.49
Pg - Stack static pressure, in. H20	0.00	0.00	0.00
ΔH - Avg. meter press. diff., in. H20	1.169	1.252	1.232
Tm - Absolute meter temperature, °R	573.3	575.9	575.4
Vm(std) - Standard sample gas vol., dscf	34.8644	35.9220	33.1672
Bws - Water vapor part in gas stream	1.0	0.8	0.7
CO2 - Dry concentration, volume %	0.1	0.1	0.1
O2 - Dry concentration, volume %	20.9	20.9	20.9
Md - Mol wt. stack gas, dry, g/gmole	28.844	28.844	28.844
Ms - Mol wt. stack gas, wet, g/gmole	28.737	28.762	28.765
Cp - Pitot tube coef., dimensionless	0.827	0.827	0.827
Δp - Avg. of sq. roots of each Δp	0.398	0.411	0.407
Ts - Absolute stack Temp. °R	556.7	559.5	553.6
A - Area of stack, square feet	1.58	1.58	1.58
Qstd - Volumetric flow rate, dscfm	1965	2030	2022
An - Area of nozzel, square feet	0.0004746	0.0004746	0.0004746
ø - Sampling time, minutes	60	60	60
I - Isokinetic variation, percent	97.9	97.7	90.5

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FIELD DATA SUMMARY
PM10 PARTICULATE
BATTERY CONDENSER CYCLONE

	Run#1	Run#2	Run#3
Vlc – Volume of water collected, ml	10.1	5.5	6.2
Vm – Gas volume, meter cond., dcf	32.732	24.490	23.776
Y – Meter calibration factor	0.986	0.986	0.986
Pbar – Barometric pressure, in. Hg	29.74	29.74	29.63
Pg – Stack static pressure, in. H20	0.00	0.00	0.00
ΔH – Avg. meter press. diff., in. H20	1.931	0.920	0.838
Tm – Absolute meter temperature, °R	539.8	554.1	572.4
Vm(std) – Standard sample gas vol., dscf	31.0391	22.5690	21.1274
Bws – Water vapor part in gas stream	1.5	1.1	1.3
CO2 – Dry concentration, volume %	0.1	0.1	0.1
O2 – Dry concentration, volume %	20.9	20.9	20.9
Md – Mol wt. stack gas, dry, g/gmole	28.844	28.844	28.844
Ms – Mol wt. stack gas, wet, g/gmole	28.682	28.722	28.698
Cp – Pitot tube coef., dimensionless	0.827	0.827	0.827
Δp – Avg. of sq. roots of each Δp	0.265	0.328	0.311
Ts – Absolute stack Temp. °R	528.3	539.3	549.4
A – Area of stack, square feet	7.07	7.07	7.07
Qstd – Volumetric flow rate, dscfm	6030	7408	6935
An – Area of nozzel, square feet	0.0007670	0.0004276	0.0004276
ø – Sampling time, minutes	60	60	60
I – Isokinetic variation, percent	80.2 ✓	85.1 ✓	85.1 ✓

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FIELD DATA SUMMARY
PM10 PARTICULATE
#3 CLEANER CYCLONE

	Run#1	Run#2	Run#3
Vlc - Volume of water collected, ml	4.4	10.0	6.1
Vm - Gas volume, meter cond., dcf	29.468	30.041	30.273
Y - Meter calibration factor	0.986	0.986	0.986
Pbar - Barometric pressure, in. Hg	29.49	29.49	29.49
Pg - Stack static pressure, in. H20	0.00	0.00	0.00
ΔH - Avg. meter press. diff., in. H20	1.353	1.368	1.384
Tm - Absolute meter temperature, °R	570.5	571.9	574.1
Vm(std) - Standard sample gas vol., dscf	26.1820	26.6260	26.7305
Bws - Water vapor part in gas stream	0.8	1.7	1.0
CO2 - Dry concentration, volume %	0.1	0.1	0.1
O2 - Dry concentration, volume %	20.9	20.9	20.9
Md - Mol wt. stack gas, dry, g/gmole	28.844	28.844	28.844
Ms - Mol wt. stack gas, wet, g/gmole	28.760	28.658	28.730
Cp - Pitot tube coef., dimensionless	0.827	0.827	0.827
Δp - Avg. of sq. roots of each Δp	0.397	0.404	0.401
Ts - Absolute stack Temp. °R	556.6	556.8	554.0
A - Area of stack, square feet	1.58	1.58	1.58
Qstd - Volumetric flow rate, dscfm	1966	1985	1984
An - Area of nozzel, square feet	0.0004276	0.0004276	0.0004276
ø - Sampling time, minutes	60	60	60
I - Isokinetic variation, percent	83.0	83.6	84.0

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BATTERY CONDENSER CYCLONE

FIELD DATA & CALCULATIONS SUMMARY

Client: **West Valley Cotton**
Site: **Riverdale**
Unit: **Battery Condenser**

Date: **10/28/93**
Type: ***T std = 60 F***
Run: **1-Part**

Wlc	Water Condensate Weight	9.4	g		
Vlc	Water Condensate Volume	9.4	ml		
Vm	Metered Sample Gas Volume	42.290	dcf		
Lp	Avg. Leak Rate	0.008	cf		
Vn	Leak Corrected Sample Gas Volume	42.290	dcf		
Y	Dry Gas Meter Calibration Factor	1.003			
Pbar	Barometric Pressure	29.74	in. Hg		
Pg	Static Pressure	0	in. H2O		
Ps	Stack Pressure, Absolute	29.74	in. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.534	in. H2O		
Tm	Dry Gas Meter Temperature, Average	73.8	deg. F	533.8	deg. R
Vm(std)	Sample Gas Volume	41.2190	dscf		
Vm(wet)	Sample Gas Volume, Wet	41.6563	scf		
Vw(std)	Water Vapor Volume	0.4373	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	28.730	lb/lb mole		
Cp	Pitot Calibration Factor	0.827			
Δ P	Velocity Head, Average Square Root	0.284	in. H20		
Ts	Stack Gas Temperature, Average	70.1	deg. F	530.1	deg. R
As	Area of Stack	7.07	sq ft	36.0	in. dia.
Vs	Stack Gas Velocity	15.82	ft/sec		
Qa	Actual Flow Rate	6,710	cfm		
Qad	Actual Flow Rate, Dry	6,639	dcfm		
Q(std)	Stack Gas Flow Rate	6,474	dscfm		
An	Nozzle Area	0.0007467	sq ft	0.370	in. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	100.2	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: **West Valley Cotton**
Site: **Riverdale**
Unit: **Battery Condenser**

Date: **10/28/93**
Type: ***T std = 60 F***
Run: **2-Part**

Wlc	Water Condensate Weight	9.4	g		
Vlc	Water Condensate Volume	9.4	ml		
Vm	Metered Sample Gas Volume	47.473	dcf		
Lp	Avg. Leak Rate	0.002	cf		
Vn	Leak Corrected Sample Gas Volume	47.473	dcf		
Y	Dry Gas Meter Calibration Factor	1.003			
Pbar	Barometric Pressure	29.74	In. Hg		
Pg	Static Pressure	0	In. H2O		
Ps	Stack Pressure, Absolute	29.74	In. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.828	In. H2O		
Tm	Dry Gas Meter Temperature, Average	93.3	deg. F	553.3	deg. R
Vm(std)	Sample Gas Volume	44.6671	dscf		
Vm(wet)	Sample Gas Volume, Wet	45.1044	scf		
Vw(std)	Water Vapor Volume	0.4373	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	0.827			
Δ P	Velocity Head, Average Square Root	0.318	In. H20		
Ts	Stack Gas Temperature, Average	81.6	deg. F	541.6	deg. R
As	Area of Stack	7.07	sq ft	36.0	in. dia.
Vs	Stack Gas Velocity	17.87	ft/sec		
Qa	Actual Flow Rate	7,579	cfm		
Qad	Actual Flow Rate, Dry	7,506	dcfm		
Q(std)	Stack Gas Flow Rate	7,163	dscfm		
An	Nozzle Area	0.0007467	sq ft	0.370	in. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	98.1	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: West Valley Cotton
Site: Riverdale
Unit: Battery Condenser

Date: 10/28/93
Type: *T std = 60 F*
Run: 3-Part

Wlc	Water Condensate Weight	5.7	g		
Vlc	Water Condensate Volume	5.7	ml		
Vm	Metered Sample Gas Volume	47.135	dcf		
Lp	Avg. Leak Rate	0.006	cf		
Vn	Leak Corrected Sample Gas Volume	47.135	dcf		
Y	Dry Gas Meter Calibration Factor	1.003			
Pbar	Barometric Pressure	29.63	In. Hg		
Pg	Static Pressure	0	In. H2O		
Ps	Stack Pressure, Absolute	29.63	In. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.743	In. H2O		
Tm	Dry Gas Meter Temperature, Average	110.1	deg. F	570.1	deg. R
Vm(std)	Sample Gas Volume	42.8770	dscf		
Vm(wet)	Sample Gas Volume, Wet	43.1422	scf		
Vw(std)	Water Vapor Volume	0.2652	scf		
Bws	Water Content of Stack Gas	0.006		0.6	%
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	28.777	lb/lb mole		
Cp	Pitot Calibration Factor	0.827			
Δ P	Velocity Head, Average Square Root	0.310	In. H20		
Ts	Stack Gas Temperature, Average	90.4	deg. F	550.4	deg. R
As	Area of Stack	7.07	sq ft	36.0	in. dia.
Vs	Stack Gas Velocity	17.59	ft/sec		
Qa	Actual Flow Rate	7,460	cfm		
Qad	Actual Flow Rate, Dry	7,414	dcfm		
Q(std)	Stack Gas Flow Rate	6,937	dscfm		
An	Nozzle Area	0.0007467	sq ft	0.370	in. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	97.3	%		

Client: West Valley Cotton
Site: Riverdale
Unit: Battery Condenser

Date: 10/28/93
Type: *T std = 60 F*
Run: Run 1 PM10

FIELD DATA & CALCULATIONS SUMMARY

Wlc	Water Condensate Weight	10.1	g		
Vlc	Water Condensate Volume	10.1	ml		
Vm	Metered Sample Gas Volume	32.732	dcf		
Lp	Avg. Leak Rate	0.014	cf		
Vn	Leak Corrected Sample Gas Volume	32.732	dcf		
Y	Dry Gas Meter Calibration Factor	0.986			
Pbar	Barometric Pressure	29.74	in. Hg		
Pg	Static Pressure	0	in. H2O		
Ps	Stack Pressure, Absolute	29.74	in. Hg		
Del. H	Dry Gas Meter Press. Differential, Average	1.931	in. H2O		
Tm	Dry Gas Meter Temperature, Average	79.8	deg. F	539.8	deg. R
Vm(std)	Sample Gas Volume	31.0391	dscf		
Vm(wet)	Sample Gas Volume, Wet	31.5089	scf		
Vw(std)	Water Vapor Volume	0.4698	scf		
Bws	Water Content of Stack Gas	0.015			
CO2	Carbon Dioxide, Dry	0.1	%	1.491	%
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	28.682	lb/lb mole		
Cp	Pitot Calibration Factor	0.827			
Del. P	Velocity Head, Average Square Root	0.265	in. H20		
Ts	Stack Gas Temperature, Average	68.3	deg. F	528.3	deg. R
As	Area of Stack	7.07	sq ft	36.0	in. dia.
Vs	Stack Gas Velocity	14.75	ft/sec		
Qa	Actual Flow Rate	6,257	cfm		
Qsd	Actual Flow Rate, Dry	6,164	dcfm		
Q(std)	Stack Gas Flow Rate	6,030	dscfm		
An	Nozzle Area	0.000767	sq ft	0.375	in. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	80.2	%		

Client: West Valley Cotton
Site: Riverdale
Unit: Battery Condenser

Date: 10/28/93
Type: *T std = 60 F*
Run: Run 2 PM10

FIELD DATA & CALCULATIONS SUMMARY

Wlc	Water Condensate Weight	5.5	g		
Vlc	Water Condensate Volume	5.5	ml		
Vm	Metered Sample Gas Volume	24.490	dcf		
Lp	Avg. Leak Rate	0.010	cf		
Vn	Leak Corrected Sample Gas Volume	24.490	dcf		
Y	Dry Gas Meter Calibration Factor	0.986			
Pbar	Barometric Pressure	29.74	In. Hg		
Pg	Static Pressure	0	In. H2O		
Ps	Stack Pressure, Absolute	29.74	In. Hg		
Del. H	Dry Gas Meter Press. Differential, Average	0.920	In. H2O		
Tm	Dry Gas Meter Temperature, Average	94.1	deg. F	554.1	deg. R
Vm(std)	Sample Gas Volume	22.5690	dscf		
Vm(wet)	Sample Gas Volume, Wet	22.8248	scf		
Vw(std)	Water Vapor Volume	0.2559	scf		
Bws	Water Content of Stack Gas	0.011			
CO2	Carbon Dioxide, Dry	0.1	%	1.121	%
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	28.722	lb/lb mole		
Cp	Pitot Calibration Factor	0.827			
Del. P	Velocity Head, Average Square Root	0.328	In. H20		
Ts	Stack Gas Temperature, Average	79.3	deg. F	539.3	deg. R
As	Area of Stack	7.07	sq ft	36.0	In. dia.
Vs	Stack Gas Velocity	18.43	ft/sec		
Qa	Actual Flow Rate	7,817	cfm		
Qsd	Actual Flow Rate, Dry	7,730	dcfm		
Q(std)	Stack Gas Flow Rate	7,408	dscfm		
An	Nozzle Area	0.0004276	sq ft	0.280	In. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	85.1	%		

Client: **West Valley Cotton**
Site: **Riverdale**
Unit: **Battery Condenser**

Date: **10/28/93**
Type: ***T std = 60 F***
Run: **Run 3 PM10**

FIELD DATA & CALCULATIONS SUMMARY

Wlc	Water Condensate Weight	6.2	g		
Vlc	Water Condensate Volume	6.2	ml		
Vm	Metered Sample Gas Volume	23.776	dcf		
Lp	Avg. Leak Rate	0.008	cf		
Vn	Leak Corrected Sample Gas Volume	23.776	dcf		
Y	Dry Gas Meter Calibration Factor	0.986			
Pbar	Barometric Pressure	29.63	In. Hg		
Pg	Static Pressure	0	In. H2O		
Ps	Stack Pressure, Absolute	29.63	In. Hg		
Del. H	Dry Gas Meter Press. Differential, Average	0.838	In. H2O		
Tm	Dry Gas Meter Temperature, Average	112.4	deg. F	572.4	deg. R
Vm(std)	Sample Gas Volume	21.1274	dscf		
Vm(wet)	Sample Gas Volume, Wet	21.4158	scf		
Vw(std)	Water Vapor Volume	0.2884	scf		
Bws	Water Content of Stack Gas	0.013		1.347	%
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	28.699	lb/lb mole		
Cp	Pitot Calibration Factor	0.827			
Del. P	Velocity Head, Average Square Root	0.311	In. H20		
Ts	Stack Gas Temperature, Average	89.4	deg. F	549.4	deg. R
As	Area of Stack	7.07	sq ft	36.0	In. dia.
Vs	Stack Gas Velocity	17.68	ft/sec		
Qa	Actual Flow Rate	7,500	cfm		
Qad	Actual Flow Rate, Dry	7,399	dcfm		
Q(std)	Stack Gas Flow Rate	6,935	dscfm		
An	Nozzle Area	0.0004276	sq ft	0.280	In. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	85.1	%		

#3 DRYER/CLEANER
CYCLONE

FIELD DATA & CALCULATIONS SUMMARY

Client: West Valley Cotton
Site: Riverdale
Unit: Cleaner

Date: 10/28/93
Type: T std = 60 F
Run: 4-Part

Wlc	Water Condensate Weight	7.5	g		
Vlc	Water Condensate Volume	7.5	ml		
Vm	Metered Sample Gas Volume	38.777	dcf		
Lp	Avg. Leak Rate	0.004	cf		
Vn	Leak Corrected Sample Gas Volume	38.777	dcf		
Y	Dry Gas Meter Calibration Factor	1.003			
Pbar	Barometric Pressure	29.49	in. Hg		
Pg	Static Pressure	0	in. H2O		
Ps	Stack Pressure, Absolute	29.49	in. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.169	in. H2O		
Tm	Dry Gas Meter Temperature, Average	113.3	deg. F	573.3	deg. R
Vm(std)	Sample Gas Volume	34.8644	dscf		
Vm(wet)	Sample Gas Volume, Wet	35.2133	scf		
Vw(std)	Water Vapor Volume	0.3489	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	28.737	lb/lb mole		
Cp	Pitot Calibration Factor	0.827			
Δ P	Velocity Head, Average Square Root	0.398	in. H20		
Ts	Stack Gas Temperature, Average	96.7	deg. F	556.7	deg. R
As	Area of Stack	1.58	sq ft	17.0	in. dia.
Vs	Stack Gas Velocity	22.80	ft/sec		
Qa	Actual Flow Rate	2,156	cfm		
Qad	Actual Flow Rate, Dry	2,135	dcfm		
Q(std)	Stack Gas Flow Rate	1,965	dscfm		
An	Nozzle Area	0.0004746	sq ft	0.295	in. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	97.9	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: **West Valley Cotton**
Site: **Riverdale**
Unit: **Cleaner**

Date: **10/28/93**
Type: ***T std = 60 F***
Run: **5-Part**

Wlc	Water Condensate Weight	5.9	g		
Vlc	Water Condensate Volume	5.9	ml		
Vm	Metered Sample Gas Volume	40.128	dcf		
Lp	Avg. Leak Rate	0.010	cf		
Vn	Leak Corrected Sample Gas Volume	40.128	dcf		
Y	Dry Gas Meter Calibration Factor	1.003			
Pbar	Barometric Pressure	29.49	in. Hg		
Pg	Static Pressure	0	in. H2O		
Ps	Stack Pressure, Absolute	29.49	in. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.252	in. H2O		
Tm	Dry Gas Meter Temperature, Average	115.9	deg. F	575.9	deg. R
Vm(std)	Sample Gas Volume	35.9220	dscf		
Vm(wet)	Sample Gas Volume, Wet	36.1964	scf		
Vw(std)	Water Vapor Volume	0.2745	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	28.762	lb/lb mole		
Cp	Pitot Calibration Factor	0.827			
Δ P	Velocity Head, Average Square Root	0.411	in. H20		
Ts	Stack Gas Temperature, Average	99.5	deg. F	559.5	deg. R
As	Area of Stack	1.58	sq ft	17.0	in. dia.
Vs	Stack Gas Velocity	23.61	ft/sec		
Qa	Actual Flow Rate	2,233	cfm		
Qad	Actual Flow Rate, Dry	2,216	dcfm		
Q(std)	Stack Gas Flow Rate	2,030	dscfm		
An	Nozzle Area	0.0004746	sq ft	0.295	in. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	97.7	%		

FIELD DATA & CALCULATIONS SUMMARY

Client: **West Valley Cotton**
Site: **Riverdale**
Unit: **Cleaner**

Date: **10/28/93**
Type: ***T std = 60 F***
Run: **6-Part**

Wlc	Water Condensate Weight	5.2	g		
Vlc	Water Condensate Volume	5.2	ml		
Vm	Metered Sample Gas Volume	37.023	dcf		
Lp	Avg. Leak Rate	0.004	cf		
Vn	Leak Corrected Sample Gas Volume	37.023	dcf		
Y	Dry Gas Meter Calibration Factor	1.003			
Pbar	Barometric Pressure	29.49	in. Hg		
Pg	Static Pressure	0	in. H2O		
Ps	Stack Pressure, Absolute	29.49	in. Hg		
Δ H	Dry Gas Meter Press. Differential, Average	1.232	in. H2O		
Tm	Dry Gas Meter Temperature, Average	115.4	deg. F	575.4	deg. R
Vm(std)	Sample Gas Volume	33.1672	dscf		
Vm(wet)	Sample Gas Volume, Wet	33.4091	scf		
Vw(std)	Water Vapor Volume	0.2419	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	28.765	lb/lb mole		
Cp	Pitot Calibration Factor	0.827			
Δ P	Velocity Head, Average Square Root	0.407	in. H20		
Ts	Stack Gas Temperature, Average	93.6	deg. F	553.6	deg. R
As	Area of Stack	1.58	sq ft	17.0	in. dia.
Vs	Stack Gas Velocity	23.27	ft/sec		
Qa	Actual Flow Rate	2,200	cfm		
Qad	Actual Flow Rate, Dry	2,184	dcfm		
Q(std)	Stack Gas Flow Rate	2,022	dscfm		
An	Nozzle Area	0.0004746	sq ft	0.295	in. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	90.5	%		

Client: **West Valley Cotton**
Site: **Riverdale**
Unit: **#3 Cleaner**

Date: **10/28/93**
Type: ***T std = 60 F***
Run: **Run 4 PM10**

FIELD DATA & CALCULATIONS SUMMARY

Wlc	Water Condensate Weight	4.4	g		
Vlc	Water Condensate Volume	4.4	ml		
Vm	Metered Sample Gas Volume	29.468	dcf		
Lp	Avg. Leak Rate	0.010	cf		
Vn	Leak Corrected Sample Gas Volume	29.468	dcf		
Y	Dry Gas Meter Calibration Factor	0.986			
Pbar	Barometric Pressure	29.49	in. Hg		
Pg	Static Pressure	0	in. H2O		
Ps	Stack Pressure, Absolute	29.49	in. Hg		
Del. H	Dry Gas Meter Press. Differential, Average	1.353	in. H2O		
Tm	Dry Gas Meter Temperature, Average	110.5	deg. F	570.5	deg. R
Vm(std)	Sample Gas Volume	26.1820	dscf		
Vm(wet)	Sample Gas Volume, Wet	26.3867	scf		
Vw(std)	Water Vapor Volume	0.2047	scf		
Bws	Water Content of Stack Gas	0.008		0.776	%
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	28.760	lb/lb mole		
Cp	Pitot Calibration Factor	0.827			
Del. P	Velocity Head, Average Square Root	0.397	in. H20		
Ts	Stack Gas Temperature, Average	96.6	deg. F	556.6	deg. R
As	Area of Stack	1.58	sq ft	17.0	in. dia.
Vs	Stack Gas Velocity	22.75	ft/sec		
Qa	Actual Flow Rate	2,151	cfm		
Qad	Actual Flow Rate, Dry	2,135	dcfm		
Q(std)	Stack Gas Flow Rate	1,966	dscfm		
An	Nozzle Area	0.0004276	sq ft	0.280	in. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	83.0	%		

Client: **West Valley Cotton**
Site: **Riverdale**
Unit: **#3 Cleaner**

Date: **10/28/93**
Type: ***T std = 60 F***
Run: **Run 5 PM10**

FIELD DATA & CALCULATIONS SUMMARY

Wlc	Water Condensate Weight	10.0	g		
Vlc	Water Condensate Volume	10.0	ml		
Vm	Metered Sample Gas Volume	30.041	dcf		
Lp	Avg. Leak Rate	0.015	cf		
Vn	Leak Corrected Sample Gas Volume	30.041	dcf		
Y	Dry Gas Meter Calibration Factor	0.986			
Pbar	Barometric Pressure	29.49	In. Hg		
Pg	Static Pressure	0	In. H2O		
Ps	Stack Pressure, Absolute	29.49	In. Hg		
Del. H	Dry Gas Meter Press. Differential, Average	1.368	In. H2O		
Tm	Dry Gas Meter Temperature, Average	111.9	deg. F	571.9	deg. R
Vm(std)	Sample Gas Volume	26.6260	dscf		
Vm(wet)	Sample Gas Volume, Wet	27.0912	scf		
Vw(std)	Water Vapor Volume	0.4652	scf		
Bws	Water Content of Stack Gas	0.017		1.717	%
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	28.658	lb/lb mole		
Cp	Pitot Calibration Factor	0.827			
Del. P	Velocity Head, Average Square Root	0.404	In. H20		
Ts	Stack Gas Temperature, Average	96.8	deg. F	556.8	deg. R
As	Area of Stack	1.58	sq ft	17.0	In. dia.
Vs	Stack Gas Velocity	23.20	ft/sec		
Qa	Actual Flow Rate	2,194	cfm		
Qad	Actual Flow Rate, Dry	2,156	dcfm		
Q(std)	Stack Gas Flow Rate	1,985	dscfm		
An	Nozzle Area	0.0004276	sq ft	0.280	in. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	83.6	%		

Client: **West Valley Cotton**
Site: **Riverdale**
Unit: **#3 Cleaner**

Date: **10/28/93**
Type: ***T std = 60 F***
Run: **Run 6 PM10**

FIELD DATA & CALCULATIONS SUMMARY

Wlc	Water Condensate Weight	6.1	g		
Vlc	Water Condensate Volume	6.1	ml		
Vm	Metered Sample Gas Volume	30.273	dcf		
Lp	Avg. Leak Rate	0.005	cf		
Vn	Leak Corrected Sample Gas Volume	30.273	dcf		
Y	Dry Gas Meter Calibration Factor	0.986			
Pbar	Barometric Pressure	29.49	in. Hg		
Pg	Static Pressure	0	in. H2O		
Ps	Stack Pressure, Absolute	29.49	in. Hg		
Del. H	Dry Gas Meter Press. Differential, Average	1.384	in. H2O		
Tm	Dry Gas Meter Temperature, Average	114.1	deg. F	574.1	deg. R
Vm(std)	Sample Gas Volume	26.7305	dscf		
Vm(wet)	Sample Gas Volume, Wet	27.0142	scf		
Vw(std)	Water Vapor Volume	0.2838	scf		
Bws	Water Content of Stack Gas	0.011		1.050	%
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	0.827			
Del. P	Velocity Head, Average Square Root	0.401	in. H20		
Ts	Stack Gas Temperature, Average	94.0	deg. F	554.0	deg. R
As	Area of Stack	1.58	sq ft	17.0	in. dia.
Vs	Stack Gas Velocity	22.92	ft/sec		
Qa	Actual Flow Rate	2,168	cfm		
Qad	Actual Flow Rate, Dry	2,145	dcfm		
Q(std)	Stack Gas Flow Rate	1,984	dscfm		
An	Nozzle Area	0.0004276	sq ft	0.280	in. dia.
Theta	Sampling Time	60	min.		
I	Isokinetics	84.0	%		

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

CONSTANTS & CONVERSIONS

Tstd = 60, 68, or 70 °F
Pstd = 29.92 in. Hg
R = 21.85(in. Hg-cu ft/lb mole-°R)
Dw = 0.9982(g/ml)
MW(H2O) = 18.0 lb/lb mole
MW(Sulfur) = 32.03 lb/lb mole
M(H2SO4) = 98.08 lb/lb mole
MW(SO2) = 64.06 lb/lb mole
K(H2SO4) = 0.5 mg-g mole/g-meq
K(SO2) = 0.5 mg-g mole/g-meq

1 in. Hg = 13.6 in. H2O
1 lb = 453.6 g
1 lb = 7000 grain
1 g = 15.432 grain
1 mg = 0.001 g
1 hr = 60 min.
1 part/vol X = 1*10^6 ppmv X
1 bbl = 42 gal
M = 1000
La = 0.02 cfm

Kp = 85.49(ft/sec(sqrt{lb/lb mole-in.Hg/°R-in. H2O})
Kw,[cu ft/g-°R] = R / (453.6*MW(H2O)*Pstd)
Kf,[scf-ppm/lb mole] = R * (Tstd+460) * (1*10^6) / Pstd

INTERMEDIATE CALCULATIONS

F,[scf/MMBtu] = F Factor * (Tstd + 460) / 528
Ph,[in. Hg] = Pbar + (ΔH / 13.6)
N2,[%] = 100 - (O2% + CO2%)
Vlc,[ml] = Ww / Dw
Qa,[cfm] = 60 * Vs * As
Qad,[dcfm] = Qa * (1 - Bws)

CFR 40 - EPA EQUATIONS

eq. 2-8 T[°R] = T[°F]+460
eq. 2-6 Ps, [in. Hg] = Pbar+(Pg/13.6)
eq. 5-3 Bws, [%] = Vw(std) / { Vw(std) + Vm(std) }
eq. 3-2 Md, [lb/lb-mole] = 0.44*CO2%+0.32*O2%+0.28*(N2%+CO%)
eq. 2-5 Ms, [lb/lb mol] = Md*(1-Bws)+(MW(H2O)*Bws)
eq. 5-2 Vw(std), [scf] = Ww * Kw * (Tstd+460)
eq. 5-1 Vn, [cf] = Vm - ((Lp-La) * Theta)
eq. 5-1 Vm(std), [sdcf] = Vm * Y * ((Tstd+460) / (Tm+460)) * Ph / Pstd
eq. 2-9 Vs, [ft./sec.] = Kp*Cp*(ΔP*(Ts+460)/(Ps*Ms))^0.5
eq. 2-10 Qstd, [dscfm] =Qad*(Tstd+460)*Ps/((Ts+460)*Pstd)
eq. 5-8 I,[%] =100*(Ts+460)*Vm(std)*Pstd/(60*Vs*Theta*An*Ps*(1-Bws)*(Tstd+460))
eq. 5-6 Cx, [grain/dscf] = Wx,g*15.432/Vm(std)
eq. 8-2,3 Wx, [mg] = (Vt-Vtb)*N(std)*(Vsoln/Valq)*MWx*Kx
Cx, [grain/dscf] = Wx,mg*0.001*15.432/Vm(std)
CWx, [grain/scf] = Cx*(1-Bws)
CCx, [grain/dscf @ 12% CO2] = Cx*12.0/CO2%
CWCx, [grain/scf @ 12% CO2%] = CCx
CPx, [ppmv dry] = Cx*Kf/(MWx*7000)
CPCx, [ppmv @ N% O2] = CPX* ((20.9-N%)/(20.9-O2%))
CFx, [lb/hr] = Cx*Q(std)*60/7000
CEx, [lb/MMBtu] = F*(Cx/7000)*(20.9/(20.9-O2%))
CBx, [lb/bbl] = CEx*(Fuel Btu/MM)*(Fuel lb/gal)*42
CEsx, [lb S/MMBtu] = CEx*(MW(S) / MWx)

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

III. WET TEST METHODS CALCULATIONS

BATTERY CONDENSER
CYCLONE

CALCULATED EMISSION RESULTS

Client: **West Valley Cotton**
Site: **Riverdale**
Unit: **Battery Condenser**

Date: **10/28/93**
Type: ***T std = 60 F***
Run: **1-Part**

PM10 PARTICULATE

Wt	Total Particulate Weight	0.0406	g
Ct	Total Particulate Emissions	**0.0152**	grain/dscf
CFt	Particulate Flow Rate	**0.84**	lb/hr
	+10µ Particulate	**56.13**	%
	+10µ Particulate	**0.47**	lb/hr
	-10µ Particulate	**43.87**	%
	-10µ Particulate	**0.37**	lb/hr

CALCULATED EMISSION RESULTS

Client: **West Valley Cotton**
Site: **Riverdale**
Unit: **Battery Condenser**

Date: **10/28/93**
Type: ***T std = 60 F***
Run: **2-Part**

PM10 PARTICULATE

Wt	Total Particulate Weight	0.0380	g
Ct	Total Particulate Emissions	**0.0131**	grain/dscf
CFt	Particulate Flow Rate	**0.81**	lb/hr
	+10µ Particulate	**49.51**	%
	+10µ Particulate	**0.40**	lb/hr
	-10µ Particulate	**50.49**	%
	-10µ Particulate	**0.41**	lb/hr

CALCULATED EMISSION RESULTS

Client: **West Valley Cotton**
Site: **Riverdale**
Unit: **Battery Condenser**

Date: **10/28/93**
Type: ***T std - 60 F***
Run: **3-Part**

PM10 PARTICULATE

Wt	Total Particulate Weight	0.0364	g
Ct	Total Particulate Emissions	**0.0131**	grain/dscf
CFt	Particulate Flow Rate	**0.78**	lb/hr
	+10µ Particulate	**75.68**	%
	+10µ Particulate	**0.59**	lb/hr
	-10µ Particulate	**24.32**	%
	-10µ Particulate	**0.19**	lb/hr

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#3 DRYER/CLEANER
CYCLONE

CALCULATED EMISSION RESULTS

Client: **West Valley Cotton**
Site: **Riverdale**
Unit: **Cleaner**

Date: **10/28/93**
Type: ***T std = 60 F***
Run: **4-Part**

PM10 PARTICULATE

Wt	Total Particulate Weight	0.0997	g
Ct	Total Particulate Emissions	**0.0441**	grain/dscf
CFt	Particulate Flow Rate	**0.74**	lb/hr
	+10µ Particulate	**63.77**	%
	+10µ Particulate	**0.47**	lb/hr
	-10µ Particulate	**36.23**	%
	-10µ Particulate	**0.27**	lb/hr

CALCULATED EMISSION RESULTS

Client: **West Valley Cotton**
Site: **Riverdale**
Unit: **Cleaner**

Date: **10/28/93**
Type: ***T std = 60 F***
Run: **5-Part**

PM10 PARTICULATE

Wt	Total Particulate Weight	0.0805	g
Ct	Total Particulate Emissions	**0.0346**	grain/dscf
CFt	Particulate Flow Rate	**0.60**	lb/hr
	+10µ Particulate	**71.86**	%
	+10µ Particulate	**0.43**	lb/hr
	-10µ Particulate	**28.14**	%
	-10µ Particulate	**0.17**	lb/hr

CALCULATED EMISSION RESULTS

Client: **West Valley Cotton**
Site: **Riverdale**
Unit: **Cleaner**

Date: **10/28/93**
Type: ***T std = 60 F***
Run: **6-Part**

PM10 PARTICULATE

Wt	Total Particulate Weight	0.0660	g
Ct	Total Particulate Emissions	**0.0307**	grain/dscf
CFt	Particulate Flow Rate	**0.53**	lb/hr
	+10µ Particulate	**58.81**	%
	+10µ Particulate	**0.31**	lb/hr
	-10µ Particulate	**41.19**	%
	-10µ Particulate	**0.22**	lb/hr

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V. LABORATORY ANALYSIS

BATTERY CONDENSER CYCLONE

IMPINGER WEIGHTS

Client : W. Valley
Site : Riverdale
Unit: Battery Condenser

Date : 10/28/93
Job #: 23029
Lab #: 293-133

Run#/Box#: R1 M5 Box 4

Imp. #1:	gross	589.6
	tare	592.8
	final	-3.2
Imp. #2:	gross	564.6
	tare	564.8
	final	-0.2
Imp. #3:	gross	471.0
	tare	471.0
	final	0.0
Imp. #4:	gross	469.8
	tare	457.0
	final	12.8
	TOTAL	9.4

Run#/Box#: R2 M5 Box 5

Imp. #1:	gross	594.6
	tare	598.0
	final	-3.4
Imp. #2:	gross	564.9
	tare	565.3
	final	-0.4
Imp. #3:	gross	443.9
	tare	443.6
	final	0.3
Imp. #4:	gross	600.4
	tare	586.0
	final	14.4
	TOTAL	10.9

Run#/Box#: R3 M5 Box 4

Imp. #1:	gross	601.1
	tare	601.0
	final	0.1
Imp. #2:	gross	612.8
	tare	612.1
	final	0.7
Imp. #3:	gross	463.5
	tare	463.1
	final	0.4
Imp. #4:	gross	474.4
	tare	469.9
	final	4.5
	TOTAL	5.7

Run#/Box#:

Imp. #1:	gross	
	tare	
	final	0.0
Imp. #2:	gross	
	tare	
	final	0.0
Imp. #3:	gross	
	tare	
	final	0.0
Imp. #4:	gross	
	tare	
	final	0.0
	TOTAL	0.0

IMPINGER WEIGHTS

Client : W. Valley
Site : Riverdale
Unit: Battery Condenser

Date : 10/28/93
Job #: 23029
Lab #: 293-133

Run#/Box#: R1 Box 6 PM10

Imp. #1:	gross	587.1
	tare	587.8
	final	-0.7
Imp. #2:	gross	608.1
	tare	608.4
	final	-0.3
Imp. #3:	gross	461.0
	tare	461.8
	final	-0.8
Imp. #4:	gross	623.6
	tare	611.7
	final	11.9
	TOTAL	10.1

Run#/Box#: R2 Box 7 PM10

Imp. #1:	gross	611.5
	tare	612.9
	final	-1.4
Imp. #2:	gross	595.3
	tare	597.5
	final	-2.2
Imp. #3:	gross	472.8
	tare	473.0
	final	-0.2
Imp. #4:	gross	596.3
	tare	587.0
	final	9.3
	TOTAL	5.5

Run#/Box#: R3 Box 7 PM10

Imp. #1:	gross	581.8
	tare	581.3
	final	0.5
Imp. #2:	gross	628.3
	tare	627.6
	final	0.7
Imp. #3:	gross	460.8
	tare	460.4
	final	0.4
Imp. #4:	gross	628.1
	tare	623.5
	final	4.6
	TOTAL	6.2

Run#/Box#:

Imp. #1:	gross	
	tare	
	final	0.0
Imp. #2:	gross	
	tare	
	final	0.0
Imp. #3:	gross	
	tare	
	final	0.0
Imp. #4:	gross	
	tare	
	final	0.0
	TOTAL	0.0

#3 DRYER/CLEANER
CYCLONE

IMPINGER WEIGHTS

Client : W. Valley
Site : Riverdale
Unit: #3 Cleaner

Date : 10/28/93
Job #: 23029
Lab #: 293-133

Run#/Box#: R4 M5 Box 5

Imp. #1:	gross	618.2
	tare	618.3
	final	-0.1
Imp. #2:	gross	598.9
	tare	598.0
	final	0.9
Imp. #3:	gross	443.3
	tare	443.0
	final	0.3
Imp. #4:	gross	606.4
	tare	600.0
	final	6.4
	TOTAL	7.5

Run#/Box#: R5 M5 Box 4

Imp. #1:	gross	613.7
	tare	613.4
	final	0.3
Imp. #2:	gross	605.0
	tare	604.0
	final	1.0
Imp. #3:	gross	463.4
	tare	462.7
	final	0.7
Imp. #4:	gross	478.0
	tare	474.6
	final	3.4
	TOTAL	5.4

Run#/Box#: R6 M5 Box 5

Imp. #1:	gross	616.6
	tare	617.7
	final	-1.1
Imp. #2:	gross	581.2
	tare	580.4
	final	0.8
Imp. #3:	gross	445.1
	tare	444.6
	final	0.5
Imp. #4:	gross	611.4
	tare	606.4
	final	5.0
	TOTAL	5.2

Run#/Box#:

Imp. #1:	gross	
	tare	
	final	0.0
Imp. #2:	gross	
	tare	
	final	0.0
Imp. #3:	gross	
	tare	
	final	0.0
Imp. #4:	gross	
	tare	
	final	0.0
	TOTAL	0.0

IMPINGER WEIGHTS

Client : W. Valley
Site : Riverdale
Unit: #3 Cleaner

Date : 10/28/93
Job #: 23029
Lab #: 293-133

Run#/Box#: R4 Box 5 PM10

Imp. #1:	gross	610.6
	tare	609.4
	final	1.2
Imp. #2:	gross	617.4
	tare	617.9
	final	-0.5
Imp. #3:	gross	472.7
	tare	472.1
	final	0.6
Imp. #4:	gross	598.9
	tare	595.8
	final	3.1
	TOTAL	4.4

Run#/Box#: R5 Box 5 PM10

Imp. #1:	gross	599.3
	tare	599.1
	final	0.2
Imp. #2:	gross	561.7
	tare	561.3
	final	0.4
Imp. #3:	gross	462.8
	tare	461.2
	final	1.6
Imp. #4:	gross	635.3
	tare	627.5
	final	7.8
	TOTAL	10.0

Run#/Box#: R6 Box 4 PM10

Imp. #1:	gross	582.6
	tare	582.2
	final	0.4
Imp. #2:	gross	576.7
	tare	576.0
	final	0.7
Imp. #3:	gross	473.0
	tare	472.3
	final	0.7
Imp. #4:	gross	603.1
	tare	598.8
	final	4.3
	TOTAL	6.1

Run#/Box#:

Imp. #1:	gross	
	tare	
	final	0.0
Imp. #2:	gross	
	tare	
	final	0.0
Imp. #3:	gross	
	tare	
	final	0.0
Imp. #4:	gross	
	tare	
	final	0.0
	TOTAL	0.0

BATTERY CONDENSER CYCLONE

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : West Valley
Site : Riverdale
Unit : Battery Condenser
Run : 1

Date : 10/28/93
Job #: 23029
Lab #: 293-133
Box #: 4

BLANKS

Acetone
Gross: 65.5093 gms. Tare: 65.5085 gms. Volume: 100 ml Residue: 0.0008 gms.

DI Water
Gross: 67.4583 gms. Tare: 67.4581 gms. Volume: 100 ml Residue: 0.0002 gms.

WEIGHTS & VOLUMES

Filter( ) - Gross: 0.4056 gms. Tare: 0.4010 gms. Net: **0.0046** gms.

Probe Rinse -
Acetone: 100 ml * 8E-06 gms./ml = Net: **-0.0008** gms.

DI Water: 100 ml * 2E-06 gms./ml = Net: **-0.0002** gms.

Gross: 66.6729 gms. Tare: 66.6363 gms. Net: **0.0366** gms.
.0356

Impinger Catch -
DI Water: 300 ml * 2E-06 gms./ml = Net: **-0.0006** gms.

Acetone 0 ml * 8E-06 gms./ml = Net: **0.0000** gms.

Total: 300 ml Aliquot: 300 ml

Gross: 65.7790 gms. Tare: 65.7780 gms. Net: **0.0004** gms.

Total Particulate Weight = 0.0406 gms.

.0046
.0356
.0004
.0406

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : West Valley
Site : Riverdale
Unit : Battery Condenser
Run : 2

Date : 10/28/93
Job #: 23029
Lab #: 293-133
Box #: 5

BLANKS

Acetone
Gross: 65.5093 gms. Tare: 65.5085 gms. Volume: 100 ml Residue: 0.0008 gms.

DI Water
Gross: 67.4583 gms. Tare: 67.4581 gms. Volume: 100 ml Residue: 0.0002 gms.

WEIGHTS & VOLUMES

Filter( ) - Gross: 0.4074 gms. Tare: 0.4057 gms. Net: **0.0017** gms.

Probe Rinse -
Acetone: 75 ml * 8E-06 gms./ml = Net: **-0.0006** gms.

DI Water: 100 ml * 2E-06 gms./ml = Net: **-0.0002** gms.

Gross: 72.6426 gms. Tare: 72.6080 gms. Net: **0.0346** gms.
.0338

Impinger Catch -
DI Water: 350 ml * 2E-06 gms./ml = Net: **-0.0007** gms.

Acetone 0 ml * 8E-06 gms./ml = Net: **0.0000** gms.

Total: 350 ml Aliquot: 350 ml

Gross: 66.9758 gms. Tare: 66.9726 gms. Net: **0.0025** gms.

Total Particulate Weight = 0.0380 gms.

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : West Valley
Site : Riverdale
Unit : Battery Condenser
Run : 3

Date : 10/28/93
Job #: 23029
Lab #: 293-133
Box #: 4

BLANKS

Acetone
Gross: 65.5093 gms. Tare: 65.5085 gms. Volume: 100 ml Residue: 0.0008 gms.

DI Water
Gross: 67.4583 gms. Tare: 67.4581 gms. Volume: 100 ml Residue: 0.0002 gms.

WEIGHTS & VOLUMES

Filter( ) - Gross: 0.4095 gms. Tare: 0.4044 gms. Net: **0.0051** gms.

Probe Rinse -
Acetone: 75 ml * 8E-06 gms./ml = Net: **-0.0006** gms.

DI Water: 100 ml * 2E-06 gms./ml = Net: **-0.0002** gms.

Gross: 65.9920 gms. Tare: 65.9621 gms. Net: **0.0299** gms.
.0291

Impinger Catch -
DI Water: 400 ml * 2E-06 gms./ml = Net: **-0.0008** gms.

Acetone 0 ml * 8E-06 gms./ml = Net: **0.0000** gms.

Total: 400 ml Aliquot: 400 ml

Gross: 65.4718 gms. Tare: 65.4688 gms. Net: **0.0022** gms.

Total Particulate Weight = 0.0364 gms.

PM10 PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : West Valley
Site : Riverdale
Unit : Battery Condenser
Run : 1

Date : 10/28/93
Job #: 23029
Lab #: 292-133

BLANKS

Acetone — Volume: 100 ml — Gross: 65.5093 gms. — Tare: 65.5085 gms. — Residue: 0.0008 gms.

DI Water — Volume: 100 ml — Gross: 67.4583 gms. — Tare: 67.4581 gms. — Residue: 0.0002 gms.

WEIGHTS & VOLUMES

Filter — Gross: 0.0901 gms. — Tare: 0.0898 gms. — Net: **0.0003** gms.
Filter — Gross: 0.0898 gms. — Tare: 0.0890 gms. — Net: **0.0008** gms. .0011

+10 µ Rinse -
Acetone: 75 ml * 8E-06 gms./ml = Net: **-0.0006** gms.
DI Water: 75 ml * 2E-06 gms./ml = Net: **-0.0001** gms.
Gross: 66.3889 gms. — Tare: 66.3675 gms. — Net: **0.0214** gms. .0207

+10µ Total Weight = 0.0218 gms.

Filter — Gross: 0.1072 gms. — Tare: 0.1056 gms. — Net: **0.0016** gms.

-10 µ Rinse
DI Water: 300 ml * 2E-06 gms./ml = Net: **-0.0006** gms.
Acetone : 50 ml * 8E-06 gms./ml = Net: **-0.0004** gms.
Total: 350 ml — Aliquot: 350 ml
Gross: 67.1982 gms. — Tare: 67.1818 gms. — Net: **0.0154** gms.

-10µ Total Weight = 0.0170 gms.

Total Weight = 0.0388 gms.

+ 10 µ 56.13 %
- 10 µ 43.87 %

PM10 PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : West Valley
Site : Riverdale
Unit : Battery Condenser
Run : 2

Date : 10/28/93
Job #: 23029
Lab #: 292-133

BLANKS

Acetone — Gross: 65.5093 gms. Tare: 65.5085 gms. Volume: 100 ml Residue: 0.0008 gms.

DI Water — Gross: 67.4583 gms. Tare: 67.4581 gms. Volume: 100 ml Residue: 0.0002 gms.

WEIGHTS & VOLUMES

Filter Gross: 0.0865 gms. Tare: 0.0862 gms. Net: **0.0003** gms.
Filter Gross: 0.0870 gms. Tare: 0.0866 gms. Net: **0.0004** gms.
.0007

+10 µ Rinse -
Acetone: 100 ml * 8E-06 gms./ml = Net: **-0.0008** gms.
DI Water: 100 ml * 2E-06 gms./ml = Net: **-0.0002** gms.
Gross: 66.0834 gms. Tare: 66.0680 gms. Net: **0.0154** gms.
.0151

+10µ Total Weight = 0.0151 gms.

Filter Gross: 0.1092 gms. Tare: 0.1087 gms. Net: **0.0005** gms.

-10 µ Rinse
DI Water: 450 ml * 2E-06 gms./ml = Net: **-0.0009** gms.
Acetone : 50 ml * 8E-06 gms./ml = Net: **-0.0004** gms.
Total: 500 ml Aliquot: 500 ml
Gross: 67.0338 gms. Tare: 67.0176 gms. Net: **0.0149** gms.

-10µ Total Weight = 0.0154 gms.

Total Weight = 0.0305 gms.

+ 10 µ 49.51 %
- 10 µ 50.49 %

PM10 PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : West Valley
Site : Riverdale
Unit : Battery Condenser
Run : 3

Date : 10/28/93
Job #: 23029
Lab #: 292-133

BLANKS

Acetone — Gross: 65.5093 gms. Tare: 65.5085 gms. Volume: 100 ml Residue: 0.0008 gms.

DI Water — Gross: 67.4583 gms. Tare: 67.4581 gms. Volume: 100 ml Residue: 0.0002 gms.

WEIGHTS & VOLUMES

Filter Gross: 0.0870 gms. Tare: 0.0865 gms. Net: **0.0005** gms.
Filter Gross: 0.0853 gms. Tare: 0.0852 gms. Net: **0.0001** gms.

+10 µ Rinse -
Acetone: 75 ml * 8E-06 gms./ml = Net: **-0.0006** gms.
DI Water: 100 ml * 2E-06 gms./ml = Net: **-0.0002** gms.
Gross: 65.6730 gms. Tare: 65.6560 gms. Net: **0.0170** gms.

+10µ Total Weight = 0.0168 gms.

Filter Gross: 0.1089 gms. Tare: 0.1077 gms. Net: **0.0012** gms.

-10 µ Rinse
DI Water: 350 ml * 2E-06 gms./ml = Net: **-0.0007** gms.
Acetone : 50 ml * 8E-06 gms./ml = Net: **-0.0004** gms.
Total: 400 ml Aliquot: 400 ml
Gross: 66.7620 gms. Tare: 66.7567 gms. Net: **0.0042** gms.

-10µ Total Weight = 0.0054 gms.

Total Weight = 0.0222 gms.

+ 10 µ 75.68 %
- 10 µ 24.32 %

#3 DRYER/CLEANER
CYCLONE

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : West Valley
Site : Riverdale
Unit : #3 Cleaner Cyclone
Run : 1

Date : 10/28/93
Job #: 23029
Lab #: 293-133
Box #: 5

BLANKS

Acetone — Gross: 65.5093 gms. Tare: 65.5085 gms. Volume: 100 ml Residue: 0.0008 gms.

DI Water — Gross: 67.4583 gms. Tare: 67.4581 gms. Volume: 100 ml Residue: 0.0002 gms.

WEIGHTS & VOLUMES

Filter( ) - Gross: 0.4297 gms. Tare: 0.4029 gms. Net: **0.0268** gms.

Probe Rinse -

Acetone: 100 ml * 8E-06 gms./ml = Net: **-0.0008** gms.

DI Water: 100 ml * 2E-06 gms./ml = Net: **-0.0002** gms.

Gross: 70.8111 gms. Tare: 70.7559 gms. Net: **0.0552** gms. .0542

Impinger Catch -

DI Water: 450 ml * 2E-06 gms./ml = Net: **-0.0009** gms.

Acetone 0 ml * 8E-06 gms./ml = Net: **0.0000** gms.

Total: 450 ml Aliquot: 450 ml

Gross: 65.6986 gms. Tare: 65.6790 gms. Net: **0.0187** gms.

Total Particulate Weight = 0.0997 gms.

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : West Valley
Site : Riverdale
Unit : #3 Cleaner Cyclone
Run : 2

Date : 10/28/93
Job #: 23029
Lab #: 293-133
Box #: 4

BLANKS

Acetone — Gross: 65.5093 gms. Tare: 65.5085 gms. Volume: 100 ml Residue: 0.0008 gms.

DI Water — Gross: 67.4583 gms. Tare: 67.4581 gms. Volume: 100 ml Residue: 0.0002 gms.

WEIGHTS & VOLUMES

Filter( ) - Gross: 0.4449 gms. Tare: 0.4049 gms. Net: **0.0400** gms.

Probe Rinse -

Acetone: 100 ml * 8E-06 gms./ml = Net: **-0.0008** gms.

DI Water: 125 ml * 2E-06 gms./ml = Net: **-0.0002** gms.

Gross: 67.5413 gms. Tare: 67.5012 gms. Net: **0.0401** gms. .0391

Impinger Catch -

DI Water: 450 ml * 2E-06 gms./ml = Net: **-0.0009** gms.

Acetone 0 ml * 8E-06 gms./ml = Net: **0.0000** gms.

Total: 450 ml Aliquot: 450 ml

Gross: 67.5236 gms. Tare: 67.5213 gms. Net: **0.0014** gms.

Total Particulate Weight = 0.0805 gms.

PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : West Valley
Site : Riverdale
Unit : #3 Cleaner Cyclone
Run : 3

Date : 10/28/93
Job #: 23029
Lab #: 293-133
Box #: 5

BLANKS

Acetone — Gross: 65.5093 gms. Tare: 65.5085 gms. Volume: 100 ml Residue: 0.0008 gms.

DI Water — Gross: 67.4583 gms. Tare: 67.4581 gms. Volume: 100 ml Residue: 0.0002 gms.

WEIGHTS & VOLUMES

Filter( ) - Gross: 0.4345 gms. Tare: 0.4028 gms. Net: **0.0317** gms.

Probe Rinse -
Acetone: 75 ml * 8E-06 gms./ml = Net: **-0.0006** gms.
DI Water: 100 ml * 2E-06 gms./ml = Net: **-0.0002** gms.
Gross: 66.3840 gms. Tare: 66.3527 gms. Net: **0.0313** gms.
.0305

Impinger Catch -
DI Water: 450 ml * 2E-06 gms./ml = Net: **-0.0009** gms.
Acetone 0 ml * 8E-06 gms./ml = Net: **0.0000** gms.
Total: 450 ml Aliquot: 450 ml
Gross: 64.8364 gms. Tare: 64.8317 gms. Net: **0.0038** gms.

Total Particulate Weight = 0.0660 gms.

PM10 PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : West Valley
Site : Riverdale
Unit : #3 Cleaner Cyclone
Run : 1

Date : 10/28/93
Job #: 23029
Lab #: 292-133

BLANKS

Acetone
Gross: 65.5093 gms. Tare: 65.5085 gms. Volume: 100 ml Residue: 0.0008 gms.

DI Water
Gross: 67.4583 gms. Tare: 67.4581 gms. Volume: 100 ml Residue: 0.0002 gms.

WEIGHTS & VOLUMES

Filter Gross: 0.0869 gms. Tare: 0.0855 gms. Net: **0.0014** gms.
Filter Gross: 0.0878 gms. Tare: 0.0863 gms. Net: **0.0015** gms. .0089

+10 µ Rinse -
Acetone: 110 ml * 8E-06 gms./ml = Net: **-0.0009** gms.
DI Water: 115 ml * 2E-06 gms./ml = Net: **-0.0002** gms.
Gross: 66.0696 gms. Tare: 66.0181 gms. Net: **0.0515** gms. .0504

+10µ Total Weight = 0.0533 gms.

Filter Gross: 0.1285 gms. Tare: 0.1077 gms. Net: **0.0208** gms.

-10 µ Rinse
DI Water: 460 ml * 2E-06 gms./ml = Net: **-0.0009** gms.
Acetone : 50 ml * 8E-06 gms./ml = Net: **-0.0004** gms.
Total: 510 ml Aliquot: 510 ml
Gross: 66.1064 gms. Tare: 66.0956 gms. Net: **0.0095** gms.

-10µ Total Weight = 0.0303 gms.

Total Weight = 0.0836 gms.

+ 10 µ 63.77 %
- 10 µ 36.23 %

PM10 PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : West Valley
Site : Riverdale
Unit : #3 Cleaner Cyclone
Run : 2

Date : 10/28/93
Job #: 23029
Lab #: 292-133

BLANKS

Acetone
Gross: 65.5093 gms. Tare: 65.5085 gms. Volume: 100 ml Residue: 0.0008 gms.

DI Water
Gross: 67.4583 gms. Tare: 67.4581 gms. Volume: 100 ml Residue: 0.0002 gms.

WEIGHTS & VOLUMES

Filter Gross: 0.0872 gms. Tare: 0.0850 gms. Net: **0.0022** gms.
Filter Gross: 0.0877 gms. Tare: 0.0856 gms. Net: **0.0021** gms.
.0043

+10 µ Rinse -
Acetone: 100 ml * 8E-06 gms./ml = Net: **-0.0008** gms.
DI Water: 110 ml * 2E-06 gms./ml = Net: **-0.0002** gms.
Gross: 65.7936 gms. Tare: 65.7329 gms. Net: **0.0607** gms.
.0599

+10µ Total Weight = 0.0640 gms.

Filter Gross: 0.1279 gms. Tare: 0.1081 gms. Net: **0.0198** gms.

-10 µ Rinse
DI Water: 375 ml * 2E-06 gms./ml = Net: **-0.0007** gms.
Acetone : 50 ml * 8E-06 gms./ml = Net: **-0.0004** gms.
Total: 425 ml Aliquot: 425 ml
Gross: 65.5161 gms. Tare: 65.5097 gms. Net: **0.0053** gms.

-10µ Total Weight = 0.0251 gms.

Total Weight = [illegible] gms.

+ 10 µ 71.86 %
- 10 µ 28.14 %

PM10 PARTICULATE WEIGHTS : DATA & CALCULATIONS

Client : West Valley
Site : Riverdale
Unit : #3 Cleaner Cyclone
Run : 3

Date : 10/28/93
Job #: 23029
Lab #: 292-133

BLANKS

Acetone
Gross: 65.5093 gms. Tare: 65.5085 gms. Volume: 100 ml Residue: 0.0008 gms.

DI Water
Gross: 67.4583 gms. Tare: 67.4581 gms. Volume: 100 ml Residue: 0.0002 gms.

WEIGHTS & VOLUMES

Filter Gross: 0.0871 gms. Tare: 0.0858 gms. Net: **0.0013** gms.
Filter Gross: 0.0867 gms. Tare: 0.0853 gms. Net: **0.0014** gms.
.0027

+10 µ Rinse -
Acetone: 100 ml * 8E-06 gms./ml = Net: **-0.0008** gms.
DI Water: 115 ml * 2E-06 gms./ml = Net: **-0.0002** gms.
Gross: 66.0555 gms. Tare: 66.0144 gms. Net: **0.0411** gms.
.0401

+10µ Total Weight = 0.0428 gms.

Filter Gross: 0.1255 gms. Tare: 0.1090 gms. Net: **0.0165** gms.

-10 µ Rinse
DI Water: 375 ml * 2E-06 gms./ml = Net: **-0.0007** gms.
Acetone : 50 ml * 8E-06 gms./ml = Net: **-0.0004** gms.
Total: 425 ml Aliquot: 425 ml
Gross: 66.0741 gms. Tare: 66.0595 gms. Net: **0.0135** gms.

-10µ Total Weight = 0.0300 gms.

Total Weight = 0.07278 gms.

+ 10 µ 58.81 %
- 10 µ 41.19 %

BTC Environmental, Incorporated
1536 Eastman Avenue, Suite B
Ventura, CA. 93003
(805) 644-1095

Prepared For: BTCE Air Department November 12, 1993

ATTENTION: Tom Porter

Laboratory No:	932575	Project No:	293-133
Date Received:	28-OCT-93	Sampled By:	Tom
Client: West Valley Growers		Sample ID:	See Below

RESULTS

On October 28, 1992, fifty (50) samples were received for analysis by BTC Environmental, Inc. The samples were identified and assigned the lab numbers listed below. This report consists of 4 pages excluding the cover letter.

SAMPLE DESCRIPTION	BTCE LAB NUMBER
#1	93257501
#2	93257502
#3	93257503
#4	93257504
#5	93257505
#6	93257506
#7	93257507
#8	93257508
#9	93257509
#10	93257510
#11	93257511
#12	93257512
#13	93257513
#14	93257514
#15	93257515

Dan Farah

Dan A. Farah, Ph.D
Director - Analytical Operations

BTC Environmental, Incorporated
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- Continued -

SAMPLE DESCRIPTION	BTCE LAB NUMBER
#16	93257516
#17	93257517
#18	93257518
#19	93257519
#20	93257520
#21	93257521
#22	93257522
#23	93257523
#24	93257524
#25	93257525
#26	93257526
#27	93257527
#28	93257528
#29	93257529
#30	93257530
#31	93257531
#32	93257532
#33	93257533
#34	93257534
#35	93257535
#36	93257536
#37	93257537
#38	93257538
#39	93257539
#40	93257540
#41	93257541
#42	93257542
#43	93257543
#44	93257544
#45	93257545
#46	93257546
#47	93257547
#48	93257548
#49	93257549
#50	93257550

Dan Farah
Dan A. Farah, Ph.D
Director - Analytical Operations

1 of 4

PARTICULATE ANALYSIS WEIGHT SHEET

CLIENT: W.W. Growers
SITE:
UNIT:
DATE:
JOB#: 293-133
LAB#: 932575

Flask #	Sample ID	Final Wght	Tare Wght
A	-4 (150 ml)	66.3888 .3890	66.3675 .3675
B	-5 (350 ml)	67.1981 .1984	67.1818 .1818
24	-9 (200 ml)	66.0834 .0835	66.0681 .0679
26	-10 (500 ml)	67.0837 .0840	67.0178 .0175
28	-14 (175 ml?)	65.6730 .6731	65.6559 .6561
29	-15 (400 ml)	66.7619 .7622	66.7566 .7568
31	-16 (200 ml)	66.6728 .6730	66.6361 .6365
32	-17 (300 ml)	65.7790 .7789	65.7780 .7780
34	-19 (175 ml)	72.6425 .6427	72.6080 .6080

PARTICULATE ANALYSIS WEIGHT SHEET

CLIENT: WW Grower
SITE:
UNIT:
DATE:
JOB#: 283-133
LAB#: 932575

Flask #	Sample ID	Final Wght	Tare Wght
36	-20 350 ml	66.9758 .9758	66.9725 .9726
38	-22 175 ml	65.9919 .9921	65.9619 .9623
40	-23 400 ml	65.4718 .4717	65.4687 .4688
42	-28 225 ml	66.0695 .0696	66.0180 .0182
44	-29 510 ml	66.1063 .1066	66.0956 .0957
46	-33 210 ml	65.7935 .7936	65.7327 .7331
48	-34 425 ml	65.5160 .5162	65.5096 .5098
50	-38 225 ml	66.0554 .0556	66.0142 .0145
52	-39 425 ml	66.0739 .0743	66.0594 .0596

3044

PARTICULATE ANALYSIS WEIGHT SHEET

CLIENT: W.W. Growers.
SITE:
UNIT:

DATE:
JOB#: 293-133
LAB#: 932575

Flask #	Sample ID	Final Wght	Tare Wght
✓ 54	-40 200ml	70.8110 .8112	70.7558 .7560
✓ 55	-41 150ml	65.6985 .6988	65.6789 .6791
✓ 57	-43 225ml	67.5413 .5413	67.5010 .5013
✓ 59	-44 450 ml	67.5235 .5238	67.5212 .5214
✓ 60	-46 100ml DI	67.4582 .4584	67.4581 .4581
✓ 61	-47 175ml	66.3840 .3841	66.3526 .3528
✓ 62	-48 450ml	64.8365 .8363	64.8316 .8318
✓ 63	-50 100ml for BLK	65.5092 .5095	65.5086 .5084

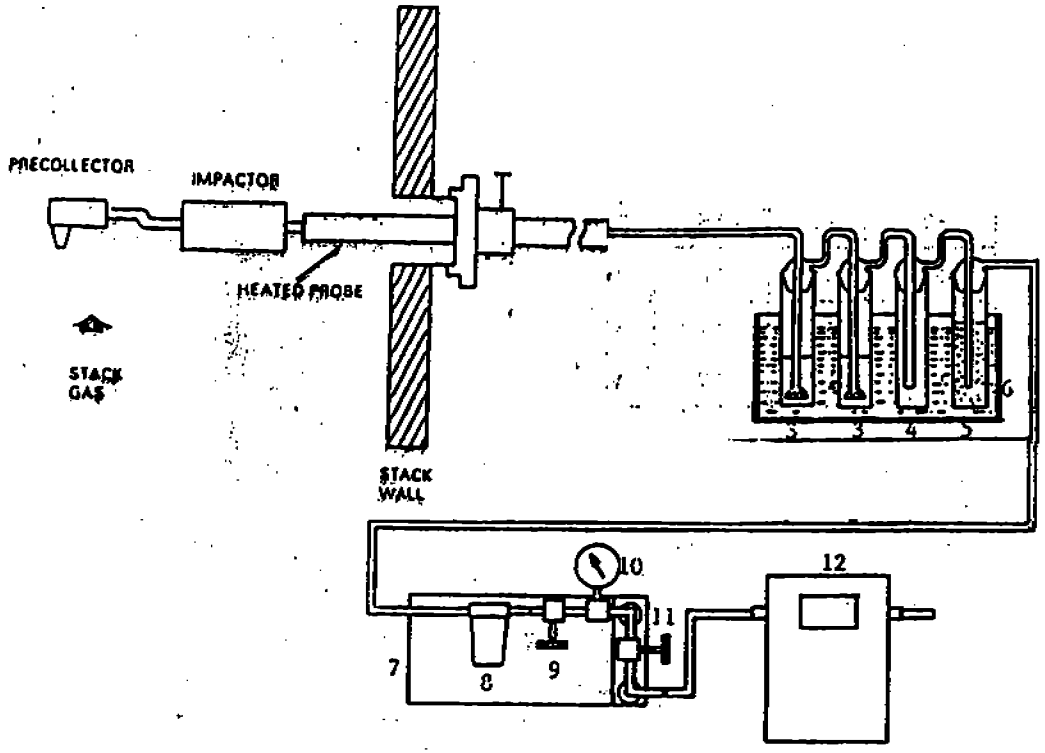
PARTICULATE ANALYSIS WEIGHT SHEET

CLIENT: W-W Growers.
SITE:
UNIT:
DATE:
JOB#: 293-133
LAB#: 922575

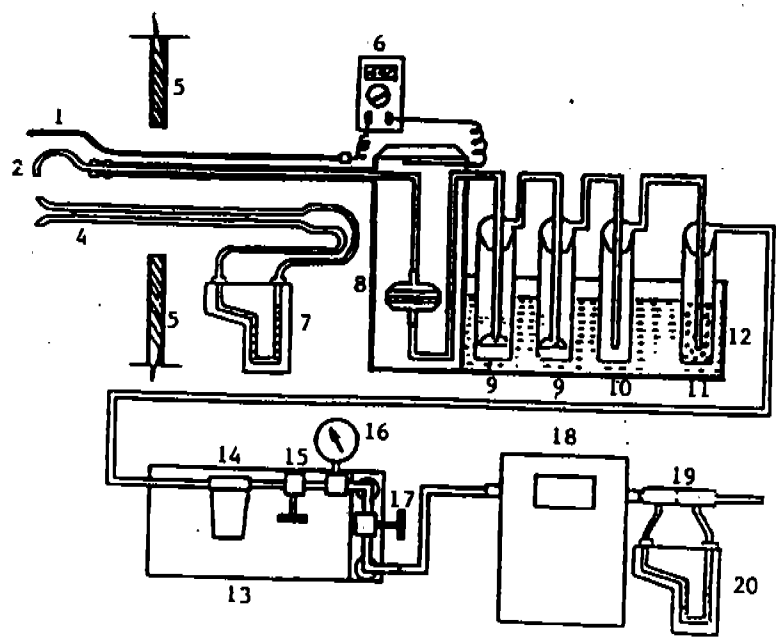
Flask #	Sample ID Filter	Final Wght		Tare Wght
	-1	0.0901	T20	0.0898 ✓
	-2	0.0898	G85	0.0890 ✓
	-3	0.1072	D13	0.1056 ✓
	-6	0.0865	Z122	0.0862 ✓
	-7	0.0870	Z123	0.0866 ✓
	-8	0.1092	D29	0.1087 ✓
	-11	0.0870	Z120	0.0865 ✓
	-12	0.0853	Z119	0.0852 ✓
	-13	0.1089	D28	0.1077 ✓
	-18	0.4058	A32	0.4010 ✓
	-21	0.4074	A33	0.4057 ✓
	-24	0.4095	A34	0.4044 ✓
	-25	0.0869	Z93	0.0855 ✓
	-26	0.0878	Z94	0.0863 ✓
	-27	~~0.10~~ 0.1285	D18	0.1077 ✓
	-30	0.0872	Z92	0.0850 ✓
	-31	0.0877	Z108	0.0856 ✓
	-32	0.1279	D17	0.1081 ✓
	-35	0.0871	Z103	0.0858 ✓
	-36	0.0867	Z104	0.0853 ✓
	-37	0.1255	D15	0.1090 ✓
	-42	0.4297	A35	0.4029 ✓
	-45	0.4449	A36	0.4049 ✓
	-49	0.4345	A37	0.4028 ✓

VI. METHODOLOGY

PM-10 PARTICULATE SAMPLING TRAIN



1. Stack Wall
2. Probe
3. Impinger with 100 ml of H_2O
4. Empty Bubbler
5. Bubbler with Silica Gel
6. Ice Bath
7. Sealed Pump (Leak Free)
8. Filter for Pump
9. Metering Valve
10. Vacuum Gauge
11. By-pass Valve
12. Temperature Compensated Dry Gas Meter



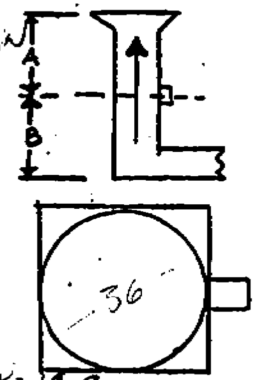
1. Temperature Sensor
2. Nozzle
3. Glass lined Stainless Steel Probe-Heated
4. S-type Pitot Tube
5. Stack Wall
6. Temperature Sensor Meter
7. Pitot Tube Inclined Manometer
8. Heated Box with Filter
9. Impinger with 100 ml H_2O
10. Empty Bubbler
11. Bubbler with Silica Gel
12. Ice Bath
13. Sealed Pump (Leak Free)
14. Filter for Pump
15. Metering Valve
16. Vacuum Gauge
17. By-pass Valve
18. Temperature Compensated Dry Gas Meter
19. Orifice
20. Orifice Inclined Manometer

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

VII. RAW DATA

BATTERY CONDENSER CYCLONE

PLANT: West Valley Cotton
LOCATION: Riverdale
COUNTY:
UNIT: Battery Condenser
DATE: 10-28
RUN NO./METHOD: R1 M5
COLD BOX NO.: 4
METER BOX NO.: A
METER FACTOR: 1.0027
PITOT #/ FACTOR: #1 .827
PYROMETER #: T-9
MAGNEHELIC FACTOR: ΔP — ΔH 1.003



K= 18.0

FILTER NO. A-32
AMBIENT TEMP.: 60
BARAMETRIC PRESS.,IN.HG.: 29.74
ASSUMED MOISTURE: 2
HEATER BOX SETTING:
PROBE LENGTH,FT. 5
NOZZLE DIAMETER,IN.: 0.370
PROBE HEATER SETTING:
APPROX.WIND VEL.,MPH:
SAMPLE BOX TEMP.,(F):
STATIC PREASURE: 0 "H2O
OFFSET: 0 In. PORT DIA.: 3 In. (MTF)

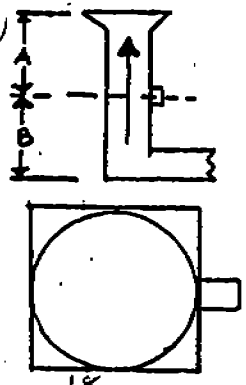
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	√ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm)	OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
90				8:40									
A-1	1-			START 0	69	.09		1.57	238.317	59	57		
2	2.41			2.5	68	.09		1.6	240.35	63	59		
3	4.25			5	70	.10		1.8	242.17	63	59		
4	6.37			7.5	68	.13		2.3	243.9	62	60	7	
5	9			10	69	.05		.9	245.7	63	62		
6	12.82			12.5	69	.07		1.26	247.0	65	62		
7	23.18			15	70	.08		1.44	248.81	67	64		
8	27			17.5	70	.09		1.6	250.5	69	66		
9	29.63			20	69	.10		1.8	252.3	71	69		
10	31.75			22.5	70	.07		1.26	254.4	71	69		
11	33.59			25	69	.06		1.08	255.8	72	71		
12	35-			27.5	69	.07		1.26	257.3	74	73		
90°	ZERO			30					258.89				
	SPAN												
AVERAGE													

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

SAMPLE TRAIN LEAK:
BEFORE= .002 CFM@ 15 IN. HG.
AFTER= .008 CFM@ 8 IN. HG.

COMMENTS:
PURGE ______

PLANT: W Valley Cogen
LOCATION: Riverdale
COUNTY:
UNIT: Battery Cond.
DATE: 10-28-93
RUN NO./METHOD: R1 - M5
COLD BOX NO.:
METER BOX NO.:
METER FACTOR:
PITOT # FACTOR:
PYROMETER #:
MAGNEHELIC FACTOR: ΔP ΔH



FILTER NO. A-32
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: "H2O
OFFSET: In. PORT DIA.: In. (M / F)

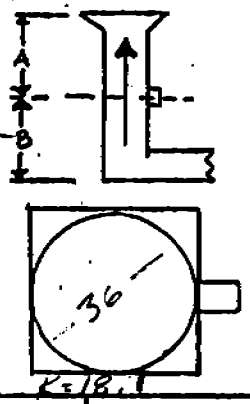
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
12					67	.07		1.26	258.69	76	75		
11					67	.08		1.44	260.51	78	77		
10				35	71	.09		1.62	262.1	79	78		
9					71	.10		1.8	264.1	80	78		
8				40	71	.10		1.8	265.8	81	80		
7					72	.11		2.0	268.0	82	81		
6				45	71	.11		2.0	270.0	83	82	6	
5					72	.09		1.62	272.0	84	83		
4				50	72	.09		1.62	273.9	86	85		
3					72	.09		1.62	275.7	86	85		
2				55	73	.06		1.08	277.5	87	87		
1					73	.06		1.08	278.9	89	88		
	ZERO			60					280.607				
	SPAN												
AVERAGE													

PITOT LEAK CHECK: Start: 9:49
BEFORE: TOP ΔP= 4.0 BOTTOM ΔP= 4.7
ΔP= 4.9 ΔP= 4.5
AFTER: TOP ΔP= 3.45 BOTTOM ΔP= 3.8
ΔP= 3.85 ΔP= 3.6

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

COMMENTS: PURGE

PLANT: W. V. COTTON
LOCATION: RIVERDALE
COUNTY:
UNIT: BASTION / CONDENSER
DATE: 10-26
RUN NO./METHOD: R2 M5
COLD BOX NO.: 5
METER BOX NO.: A
METER FACTOR: 1.0027
PITOT #/ FACTOR: #1 0.827
PYROMETER #: T9
MAGNEHELIC FACTOR: ΔP / ΔH 1.003



FILTER NO. A-33
AMBIENT TEMP.: 75
BAROMETRIC PRESS.,IN.HG.: 29.74
ASSUMED MOISTURE: 2
HEATER BOX SETTING: ON
PROBE LENGTH,FT. 5
NOZZLE DIAMETER,IN.: .370
PROBE HEATER SETTING: ON
APPROX.WIND VEL.,MPH: 5
SAMPLE BOX TEMP.,(F): 200
STATIC PREASURE: 0 "H2O
OFFSET: 0 in. PORT DIA.: 3 in. (M / F)

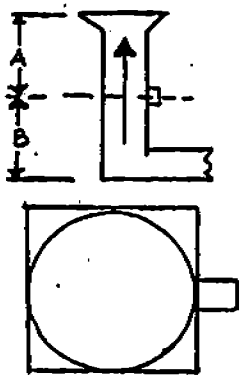
TRAVERSE POINT NUMBER 99	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN. START 10:56	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER. (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
B- 1				0	77	.09		1.6	280.756	81	82		
2					79	.11		2.0	282.6	82	82		
3				5	60	.11		2.0	284.36	83	82		
4					80	.12		2.16	286.5	83	83		
5				10	80	.11		2.0	288.7	84	84		
6					80	.11		2.0	290.9	86	85		
7				15	80	.12		2.16	293.1	86	86	6	
8					81	.11		2.0	295.26	88	87		
9				20	82	.10		1.8	297.4	89	88		
10					82	.11		2.0	299.4	90	90		
11				25	83	.10		1.8	301.45	93	91		
12					83	.09		1.6	303.4	93	92		
	ZERO			30					304.369				
	SPAN												
AVERAGE													

PITOT LEAK CHECK:
BEFORE: TOP ΔP= OK @ 4.5 BOTTOM ΔP= OK @ 4
ΔP= ΔP=
AFTER: TOP ΔP= BOTTOM ΔP=
ΔP= OK ΔP= OK

SAMPLE TRAIN LEAK:
BEFORE= .008 CFM@ 15 IN. HG.
AFTER= 0.002 CFM@ 7 IN. HG.

COMMENTS: PURGE

PLANT: W. V. Cotton
LOCATION:
COUNTY:
UNIT: Natural Cond.
DATE: 10-28-93
RUN NO./METHOD: R2 M5
COLD BOX NO.:
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: "H2O
OFFSET: In. PORT DIA.: In. (M / F)

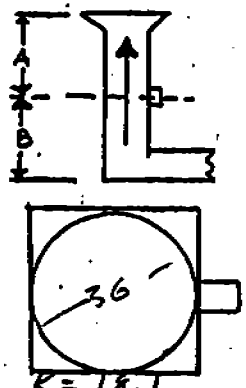
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER. (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
A 12					83	.10		1.8	304.869	96	95		
11					84	.09		1.62	306.9	96	96		
10				35	84	.09		1.62	308.6	97	97		
9					84	.10		1.8	310.3	98	97		
8				40	84	.10		1.8	312.1	99	98	5	
7					85	.10		1.8	314.5	101	100		
6				45	86	.11		2	316.5	101	101		
5					85	.11		2	318.61	102	102		
4				50	85	.10		1.8	320.76	103	102		
3					85	.10		1.8	322.9	104	104		
2				55	85	.09		1.62	324.8	105	104		
1					84	.06		1.08	326.6	106	105		
	ZERO			60					328.262				
	SPAN												
AVERAGE													

PITOT LEAK CHECK:
BEFORE: TOP ΔP= 9700 12:00 BOTTOM ΔP=
ΔP= ΔP=
AFTER: TOP ΔP= BOTTOM ΔP=
ΔP= ΔP=

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

COMMENTS: PURGE

PLANT: W. V. COTTON
LOCATION:
COUNTY: S. L. V.
UNIT: BATTERY COND
DATE: 10-28-93
RUN NO./METHOD: B2 - M5
COLD BOX NO.: 4
METER BOX NO.: A
METER FACTOR: 1.0027
PITOT #/ FACTOR: #1 0.827
PYROMETER #: T 9
MAGNEHELIC FACTOR: ΔP ΔH 1.003



FILTER NO. A-34
AMBIENT TEMP.: 75
BARAMETRIC PRESS.,IN.HG.: 29.63
ASSUMED MOISTURE: 3
HEATER BOX SETTING: ON
PROBE LENGTH,FT. 5
NOZZLE DIAMETER,IN.: .37
PROBE HEATER SETTING: ON
APPROX.WIND VEL.,MPH: 5
SAMPLE BOX TEMP.,(F): 200
STATIC PREASURE: 0 "H2O
OFFSET: 0 in. PORT DIA.: 3 in. (M / F)

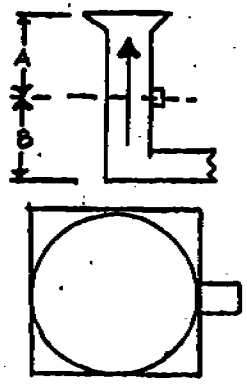
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
B-1				0	87	.08		1.45	328.428	102	103		
2					88	.08		1.45	330.71	101	103		
3				5	90	.09		1.63	332.6	102	102		
4					90	.10		1.81	334.79	103	103	6	
5				10	91	.10		1.81	536.43	103	103		
6					91	.10		1.81	338.46	105	105	7	
7				15	91	.10		1.81	340.99	105	105	7	
8					91	.11		1.99	342.45	107	106		
9				20	91	.11		1.99	344.8	107	107	8	
10					91	.10		1.81	346.7	108	107		
11				25	91	.10		1.81	348.6	109	108		
12					91	.09		1.63	350.55	110	109		
	ZERO			30					352.478				
	SPAN												
AVERAGE													

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

SAMPLE TRAIN LEAK:
BEFORE= 0.008 CFM@ 15 IN. HG.
AFTER= 0.006 CFM@ 12 IN. HG.

COMMENTS: PURGE

PLANT: W. V. (COTTON)
LOCATION:
COUNTY:
UNIT: BOILER CONDENS
DATE: 10-28-93
RUN NO./METHOD: B3 - M5
COLD BOX NO.:
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 PREASURE: "H2O
OFFSET: In. PORT DIA.: In. (M / F)

TRAVERSE POINT NUMBER 12	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER. (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
A - 12				0	92	.09		1.63	352.478	110	110		
11					91	.10		1.81	354.42	112	113		
10				5	91	0.09		1.63	356.44	113	113		
9					91	.10		1.81	358.41	114	113		
8				10	92	.09		1.63	360.26	114	114		
7					90	.11		2.0	362.9	115	115		
6				15	89	.12		2.17	364.4	116	116		
5					89	.11		2.0	366.6	117	116		
4				20	90	.10		1.81	368.65	117	117		
3					91	0.09		1.63	370.25	119	117		
2				25	91	0.08		1.45	372.57	117	118		
1					91	.07		1.27	374.41	119	119		
	ZERO			30					376.063				
	SPAN												
AVERAGE													

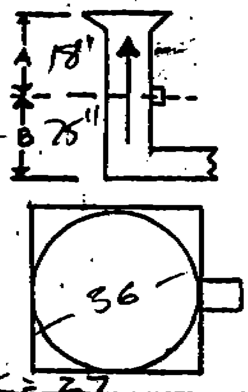
PITOT LEAK CHECK: STOP HERE
BEFORE: TOP ΔP= BOTTOM ΔP=
ΔP= ΔP=
AFTER: TOP ΔP= BOTTOM ΔP=
ΔP= ΔP=

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

COMMENTS: PURGE

27.4 | 101

PLANT: W Valley Cotton
LOCATION: Riverdale
COUNTY:
UNIT: Battery Condenser
DATE: 10-28-93
RUN NO./METHOD: R1 PM10
COLD BOX NO.: 6
METER BOX NO.: E
METER FACTOR: .9857
PITOT #/ FACTOR: #1 .827
PYROMETER #: T9
MAGNEHELIC FACTOR: ΔP ΔH 1,000



K = 27

FILTER NO. T20 - G85 - D/3
AMBIENT TEMP.: 60
BARAMETRIC PRESS.,IN.HG.: 29.74
ASSUMED MOISTURE: 2
HEATER BOX SETTING:
PROBE LENGTH,FT.: 5
NOZZLE DIAMETER,IN.: .375
PROBE HEATER SETTING:
APPROX.WIND VEL.,MPH:
SAMPLE BOX TEMP.,(F):
STATIC PREASURE: 0 "H2O
OFFSET: ____ In. PORT DIA.: ____ In. (M / F)

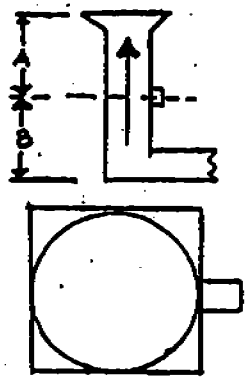
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN. 8:40	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	√ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm)	OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
A - 12				0	67	.04		1.04	603.023	57	58		
11				2.5	67	.05		1.32	603.5	74	60		
10				5	67	.05		1.35	604.3	76	62		
9				7.5	67	.05		1.35	606.47	81	64		
8				10	67	.05		1.35	607.75	83	64		
7				12.5	67	.06		1.63	609.1	83	67		
6				15	68	.06		1.63	611.4	86	67		
5				17.5	68	.07		1.9		87	69		
4				20	68	.07		1.9	612.7	90	70		
3				22.5	67	.08		2.17	613.3	90	71		
2				25	68	.07		1.9	614.6	92	72		
1				27.5	68	.07		1.9	616.0	92	73		
	ZERO			30					617.57				
	SPAN												
AVERAGE													

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

SAMPLE TRAIN LEAK:
BEFORE= 0.012 CFM@ 19 IN. HG.
AFTER= .014 CFM@ 14 IN. HG.

COMMENTS:
PURGE ____

PLANT:
LOCATION:
COUNTY:
UNIT: Battery Cond.
DATE: 10-28
RUN NO./METHOD: R1 PM 10
COLD BOX NO.:
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: "H2O
OFFSET: In. PORT DIA.: In. (M / F)

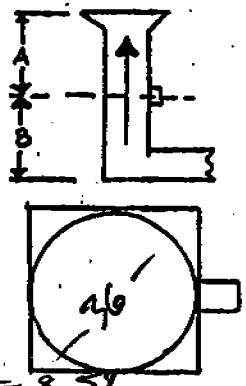
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER, (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
B- 1					69	.09		2.4	617.57	89	79		
2				35	68	.09		2.4	620.35	87	75		
3					70	.10		2.7	623.7	87	75		
4				40	68	.13		3.5	624.5	91	79	14	
5					69	.05		1.35	625.7	91	78		
6				45	69	.07		1.99	627.07	93	79		
7					70	.06		2.16		93	79		
8				50	70	.09		2.4	628.6	92	78		
9					69	.1		2.7	630.0	91	79		
10				55	70	.07		1.89	631.7	95	80		
11					69	.06		1.62	633.0	97	81		
12				60	69	.07		1.89	634.64	97	82		
	ZERO			STOP					635.755				
	SPAN												
AVERAGE													

PITOT LEAK CHECK: Stop 9:49
BEFORE: TOP ΔP= BOTTOM ΔP=
ΔP= ΔP=
AFTER: TOP ΔP= BOTTOM ΔP=
ΔP= ΔP=

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

COMMENTS: PURGE

PLANT: W. VALLEY
LOCATION:
COUNTY:
UNIT: BATTERY COND
DATE: 10-28
RUN NO./METHOD: R2 PM-10
COLD BOX NO.: 6
METER BOX NO.: E
METER FACTOR: .9957
PITOT #/ FACTOR: #1 0.827
PYROMETER #:
MAGNEHELIC FACTOR: ΔP ΔH 1.000



FILTER NO. E122/E123+ D29
AMBIENT TEMP.: 75
BARAMETRIC PRESS.,IN.HG.: 29.74
ASSUMED MOISTURE: 2
HEATER BOX SETTING: —
PROBE LENGTH,FT. 5.
NOZZLE DIAMETER,IN.: 0.280
PROBE HEATER SETTING: ON
APPROX.WIND VEL.,MPH: 5
SAMPLE BOX TEMP.,(F): —
STATIC PREASURE: 0 "H2O
OFFSET: 0 in. PORT DIA.: 3 in. (M / F)

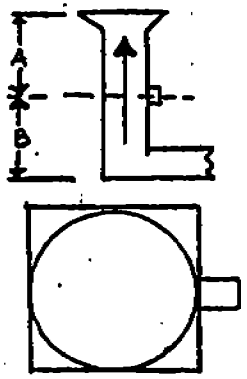
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
A-12				0	78	.09		.77	636.095	75	74		
11					78	.10		.85	637.08	80	74		
10				5	78	.11		.94	638.5	83	75		
9					78	.11		0.94	639.05	85	75		
8				10	78	.12		1.02	640.08	90	76		
7					78	.12		1.02	641.25	90	78		
6				15	78	.12		1.02	642.2	95	80		
5					78	.12		1.02	643.3	97	81		
4				20	78	.12		1.02	644.35	99	83		
3					78	.11		.94	645.42	101	84		
2				25	78	.10		.85	646.4	102	86		
1					78	.09		.77	647.42	102	87		
	ZERO			30					646.333				
	SPAN												
AVERAGE													

PITOT LEAK CHECK:
BEFORE: TOP ΔP= OK @ 4.5 BOTTOM ΔP= OK @ 4
ΔP= ΔP=
AFTER: TOP ΔP= BOTTOM ΔP=
ΔP= ΔP=

SAMPLE TRAIN LEAK:
BEFORE= .015 CFM@ 15 IN. HG.
AFTER= .010 CFM@ 7 IN. HG.

COMMENTS: PURGE

PLANT: W. V. Cotton
LOCATION:
COUNTY:
UNIT:
DATE:
RUN NO./METHOD: #2 PM-10
COLD BOX NO.:
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: "H2O
OFFSET: in. PORT DIA.: in. (M / F)

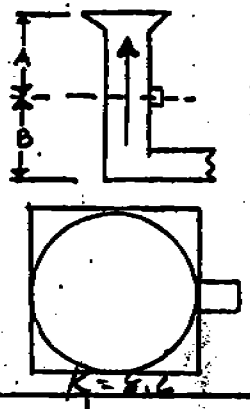
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
25													
B-1					77	.09		.77	648.335	100	90		
2					79	.11		.94	649.4	102	90		
3				35	80	.11		.94	651.5	107	92		
4					80	.12		1.02	652.4	108	93	6	
5				40	80	.11		.94	653.3	111	95		
6					80	.11		.94	653.5	113	95		
7				45	80	.12		1.02	654.5	112	96		
8					81	.11		.94	655.6	113	97		
9				50	82	.10		.85	656.60	114	98		
10					82	.11		.94	657.8	113	99		
11				55	83	.10		.85	658.7	115	101		
12					83	.09		.77	659.68	116	101		
	ZERO			60					660.605				
	SPAN												
AVERAGE													

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

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

COMMENTS: PURGE

PLANT: W. V. Cotton
LOCATION: Rivendale
COUNTY: S. J. V.
UNIT: Battery Cond
DATE: 10-28-93
RUN NO./METHOD: R-3 PM 10
COLD BOX NO.: 6
METER BOX NO.: E
METER FACTOR: .9857
PITOT #/ FACTOR: 1 #0.827
PYROMETER #: 4 9
MAGNEHELIC FACTOR: ΔP ΔH @ 1.000



FILTER NO. Z-120, Z-121, D 28
AMBIENT TEMP.: 75
BARAMETRIC PRESS.,IN.HG.: 29.63
ASSUMED MOISTURE: 2
HEATER BOX SETTING: —
PROBE LENGTH,FT. 5
NOZZLE DIAMETER,IN.: .250
PROBE HEATER SETTING: on
APPROX.WIND VEL.,MPH: 5
SAMPLE BOX TEMP.,(F): —
STATIC PREASURE: 0 "H2O
OFFSET: 0 in. PORT DIA.: 3 in. (M / F)

TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
12				0	88	.08		.68	668.107	95	95		
11					88	.09		.77	668.8	101	96		
10				5	88	.10		.86	667.8	105	96	4	
9					88	.10		.86	668.8	106	97	4	
8				10	89	.10		.86	668.7	110	98		
7					89	.11		.95	665.8	112	99	5	
6				15	89	.11		.95	666.2	114	100		
5					89	.11		.95	667.9	116	100		
4				20	89	.10		.86	668.9	118	101		
3					89	.10		.86	670.0	120	103		
2				25	88	.09		.77	671.0	121	104		
1					88	.08		.68	671.8	122	106		
	ZERO			30					672.757				
	SPAN												
AVERAGE													

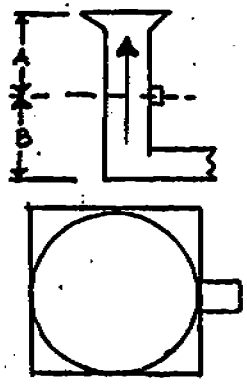
PITOT LEAK CHECK:
BEFORE: TOP ΔP= OK BOTTOM ΔP= OK
ΔP= ΔP=
AFTER: TOP ΔP= BOTTOM ΔP=
ΔP= ΔP=

SAMPLE TRAIN LEAK:
BEFORE= 0.015 CFM@ 16 IN. HG.
AFTER= 0.008 CFM@ 16 IN. HG.

COMMENTS: PURGE

Pg 2 of 2

PLANT: IN. V. Cotton
LOCATION:
COUNTY:
UNIT: Battery Cond.
DATE: 10-28-93
RUN NO./METHOD: R3 - PM10
COLD BOX NO.:
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 PREASURE: "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 ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
B-1					87	.08		.68	672.755	118	105		
2					88	.08		.68	673.6	124	109		
3				35	90	.09		.77	674.6	122	109		
4					90	.10		.86	675.6	126	110		
5				40	91	.10		.86	676.5	124	110		
6					91	.10		.86	677.4	127	111		
7				45	91	.10		.86	678.55	127	112		
8					91	.11		.95	679.5	129	113		
9				50	91	.11		.95	680.6	129	113		
10					91	.10		.86	681.7	129	114		
11				55	91	.10		.86	682.6	127	114		
12					91	.09		.77	683.6	131	115		
	ZERO			60					684.683				
	SPAN												
AVERAGE													

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

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

COMMENTS: PURGE

COTTON GIN SOURCE TEST DATA

WEST VALLEY COTTON GROWERS, INC.
10030 W. MT. WHITNEY
RIVERDALE, CA 93656

GINNING PROCESS - Battery Condenser

TEST RUN #1			TEST RUN #2			TEST RUN #3		
8094	495	8:42	8140	500	10:58	8177	510	12:46
8095	497	8:45	8141	499	11:01	8178	540	12:54
8096	494	8:48	8142	512	11:04	8179	502	12:57
8097	497	8:51	8143	502	11:07	8180	502	1:00
8098	498	8:54	8144	507	11:10	8181	504	1:02
8099	503	8:57	8145	506	11:13	8182	524	1:05
8100	505	9:00	8146	517	11:17	8183	463	1:07
8101	494	9:03	8147	507	11:20	8184	508	1:10
8102	496	9:11	8148	507	11:22	8185	524	1:13
8103	490	9:15	8149	508	11:25	8186	513	1:15
8104	503	9:19	8150	502	11:29	8187	508	1:18
8105	509	9:23	8151	496	11:30	8188	511	1:21
8106	503	9:27	8152	514	11:33	8189	512	1:24
8107	495	9:30	8153	505	11:35	8190	495	1:26
8108	501	9:34	8154	500	11:38	8191	497	1:28
8109	484	9:39	8155	509	11:41	8192	498	1:31
8110	486	9:42	8156	496	11:43	8193	492	1:32
8111	503	9:45	8157	509	11:46	8194	510	1:35
8112	496	9:48	8158	503	11:49	8195	513	1:38
8113	509	9:51	8159	507	11:52	8196	509	1:40
			8160	508	11:55	8197	521	1:43
			8161	508	11:58	8198	509	1:45
			8162	499	12:01	8199	492	1:47
			8163	509	12:04	8200	515	1:50

Run #1

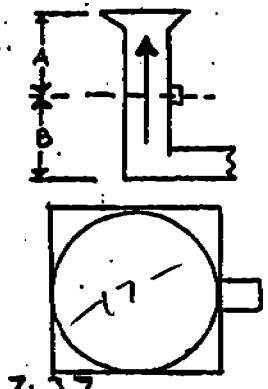
TOTAL RUNNING BALES = 19	TOTAL RUNNING BALES = 23	TOTAL RUNNING BALES = 23
TOTAL STANDARD BALES = ____	TOTAL STANDARD BALES = ____	TOTAL STANDARD BALES = ____
TIME = 1.15 (hrs)	TIME = 1.10 (hrs)	TIME = 1.03 (hrs)
STANDARD BALES/HR = 16.0	STANDARD BALES/HR = 20.9	STANDARD BALES/HR = 22.3

WEST VALLEY COTTON GROWERS, INC.
10030 W. MT. WHITNEY
RIVERDALE, CA 93656

#3 DRYER/CLEANER
CYCLONE

Run 2

PLANT: W. V. COTTON
LOCATION: RIVERDALE
COUNTY:
UNIT: #3 CLEANER
DATE: 10-28
RUN NO./METHOD: R4 - M5
COLD BOX NO.: 5
METER BOX NO.: A
METER FACTOR: 1.0027
PITOT #/ FACTOR: #1 .827
PYROMETER #: T9
MAGNEHELIC FACTOR: ΔP ΔH 1.005
K= 7.37



FILTER NO. A-35
AMBIENT TEMP.: 75
BAROMETRIC PRESS.,IN.HG.: 29.99
ASSUMED MOISTURE: 2 %
HEATER BOX SETTING: ON
PROBE LENGTH,FT. 5
NOZZLE DIAMETER,IN.: .295
PROBE HEATER SETTING: ON
APPROX.WIND VEL.,MPH: 5
SAMPLE BOX TEMP.,(F): 200
STATIC PREASURE: 0 "H2O
OFFSET: 0 In. PORT DIA.: 3 In. (M / F)

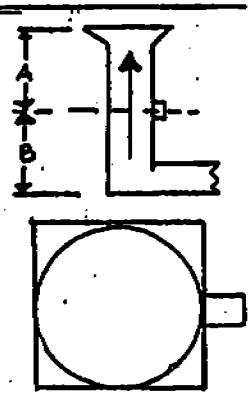
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
8				14:46									
B- 1	.5			0	96	.16		1.17	376.270	106	105		
2	1.14				95	.16		1.17	378.0	106	107		
3	2.0			5	95	.17		1.25	379.5	108	109		
4	3.3				96	.18		1.33	381.35	109	108		
5	4.25			10	96	.18		1.27	383.05	109	107		
6	6.05				95	.19		1.4	385.1	110	109	6	
7	10.95			15	96	.17		1.25	386.2	111	111		
8	12.75				97	.16		1.17	388.2	112	111		
9	14.0			20	97	.16		1.17	389.58	111	111		
10	15.0				97	.16		1.17	391.4	111	112		
11	15.85			25	97	.16		1.17	392.9	113	113		
12	16.5				97	.15		1.10	394.2	112	113		
	ZERO			30					396.157				
	SPAN												
AVERAGE													

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

SAMPLE TRAIN LEAK:
BEFORE= .006 CFM@ 15 IN. HG.
AFTER= .004 CFM@ 8 IN. HG.

COMMENTS: PURGE

PLANT: W. V. Cotton
LOCATION:
COUNTY:
UNIT: #3 CLEANER
DATE: 10-28
RUN NO./METHOD: R4 - M5
COLD BOX NO.:
METER BOX NO.:
METER FACTOR:
PITOT #/ FACTOR:
PYROMETER #:
MAGNEHELIC FACTOR: ΔP ΔH



FILTER NO. A-35
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 PREASURE: "H2O
OFFSET: In. PORT DIA.: In. (M / F)

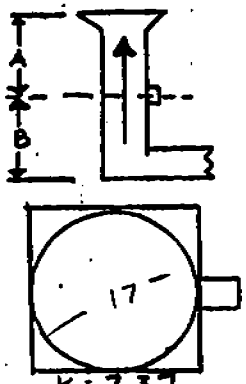
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
A-12				0	100	.16		1.17	396.157	113	114		
11					98	.17		1.25	397.8	115	115	6	
10				5	97	.17		1.25	399.5	116	115		
9					96	.17		1.25	401.1	114	116		
8				10	96	.17		1.25	402.8	115	117		
7					97	.18		1.33	404.9	116	117	6	
6				15	98	.18		1.17	406.4	118	117		
5					97	.16		1.17	408.1	113	117		
4				20	99	.15		1.10	409.5	117	118		
3					98	.14		1.14	411.0	120	119		
2				25	96	.10		.74	412.3	120	119		
1					95	.09		.66	413.35	118	118		
	ZERO			30					415.047				
	SPAN												
AVERAGE													

PITOT LEAK CHECK: Start @ 15:53
BEFORE: TOP ΔP= BOTTOM ΔP=
ΔP= ΔP=
AFTER: TOP ΔP= BOTTOM ΔP=
ΔP= ΔP=

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

COMMENTS: PURGE

PLANT: W. V. COTTON
LOCATION: RIVERDALE
COUNTY: S. J. V
UNIT: #3 CLEANER
DATE: 10-28-93
RUN NO./METHOD: R5 - M5
COLD BOX NO.: 4
METER BOX NO.: E
METER FACTOR: 1.0027
PITOT #/ FACTOR: #1 .827
PYROMETER #: T9
MAGNEHELIC FACTOR: ΔP ΔH 1.003



FILTER NO. A-36
AMBIENT TEMP.: 77
BARAMETRIC PRESS.,IN.HG.: 29.49
ASSUMED MOISTURE: 2
HEATER BOX SETTING: ON
PROBE LENGTH,FT. 5
NOZZLE DIAMETER,IN.: .295
PROBE HEATER SETTING: ON
APPROX.WIND VEL.,MPH: 5
SAMPLE BOX TEMP.,(F): 200
STATIC PREASURE: 0 "H2O
OFFSET: 0 in. PORT DIA.: 3 in. (M / F)

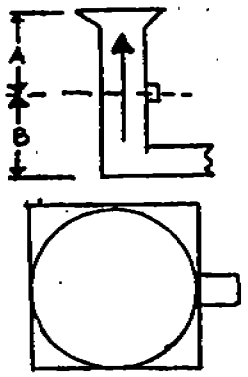
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
B 1				0	93	.11		.81	415.239	111	113		
2					96	.14		1.03	416.6	111	113		
3				5	97	.14		1.03	418.1	113	113		
4					98	.15		1.1	419.6	112	113		
5				10	97	.15		1.1	421.15	113	113		
6					100	.16		1.18	422.9	114	113		
7				15	102	.19		1.4	424.8	112	113	6	
8					101	.20		1.47	426.3	113	113		
9				20	102	.20		1.47	428	113	113		
10					102	.20		1.47	429.8	110	118		
11				25	102	.21		1.55	431.6	115	117	7	
12					102	.21		1.58	435.312	116	117	7	
	ZERO			30									
	SPAN												
AVERAGE													

PITOT LEAK CHECK:
BEFORE: TOP ΔP= OK BOTTOM ΔP= OK
ΔP= ΔP=
AFTER: TOP ΔP= BOTTOM ΔP=
ΔP= ΔP=
OK @ 4 OK @ 4.2

SAMPLE TRAIN LEAK:
BEFORE= .012 CFM@ 15 IN. HG.
AFTER= .01 CFM@ 9 IN. HG.

COMMENTS: PURGE

PLANT: W. V COTTON
LOCATION:
COUNTY:
UNIT: #3 CLEANER
DATE: 10-28-93
RUN NO./METHOD: R5 M5
COLD BOX NO.:
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: "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 ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
A 12				0	102	.18		1.33	435.342	116	115		
11					101	.18		1.33	437.19	116	116		
10				5	102	.18		1.33	438.8	116	116	6	
9					100	.17		1.25	440.6	117	116		
8				10	100	.17		1.25	442.2	117	117	6	
7					101	.17		1.25	443.8	118	117		
6				15	102	.17		1.25	445.7	118	117		
5					102	.17		1.25	447.3	119	120		
4				20	97	.17		1.25	449.0	121	121		
3					96	.16		1.18	450.7	120	120		
2				25	97	.16		1.18	452.0	119	119		
1					96	.14		1.03	453.8	119	120		
	ZERO			30					455.367				
	SPAN												
AVERAGE													

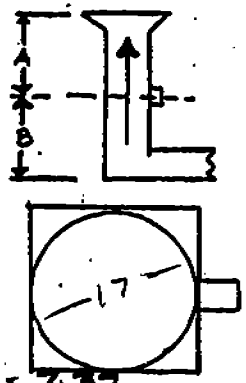
PITOT LEAK CHECK: Stop @ 5:35
BEFORE: TOP ΔP= BOTTOM ΔP=
ΔP= ΔP=
AFTER: TOP ΔP= BOTTOM ΔP=
ΔP= ΔP=

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

COMMENTS: PURGE

KG 1 of 2

PLANT: U. V. COTTON
LOCATION: RIVERDALE
COUNTY:
UNIT: #3 CLEANER
DATE: 10-28-93
RUN NO./METHOD: R4 M5
COLD BOX NO.: 5
METER BOX NO.: A
METER FACTOR: 1.0027
PITOT #/ FACTOR: #1 0.827
PYROMETER #: T9
MAGNEHELIC FACTOR: ΔP — ΔH 1.023



K = 7.37

FILTER NO. A-38
AMBIENT TEMP.: 70
BAROMETRIC PRESS.,IN.HG.: 29.49
ASSUMED MOISTURE: 2
HEATER BOX SETTING: ON
PROBE LENGTH,FT. 5
NOZZLE DIAMETER,IN.: .295
PROBE HEATER SETTING: ON
APPROX.WIND VEL.,MPH: 5
SAMPLE BOX TEMP.,(F): 200
STATIC PREASURE: 0 "H2O
OFFSET: 0 In. PORT DIA.: 3 In. ~~(M4 F)~~

TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
B-1				0	94	.12		.88	455.551	112	113		
2					92	.12		.88	456.0	115	115		
3				5	94	.13		.96	458.4	114	114	4	
4					94	.13		.96	460.2	114	114		
5				10	96	.13		.96	461.45	113	114	4	
6					94	.15		1.11	462.9	114	115		
7				15	94	.17		1.25	464.4	116	115	5	
8					94	.18		1.33	466.1	114	115		
9				20	94	.21		1.55	467.8	113	114		
10					95	.21		1.55	469.8	115	115		
11				25	94	.21		1.55	471.6	114	116		
12					93	.21		1.55	473.6	115	115		
	ZERO			30					475.275				
	SPAN												
AVERAGE													

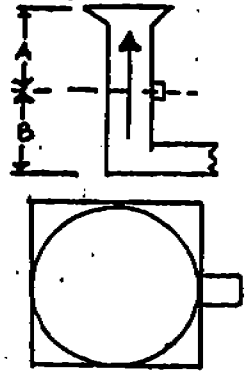
PITOT LEAK CHECK:
BEFORE: TOP ΔP= OK @ 4:1 BOTTOM ΔP= OK @ 38
ΔP=
AFTER: TOP ΔP=
ΔP= OK BOTTOM ΔP=
ΔP= OK

SAMPLE TRAIN LEAK:
BEFORE= 0.008 CFM@ 15 IN. HG.
AFTER= CFM@ IN. HG.

COMMENTS: PURGE

4 of 6

PLANT: W. V. Cotton
LOCATION:
COUNTY:
UNIT: #3 CLEANER
DATE: 10-24-93
RUN NO./METHOD: R6 M5
COLD BOX NO.:
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 PREASURE: "H2O
OFFSET: in. PORT DIA.: in. (M / F)

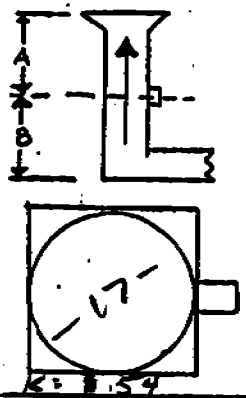
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
A-12				0	95	.19		1.33	475.275	114	116		
11					94	.18		1.33	477.1	116	117		
10				5	94	.17		1.25	478.6	116	117		
9					92	.18		1.33	480.5	118	118		
8				10	92	.17		1.25	481.9	117	118		
7					93	.17		1.25	483.9	117	117		
6				15	93	.17		1.25	485.7	116	117		
5					94	.17		1.25	487.6	116	116		
4				20	94	.17		1.25	488.9	115	117		
3					94	.18		1.33	490.5	116	116		
2				25	93	.16		1.17	492.8	117	116		
1					90	.14		1.05	494.3	117	117		
	ZERO			30					495.574				
	SPAN												
AVERAGE													

PITOT LEAK CHECK: STOP @ 7:09
BEFORE: TOP ΔP= BOTTOM ΔP=
ΔP= ΔP=
AFTER: TOP ΔP= BOTTOM ΔP=
ΔP= ΔP=

SAMPLE TRAIN LEAK:
BEFORE- 0.004 CFM@ IN. HG.
AFTER- 0.004 CFM@ 8 IN. HG.

COMMENTS: PURGE

PLANT: W. V. COTTON
LOCATION: RIVERDALE
COUNTY:
UNIT: #3 CLEANER
DATE: 10-28-93
RUN NO./METHOD: R4 - PM10
COLD BOX NO.: 5
METER BOX NO.: E
METER FACTOR: .9857
PITOT #/ FACTOR: #1 .827
PYROMETER #: T9
MAGNEHELIC FACTOR: ΔP ΔH / 1.000



FILTER NO. Z 93, Z 94, D 18
AMBIENT TEMP.: 75
BARAMETRIC PRESS.,IN.HG.: 29.49
ASSUMED MOISTURE: 2
HEATER BOX SETTING: OFF
PROBE LENGTH,FT. 5
NOZZLE DIAMETER,IN.: .28
PROBE HEATER SETTING: ON
APPROX.WIND VEL.,MPH: 3
SAMPLE BOX TEMP.,(F):
STATIC PREASURE: 0 "H2O
OFFSET: 0 In. PORT DIA.: 3 In. (M / F)

TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN. 14:46	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
A 12				0	97	.16		1.37	694.848	95	96		
11					97	.17		1.45	686.1	104	100	5	
10				5	97	.17		1.47	687.36	107	99		
9					97	.17		1.43	688.6	110	100		
8				10	97	.16		1.37	690.0	113	101		
7					97	.16		1.37	691.9	114	102	5	
6				15	97	.16		1.37	693.4	113	102		
5					97	.15		1.28	693.6	113	103		
4				20	97	.14		1.19	694.8	118	104		
3					97	.13		1.11	696.0	117	104		
2				25	97	.13		1.11	697.0	120	105		
1					97	.10		.85	698.1	121	106		
	ZERO			30					699.075				
	SPAN												
AVERAGE													

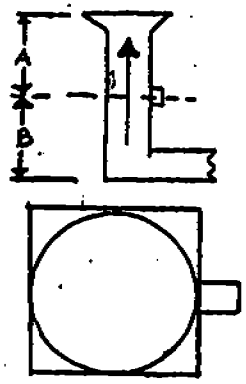
PITOT LEAK CHECK:
BEFORE: TOP ΔP= ____ BOTTOM ΔP= ____
ΔP= ____ ΔP= ____
AFTER: TOP ΔP= ____ BOTTOM ΔP= ____
ΔP= ____ ΔP= ____

SAMPLE TRAIN LEAK:
BEFORE= 0.015 CFM@ 15 IN. HG.
AFTER= 0.01 CFM@ 10 IN. HG.

COMMENTS: PURGE ____

Pg 2 of 2

PLANT: W. U. COTTON
LOCATION: ROCK DALE
COUNTY:
UNIT: #3 OLEAN
DATE:
RUN NO./METHOD: RT PM10
COLD BOX NO.:
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 PREASURE: "H2O
OFFSET: in. PORT DIA.: in. (M / F)

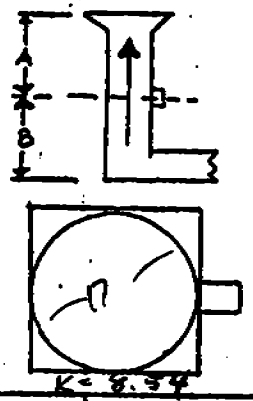
TRAVERSE POINT NUMBER 48	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
B-1				0	96	.16		1.37	699.035	117	110		
2					95	.16		1.37	700.4	120	108		
3				5	95	.17		1.45	701.6	125	110		
4					96	.18		1.54	703	125	110		
5				10	96	.18		1.54	704.2	126	111	6	
6					95	.19		1.62	705.6	125	111	6	
7				15	96	.17		1.45	707	127	112		
8					97	.16		1.37	708.1	126	112		
9				20	97	.16		1.37	709.4	127	112		
10					97	.16		1.37	710.8	128	113		
11				25	97	.16		1.37	711.8	128	113		
12					97	.15		1.28	713.2	128	113		
	ZERO			30					714.316				
	SPAN												
AVERAGE													

PITOT LEAK CHECK: STOP @ 15:53
BEFORE: TOP ΔP= BOTTOM ΔP=
ΔP= ΔP=
AFTER: TOP ΔP= BOTTOM ΔP=
ΔP= ΔP=

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

COMMENTS: PURGE

PLANT: W. V. COTTON
LOCATION: RIVERSIDE
COUNTY:
UNIT: #3 CLEANER
DATE: 10-28-93
RUN NO./METHOD: R5 - PM10
COLD BOX NO.: 6
METER BOX NO.: E
METER FACTOR: .9857
PITOT #/ FACTOR: #1 .827
PYROMETER #: T9
MAGNEHELIC FACTOR: ΔP ✓ ΔH 1.000



FILTER NO. Z 92, Z 108, D 17
AMBIENT TEMP.: 75
BARAMETRIC PRESS.,IN.HG.: 29.49
ASSUMED MOISTURE: 2
HEATER BOX SETTING: —
PROBE LENGTH,FT. 5
NOZZLE DIAMETER,IN.: .28
PROBE HEATER SETTING:
APPROX.WIND VEL.,MPH: 5
SAMPLE BOX TEMP.,(F):
STATIC PREASURE: 0 "H2O
OFFSET: 0 in. PORT DIA.: 3 in. (M / F)

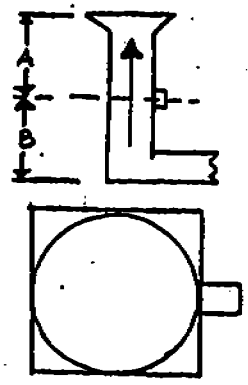
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
A				Start 4:52									
A-12				0	92	.18		1.54	714.449	96	97		
11					93	.19		1.62	716.4	104	98	5	
10				5	94	.18		1.54	717.88	107	99	5	
9					95	.17		1.45	718.52	109	98	5	
8				10	95	.17		1.45	719.9	111	99		
7					95	.17		1.45	721.1	113	100		
6				15	95	.16		1.37	722.5	114	101		
5					96	.17		1.45	723.6	117	103	6	
4				20	96	.16		1.37	725.0	118	104		
3					95	.15		1.28	726.2	120	104		
2				25	94	.11		.94	727.4	119	104		
1					94	.09		.79	728.4	119	105		
	ZERO			30					729.584				
	SPAN												
AVERAGE													

PITOT LEAK CHECK:
BEFORE: TOP ΔP= OK BOTTOM ΔP= OK
ΔP=
AFTER: TOP ΔP=
ΔP= OR 84 BOTTOM ΔP=
ΔP= OR
@ 4.2

SAMPLE TRAIN LEAK:
BEFORE= .010 CFM@ 15 IN. HG.
AFTER= .015 CFM@ 10 IN. HG.

COMMENTS: PURGE

PLANT: W.V. COTTON
LOCATION:
COUNTY:
UNIT:
DATE: 10-24-93
RUN NO./METHOD: 5 - PM10
COLD BOX NO.:
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: "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 ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
B-1				0	92	.11		.87	729.584	109	108		
2					96	.14		1.03	750.4	119	107		
3				5	97	.14		1.02	731.5	126	108	5	
4					98	.15		1.1	732.6	125	109		
5				10	97	.15		1.1	733.7	124	110		
6					100	.16		1.18	734.8	126	110		
7				15	102	.19		1.63	736.2	125	111		
8					101	.20		1.71	737.5	124	111		
9				20	102	.20		1.71	738.9	126	112		
10					102	.20		1.71	740.3	126	113		
11				25	102	.21	1.7"	1.79	742.3	128	114		
12					102	.21		1.79	743.3	129	115		
	ZERO			30					744.530				
	SPAN												
AVERAGE													

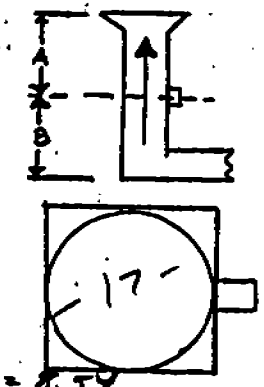
STOP @ 5:35

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

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

COMMENTS: PURGE

PLANT: W. V. COTTON
LOCATION: RIVERDALE
COUNTY:
UNIT: #3 CLEANER
DATE: 10-28-93
RUN NO./METHOD: R6 PM10
COLD BOX NO.: 4
METER BOX NO.: E
METER FACTOR: .9851
PITOT #/ FACTOR: 41 .827
PYROMETER #: T9
MAGNEHELIC FACTOR: ΔP — ΔH (1.000) K = 8.59



FILTER NO. Z-103, Z-104, D15
AMBIENT TEMP.: 70
BARAMETRIC PRESS.,IN.HG.: 29.49
ASSUMED MOISTURE: 2
HEATER BOX SETTING: —
PROBE LENGTH,FT. 5
NOZZLE DIAMETER,IN.: .28
PROBE HEATER SETTING:
APPROX.WIND VEL.,MPH: 5
SAMPLE BOX TEMP.,(F):
STATIC PREASURE: 0 "H2O
OFFSET: 0 In. PORT DIA.: 3 In.

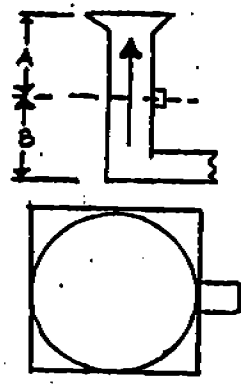
TRAVERSE POINT NUMBER	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
06				15:04									
A-12				0	90	.18		1.54	744.763	99	99		
11					92	.18		1.54	746.05	111	102		
10				5	94	.18		1.54	747.4	114	102	7	
9					94	.17		1.45	749.8	116	103		
8				10	94	.17		1.45	750.2	117	104	6	
7					95	.17		1.45	751.6	118	104		
6				15	95	.16		1.37	752.8	119	104	6	
5					95	.16		1.37	753.9	120	106		
4				20	95	.16		1.37	755.1	121	107		
3					95	.14		1.20	756.5	122	109		
2				25	95	.14		1.29	757.6	122	109		
1					95	.11		.94	758.7	123	109		
	ZERO			30					759.9				
	SPAN												
AVERAGE													

PITOT LEAK CHECK:
BEFORE: TOP ΔP= OK @ 4.1 BOTTOM ΔP= OK @ 3.8
ΔP= ΔP=
AFTER: TOP ΔP= BOTTOM ΔP=
ΔP= OK ΔP= OK

SAMPLE TRAIN LEAK:
BEFORE= 0.016 CFM@ 15 IN. HG.
AFTER= CFM@ IN. HG.

COMMENTS: PURGE

PLANT: W. V. Carbon
LOCATION:
COUNTY:
UNIT: #3 CLEANER
DATE: 10-28-93
RUN NO./METHOD: R6 PM10
COLD BOX NO.: 6
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: "H2O
OFFSET: In. PORT DIA.: In. (M / F)

TRAVERSE POINT NUMBER 10	DISTANCE INCHES	O2 (%)	CO2 (%)	SAMPLE TIME MIN.	STACK TEMP. (Ts), F	VELOCITY HEAD IN. H2O ΔP	VELOCITY HEAD IN. H2O √ΔP	PRESSURE DIFF ORIFICE METER (ΔH) IN.H2O	DRY GAS SAMPLE VOLUME (VM),FT.	GAS SAMPLE TEMP. @DRY GAS METER INLET (Tm),	GAS SAMPLE TEMP. @DRY GAS METER OUTLET (TM)	PUMP VACUUM IN.HG	TEMP. LAST IMPINGER (F)
B - 1				0	94	.12		1.02	754.9	117	109		
2					92	.12		1.02	761.8	123	110		
3				5	94	.13		1.11	762.7	124	110	7	
4					94	.13		1.11	763.9	124	112		
5				10	96	.13		1.11	764.3	124	111		
6					94	.15		1.28	765.4	125	110		
7				15	94	.17		1.45	766.4	126	111		
8					94	.18		1.54	768.3	126	112		
9				20	94	.21		1.79	769.4	126	111	8	
10					95	.21		1.79	771.2	126	110		
11				25	94	.21		1.79	772.3	126	110		
12					93	.21		1.79	773.2	126	111		
	ZERO			30					775.036				
	SPAN												
AVERAGE													

PITOT LEAK CHECK:
BEFORE: TOP ΔP= STOP @ 7:09 BOTTOM ΔP=
ΔP= ΔP=
AFTER: TOP ΔP= BOTTOM ΔP=
ΔP= ΔP=

SAMPLE TRAIN LEAK:
BEFORE= CFM@ IN. HG.
AFTER= 0.005 CFM@ 11 IN. HG.

COMMENTS: PURGE

COTTON GIN SOURCE TEST DATA

GINNING PROCESS: #3 Hot Gin Cleaner 9 Incline

WEST VALLEY COTTON GROWERS, INC.
10030 W. MT. WHITNEY
RIVERDALE, CA 93656

TEST RUN #1			TEST RUN #2			TEST RUN #3		
BALE #	TRUCK WT	TIME	BALE #	TRUCK WT	TIME	BALE #	TRUCK WT	TIME
8214	510	2148	8253	504	4135	8258	511	6:05
8215	498	2:50	8254	495	4:37	8259	505	6:07
8216	506	2153	8255	503	4139	8260	512	6:10
8217	456	2:55	8256	503	4:142	8261	506	6:15
8218	500	2:57	8257	485	4145	8262	504	6:15
8219	484	2:59	8258	492	4:47	8263	518	6:18
8220	510	3:02	8259	501	4150	8264	520	6:20
8221	496	3105	8260	504	4153	8265	511	6:22
8222	500	3107	8261	506	4155	8266	511	6:24
8223	510	3:10	8262	498	4158	8267	498	6:26
8224	509	3:12	8263	505	5100	8268	512	6:29
8225	509	3:15	8264	454	5103	8269	504	6:32
8226	459	3117	8265	516	5105	8270	514	6:35
8227	485	3:19	8266	532	5108	8271	517	6:37
8228	508	3:21	8267	492	5:10	8302	517	6:39
8229	513	3:25	8268	503	5113	8303	491	6:42
8230	507	3127	8269	490	5:15	8304	492	6:45
8231	507	3:29	8270	510	5118	8305	486	6:47
8232	458	3:31	8271	505	5:20	8306	488	6:49
8233	459	3:34	8272	513	5:22	8307	521	6:53
8234	514	3137	8273	498	5:25	8308	528	6:56
8235	508	3:40	8274	498	5:27	8309	526	6:55
8236	490	3:42	8275	514	5:30	8310	510	7:02
8237	452	3:46	8276	511	5133	8311	458	7105
8238	501	3:49	8277	513	5:35	8312	496	7108
8239	507	3:52	8278	515	5:37	8313	506	7:11
8240	509	3:55						
TOTAL RUNNING BALES = 26			TOTAL RUNNING BALES = 25			TOTAL RUNNING BALES = 25		
TOTAL STANDARD BALES = _____			TOTAL STANDARD BALES = _____			TOTAL STANDARD BALES = _____		
TIME = 1.12 (hrs)			TIME = 1.03 (hrs)			TIME = 1.10 (hrs)		
STANDARD BALES/HR = 23.2			STANDARD BALES/HR = 24.3			STANDARD BALES/HR = 22.7		

VIII. QUALITY ASSURANCE

DRY GAS METER CALIBRATION

Date: 8/25/93 Unit: A

Ambient Conditions

Temp: 69 F/C

Baro: 29.77 in.Hg

ORIFICE MANOMETER SETTING D,H	GAS VOL WET TEST METER V,w	GAS VOL DRY GAS METER Vb,	wet test tw	Temperature Dry IN TD, IN	Temperature Dry Out Tdo,	Temperature Ave f Td,	Time e min	Y	DH@Y
		942.136	67	86	86				
0.5	5	937.089	67	86	85	85.75	11.96	1.0247	1.5502
		947.406	67	85	86				
1.0	5	942.234	67	86	86	85.75	8.86	0.9987	1.7015
		952.834	67	87	87				
1.5	5	947.599	67	88	87	87.25	7.37	0.9881	1.7612
		958.289	67	88	88				
2.0	5	953.106	67	89	89	88.50	6.33	0.9991	1.7283
								1.003	1.6853

Calibration by: KK *Meter Factor:* 1.0027

Reviewed by: _____ *Delta H:* 1.6853

Equations:

Y= (Vw*Pb)*(Td+460))/Vdt-Vdb)+(DelH/13.6))*(((Wt+wt)/2)+460))

Del H = (0.0317*Del)*(((((WT+Wt)/2)+460)*e)/Vw)^2)/((Pb*(Td+460)

DRY GAS METER CALIBRATION

Standard Pressure 29.92 in. hg.
Standard Temperature 70 F
Ambient pressure 29.72 in. hg.
Ambient temperature 70 F

Unit Number E
Date: 7/7/93

ΔH in. H20	TIME min.	WET GAS VOL. cf	DRY GAS VOL. in/out cf	Temperature W.G. AVG F	D.G. IN F	D.G. OUT F	D.G. AVG. F	*Y	†ΔH@ in. H20
			427.066		88.0	85.0			
0.5	15.15	5.000	432.975	70.0	98.0	84.0	88.8	0.8751	2.5219
			432.234		96.0	84.0			
1.0	10.47	5.000	437.031	70.0	99.0	90.0	92.3	1.0835	2.3937
			437.214		94.0	85.0			
1.5	8.47	5.000	442.936	70.0	103.0	85.0	91.8	0.9064	2.3520
			443.141		93.0	86.0			
2.0	7.34	5.000	447.951	70.0	104.0	86.0	92.3	1.0779	2.3529
						AVERAGE		0.9857	2.4051

Validity checks:

* Y(max - min) ≤.02 ? √
† | ΔH@ - ΔH@ avg. | ≤ .20 in. H20 ? √

Meter Factor: 0.9857

ΔH@ : 2.4051

Calibration by: KK Reviewed by: _____

EQUATIONS USED:

Y= (VWG*PBAR*(TDGavg.+460))/((VDG*(PBAR+(ΔH/13.6))*(TWGavg.+460))

ΔH@ = ((0.0319*ΔH)/(PBAR*(TDGavg+460))*(((TWG+460)*T)/VWG)^2

BTC Environmental, Inc. - 1992

PITOT TUBE CALIBRATION

Ambient Conditions

DATE: 7/20/93 TEMPERATURE 71 F

RH: 20.00 %

UNIT NUMBER: 1 BAROMETER: 29.90 in. hg.

Run #	Velocity fpm	ΔP (std) in. H2O	ΔP (s) in. H2O		Cp(s)	| Dev |	Cp(s)	| Dev |
			A	B	A	A	B	B
1	4123	*1.06*	*1.59*	*1.60*	0.808	0.000	0.806	0.001
2		*1.06*	*1.59*	*1.60*	0.808	0.000	0.806	0.001
3		*1.06*	*1.59*	*1.59*	0.808	0.000	0.808	0.002
Avg		1.06	1.59	1.60	~0.808	0.000*	~0.807	0.001*

AVERAGE: (Cp(s)A+Cp(s)B)/2 0.807

| ~Cp(s)A-~Cp(s)B | = 0.002 *

1	4406	*1.21*	*1.69*	*1.69*	0.838	0.001	0.838	0.001
2		*1.21*	*1.70*	*1.69*	0.835	0.002	0.835	0.002
3		*1.21*	*1.69*	*1.69*	0.838	0.001	0.838	0.001
Avg		1.21	1.69	1.69	~0.837	0.001*	~0.837	0.001*

AVERAGE: (Cp(s)A+Cp(s)B)/2 0.837

| ~Cp(s)A-~Cp(s)B | = 0.000 *

1	4671	*1.36*	*1.90*	*1.90*	0.838	0.001	0.838	0.001
2		*1.36*	*1.90*	*1.90*	0.838	0.000	0.838	0.000
3		*1.36*	*1.90*	*1.90*	0.838	0.000	0.838	0.000
Avg		1.36	1.90	1.90	~0.838	0.000*	~0.838	0.000*

AVERAGE: (Cp(s)A+Cp(s)B)/2 0.838

|~Cp(s)A-~Cp(s)B | = 0.000 *

PITOT CALIBRATION VALUE: 0.827

~ Denotes average value

* Denotes values which must be ≤ to 0.01 for calibration to be valid.

Calibrated by: KK *Reviewed by:* _____

THERMO COUPLE CALIBRATION

Date: 7/9/93 Unit: T-9

Point	* Standard Temperature *Tstd* deg. F	Pyrometer Temperature *Tpyr* deg. F	Error % ** *(Tstd-Tpyr)/Tstd*
1 Ambient	76.0	77.0	0.19%
2 Ice	32.0	37.0	1.02%
3 Boil	212.0	212.0	0.00%
4 Oil	0.0	0.0	0.00%

Std. Corr. Factor 0.951

Calibration by: KK

* Standard ID: 9
CAT #227-652

Reviewed by: ___

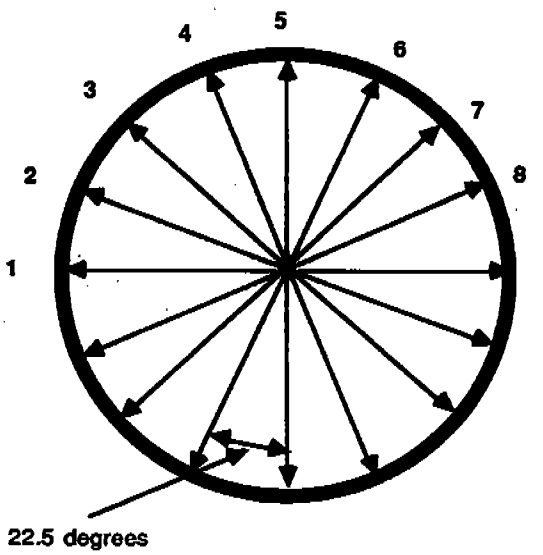
* * in deg. K

.279
.311

CD

Nozzle Calibration

Nozzle I.D. : 34 Date : 7/7/93



Points

1 - .295
2 - .295
3- .296
4- .295
5- .295
6- .296
7- .295
8- .295

Average Nozzle Diameter = .295

Analyst : GD Reviewed :

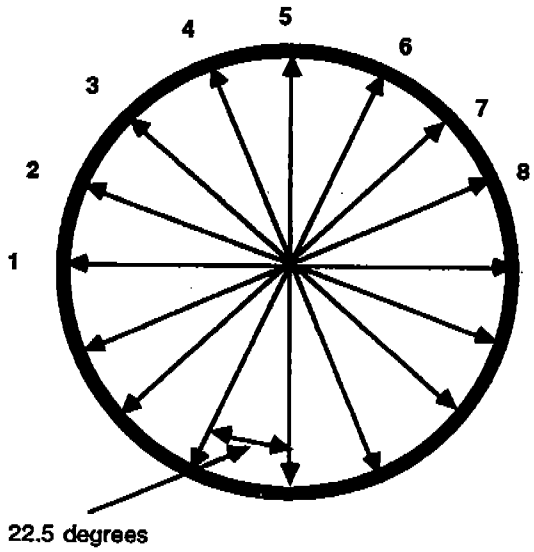
BTC Environmental, Inc. - 1989

.279
.311

CD

Nozzle Calibration

Nozzle I.D. : 37 Date : 7/7/93



Points

1 - .370
2 - .369
3- .369
4- .371
5- .371
6- .369
7- .369
8- .370

Average Nozzle Diameter = .370

Analyst : GD Reviewed :

BTC Environmental, Inc. - 1989

MAGNEHELIC CALIBRATION

DATE: 7/8/93
GAGE ID # M-3
RANGE 0-5 in. H20

SCHEULED CALIBRATION:
SEMI ANNUAL [XXX]
BI-MONTHLY [ ]
OTHER [ ]

REFERENCE
ID # M-3

LEAK CHECK :

System:	† Set @ 10 in. H20	vacuum 10 in. P F	pressure 10 in. P F
Point:	†† Set @ 90 % FS in. H20	vacuum in. P F	pressure in. P F

Point	Incline Delta P *Pinc*	Magnehelic Delta P *Pmag*	% Deviation *(Pinc-Pmag)/Pinc x 100*
1	1.50	1.49	0.667%
	1.50	1.49	0.667%
	1.50	1.50	0.000%
average	1.50	1.49	** 0.444%
2	2.00	1.99	0.500%
	2.00	2.00	0.000%
	2.00	2.00	0.000%
average	2.00	2.00	** 0.167%
3	3.00	3.00	0.000%
	3.00	3.00	0.000%
	3.00	3.00	0.000%
average	3.00	3.00	** 0.000%
4	4.00	3.99	0.250%
	4.00	4.00	0.000%
	4.00	4.00	0.000%
average	4.00	4.00	** 0.083%
5	5.00	4.91	1.800%
	5.00	4.88	2.400%
	5.00	4.89	2.200%
average	5.00	4.89	** 2.133%

STANDARD CORRECTION FACTOR	**1.006**
AVERAGE DEVIATION	0.006
STANDARD DEVIATION	0.008
95% CONFIDENCE INTERVAL	0.021
PRECISION(within +/- 3%)	-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: K.R.K *Reviewed by:* _____

MAGNEHELIC CALIBRATION

DATE: 7/8/93
GAGE ID # M-4
RANGE 0-2.0 in. H20

SCHEULED CALIBRATION:
SEMI ANNUAL [XXX]
BI-MONTHLY [ ]
OTHER [ ]

REFERENCE ID # M-4

LEAK CHECK :

System:	† Set @ 10 in. H20	vacuum 10 in. P F	pressure 10 in. P F
Point:	†† Set @ 90 % FS In. H20	vacuum in. P F	pressure in. P F

Point	Incline Delta P *Pinc*	Magnehelic Delta P *Pmag*	% Deviation *(Pinc-Pmag)/Pinc x 100*
1	0.64	0.64	0.000%
	0.64	0.64	0.000%
	0.64	0.64	0.000%
average	0.64	0.64	** 0.000%
2	1.05	1.05	0.000%
	1.05	1.04	0.952%
	1.05	1.05	0.000%
average	1.05	1.05	** 0.317%
3	1.55	1.55	0.000%
	1.55	1.55	0.000%
	1.55	1.55	0.000%
average	1.55	1.55	** 0.000%
4	1.75	1.75	0.000%
	1.75	1.75	0.000%
	1.75	1.75	0.000%
average	1.75	1.75	** 0.000%
5	1.90	1.90	0.000%
	1.90	1.90	0.000%
	1.89	1.90	0.529%
average	1.90	1.90	** 0.176%

STANDARD CORRECTION FACTOR	**1.000**
AVERAGE DEVIATION	0.001
STANDARD DEVIATION	0.003
95% CONFIDENCE INTERVAL	0.007
PRECISION(within +/- 3%)	-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: KK *Reviewed by:* _____

MAGNEHELIC CALIBRATION

DATE: 7/8/93
GAGE ID # M-7
RANGE 0-5 in. H20

SCHEULED CALIBRATION:
SEMI ANNUAL [XXX]
BI-MONTHLY [ ]
OTHER [ ]

REFERENCE ID # M-7

LEAK CHECK :

System:	† Set @ 10 in. H20	vacuum 10 in. P F	pressure 10 in. P F
Point:	†† Set @ 90 % FS in. H20	vacuum in. P F	pressure in. P F

Point	Incline Delta P *Pinc*	Magnehelic Delta P *Pmag*	% Deviation *(Pinc-Pmag)/Pinc x 100*
1	1.00	1.00	0.000%
	1.00	1.00	0.000%
	1.00	1.00	0.000%
average	1.00	1.00	** 0.000%
2	2.00	1.99	0.500%
	2.00	1.99	0.500%
	2.00	1.99	0.500%
average	2.00	1.99	** 0.500%
3	3.00	3.00	0.000%
	3.00	3.00	0.000%
	3.00	3.00	0.000%
average	3.00	3.00	** 0.000%
4	4.00	4.00	0.000%
	4.00	4.00	0.000%
	4.00	4.00	0.000%
average	4.00	4.00	** 0.000%
5	5.00	4.95	1.000%
	5.00	4.95	1.000%
	5.00	4.95	1.000%
average	5.00	4.95	** 1.000%

STANDARD CORRECTION FACTOR	**1.003**
AVERAGE DEVIATION	0.003
STANDARD DEVIATION	0.004
95% CONFIDENCE INTERVAL	0.010
PRECISION(within +/- 3%)	-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: KK *Reviewed by:* _____

BTC ENVIRONMENTAL INCORPORATED
1536 Eastman Avenue
Ventura, CA 93003
(805) 644-1095 Fax 644-9947

CHAIN OF CUSTODY RECORD

REPORT
Company ____ Fax ____
Address: AWR Labs
Phone ____ Contact ____

BILL TO: P.O.#
Company ____
Address: Page 35 of 64
Phone ____ Contact 325?5

PROJ. NO: 293-133
PROJECT NAME: West Valley Growers
SAMPLERS: (Signature) [signature]

CONTAINER TYPES
A = AMBER B = BRASS G = GLASS
P = PLASTIC V = VOA VIAL O = OTHER

ANALYSIS: Dry Residue; Gross wt

SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	COMP	GRAB	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	CONTAINER #	CONTAINER TYPE	Dry Residue	Gross wt	REMARKS
31	10/28			X	#31					1	F	✓	X	
32					32						F		X	
33					33	X					P	X		
34					34	X					P	X		
35					35						F	*	X	
36					36						F	•	X	
37					37						F		X	
38					38	X					P	X		
39					39	X					P	X		
40					40	X					P	X		
41					41	X					P	X		
42					42						F		X	
43					43	X					P	X		CHECK ONE BOX:
44					44	X					P	X		DISPOSE SAMPLES
45					45						F		X	RETURN SAMPLES

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)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	10/31 7:00 A	Cheryl Long			

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

TURN AROUND TIME

24 Hr.		5 Day	
48 Hr.		Standard	
72 Hr.		Other	

WHITE COPY ____ CANARY COPY ____ PINK COPY ____

BTC ENVIRONMENTAL INCORPORATED
1536 Eastman Avenue
Ventura, CA 93003
(805) 644-1095 Fax 644-9947

CHAIN OF CUSTODY RECORD

REPORT
Company: AWR Cals
Address:
Phone: Contact: Fax:

BILL TO:
Company:
Address: Page 4 of 4
Phone: Contact: 9 2 7 5 7 5

P.O.#

PROJ. NO: 293-133
PROJECT NAME: West Valley Growers
SAMPLERS: (Signature) Tom Porter

CONTAINER TYPES
A = AMBER B = BRASS G = GLASS
P = PLASTIC V = VOA VIAL O = OTHER

SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	COMP	GRAB	SAMPLE DESCRIPTION	MATRIX: WATER	MATRIX: SOIL	MATRIX: SLUDGE	MATRIX: OTHER	CONTAINER #	CONTAINER TYPE	ANALYSIS: Bal Residue	ANALYSIS: Gross Wt	REMARKS
46	10/28		[illegible]	X	#46	X				1	P	X		
47	↓				47	X				↓	P	X		
48	↓				48	X				↓	P	X		
49	↓				49				Residue	↓	F		X	
50	↓				50				Residue	↓	P	X		

(107)

CHECK ONE BOX:
DISPOSE SAMPLES
RETURN SAMPLES

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)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Tom Porter	10/30 7:00A	Cheryl Long			
Relinquished by: (Signature)	Date/Time	Received by: (Signature)		Date/Time	

TURN AROUND TIME

24 Hr.		5 Day	
48 Hr.		Standard	
72 Hr.		Other	

WHITE COPY______ CANARY COPY______ PINK COPY______

SOURCE TESTING SAMPLE INFORMATION SHEET
****

PM10 PART. ANALYSIS
****

METHOD: PM 10

CLIENT: West Valley Growers

LAB NO GIVEN: 293-133

PROJECT NAME: Battery Condenser Cyclone

PROJECT NO:

SITE: Riverdale

SAMPLER: DW/TP

DATE SAMPLED: 10/28/93

NO.	RUN 1	# of cont	TOT VOL or FIL #	TOT RES	GROSS WT		
1	FILTER (slotted) +10	1	# T-20	N/A	✓		
2	FILTER (slotted) +10	1	# G-85	N/A	✓		
3	FILTER (solid) -10	1	# D-13	N/A	✓		
4	IMPACTOR (front half) +10	1	150	✓			
5	PROBE+IMPINGERS(back half) -10	1	350	✓			

NO.	RUN 2	# of cont	TOT VOL or FIL #	TOT RES	GROSS WT		
6	FILTER (slotted) +10	1	# Z-122	N/A	✓		
7	FILTER (slotted) +10	1	# Z-123	N/A	✓		
8	FILTER (solid) -10	1	# D-29	N/A	✓		
9	IMPACTOR (front half) +10	1	200	✓			
10	PROBE+IMPINGERS(back half) -10	1	500	✓			

NO.	RUN 3	# of cont	TOT VOL or FIL #	TOT RES	GROSS WT		
11	FILTER (slotted) +10	1	# Z-120	N/A	✓		
12	FILTER (slotted) +10	1	# Z-121	N/A	✓		
13	FILTER (solid) -10	1	# D-28	N/A	✓		
14	IMPACTOR (front half) +10	1	175	✓			
15	PROBE+IMPINGERS(back half) -10	1	400	✓			

Comments: 168

SOURCE TESTING SAMPLE INFORMATION SHEET
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PARTICULATE ANALYSIS
****

METHOD: 5

CLIENT: West Valley Growers

LAB NO GIVEN: _____

PROJECT NAME: Battery Condenser Cyclone

PROJECT NO: 293-133

SITE: Riverdale

SAMPLER: DW/MA

DATE SAMPLED: 10/28/93

NO.	RUN 1	# of cont	TOT VOL	TOT WGHT	GROSS WGHT		
16	PROBE (Front Half)	1	200	✓			
17	IMPINGERS # 1+2+3	1	300	✓			
18	FILTER A-32	1	N/A		✓		

NO.	RUN 2	# of cont	TOT VOL	TOT WGHT	GROSS WGHT		
19	PROBE (Front Half)	1	175	✓			
20	IMPINGERS # 1+2+3	1	350	✓			
21	FILTER A-33	1	N/A		✓		

NO.	RUN 3	# of cont	TOT VOL	TOT WGHT	GROSS WGHT		
22	PROBE (Front Half)	1	175				
23	IMPINGERS # 1+2+3	1	400				
24	FILTER A-34	1	N/A				

Comments: _____

SOURCE TESTING SAMPLE INFORMATION SHEET
****

PM10 PART. ANALYSIS
****

METHOD: PM 10

CLIENT: West Valley

LAB NO GIVEN:

PROJECT NAME: #3 Cleaner Cyclone

PROJECT NO: 293-133

SITE: Riverdale

SAMPLER: DW/TP

DATE SAMPLED: 10/28/88

NO.	RUN 1	# of cont	TOT VOL or FIL #	TOT RES	GROSS WT		
25	FILTER (slotted) +10	1	# Z-93	N/A	✓		
26	FILTER (slotted) +10	1	# Z-94	N/A	✓		
27	FILTER (solid) -10	1	# D-18	N/A	✓		
28	IMPACTOR (front half) +10	1	225	✓			
29	PROBE+IMPINGERS(back half) -10	1	~~425~~ 510	✓			

NO.	RUN 2	# of cont	TOT VOL or FIL #	TOT RES	GROSS WT		
30	FILTER (slotted) +10	1	# Z-92	N/A	✓		
31	FILTER (slotted) +10	1	# Z-108	N/A	✓		
32	FILTER (solid) -10	1	# D17	N/A	✓		
33	IMPACTOR (front half) +10	1	210	✓			
34	PROBE+IMPINGERS(back half) -10	1	425	✓			

NO.	RUN 3	# of cont	TOT VOL or FIL #	TOT RES	GROSS WT		
35	FILTER (slotted) +10	1	# Z-103	N/A	✓		
36	FILTER (slotted) +10	1	# Z-104	N/A	✓		
37	FILTER (solid) -10	1	# D-15	N/A	✓		
39	IMPACTOR (front half) +10	1	225	✓			
38	PROBE+IMPINGERS(back half) -10	1	425	✓			

Comments:

SOURCE TESTING SAMPLE INFORMATION SHEET
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PARTICULATE ANALYSIS
****

METHOD: 5

CLIENT: West Valley Growers

LAB NO GIVEN: _____

PROJECT NAME: #3 Cleaner Cyclone

PROJECT NO: 293-133

SITE: Riverdale

SAMPLER: DW/TP

DATE SAMPLED: 10/28/93

NO.	RUN 1	# of cont	TOT VOL	TOT WGHT	GROSS WGHT		
39	PROBE (Front Half)	1	200	✓			
40	IMPINGERS # 1+2+3	1	450	✓			
41	FILTER A-35	1	N/A		✓		

NO.	RUN 2	# of cont	TOT VOL	TOT WGHT	GROSS WGHT		
42	PROBE (Front Half)	1	225	✓			
43	IMPINGERS # 1+2+3	1	450	✓			
44	FILTER A-36	1	N/A		✓		
45	DI Blank	1	100	✓			

NO.	RUN 3	# of cont	TOT VOL	TOT WGHT	GROSS WGHT		
46	PROBE (Front Half)	1	175	✓			
47	IMPINGERS # 1+2+3	1	450	✓			
48	FILTER A-37	1	N/A		✓		
49	Acetone Blk	1	100	✓			

Comments: _____

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