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Agency

Office of Air Quality
Planning and Standards
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Air



EVALUATION OF PARTICULATE MATTER (PM) CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS)

Final Report

Volume 4—Appendices for RCA No. 2



Volume 4—Appendices for RCA No. 2
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RCA #2 Appendix A

Process Operating Conditions

Run #30									Run #30 Avg
Time	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00	
Parameters									
Steam Flow (klb/hr)	275.9	276.2	275.3	279.6	277.5	273.8	276.4	273.9	276.1
Steam Temp (deg F)	963	961	963	959	960	952	961	967	961
Coal Flow (lb/hr)	30857	36000	28421	15652	27000	27692	27692	28421	27717
Boiler O2s (Avg)	2.7	2.8	2.6	2.4	2.4	2.5	2.4	2.5	2.5
west	3.6	3.7	3.6	3.4	3.6	3.5	3.2	3.6	3.5
central	3	2.8	2.5	2.3	2.5	2.5	2.4	2.4	2.6
east	1.5	1.8	1.7	1.4	1.1	1.5	1.6	1.5	1.5
East Undergrate Air Flow (lb/hr)	133341	130438	130182	130598	127862	130396	130294	129859	130371.3
West Undergrate Air Flow (lb/hr)	130948	133543	130029	130059	132575	129388	129878	129698	130764.8
Baghouse Inlet Temp (deg F)	185.9	186.3	184.7	186.3	183.8	185.4	187.3	187.2	185.9
Baghouse Outlet Temp (deg F)	171.5	172.9	173.6	173.7	176.6	175	175.5	175.6	174.3
Baghouse DP (in H2O)	10	9.7	10	10	9.8	10.3	10.1	10.4	10.0
ID Fan Suct. Press. (in H2O)	-25.5	-24.9	-25.4	-19.6	-25.3	-25.5	-25.2	-25.6	-24.6
2A SDA Outlet Temp (deg F)	185.6	185.9	183.4	186.3	186.5	184	181.1	187.1	185.0
2A Atomizer KW (KW)	66	66	67	65	65	66	70	67	66.5
U2 % Solids (%)	35.6	35.6	35.3	35.4	35.2	34.8	35	37.2	35.5
2A Lime Flow (gpm)	2.6	2.3	5.3	3.9	3.3	4.3	3.6	3.1	3.6
Opacity	8.40								
Run #31									Run #31 Avg
Time	15:45	16:00	16:15	16:30	16:45				
Parameters									
Steam Flow (klb/hr)	271.7	266.1	267.4	269.2	271.3				269.1
Steam Temp (deg F)	945	945	942	948	947				945.4
Coal Flow (lb/hr)	27000	26341	28421	30000	26341				27620.6
Boiler O2s (Avg)	2.9	3.1	2.9	3.2	3.1				3.0
west	4.8	5.5	5.3	5.6	5.4				5.3
central	2.8	2.4	2.6	3.4	3.4				2.9
east	1.2	1.5	0.8	0.5	0.4				0.9
East Undergrate Air Flow (lb/hr)	131457	129271	128952	127955	131841				129895.2
West Undergrate Air Flow (lb/hr)	132528	128296	131384	132474	130199				130976.2
Baghouse Inlet Temp (deg F)	185.2	185.4	184.9	183.7	186.4				185.1
Baghouse Outlet Temp (deg F)	174.1	174.3	173.7	173.7	174.8				174.1
Baghouse DP (in H2O)	10.3	9.8	10	9.7	11				10.2
ID Fan Suct. Press. (in H2O)	-25.5	-25.4	-25.5	-25.4	-25.8				-25.5
2A SDA Outlet Temp (deg F)	185	182.4	190	190	197				188.9
2A Atomizer KW (KW)	66	68	65	63	58				64.0
U2 % Solids (%)	33.8	35.7	35	35.3	35				35.0
2A Lime Flow (gpm)		5	5.2	2.1	5.4				4.5
Opacity	8.67								

Run #32							Run #32 Avg
Time	9:00	9:15	9:30	9:45	10:00	10:15	
Parameters							
Steam Flow (klb/hr)	277.3	274.8	275.4	270.5	276.3	273.5	274.6
Steam Temp (deg F)	956	951	950	948	947	953	950.8
Coal Flow (lb/hr)	29189	27692	27000	27000	27692	30000	28095.5
Boiler O2s (Avg)	3.6	3.8	4.1	4.3	4.2	4.0	4.0
west	4.2	4.7	4.7	4.7	4.4	4.5	4.5
central	3	2.8	3.4	3.9	4	3.4	3.4
east							#DIV/0!
East Undergrate Air Flow (lb/hr)	125148	126806	125666	124467	124832	126596	125585.8
West Undergrate Air Flow (lb/hr)	128462	129713	128341	127020	127069	126943	127924.7
Baghouse Inlet Temp (deg F)	185.7	184.4	NA	NA	185.6	184.2	185.0
Baghouse Outlet Temp (deg F)	174	173.5	174.1	173.5	172.2	174.2	173.6
Baghouse DP (in H2O)	11	12.9	10.8	11.4	11.4	11.5	11.5
ID Fan Suct. Press. (in H2O)	-26.2	-26.3	-26.1	-26.4	-26.3	-26.5	-26.3
2A SDA Outlet Temp (deg F)	185.5	186.6	186.5	185.6	183	183	185.0
2A Atomizer KW (KW)	65	67	66	67	65	66	66.0
U2 % Solids (%)	35.2	34.7	33.1	35.7	35	32.7	34.4
2A Lime Flow (gpm)	5.5	4.4	2.4	3.5	4.1	2.9	3.8
Opacity	9.53						
Run #33							Run #33 Avg
Time	12:00	12:15	12:30	12:45	13:00	13:15	
Parameters							
Steam Flow (klb/hr)	282.7	278.3	276.4	277.8	274.6	274.4	277.4
Steam Temp (deg F)	954	950	959	958	961	950	955.3
Coal Flow (lb/hr)	28421	30000	26341	27692	34839	28421	29285.7
Boiler O2s (Avg)	2.7	2.8	2.7	2.8	2.5	2.8	2.7
west	2.8	3	3.2	3.3	2.9	3.5	3.1
central	2.5	2.6	2.2	2.2	2.1	2	2.3
east							#DIV/0!
East Undergrate Air Flow (lb/hr)	121658	122456	124716	122954	123898	124570	123375.3
West Undergrate Air Flow (lb/hr)	119808	120456	127160	125325	125193	127786	124288.0
Baghouse Inlet Temp (deg F)	183.9	183.9	185.5	183.1	187.4	185.2	184.8
Baghouse Outlet Temp (deg F)	173.3	174.2	171.7	171.8	174.5	177.7	173.9
Baghouse DP (in H2O)	11.6	10.4	10.9	9.9	11	10.2	10.7
ID Fan Suct. Press. (in H2O)	-26.6	-15.3	-26.3	-25.9	-19.2	-25.4	-23.1
2A SDA Outlet Temp (deg F)	182.5	187.1	186.3	182.2	184.2	186.2	184.8
2A Atomizer KW (KW)	72	71	67	70	71	66	69.5
U2 % Solids (%)	34.1	36.6	34.2	33.2	36.2	34.9	34.9
2A Lime Flow (gpm)	4.3	2.3	4.8	4.7	2.7	6.8	4.3
Opacity	9.74						

Run #34							Run #34 Avg
Time	15:00	15:15	15:30	15:45	16:00	16:15	
Parameters							
Steam Flow (klb/hr)	275.8	275.5	276.9	275.9	276.4	277.8	276.4
Steam Temp (deg F)	964	956	952	950	952	952	954.3
Coal Flow (lb/hr)	29189	30000	29189	27000	27692	27692	28460.3
Boiler O2s (Avg)	2.8	3.4	3.5	3.5	3.5	3.6	3.4
west	3.1	4.2	4.1	4.2	3.9	4.3	4.0
central	2.5	2.6	2.9	2.8	3	2.9	2.8
east							#DIV/0!
East Undergrate Air Flow (lb/hr)	123531	121363	121472	121199	121308	120323	121532.7
West Undergrate Air Flow (lb/hr)	124870	120375	119250	118819	119044	119393	120291.8
Baghouse Inlet Temp (deg F)	184.5	184.9	184.7	184.5	186.1	184.8	184.9
Baghouse Outlet Temp (deg F)	175.5	175.8	175.9	174.8	175.5	174.7	175.4
Baghouse DP (in H2O)	10.9	10.8	11.1	10.7	10.1	10.3	10.7
ID Fan Suct. Press. (in H2O)	-26.1	-26.1	-26.1	-25.9	-25.4	-26	-25.9
2A SDA Outlet Temp (deg F)	184.6	185.4	184.2	181.2	186	186.8	184.7
2A Atomizer KW (KW)	68	69	70	70	69	67	68.8
U2 % Solids (%)	35.5	36.1	35.3	35.7	35.1	34.5	35.4
2A Lime Flow (gpm)	4.5	6.1	4.7	6.9	6.2	4.7	5.5
Opacity	9.38						
Run #35							Run #35 Avg
Time	9:00	9:15	9:30	9:45	10:00	10:15	
Parameters							
Steam Flow (klb/hr)	276.8	275.6	276.7	276.7	274.3	272.1	275.4
Steam Temp (deg F)	948	954	947	953	951	955	951.3
Coal Flow (lb/hr)	28421	30000	27692	29189	28421	29189	28818.7
Boiler O2s (Avg)	3.7	3.5	3.6	3.3	3.0	3.6	3.4
west	3.3	3.3	3.4	3.1	3.4	3.4	3.3
central	4.1	3.7	3.7	3.6	3.6	3.8	3.8
east				3.1	2		2.6
East Undergrate Air Flow (lb/hr)	119739	120992	119364	120487	118951	119813	119891.0
West Undergrate Air Flow (lb/hr)	122163	121981	120746	120213	119794	118767	120610.7
Baghouse Inlet Temp (deg F)	187.1	185	182.7	183.4	185.9	184	184.7
Baghouse Outlet Temp (deg F)	174.2	175.7	175.6	176.1	176.1	175.9	175.6
Baghouse DP (in H2O)	10.2	10.6	10.7	10.4	12	11.4	10.9
ID Fan Suct. Press. (in H2O)	-25.1	-25	-24.9	-25.7	-26.1	-25.8	-25.4
2A SDA Outlet Temp (deg F)	185.1	184.6	184	184.8	185.8	186	185.1
2A Atomizer KW (KW)	62	64	65	65	63	64	63.8
U2 % Solids (%)	35.4	33.4	33.5	34.6	35.3	36.2	34.7
2A Lime Flow (gpm)	5.6	5.5	4.6	5.6	6.1	5.9	5.6
Opacity	8.52						

Run #36						Run #36 Avg
Time	11:15	11:30	11:45	12:00	12:15	
Parameters						
Steam Flow (klb/hr)	274.3	273.7	269.1	270.6	275.8	272.7
Steam Temp (deg F)	957	943	952	952	951	951.0
Coal Flow (lb/hr)	29189	26341	28421	29189	27000	28028.0
Boiler O2s (Avg)	3.3	3.4	3.7	3.9	3.4	3.5
west	2.8	3.1	3.4	3.3	2.7	3.1
central	3.7	3.6	4	4.4	4.1	4.0
east						#DIV/0!
East Undergrate Air Flow (lb/hr)	119001	119355	118559	120340	120414	119533.8
West Undergrate Air Flow (lb/hr)	122334	120291	120378	118642	121709	120670.8
Baghouse Inlet Temp (deg F)	186.6	182.5	186.4	183.7	185.5	184.9
Baghouse Outlet Temp (deg F)	175.4	176.6	176.5	174.9	173.3	175.3
Baghouse DP (in H2O)	11.8	15.2	11.4	10.7	11.2	12.1
ID Fan Suct. Press. (in H2O)	-26.4	-26	-25.7	-25	-25.6	-25.7
2A SDA Outlet Temp (deg F)	185.4	183.9	184.5	184.5	182.6	184.2
2A Atomizer KW (KW)	64	64	68	69	70	67.0
U2 % Solids (%)	33.5	33.4	32.7	36.5	35.3	34.3
2A Lime Flow (gpm)	6.1	4.8	5.1	6	5.6	5.5
Opacity	10.49					
Run #37						Run #37 Avg
Time	23:30	23:45	0:15	0:30	0:45	
Parameters						
Steam Flow (klb/hr)	202.3	203.4	208.5	206.6	204	205.0
Steam Temp (deg F)	952	948	952	952	952	951.2
Coal Flow (lb/hr)	19286	19286	19636	20000	20000	19641.6
Boiler O2s (Avg)	5.4	5.3	4.5	4.8	4.9	5.0
west	5.6	5.2	5.2	5	5.2	5.2
central	5.2	5.3	5.2	5.5	5.4	5.3
east			3.2	3.8	4	3.7
East Undergrate Air Flow (lb/hr)	99793	100394	101188	102053	100947	100875.0
West Undergrate Air Flow (lb/hr)	98370	99762	99446	100128	98108	99162.8
Baghouse Inlet Temp (deg F)	184.4	184.5	185.9	184	186.9	185.1
Baghouse Outlet Temp (deg F)	172.6	173.7	173.7	173	173.1	173.2
Baghouse DP (in H2O)	5.9	7.7	6.3	6.1	5.3	6.3
ID Fan Suct. Press. (in H2O)	-16.5	-16.3	-17.2	-17	-16	-16.6
2A SDA Outlet Temp (deg F)	185.3	180.4	185.2	184	187	184.4
2A Atomizer KW (KW)	50	57	50	47	44	49.6
U2 % Solids (%)	33.2	35.8	33.5	34.8	36.9	34.8
2A Lime Flow (gpm)	6.6	5.6	3.2	6.6	5.9	5.6
Opacity	9.65					

Run #38							Run #38 Avg
Time	1:45	2:00	2:15	2:30	2:45	3:00	
Parameters							
Steam Flow (klb/hr)	207.3	200.6	202.4	203.8	203.2	208.5	204.3
Steam Temp (deg F)	947	951	949	954	951	949	950.2
Coal Flow (lb/hr)	20000	19286	19636	19636	20000	19286	19640.7
Boiler O2s (Avg)	4.8	4.8	5.0	5.0	5.0	4.9	4.9
west	5	4.9	5.2	5	5.2	4.9	5.0
central	5.4	5.2	5.3	5.5	5.4	5.3	5.4
east	4.1	4.2	4.4	4.4	4.3	4.6	4.3
East Undergrate Air Flow (lb/hr)	101488	100871	100400	100204	101418	100175	100759.3
West Undergrate Air Flow (lb/hr)	98470	98661	98714	97735	98900	98167	98441.2
Baghouse Inlet Temp (deg F)	185.7	186.1	184.8	184.7	185.8	185.9	185.5
Baghouse Outlet Temp (deg F)	173.4	173.5	174.5	173.4	173.4	174.5	173.8
Baghouse DP (in H2O)	5.2	5.6	5.9	5.4	5.9	5.2	5.5
ID Fan Suct. Press. (in H2O)	-15.9	-16.2	-16.5	-16	-10.5	-15.8	-15.2
2A SDA Outlet Temp (deg F)	182.2	188.1	190.8	185.2	184	183.1	185.6
2A Atomizer KW (KW)	52	49	48	49	50	51	49.8
U2 % Solids (%)	33.2	35.4	35.6	35.9	33.1	35.7	34.8
2A Lime Flow (gpm)	4.6	5.4	5.5	5.3	4.4	3.7	4.8
Opacity	7.84						
Run #39							Run #39 Avg
Time	3:45	4:00	4:15	4:30	4:45	5:00	
Parameters							
Steam Flow (klb/hr)	203.3	202.4	206.4	208.3	205.9	209.3	205.9
Steam Temp (deg F)	951	949	952	952	951	951	951.0
Coal Flow (lb/hr)	19636	20377	20769	20377	19636	20769	20260.7
Boiler O2s (Avg)	5.1	5.1	4.9	4.9	5.0	4.9	5.0
west	5.1	4.7	4	3.7	4.2	4.3	4.3
central	5.3	5.1	5.2	5	5.1	5	5.1
east	5	5.5	5.6	5.9	5.7	5.3	5.5
East Undergrate Air Flow (lb/hr)	101257	101339	101440	101983	102443	101803	101710.8
West Undergrate Air Flow (lb/hr)	100145	100764	101029	100248	99858	99948	100332.0
Baghouse Inlet Temp (deg F)	186.7	184.3	183.4	183.1	183.4	186.6	184.6
Baghouse Outlet Temp (deg F)	173	173.9	173.4	173.4	173.3	172.8	173.3
Baghouse DP (in H2O)	5.6	5.7	5.2	6.1	5.1	6.2	5.7
ID Fan Suct. Press. (in H2O)	-16.1	-16.4	-15.8	-16.7	-15.9	-17.3	-16.4
2A SDA Outlet Temp (deg F)	186.1	185.6	186	184.2	189.5	187.4	186.5
2A Atomizer KW (KW)	51	50	49	50	48	47	49.2
U2 % Solids (%)	34.3	35.4	36.1	33.6	33.4	34.1	34.5
2A Lime Flow (gpm)	7.1	5.3	5.4	3.1	5.1	4.9	5.2
Opacity	7.76						

Run #40							Run #40 Avg
Time	9:00	9:15	9:30	9:45	10:00	10:15	
Parameters							
Steam Flow (klb/hr)	218.2	177.9	128.4	205	214.5	252.3	199.4
Steam Temp (deg F)	959	964	942	944	950	956	952.5
Coal Flow (lb/hr)	24000	18305	12857	20769	20769	33750	21741.7
Boiler O2s (Avg)	4.5	5.6	8.2	5.6	4.2	4.6	5.5
west	4	6.4	8.8	5.1	4.3		5.7
central	7.8	5.2	7.3	8.3	5.6	4.6	6.5
east	1.8	5.3	8.5	3.4	2.7		4.3
East Undergrate Air Flow (lb/hr)	103534	97013	86327	101109	102241	119823	101674.5
West Undergrate Air Flow (lb/hr)	99769	94466	83607	96746	100094	120164	99141.0
Baghouse Inlet Temp (deg F)	185.1	186.5	183.8	184.8	183.2	185	184.7
Baghouse Outlet Temp (deg F)	176	174.9	175.6	176	175.5	178.2	176.0
Baghouse DP (in H2O)	5.4	4.9	4.4	5.2	6	8.7	5.8
ID Fan Suct. Press. (in H2O)	-16.2	-14.7	-12.7	-15	-16.8	-20.8	-16.0
2A SDA Outlet Temp (deg F)	186.7	185.7	183.9	187.1	188.4	184.8	186.1
2A Atomizer KW (KW)	50	46	43	45	47	56	47.8
U2 % Solids (%)	35.4	34.8	35.4	35	34.6	34.6	35.0
2A Lime Flow (gpm)	1.1	9.7	9.7	9.7	9.7	0.6	6.8
Opacity							

Run #41							Run #41 Avg
Time	11:15	11:30	11:45	12:00	12:15	12:30	
Parameters							
Steam Flow (klb/hr)	199.8	204.9	208.4	211.6	239	243.8	217.9
Steam Temp (deg F)	950	949	947	947	967	935	949.2
Coal Flow (lb/hr)	20000	19636	19636	19286	28421	24545	21920.7
Boiler O2s (Avg)	5.0	4.9	4.8	4.5	4.8	4.0	4.7
west	6.3	6.4	6.5	6.4	3.9	4.3	5.6
central	6	5.7	5.5	5.3	5.6	3.7	5.3
east	2.7	2.5	2.4	1.9			2.4
East Undergrate Air Flow (lb/hr)	98426	98034	99368	100741	107541	106003	101685.5
West Undergrate Air Flow (lb/hr)	96231	97526	96381	98661	107168	105497	100244.0
Baghouse Inlet Temp (deg F)	187.7		183	175	184.2	183	182.6
Baghouse Outlet Temp (deg F)	176.6	176.4	176.3	175.3	175.6	174.9	175.9
Baghouse DP (in H2O)	7.3	5.4	6	5.5	7.1	9.4	6.8
ID Fan Suct. Press. (in H2O)	-16.9	-16.4	-17.2	-16.3	-18.5	-21.1	-17.7
2A SDA Outlet Temp (deg F)	190.6	182.6	183.9	179.7	186.2	185.7	184.8
2A Atomizer KW (KW)	52	53	54	59	58	56	55.3
U2 % Solids (%)	35.7	34.9	34.3	35.5	35.6	35.7	35.3
2A Lime Flow (gpm)	1.9	6.8	3.7	0.9	7.9	6.1	4.6
Opacity							

Run #42						Run #42 Avg
Time	14:00	14:15	14:30	14:45	15:00	
Parameters						
Steam Flow (klb/hr)	243.5	208.2	212.7	216.1	204.7	217.0
Steam Temp (deg F)	956	928	942	950	955	946.2
Coal Flow (lb/hr)	28421	18947	20000	21176	21600	22028.8
Boiler O2s (Avg)	4.1	4.3	4.9	4.9	4.9	4.6
west	4	6.2	5.8	5.6	5.2	5.4
central	4.2	2.3	3.9	4.1	4.5	3.8
east						#DIV/0!
East Undergrate Air Flow (lb/hr)	111401	104184	99591	100395	99218	102957.8
West Undergrate Air Flow (lb/hr)	112460	103783	98088	99436	98256	102404.6
Baghouse Inlet Temp (deg F)	182.8	185.1	184.5	185.2	185.2	184.6
Baghouse Outlet Temp (deg F)	179	177.2	177.4	177.8	177.2	177.7
Baghouse DP (in H2O)	9	9.3	6.8	7.2	6.6	7.8
ID Fan Suct. Press. (in H2O)	-20.1	-12.2	-17.2	-18.1	-16.3	-16.8
2A SDA Outlet Temp (deg F)	183.6	183.8	184.5	190.9	193.5	187.3
2A Atomizer KW (KW)	57	56	55	52	53	54.6
U2 % Solids (%)	36.5	35.7	33.6	35	35.1	35.2
2A Lime Flow (gpm)	6.9	3.9	0.9	8.6	5.7	5.2
Opacity						

RCA #2 Appendix B

Computer Results for M17 Tests

FILE NAME - 30A
RUN # - 30 - Method 17 Train A for PM
LOCATION - Unit 2A Baghouse Outlet Duct
DATE - 11/16/99 Time: 1215-1405
PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
11-23-1999 08:57:18

Initial Meter Volume (Cubic Feet)=	203.524
Final Meter Volume (Cubic Feet)=	238.517
Meter Factor=	0.996
Final Leak Rate (cu ft/min)=	0.004
Net Meter Volume (Cubic Feet)=	34.853
Gas Volume (Dry Standard Cubic Feet)=	35.365

Barometric Pressure (in Hg)=	29.65
Static Pressure (Inches H2O)=	-25.90

Percent Oxygen=	4.2
Percent Carbon Dioxide=	15.1
Moisture Collected (ml)=	93.7
Percent Water=	11.1

Average Meter Temperature (F)=	56
Average Delta H (in H2O)=	0.49
Average Delta P (in H2O)=	1.567
Average Stack Temperature (F)=	178

Dry Molecular Weight=	30.58
Wet Molecular Weight=	29.19

Average Square Root of Delta P (in H2O)=	1.1623
% Isokinetic=	100.3

Pitot Coefficient=	0.84
Sampling Time (Minutes)=	100.0
Nozzle Diameter (Inches)=	0.146
Stack Axis #1 (Inches)=	57.0
Stack Axis #2 (Inches)=	66.0
Rectangular Stack	
Stack Area (Square Feet)=	26.13

Stack Velocity (Actual, Feet/min)=	4,444
Flow Rate (Actual, Cubic ft/min)=	116,110
Flow rate (Standard, Wet, Cubic ft/min)=	89,113
Flow Rate (Standard, Dry, Cubic ft/min)=	79,227

Particulate Loading - Front Half

Particulate Weight (g)=	0.0409	Corr. to 7% O2 & 12% CO2
Particulate Loading, Dry Std. (gr/scf)=	0.0178	0.0148 0.0142
Particulate Loading, Actual (gr/cu ft)=	0.0121	
Emission Rate (lb/hr)=	12.09	

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 30A
 RUN # - 30 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/16/99 Time: 1215-1405
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 08:57:18

Initial Meter Volume (Cubic Meters)= 5.763
 Final Meter Volume (Cubic Meters)= 6.754
 Meter Factor= 0.996
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.987
 Gas Volume (Dry Standard Cubic Meters)= 1.001

Barometric Pressure (mm Hg)= 753
 Static Pressure (mm H2O)= -658

Percent Oxygen= 4.2
 Percent Carbon Dioxide= 15.1
 Moisture Collected (ml)= 93.7
 Percent Water= 11.1

Average Meter Temperature (C)= 13
 Average Delta H (mm H2O)= 12.5
 Average Delta P (mm H2O)= 39.8
 Average Stack Temperature (C)= 81

Dry Molecular Weight= 30.58
 Wet Molecular Weight= 29.19

Average Square Root of Delta P (mm H2O)= 5.8578
 % Isokinetic= 100.3

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 100.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,355
 Flow rate (Actual, Cubic m/min)= 3,288
 Flow rate (Standard, Wet, Cubic m/min)= 2,523
 Flow rate (Standard, Dry, Cubic m/min)= 2,243

Particulate Loading - Front Half

Particulate Weight (g)=	0.0409	Corr. to 7% O2 & 12% CO2
Particulate Loading, Dry Std. (mg/cu m)=	40.8	34.0 32.5
Particulate Loading, Actual (mg/cu m)=	27.9	
Emission Rate (kg/hr)=	5.49	

No Back Half Analysis

FILE NAME - 30A
 RUN # - 30 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/16/99 Time: 1215-1405
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 08:57:18

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	2.300	0.72	174	51 51
2	2.200	0.69	177	52 52
3	1.700	0.53	177	53 53
4	0.650	0.20	177	53 52
5	0.050	0.01	175	54 53
6	2.500	0.78	178	53 53
7	2.400	0.75	178	54 53
8	2.100	0.66	178	55 54
9	0.770	0.24	176	57 54
10	0.100	0.03	175	57 54
11	2.500	0.79	178	55 54
12	2.500	0.79	179	57 55
13	2.400	0.76	179	58 55
14	1.500	0.47	180	59 55
15	0.230	0.07	180	59 56
16	2.400	0.76	180	58 56
17	2.300	0.72	180	58 56
18	2.200	0.69	180	60 57
19	1.200	0.38	179	60 57
20	0.170	0.05	178	60 57
21	2.300	0.73	180	59 58
22	2.100	0.67	178	61 58
23	1.800	0.57	177	61 58
24	0.680	0.21	178	62 58
25	0.120	0.03	178	61 58

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3508	3.3137	0.0000	0.0371

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.6645	3.6607	31.6	0.0038
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 30B
 RUN # - 30 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/16/99 Time: 1217-1407
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 08:57:32

Initial Meter Volume (Cubic Feet)= 823.925
 Final Meter Volume (Cubic Feet)= 859.009
 Meter Factor= 1.010
 Final Leak Rate (cu ft/min)= 0.005
 Net Meter Volume (Cubic Feet)= 35.435
 Gas Volume (Dry Standard Cubic Feet)= 35.886

Barometric Pressure (in Hg)= 29.65
 Static Pressure (Inches H2O)= -25.90

Percent Oxygen= 4.2
 Percent Carbon Dioxide= 15.1
 Moisture Collected (ml)= 94.5
 Percent Water= 11.0

Average Meter Temperature (F)= 57
 Average Delta H (in H2O)= 0.51
 Average Delta P (in H2O)= 1.584
 Average Stack Temperature (F)= 180

Dry Molecular Weight= 30.58
 Wet Molecular Weight= 29.20

Average Square Root of Delta P (in H2O)= 1.1713
 % Isokinetic= 101.1

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 100.0
 Nozzle Diameter (Inches)= 0.146
 Stack Axis #1 (Inches)= 57.0
 Stack Axis #2 (Inches)= 66.0
 Rectangular Stack
 Stack Area (Square Feet)= 26.13

Stack Velocity (Actual, Feet/min)= 4,486
 Flow Rate (Actual, Cubic ft/min)= 117,207
 Flow rate (Standard, Wet, Cubic ft/min)= 89,629
 Flow Rate (Standard, Dry, Cubic ft/min)= 79,739

Particulate Loading - Front Half

Particulate Weight (g)= 0.0335
 Particulate Loading, Dry Std. (gr/scf)= 0.0144
 Particulate Loading, Actual (gr/cu ft)= 0.0098
 Emission Rate (lb/hr)= 9.82

Corr. to 7% O2 & 12% CO2
 0.0120 0.0114

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 30B
 RUN # - 30 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/16/99 Time: 1217-1407
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 08:57:32

Initial Meter Volume (Cubic Meters)=	23.330
Final Meter Volume (Cubic Meters)=	24.324
Meter Factor=	1.010
Final Leak Rate (cu m/min)=	0.0001
Net Meter Volume (Cubic Meters)=	1.003
Gas Volume (Dry Standard Cubic Meters)=	1.016

Barometric Pressure (mm Hg)=	753
Static Pressure (mm H2O)=	-658

Percent Oxygen=	4.2
Percent Carbon Dioxide=	15.1
Moisture Collected (ml)=	94.5
Percent Water=	11.0

Average Meter Temperature (C)=	14
Average Delta H (mm H2O)=	13.0
Average Delta P (mm H2O)=	40.2
Average Stack Temperature (C)=	82

Dry Molecular Weight=	30.58
Wet Molecular Weight=	29.20

Average Square Root of Delta P (mm H2O)=	5.9032
% Isokinetic=	101.1

Pitot Coefficient=	0.84
Sampling Time (Minutes)=	100.0
Nozzle Diameter (mm)=	3.71
Stack Axis #1 (Meters)=	1.448
Stack Axis #2 (Meters)=	1.676
Rectangular Stack	
Stack Area (Square Meters)=	2.427

Stack Velocity (Actual, m/min)=	1,367
Flow rate (Actual, Cubic m/min)=	3,319
Flow rate (Standard, Wet, Cubic m/min)=	2,538
Flow rate (Standard, Dry, Cubic m/min)=	2,258

Particulate Loading - Front Half

Particulate Weight (g)=	0.0335
Particulate Loading, Dry Std. (mg/cu m)=	33.0
Particulate Loading, Actual (mg/cu m)=	22.4
Emission Rate (kg/hr)=	4.46

Corr. to 7% O2 & 12% CO2
27.5 26.2

No Back Half Analysis

FILE NAME - 30B
 RUN # - 30 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/16/99 Time: 1217-1407
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 08:57:32

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	2.600	0.85	177	54 53
2	2.500	0.81	179	54 54
3	2.100	0.68	180	55 54
4	1.100	0.35	179	55 55
5	0.160	0.05	178	55 55
6	2.400	0.78	178	55 55
7	2.000	0.65	181	55 55
8	1.800	0.58	179	56 55
9	0.730	0.23	178	57 56
10	0.120	0.03	178	57 56
11	2.300	0.75	179	57 56
12	2.100	0.68	182	58 57
13	1.800	0.58	182	57 56
14	0.680	0.22	182	58 57
15	0.100	0.03	182	58 57
16	2.300	0.75	182	58 57
17	2.200	0.71	182	58 57
18	2.100	0.68	182	59 58
19	0.930	0.30	181	59 58
20	0.130	0.04	180	60 58
21	2.700	0.88	182	59 59
22	2.600	0.85	180	59 59
23	2.300	0.75	181	61 60
24	1.700	0.55	182	62 60
25	0.150	0.04	181	62 60

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3408	3.3087	0.0000	0.0321

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.5871	3.5857	31.5	0.0014
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 31A
RUN # - 31 - Method 17 Train A for PM
LOCATION - Unit 2A Baghouse Outlet Duct
DATE - 11/16/99 Time: 1520-1645
PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
11-23-1999 08:57:46

Initial Meter Volume (Cubic Feet)=	238.859
Final Meter Volume (Cubic Feet)=	266.079
Meter Factor=	0.996
Final Leak Rate (cu ft/min)=	0.002
Net Meter Volume (Cubic Feet)=	27.111
Gas Volume (Dry Standard Cubic Feet)=	27.394

Barometric Pressure (in Hg)=	29.60
Static Pressure (Inches H2O)=	-26.00

Percent Oxygen=	4.5
Percent Carbon Dioxide=	14.6
Moisture Collected (ml)=	81.1
Percent Water=	12.2

Average Meter Temperature (F)=	57
Average Delta H (in H2O)=	0.52
Average Delta P (in H2O)=	1.640
Average Stack Temperature (F)=	177

Dry Molecular Weight=	30.52
Wet Molecular Weight=	28.98

Average Square Root of Delta P (in H2O)=	1.1986
% Isokinetic=	101.5

Pitot Coefficient=	0.84
Sampling Time (Minutes)=	75.0
Nozzle Diameter (Inches)=	0.146
Stack Axis #1 (Inches)=	57.0
Stack Axis #2 (Inches)=	66.0
Rectangular Stack	
Stack Area (Square Feet)=	26.13

Stack Velocity (Actual, Feet/min)=	4,601
Flow Rate (Actual, Cubic ft/min)=	120,207
Flow rate (Standard, Wet, Cubic ft/min)=	92,182
Flow Rate (Standard, Dry, Cubic ft/min)=	80,901

Particulate Loading - Front Half

Particulate Weight (g)=	0.0293	Corr. to 7% O2 & 12% CO2
Particulate Loading, Dry Std. (gr/scf)=	0.0165	0.0140 0.0135
Particulate Loading, Actual (gr/cu ft)=	0.0111	
Emission Rate (lb/hr)=	11.42	

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 31A
 RUN # - 31 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/16/99 Time: 1520-1645
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 08:57:46

Initial Meter Volume (Cubic Meters)= 6.764
 Final Meter Volume (Cubic Meters)= 7.534
 Meter Factor= 0.996
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.768
 Gas Volume (Dry Standard Cubic Meters)= 0.776

Barometric Pressure (mm Hg)= 752
 Static Pressure (mm H2O)= -660

Percent Oxygen= 4.5
 Percent Carbon Dioxide= 14.6
 Moisture Collected (ml)= 81.1
 Percent Water= 12.2

Average Meter Temperature (C)= 14
 Average Delta H (mm H2O)= 13.1
 Average Delta P (mm H2O)= 41.6
 Average Stack Temperature (C)= 81

Dry Molecular Weight= 30.52
 Wet Molecular Weight= 28.98

Average Square Root of Delta P (mm H2O)= 6.0409
 % Isokinetic= 101.5

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 75.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,402
 Flow rate (Actual, Cubic m/min)= 3,404
 Flow rate (Standard, Wet, Cubic m/min)= 2,610
 Flow rate (Standard, Dry, Cubic m/min)= 2,291

Particulate Loading - Front Half

Particulate Weight (g)= 0.0293
 Particulate Loading, Dry Std. (mg/cu m)= 37.8
 Particulate Loading, Actual (mg/cu m)= 25.4
 Emission Rate (kg/hr)= 5.18

Corr. to 7% O2 & 12% CO2
 32.1 31.0

No Back Half Analysis

FILE NAME - 31A
 RUN # - 31 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/16/99 Time: 1520-1645
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 08:57:46

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	2.500	0.79	178	55 55
2	2.400	0.75	179	56 55
3	2.100	0.66	178	57 55
4	1.700	0.54	177	58 56
5	0.220	0.06	177	57 56
6	2.500	0.79	178	57 56
7	2.100	0.66	178	58 56
8	2.100	0.66	177	58 56
9	0.840	0.26	177	58 56
10	0.090	0.02	178	58 57
11	2.300	0.73	178	57 56
12	1.900	0.60	177	58 57
13	2.000	0.63	178	59 57
14	0.650	0.20	176	60 57
15	0.040	0.01	177	60 57
16	2.400	0.76	177	58 57
17	2.100	0.66	177	58 57
18	2.200	0.70	178	59 57
19	1.000	0.31	179	59 57
20	0.190	0.06	178	59 57
21	2.500	0.79	177	58 57
22	2.600	0.82	177	58 57
23	2.400	0.76	177	59 58
24	1.800	0.57	177	61 58
25	0.360	0.11	169	61 58

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.4017	3.3752	0.0000	0.0265

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.6595	3.6567	22.2	0.0028
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 31B
RUN # - 31 - Method 17 Train B for PM
LOCATION - Unit 2A Baghouse Outlet Duct
DATE - 11/16/99 Time: 1521-1646
PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
11-23-1999 08:58:00

Initial Meter Volume (Cubic Feet)=	859.315
Final Meter Volume (Cubic Feet)=	886.812
Meter Factor=	1.010
Final Leak Rate (cu ft/min)=	0.004
Net Meter Volume (Cubic Feet)=	27.772
Gas Volume (Dry Standard Cubic Feet)=	28.037

Barometric Pressure (in Hg)=	29.60
Static Pressure (Inches H2O)=	-26.00

Percent Oxygen=	4.5
Percent Carbon Dioxide=	14.6
Moisture Collected (ml)=	73.7
Percent Water=	11.0

Average Meter Temperature (F)=	58
Average Delta H (in H2O)=	0.49
Average Delta P (in H2O)=	1.500
Average Stack Temperature (F)=	180

Dry Molecular Weight=	30.52
Wet Molecular Weight=	29.14

Average Square Root of Delta P (in H2O)=	1.2232
% Isokinetic=	100.8

Pitot Coefficient=	0.84
Sampling Time (Minutes)=	75.0
Nozzle Diameter (Inches)=	0.146
Stack Axis #1 (Inches)=	57.0
Stack Axis #2 (Inches)=	66.0
Rectangular Stack	
Stack Area (Square Feet)=	26.13

Stack Velocity (Actual, Feet/min)=	4,693
Flow Rate (Actual, Cubic ft/min)=	122,606
Flow rate (Standard, Wet, Cubic ft/min)=	93,634
Flow Rate (Standard, Dry, Cubic ft/min)=	83,318

Particulate Loading - Front Half

Particulate Weight (g)=	0.0188
Particulate Loading, Dry Std. (gr/scf)=	0.0103
Particulate Loading, Actual (gr/cu ft)=	0.0070
Emission Rate (lb/hr)=	7.37

Corr. to 7% O2 & 12% CO2
0.0088 0.0085

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 31B
 RUN # - 31 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/16/99 Time: 1521-1646
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 08:58:00

Initial Meter Volume (Cubic Meters)= 24.332
 Final Meter Volume (Cubic Meters)= 25.111
 Meter Factor= 1.010
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.786
 Gas Volume (Dry Standard Cubic Meters)= 0.794

Barometric Pressure (mm Hg)= 752
 Static Pressure (mm H2O)= -660

Percent Oxygen= 4.5
 Percent Carbon Dioxide= 14.6
 Moisture Collected (ml)= 73.7
 Percent Water= 11.0

Average Meter Temperature (C)= 14
 Average Delta H (mm H2O)= 12.4
 Average Delta P (mm H2O)= 38.1
 Average Stack Temperature (C)= 82

Dry Molecular Weight= 30.52
 Wet Molecular Weight= 29.14

Average Square Root of Delta P (mm H2O)= 6.1649
 % Isokinetic= 100.8

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 75.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,430
 Flow rate (Actual, Cubic m/min)= 3,472
 Flow rate (Standard, Wet, Cubic m/min)= 2,651
 Flow rate (Standard, Dry, Cubic m/min)= 2,359

Particulate Loading - Front Half

Particulate Weight (g)= 0.0188
 Particulate Loading, Dry Std. (mg/cu m)= 23.7
 Particulate Loading, Actual (mg/cu m)= 16.1
 Emission Rate (kg/hr)= 3.35

Corr. to 7% O2 & 12% CO2
 20.1 19.5

No Back Half Analysis

FILE NAME - 31B
 RUN # - 31 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/16/99 Time: 1521-1646
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 08:58:00

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	1.500	0.49	180	56 56
2	1.600	0.52	180	57 57
3	1.600	0.52	180	57 57
4	1.500	0.49	180	58 58
5	1.200	0.39	179	58 57
6	1.500	0.49	181	58 58
7	1.600	0.52	181	58 58
8	1.300	0.42	180	58 58
9	1.300	0.42	179	59 58
10	1.600	0.52	180	59 59
11	1.600	0.52	179	58 58
12	1.300	0.42	179	58 58
13	1.700	0.55	181	58 58
14	1.600	0.52	179	58 58
15	1.600	0.52	179	59 58

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3642	3.3461	0.0000	0.0181

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.6010	3.6003	24.7	0.0007
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 32A
RUN # - 32 - Method 17 Train A for PM
LOCATION - Unit 2A Baghouse Outlet Duct
DATE - 11/17/99 Time: 0854-1013
PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
11-23-1999 08:58:20

Initial Meter Volume (Cubic Feet)=	266.519
Final Meter Volume (Cubic Feet)=	291.908
Meter Factor=	0.996
Final Leak Rate (cu ft/min)=	0.007
Net Meter Volume (Cubic Feet)=	25.287
Gas Volume (Dry Standard Cubic Feet)=	26.412

Barometric Pressure (in Hg)=	29.97
Static Pressure (Inches H2O)=	-27.12

Percent Oxygen=	4.8
Percent Carbon Dioxide=	14.7
Moisture Collected (ml)=	71.4
Percent Water=	11.3

Average Meter Temperature (F)=	47
Average Delta H (in H2O)=	0.46
Average Delta P (in H2O)=	1.533
Average Stack Temperature (F)=	177

Dry Molecular Weight=	30.54
Wet Molecular Weight=	29.13

Average Square Root of Delta P (in H2O)=	1.1571
% Isokinetic=	100.0

Pitot Coefficient=	0.84
Sampling Time (Minutes)=	75.0
Nozzle Diameter (Inches)=	0.146
Stack Axis #1 (Inches)=	57.0
Stack Axis #2 (Inches)=	66.0
Rectangular Stack	
Stack Area (Square Feet)=	26.13

Stack Velocity (Actual, Feet/min)=	4,407
Flow Rate (Actual, Cubic ft/min)=	115,139
Flow rate (Standard, Wet, Cubic ft/min)=	89,242
Flow Rate (Standard, Dry, Cubic ft/min)=	79,162

Particulate Loading - Front Half

Particulate Weight (g)=	0.0208
Particulate Loading, Dry Std. (gr/scf)=	0.0121
Particulate Loading, Actual (gr/cu ft)=	0.0083
Emission Rate (lb/hr)=	8.23

Corr. to 7% O2 & 12% CO2
0.0105 0.0099

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 32A
 RUN # - 32 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/17/99 Time: 0854-1013
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 08:58:20

Initial Meter Volume (Cubic Meters)=	7.547
Final Meter Volume (Cubic Meters)=	8.266
Meter Factor=	0.996
Final Leak Rate (cu m/min)=	0.0002
Net Meter Volume (Cubic Meters)=	0.716
Gas Volume (Dry Standard Cubic Meters)=	0.748

Barometric Pressure (mm Hg)=	761
Static Pressure (mm H2O)=	-689

Percent Oxygen=	4.8
Percent Carbon Dioxide=	14.7
Moisture Collected (ml)=	71.4
Percent Water=	11.3

Average Meter Temperature (C)=	8
Average Delta H (mm H2O)=	11.8
Average Delta P (mm H2O)=	38.9
Average Stack Temperature (C)=	81

Dry Molecular Weight=	30.54
Wet Molecular Weight=	29.13

Average Square Root of Delta P (mm H2O)=	5.8314
% Isokinetic=	100.0

Pitot Coefficient=	0.84
Sampling Time (Minutes)=	75.0
Nozzle Diameter (mm)=	3.71
Stack Axis #1 (Meters)=	1.448
Stack Axis #2 (Meters)=	1.676
Rectangular Stack	
Stack Area (Square Meters)=	2.427

Stack Velocity (Actual, m/min)=	1,343
Flow rate (Actual, Cubic m/min)=	3,260
Flow rate (Standard, Wet, Cubic m/min)=	2,527
Flow rate (Standard, Dry, Cubic m/min)=	2,242

Particulate Loading - Front Half

Particulate Weight (g)=	0.0208
Particulate Loading, Dry Std. (mg/cu m)=	27.8
Particulate Loading, Actual (mg/cu m)=	19.1
Emission Rate (kg/hr)=	3.74

Corr. to 7% O2 & 12% CO2
24.0 22.7

No Back Half Analysis

FILE NAME - 32A
 RUN # - 32 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/17/99 Time: 0854-1013
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 08:58:20

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	2.500	0.75	177	40 40
2	2.300	0.69	178	41 41
3	2.000	0.60	178	42 41
4	1.050	0.31	178	43 41
5	0.270	0.08	174	43 42
6	2.300	0.70	177	44 43
7	2.000	0.61	175	44 42
8	2.100	0.64	178	47 43
9	0.780	0.23	177	47 43
10	0.140	0.04	178	48 44
11	2.200	0.67	176	47 44
12	1.900	0.58	178	48 45
13	1.800	0.55	178	50 45
14	0.700	0.21	177	50 45
15	0.060	0.01	176	50 46
16	2.400	0.73	177	49 46
17	2.100	0.64	177	50 46
18	2.100	0.64	177	51 47
19	0.870	0.26	177	53 48
20	0.080	0.02	177	53 48
21	2.300	0.70	177	51 49
22	2.400	0.74	177	53 49
23	2.300	0.71	175	54 49
24	1.400	0.43	177	56 50
25	0.270	0.08	178	56 50

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3131	3.2944	0.0000	0.0187

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.7253	3.7232	26.7	0.0021
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 32B
RUN # - 32 - Method 17 Train B for PM
LOCATION - Unit 2A Baghouse Outlet Duct
DATE - 11/17/99 Time: 0854-1014
PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
11-23-1999 08:58:30

Initial Meter Volume (Cubic Feet)=	897.879
Final Meter Volume (Cubic Feet)=	925.209
Meter Factor=	1.010
Final Leak Rate (cu ft/min)=	0.004
Net Meter Volume (Cubic Feet)=	27.603
Gas Volume (Dry Standard Cubic Feet)=	28.660

Barometric Pressure (in Hg)=	29.97
Static Pressure (Inches H2O)=	-27.12

Percent Oxygen=	4.8
Percent Carbon Dioxide=	14.7
Moisture Collected (ml)=	82.3
Percent Water=	11.9

Average Meter Temperature (F)=	50
Average Delta H (in H2O)=	0.44
Average Delta P (in H2O)=	1.394
Average Stack Temperature (F)=	180

Dry Molecular Weight=	30.54
Wet Molecular Weight=	29.05

Average Square Root of Delta P (in H2O)=	1.1780
% Isokinetic=	100.7

Pitot Coefficient=	0.84
Sampling Time (Minutes)=	80.0
Nozzle Diameter (Inches)=	0.146
Stack Axis #1 (Inches)=	57.0
Stack Axis #2 (Inches)=	66.0
Rectangular Stack	
Stack Area (Square Feet)=	26.13

Stack Velocity (Actual, Feet/min)=	4,502
Flow Rate (Actual, Cubic ft/min)=	117,627
Flow rate (Standard, Wet, Cubic ft/min)=	90,790
Flow Rate (Standard, Dry, Cubic ft/min)=	79,974

Particulate Loading - Front Half

Particulate Weight (g)=	0.0142	Corr. to 7% O2 & 12% CO2
Particulate Loading, Dry Std. (gr/scf)=	0.0076	0.0066 0.0062
Particulate Loading, Actual (gr/cu ft)=	0.0052	
Emission Rate (lb/hr)=	5.23	

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 32B
 RUN # - 32 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/17/99 Time: 0854-1014
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 08:58:30

Initial Meter Volume (Cubic Meters)=	25.424
Final Meter Volume (Cubic Meters)=	26.198
Meter Factor=	1.010
Final Leak Rate (cu m/min)=	0.0001
Net Meter Volume (Cubic Meters)=	0.782
Gas Volume (Dry Standard Cubic Meters)=	0.812

Barometric Pressure (mm Hg)=	761
Static Pressure (mm H2O)=	-689

Percent Oxygen=	4.8
Percent Carbon Dioxide=	14.7
Moisture Collected (ml)=	82.3
Percent Water=	11.9

Average Meter Temperature (C)=	10
Average Delta H (mm H2O)=	11.1
Average Delta P (mm H2O)=	35.4
Average Stack Temperature (C)=	82

Dry Molecular Weight=	30.54
Wet Molecular Weight=	29.05

Average Square Root of Delta P (mm H2O)=	5.9371
% Isokinetic=	100.7

Pitot Coefficient=	0.84
Sampling Time (Minutes)=	80.0
Nozzle Diameter (mm)=	3.71
Stack Axis #1 (Meters)=	1.448
Stack Axis #2 (Meters)=	1.676
Rectangular Stack	
Stack Area (Square Meters)=	2.427

Stack Velocity (Actual, m/min)=	1,372
Flow rate (Actual, Cubic m/min)=	3,331
Flow rate (Standard, Wet, Cubic m/min)=	2,571
Flow rate (Standard, Dry, Cubic m/min)=	2,265

Particulate Loading - Front Half

Particulate Weight (g)=	0.0142	Corr. to 7% O2 & 12% CO2
Particulate Loading, Dry Std. (mg/cu m)=	17.5	15.1 14.3
Particulate Loading, Actual (mg/cu m)=	11.9	
Emission Rate (kg/hr)=	2.37	

No Back Half Analysis

FILE NAME - 32B
 RUN # - 32 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/17/99 Time: 0854-1014
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 08:58:30

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	1.300	0.40	178	43 43
2	1.600	0.50	182	44 43
3	1.500	0.47	179	44 43
4	1.200	0.37	178	45 44
5	1.200	0.37	179	47 45
6	1.500	0.47	179	48 46
7	1.400	0.44	179	50 47
8	1.200	0.36	180	51 48
9	1.400	0.44	181	52 48
10	1.700	0.54	179	54 50
11	1.400	0.44	180	55 51
12	1.400	0.44	180	56 52
13	1.300	0.41	181	51 53
14	1.800	0.58	180	57 53
15	1.300	0.41	178	58 54
16	1.100	0.35	181	60 56

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3168	3.3034	0.0000	0.0134

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.5713	3.5705	23.9	0.0008
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 33A
 RUN # - 33 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/17/99 Time: 1133-1322
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:05:16

Initial Meter Volume (Cubic Feet)= 307.184
 Final Meter Volume (Cubic Feet)= 341.362
 Meter Factor= 0.996
 Final Leak Rate (cu ft/min)= 0.001
 Net Meter Volume (Cubic Feet)= 34.041
 Gas Volume (Dry Standard Cubic Feet)= 34.856

Barometric Pressure (in Hg)= 30.00
 Static Pressure (Inches H2O)= -26.85

Percent Oxygen= 3.3
 Percent Carbon Dioxide= 15.4
 Moisture Collected (ml)= 103.9
 Percent Water= 12.3

Average Meter Temperature (F)= 57
 Average Delta H (in H2O)= 0.47
 Average Delta P (in H2O)= 1.504
 Average Stack Temperature (F)= 178

Dry Molecular Weight= 30.60
 Wet Molecular Weight= 29.05

Average Square Root of Delta P (in H2O)= 1.1403
 % Isokinetic= 101.4

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 100.0
 Nozzle Diameter (Inches)= 0.146
 Stack Axis #1 (Inches)= 57.0
 Stack Axis #2 (Inches)= 66.0
 Rectangular Stack
 Stack Area (Square Feet)= 26.13

Stack Velocity (Actual, Feet/min)= 4,348
 Flow Rate (Actual, Cubic ft/min)= 113,603
 Flow rate (Standard, Wet, Cubic ft/min)= 88,092
 Flow Rate (Standard, Dry, Cubic ft/min)= 77,247

Particulate Loading - Front Half

Particulate Weight (g)= 0.0279
 Particulate Loading, Dry Std. (gr/scf)= 0.0123
 Particulate Loading, Actual (gr/cu ft)= 0.0084
 Emission Rate (lb/hr)= 8.16

Corr. to 7% O2 & 12% CO2
 0.0097 0.0096

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 33A
 RUN # - 33 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/17/99 Time: 1133-1322
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:05:16

Initial Meter Volume (Cubic Meters)= 8.698
 Final Meter Volume (Cubic Meters)= 9.666
 Meter Factor= 0.996
 Final Leak Rate (cu m/min)= 0.0000
 Net Meter Volume (Cubic Meters)= 0.964
 Gas Volume (Dry Standard Cubic Meters)= 0.987

Barometric Pressure (mm Hg)= 762
 Static Pressure (mm H2O)= -682

Percent Oxygen= 3.3
 Percent Carbon Dioxide= 15.4
 Moisture Collected (ml)= 103.9
 Percent Water= 12.3

Average Meter Temperature (C)= 14
 Average Delta H (mm H2O)= 11.8
 Average Delta P (mm H2O)= 38.2
 Average Stack Temperature (C)= 81

Dry Molecular Weight= 30.60
 Wet Molecular Weight= 29.05

Average Square Root of Delta P (mm H2O)= 5.7468
 % Isokinetic= 101.4

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 100.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,325
 Flow rate (Actual, Cubic m/min)= 3,217
 Flow rate (Standard, Wet, Cubic m/min)= 2,494
 Flow rate (Standard, Dry, Cubic m/min)= 2,187

Particulate Loading - Front Half

Particulate Weight (g)=	0.0279	Corr. to 7% O2 & 12% CO2
Particulate Loading, Dry Std. (mg/cu m)=	28.3	22.4 22.0
Particulate Loading, Actual (mg/cu m)=	19.2	
Emission Rate (kg/hr)=	3.70	

No Back Half Analysis

FILE NAME - 33A
 RUN # - 33 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/17/99 Time: 1133-1322
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:05:16

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	2.200	0.67	180	53 52
2	2.000	0.61	181	53 52
3	1.800	0.55	180	55 53
4	0.620	0.19	180	55 53
5	0.050	0.01	180	56 53
6	2.400	0.74	180	55 54
7	1.800	0.56	178	56 54
8	2.000	0.62	177	58 54
9	0.620	0.19	177	59 55
10	0.120	0.03	175	57 55
11	2.500	0.78	174	57 55
12	2.400	0.74	178	58 55
13	2.400	0.75	177	60 56
14	1.500	0.47	175	61 56
15	0.210	0.06	175	62 57
16	2.300	0.72	174	60 57
17	2.200	0.68	180	60 57
18	2.500	0.78	177	62 58
19	1.050	0.33	176	63 58
20	0.190	0.05	177	64 58
21	2.200	0.69	176	61 58
22	2.100	0.65	179	60 59
23	1.600	0.50	179	63 59
24	0.710	0.22	180	64 59
25	0.140	0.04	180	63 59

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3271	3.3016	0.0000	0.0255

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.6527	3.6503	23.0	0.0024
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 33B
RUN # - 33 - Method 17 Train B for PM
LOCATION - Unit 2A Baghouse Outlet Duct
DATE - 11/17/99 Time: 1135-1324
PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
11-23-1999 09:05:34

Initial Meter Volume (Cubic Feet)=	940.321
Final Meter Volume (Cubic Feet)=	974.999
Meter Factor=	1.010
Final Leak Rate (cu ft/min)=	0.003
Net Meter Volume (Cubic Feet)=	35.025
Gas Volume (Dry Standard Cubic Feet)=	35.334

Barometric Pressure (in Hg)=	30.00
Static Pressure (Inches H2O)=	-26.85

Percent Oxygen=	3.3
Percent Carbon Dioxide=	15.4
Moisture Collected (ml)=	98.2
Percent Water=	11.6

Average Meter Temperature (F)=	65
Average Delta H (in H2O)=	0.50
Average Delta P (in H2O)=	1.553
Average Stack Temperature (F)=	180

Dry Molecular Weight=	30.60
Wet Molecular Weight=	29.14

Average Square Root of Delta P (in H2O)=	1.1605
% Isokinetic=	100.5

Pitot Coefficient=	0.84
Sampling Time (Minutes)=	100.0
Nozzle Diameter (Inches)=	0.146
Stack Axis #1 (Inches)=	57.0
Stack Axis #2 (Inches)=	66.0
Rectangular Stack	
Stack Area (Square Feet)=	26.13

Stack Velocity (Actual, Feet/min)=	4,428
Flow Rate (Actual, Cubic ft/min)=	115,672
Flow rate (Standard, Wet, Cubic ft/min)=	89,326
Flow Rate (Standard, Dry, Cubic ft/min)=	78,987

Particulate Loading - Front Half

Particulate Weight (g)=	0.0260	Corr. to 7% O2 & 12% CO2
Particulate Loading, Dry Std. (gr/scf)=	0.0113	0.0090 0.0088
Particulate Loading, Actual (gr/cu ft)=	0.0077	
Emission Rate (lb/hr)=	7.67	

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 33B
 RUN # - 33 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/17/99 Time: 1135-1324
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 09:05:34

Initial Meter Volume (Cubic Meters)= 26.626
 Final Meter Volume (Cubic Meters)= 27.608
 Meter Factor= 1.010
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.992
 Gas Volume (Dry Standard Cubic Meters)= 1.001

Barometric Pressure (mm Hg)= 762
 Static Pressure (mm H2O)= -682

Percent Oxygen= 3.3
 Percent Carbon Dioxide= 15.4
 Moisture Collected (ml)= 98.2
 Percent Water= 11.6

Average Meter Temperature (C)= 18
 Average Delta H (mm H2O)= 12.8
 Average Delta P (mm H2O)= 39.4
 Average Stack Temperature (C)= 82

Dry Molecular Weight= 30.60
 Wet Molecular Weight= 29.14

Average Square Root of Delta P (mm H2O)= 5.8487
 % Isokinetic= 100.5

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 100.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,350
 Flow rate (Actual, Cubic m/min)= 3,275
 Flow rate (Standard, Wet, Cubic m/min)= 2,529
 Flow rate (Standard, Dry, Cubic m/min)= 2,237

Particulate Loading - Front Half

Particulate Weight (g)= 0.0260
 Particulate Loading, Dry Std. (mg/cu m)= 26.0
 Particulate Loading, Actual (mg/cu m)= 17.7
 Emission Rate (kg/hr)= 3.48

Corr. to 7% O2 & 12% CO2
 20.6 20.2

No Back Half Analysis

FILE NAME - 33B
 RUN # - 33 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/17/99 Time: 1135-1324
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 09:05:34

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	2.400	0.77	182	61 60
2	2.300	0.74	184	61 60
3	1.900	0.61	183	61 60
4	1.700	0.55	182	62 60
5	0.230	0.07	182	63 61
6	2.300	0.74	181	64 62
7	2.000	0.65	181	64 62
8	1.800	0.58	179	64 62
9	0.830	0.27	178	65 63
10	0.070	0.02	178	66 63
11	2.200	0.72	177	66 63
12	2.000	0.65	180	66 64
13	1.600	0.52	178	66 64
14	0.640	0.21	177	67 65
15	0.040	0.01	179	68 65
16	2.200	0.72	179	68 65
17	2.200	0.72	180	68 66
18	2.100	0.69	179	68 66
19	0.760	0.24	181	69 66
20	0.170	0.05	180	70 67
21	2.400	0.79	180	70 67
22	2.700	0.88	181	69 67
23	2.300	0.75	181	70 68
24	1.800	0.59	184	71 68
25	0.180	0.05	185	72 68

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3350	3.3097	0.0000	0.0253

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.9072	3.9065	23.3	0.0007
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 34A
RUN # - 34 - Method 17 Train A for PM
LOCATION - Unit 2A Baghouse Outlet Duct
DATE - 11/17/99 Time: 1450-1614
PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
11-23-1999 09:05:48

Initial Meter Volume (Cubic Feet)=	341.752
Final Meter Volume (Cubic Feet)=	368.235
Meter Factor=	0.996
Final Leak Rate (cu ft/min)=	0.003
Net Meter Volume (Cubic Feet)=	26.377
Gas Volume (Dry Standard Cubic Feet)=	26.738

Barometric Pressure (in Hg)=	29.96
Static Pressure (Inches H2O)=	-27.39

Percent Oxygen=	4.2
Percent Carbon Dioxide=	14.6
Moisture Collected (ml)=	84.5
Percent Water=	13.0

Average Meter Temperature (F)=	62
Average Delta H (in H2O)=	0.49
Average Delta P (in H2O)=	1.577
Average Stack Temperature (F)=	179

Dry Molecular Weight=	30.50
Wet Molecular Weight=	28.88

Average Square Root of Delta P (in H2O)=	1.1705
% Isokinetic=	101.7

Pitot Coefficient=	0.84
Sampling Time (Minutes)=	75.0
Nozzle Diameter (Inches)=	0.146
Stack Axis #1 (Inches)=	57.0
Stack Axis #2 (Inches)=	66.0
Rectangular Stack	
Stack Area (Square Feet)=	26.13

Stack Velocity (Actual, Feet/min)=	4,487
Flow Rate (Actual, Cubic ft/min)=	117,221
Flow rate (Standard, Wet, Cubic ft/min)=	90,463
Flow Rate (Standard, Dry, Cubic ft/min)=	78,742

Particulate Loading - Front Half

Particulate Weight (g)=	0.0116
Particulate Loading, Dry Std. (gr/scf)=	0.0067
Particulate Loading, Actual (gr/cu ft)=	0.0045
Emission Rate (lb/hr)=	4.51

Corr. to 7% O2 & 12% CO2
0.0056 0.0055

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 34A
 RUN # - 34 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/17/99 Time: 1450-1614
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:05:48

Initial Meter Volume (Cubic Meters)= 9.677
 Final Meter Volume (Cubic Meters)= 10.427
 Meter Factor= 0.996
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.747
 Gas Volume (Dry Standard Cubic Meters)= 0.757

Barometric Pressure (mm Hg)= 761
 Static Pressure (mm H2O)= -696

Percent Oxygen= 4.2
 Percent Carbon Dioxide= 14.6
 Moisture Collected (ml)= 84.5
 Percent Water= 13.0

Average Meter Temperature (C)= 17
 Average Delta H (mm H2O)= 12.5
 Average Delta P (mm H2O)= 40.1
 Average Stack Temperature (C)= 82

Dry Molecular Weight= 30.50
 Wet Molecular Weight= 28.88

Average Square Root of Delta P (mm H2O)= 5.8992
 % Isokinetic= 101.7

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 75.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,368
 Flow rate (Actual, Cubic m/min)= 3,319
 Flow rate (Standard, Wet, Cubic m/min)= 2,562
 Flow rate (Standard, Dry, Cubic m/min)= 2,230

Particulate Loading - Front Half

Particulate Weight (g)= 0.0116
 Particulate Loading, Dry Std. (mg/cu m)= 15.3
 Particulate Loading, Actual (mg/cu m)= 10.3
 Emission Rate (kg/hr)= 2.05

Corr. to 7% O2 & 12% CO2
 12.8 12.6

No Back Half Analysis

FILE NAME - 34A
 RUN # - 34 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/17/99 Time: 1450-1614
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
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Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	2.200	0.68	180	59 58
2	2.600	0.81	179	58 58
3	2.200	0.68	178	59 58
4	1.800	0.56	180	60 58
5	0.320	0.10	179	61 59
6	2.200	0.69	177	61 59
7	2.100	0.65	181	61 59
8	2.000	0.62	179	62 59
9	0.850	0.26	179	63 60
10	0.110	0.03	178	63 60
11	2.200	0.69	178	63 60
12	1.900	0.59	179	62 60
13	1.700	0.53	179	64 60
14	0.730	0.23	179	66 61
15	0.030	0.01	179	65 61
16	2.300	0.72	179	63 61
17	2.200	0.68	182	63 61
18	2.000	0.63	178	65 62
19	0.720	0.22	178	66 62
20	0.120	0.03	178	66 62
21	2.600	0.82	178	65 63
22	2.300	0.72	180	66 63
23	2.300	0.72	180	68 63
24	1.800	0.56	180	68 63
25	0.150	0.04	179	69 63

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3081	3.2993	0.0000	0.0088

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.7852	3.7824	21.8	0.0028
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 34B
RUN # - 34 - Method 17 Train B for PM
LOCATION - Unit 2A Baghouse Outlet Duct
DATE - 11/17/99 Time: 1450-1615
PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
11-23-1999 09:05:58

Initial Meter Volume (Cubic Feet)= 978.838
Final Meter Volume (Cubic Feet)= 1007.228
Meter Factor= 1.010
Final Leak Rate (cu ft/min)= 0.003
Net Meter Volume (Cubic Feet)= 28.674
Gas Volume (Dry Standard Cubic Feet)= 28.895

Barometric Pressure (in Hg)= 29.96
Static Pressure (Inches H2O)= -27.39

Percent Oxygen= 4.2
Percent Carbon Dioxide= 14.6
Moisture Collected (ml)= 87.3
Percent Water= 12.5

Average Meter Temperature (F)= 65
Average Delta H (in H2O)= 0.41
Average Delta P (in H2O)= 1.262
Average Stack Temperature (F)= 182

Dry Molecular Weight= 30.50
Wet Molecular Weight= 28.95

Average Square Root of Delta P (in H2O)= 1.1174
% Isokinetic= 101.4

Pitot Coefficient= 0.84
Sampling Time (Minutes)= 85.0
Nozzle Diameter (Inches)= 0.146
Stack Axis #1 (Inches)= 57.0
Stack Axis #2 (Inches)= 66.0
Rectangular Stack
Stack Area (Square Feet)= 26.13

Stack Velocity (Actual, Feet/min)= 4,287
Flow Rate (Actual, Cubic ft/min)= 112,010
Flow rate (Standard, Wet, Cubic ft/min)= 86,083
Flow Rate (Standard, Dry, Cubic ft/min)= 75,359

Particulate Loading - Front Half

Particulate Weight (g)=	0.0137	Corr. to 7% O2 & 12% CO2
Particulate Loading, Dry Std. (gr/scf)=	0.0073	0.0061 0.0060
Particulate Loading, Actual (gr/cu ft)=	0.0049	
Emission Rate (lb/hr)=	4.72	

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 34B
 RUN # - 34 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/17/99 Time: 1450-1615
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 09:05:58

Initial Meter Volume (Cubic Meters)= 27.717
 Final Meter Volume (Cubic Meters)= 28.521
 Meter Factor= 1.010
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.812
 Gas Volume (Dry Standard Cubic Meters)= 0.818

Barometric Pressure (mm Hg)= 761
 Static Pressure (mm H2O)= -696

Percent Oxygen= 4.2
 Percent Carbon Dioxide= 14.6
 Moisture Collected (ml)= 87.3
 Percent Water= 12.5

Average Meter Temperature (C)= 18
 Average Delta H (mm H2O)= 10.3
 Average Delta P (mm H2O)= 32.0
 Average Stack Temperature (C)= 83

Dry Molecular Weight= 30.50
 Wet Molecular Weight= 28.95

Average Square Root of Delta P (mm H2O)= 5.6314
 % Isokinetic= 101.4

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 85.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,307
 Flow rate (Actual, Cubic m/min)= 3,172
 Flow rate (Standard, Wet, Cubic m/min)= 2,438
 Flow rate (Standard, Dry, Cubic m/min)= 2,134

Particulate Loading - Front Half

Particulate Weight (g)=	0.0137	Corr. to 7% O2 & 12% CO2
Particulate Loading, Dry Std. (mg/cu m)=	16.7	14.0 13.8
Particulate Loading, Actual (mg/cu m)=	11.3	
Emission Rate (kg/hr)=	2.14	

No Back Half Analysis

FILE NAME - 34B
 RUN # - 34 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/17/99 Time: 1450-1615
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 09:05:58

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	1.300	0.42	182	63 63
2	1.200	0.39	181	63 63
3	0.870	0.28	183	63 63
4	1.400	0.45	181	63 63
5	1.400	0.45	183	64 63
6	1.300	0.42	182	63 63
7	0.830	0.26	182	64 62
8	1.400	0.45	183	66 63
9	1.100	0.35	181	66 63
10	1.200	0.39	181	66 64
11	1.200	0.39	181	66 64
12	1.800	0.58	181	67 67
13	1.300	0.42	181	68 64
14	1.000	0.32	182	69 65
15	1.600	0.52	180	69 66
16	1.600	0.52	181	70 66
17	0.950	0.31	184	70 67

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.2867	3.2733	0.0000	0.0134

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.6078	3.6075	26.8	0.0003
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 35A
RUN # - 35 - Method 17 Train A for PM
LOCATION - Unit 2A Baghouse Outlet Duct
DATE - 11/18/99 Time: 0852-1013
PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
11-23-1999 09:06:10

Initial Meter Volume (Cubic Feet)= 368.652
Final Meter Volume (Cubic Feet)= 393.401
Meter Factor= 0.996
Final Leak Rate (cu ft/min)= 0.002
Net Meter Volume (Cubic Feet)= 24.650
Gas Volume (Dry Standard Cubic Feet)= 25.758

Barometric Pressure (in Hg)= 30.18
Static Pressure (Inches H2O)= -25.00

Percent Oxygen= 3.8
Percent Carbon Dioxide= 15.0
Moisture Collected (ml)= 74.8
Percent Water= 12.0

Average Meter Temperature (F)= 50
Average Delta H (in H2O)= 0.44
Average Delta P (in H2O)= 1.456
Average Stack Temperature (F)= 179

Dry Molecular Weight= 30.55
Wet Molecular Weight= 29.04

Average Square Root of Delta P (in H2O)= 1.1225
% Isokinetic= 100.7

Pitot Coefficient= 0.84
Sampling Time (Minutes)= 75.0
Nozzle Diameter (Inches)= 0.146
Stack Axis #1 (Inches)= 57.0
Stack Axis #2 (Inches)= 66.0
Rectangular Stack
Stack Area (Square Feet)= 26.13

Stack Velocity (Actual, Feet/min)= 4,261
Flow Rate (Actual, Cubic ft/min)= 111,323
Flow rate (Standard, Wet, Cubic ft/min)= 87,122
Flow Rate (Standard, Dry, Cubic ft/min)= 76,640

Particulate Loading - Front Half

Particulate Weight (g)= 0.0144
Particulate Loading, Dry Std. (gr/scf)= 0.0086
Particulate Loading, Actual (gr/cu ft)= 0.0059
Emission Rate (lb/hr)= 5.65

Corr. to 7% O2 & 12% CO2
0.0070 0.0069

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 35A
 RUN # - 35 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/18/99 Time: 0852-1013
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:06:10

Initial Meter Volume (Cubic Meters)= 10.439
 Final Meter Volume (Cubic Meters)= 11.140
 Meter Factor= 0.996
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.698
 Gas Volume (Dry Standard Cubic Meters)= 0.729

Barometric Pressure (mm Hg)= 767
 Static Pressure (mm H2O)= -635

Percent Oxygen= 3.8
 Percent Carbon Dioxide= 15.0
 Moisture Collected (ml)= 74.8
 Percent Water= 12.0

Average Meter Temperature (C)= 10
 Average Delta H (mm H2O)= 11.2
 Average Delta P (mm H2O)= 37.0
 Average Stack Temperature (C)= 82

Dry Molecular Weight= 30.55
 Wet Molecular Weight= 29.04

Average Square Root of Delta P (mm H2O)= 5.6572
 % Isokinetic= 100.7

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 75.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,299
 Flow rate (Actual, Cubic m/min)= 3,152
 Flow rate (Standard, Wet, Cubic m/min)= 2,467
 Flow rate (Standard, Dry, Cubic m/min)= 2,170

Particulate Loading - Front Half

Particulate Weight (g)= 0.0144
 Particulate Loading, Dry Std. (mg/cu m)= 19.7
 Particulate Loading, Actual (mg/cu m)= 13.6
 Emission Rate (kg/hr)= 2.57

Corr. to 7% O2 & 12% CO2
 16.1 15.8

No Back Half Analysis

FILE NAME - 35A
 RUN # - 35 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/18/99 Time: 0852-1013
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:06:10

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	2.300	0.69	178	41 40
2	2.200	0.66	179	43 41
3	1.800	0.54	179	44 42
4	1.100	0.33	179	45 42
5	0.280	0.08	178	46 43
6	2.200	0.67	178	46 43
7	1.800	0.54	180	47 44
8	1.900	0.58	180	49 45
9	0.730	0.22	179	50 45
10	0.070	0.02	179	51 46
11	2.200	0.67	178	51 46
12	1.800	0.55	180	51 47
13	1.800	0.55	179	53 48
14	0.700	0.21	180	54 49
15	0.090	0.02	178	55 49
16	2.300	0.71	178	54 50
17	2.000	0.61	180	55 50
18	1.800	0.55	180	57 51
19	0.810	0.25	179	58 52
20	0.050	0.01	178	58 52
21	2.400	0.74	178	58 53
22	2.500	0.77	181	58 54
23	2.200	0.68	180	59 54
24	1.200	0.37	180	61 55
25	0.170	0.05	179	61 55

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3161	3.3027	0.0000	0.0134

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.6943	3.6933	27.2	0.0010
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 35B
RUN # - 35 - Method 17 Train B for PM
LOCATION - Unit 2A Baghouse Outlet Duct
DATE - 11/18/99 Time: 0853-1013
PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
11-23-1999 09:06:27

Initial Meter Volume (Cubic Feet)=	14.138
Final Meter Volume (Cubic Feet)=	40.414
Meter Factor=	1.010
Final Leak Rate (cu ft/min)=	0.003
Net Meter Volume (Cubic Feet)=	26.539
Gas Volume (Dry Standard Cubic Feet)=	27.751

Barometric Pressure (in Hg)=	30.18
Static Pressure (Inches H2O)=	-25.00

Percent Oxygen=	3.8
Percent Carbon Dioxide=	15.0
Moisture Collected (ml)=	75.7
Percent Water=	11.4

Average Meter Temperature (F)=	50
Average Delta H (in H2O)=	0.40
Average Delta P (in H2O)=	1.293
Average Stack Temperature (F)=	181

Dry Molecular Weight=	30.55
Wet Molecular Weight=	29.12

Average Square Root of Delta P (in H2O)=	1.1337
% Isokinetic=	100.3

Pitot Coefficient=	0.84
Sampling Time (Minutes)=	80.0
Nozzle Diameter (Inches)=	0.146
Stack Axis #1 (Inches)=	57.0
Stack Axis #2 (Inches)=	66.0
Rectangular Stack	
Stack Area (Square Feet)=	26.13

Stack Velocity (Actual, Feet/min)=	4,306
Flow Rate (Actual, Cubic ft/min)=	112,484
Flow rate (Standard, Wet, Cubic ft/min)=	87,707
Flow Rate (Standard, Dry, Cubic ft/min)=	77,721

Particulate Loading - Front Half

Particulate Weight (g)=	0.0088
Particulate Loading, Dry Std. (gr/scf)=	0.0049
Particulate Loading, Actual (gr/cu ft)=	0.0034
Emission Rate (lb/hr)=	3.25

Corr. to 7% O2 & 12% CO2
0.0040 0.0039

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 35B
 RUN # - 35 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/18/99 Time: 0853-1013
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 09:06:27

Initial Meter Volume (Cubic Meters)= 0.400
 Final Meter Volume (Cubic Meters)= 1.144
 Meter Factor= 1.010
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.751
 Gas Volume (Dry Standard Cubic Meters)= 0.786

Barometric Pressure (mm Hg)= 767
 Static Pressure (mm H2O)= -635

Percent Oxygen= 3.8
 Percent Carbon Dioxide= 15.0
 Moisture Collected (ml)= 75.7
 Percent Water= 11.4

Average Meter Temperature (C)= 10
 Average Delta H (mm H2O)= 10.3
 Average Delta P (mm H2O)= 32.8
 Average Stack Temperature (C)= 83

Dry Molecular Weight= 30.55
 Wet Molecular Weight= 29.12

Average Square Root of Delta P (mm H2O)= 5.7136
 % Isokinetic= 100.3

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 80.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,312
 Flow rate (Actual, Cubic m/min)= 3,185
 Flow rate (Standard, Wet, Cubic m/min)= 2,484
 Flow rate (Standard, Dry, Cubic m/min)= 2,201

Particulate Loading - Front Half

Particulate Weight (g)= 0.0088
 Particulate Loading, Dry Std. (mg/cu m)= 11.2
 Particulate Loading, Actual (mg/cu m)= 7.7
 Emission Rate (kg/hr)= 1.48

Corr. to 7% O2 & 12% CO2
 9.1 9.0

No Back Half Analysis

FILE NAME - 35B
 RUN # - 35 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/18/99 Time: 0853-1013
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 09:06:27

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	1.200	0.37	180	43 42
2	1.500	0.47	180	44 43
3	1.300	0.40	180	44 43
4	1.300	0.40	181	45 44
5	1.300	0.40	182	47 45
6	0.780	0.24	181	48 46
7	1.200	0.37	182	49 46
8	1.200	0.37	182	50 47
9	1.200	0.38	182	52 49
10	1.500	0.47	181	53 50
11	1.400	0.44	183	54 51
12	1.300	0.41	182	55 53
13	1.200	0.38	181	56 53
14	1.600	0.51	181	56 54
15	1.500	0.48	183	57 55
16	1.200	0.38	182	58 56

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3168	3.3080	0.0000	0.0088

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.8241	3.8241	23.7	0.0000
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 36A
RUN # - 36 - Method 17 Train A for PM
LOCATION - Unit 2A Baghouse Outlet Duct
DATE - 11/18/99 Time: 1105-1224
PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
11-23-1999 09:06:39

Initial Meter Volume (Cubic Feet)= 393.787
Final Meter Volume (Cubic Feet)= 418.247
Meter Factor= 0.996
Final Leak Rate (cu ft/min)= 0.003
Net Meter Volume (Cubic Feet)= 24.362
Gas Volume (Dry Standard Cubic Feet)= 24.832

Barometric Pressure (in Hg)= 30.19
Static Pressure (Inches H2O)= -25.91

Percent Oxygen= 3.8
Percent Carbon Dioxide= 14.9
Moisture Collected (ml)= 69.5
Percent Water= 11.6

Average Meter Temperature (F)= 63
Average Delta H (in H2O)= 0.42
Average Delta P (in H2O)= 1.365
Average Stack Temperature (F)= 179

Dry Molecular Weight= 30.54
Wet Molecular Weight= 29.08

Average Square Root of Delta P (in H2O)= 1.0837
% Isokinetic= 100.3

Pitot Coefficient= 0.84
Sampling Time (Minutes)= 75.0
Nozzle Diameter (Inches)= 0.146
Stack Axis #1 (Inches)= 57.0
Stack Axis #2 (Inches)= 66.0
Rectangular Stack
Stack Area (Square Feet)= 26.13

Stack Velocity (Actual, Feet/min)= 4,116
Flow Rate (Actual, Cubic ft/min)= 107,535
Flow rate (Standard, Wet, Cubic ft/min)= 83,968
Flow Rate (Standard, Dry, Cubic ft/min)= 74,188

Particulate Loading - Front Half

Particulate Weight (g)= 0.0271
Particulate Loading, Dry Std. (gr/scf)= 0.0168
Particulate Loading, Actual (gr/cu ft)= 0.0116
Emission Rate (lb/hr)= 10.69

Corr. to 7% O2 & 12% CO2
0.0137 0.0135

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 36A
 RUN # - 36 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/18/99 Time: 1105-1224
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:06:39

Initial Meter Volume (Cubic Meters)= 11.150
 Final Meter Volume (Cubic Meters)= 11.843
 Meter Factor= 0.996
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.690
 Gas Volume (Dry Standard Cubic Meters)= 0.703

Barometric Pressure (mm Hg)= 767
 Static Pressure (mm H2O)= -658

Percent Oxygen= 3.8
 Percent Carbon Dioxide= 14.9
 Moisture Collected (ml)= 69.5
 Percent Water= 11.6

Average Meter Temperature (C)= 17
 Average Delta H (mm H2O)= 10.8
 Average Delta P (mm H2O)= 34.7
 Average Stack Temperature (C)= 82

Dry Molecular Weight= 30.54
 Wet Molecular Weight= 29.08

Average Square Root of Delta P (mm H2O)= 5.4617
 % Isokinetic= 100.3

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 75.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,255
 Flow rate (Actual, Cubic m/min)= 3,045
 Flow rate (Standard, Wet, Cubic m/min)= 2,378
 Flow rate (Standard, Dry, Cubic m/min)= 2,101

Particulate Loading - Front Half

Particulate Weight (g)=	0.0271	Corr. to 7% O2 & 12% CO2
Particulate Loading, Dry Std. (mg/cu m)=	38.5	31.4 31.0
Particulate Loading, Actual (mg/cu m)=	26.6	
Emission Rate (kg/hr)=	4.85	

No Back Half Analysis

FILE NAME - 36A
 RUN # - 36 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/18/99 Time: 1105-1224
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:06:39

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	2.200	0.68	180	57 57
2	2.400	0.74	181	59 58
3	2.000	0.62	180	59 58
4	0.890	0.27	180	61 58
5	0.270	0.08	180	62 59
6	2.000	0.62	179	61 59
7	1.900	0.59	178	61 59
8	1.600	0.50	180	63 60
9	0.680	0.21	180	64 60
10	0.090	0.02	179	64 60
11	2.000	0.63	178	64 61
12	1.800	0.56	182	64 61
13	1.600	0.50	182	66 62
14	0.640	0.20	181	67 62
15	0.030	0.01	179	66 62
16	2.200	0.69	179	65 63
17	1.600	0.50	180	66 63
18	1.900	0.60	179	68 63
19	0.750	0.23	179	68 63
20	0.050	0.01	177	68 64
21	2.300	0.72	179	66 64
22	2.500	0.79	178	68 64
23	1.600	0.50	178	69 65
24	0.880	0.28	177	70 65
25	0.240	0.07	176	70 65

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3653	3.3398	0.0000	0.0255

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.8339	3.8323	31.6	0.0016
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 36B
 RUN # - 36 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/18/99 Time: 1105-1225
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 09:06:51

Initial Meter Volume (Cubic Feet)=	40.759
Final Meter Volume (Cubic Feet)=	66.777
Meter Factor=	1.010
Final Leak Rate (cu ft/min)=	0.004
Net Meter Volume (Cubic Feet)=	26.278
Gas Volume (Dry Standard Cubic Feet)=	26.769

Barometric Pressure (in Hg)=	30.19
Static Pressure (Inches H2O)=	-25.91

Percent Oxygen=	3.8
Percent Carbon Dioxide=	14.9
Moisture Collected (ml)=	81.5
Percent Water=	12.5

Average Meter Temperature (F)=	63
Average Delta H (in H2O)=	0.39
Average Delta P (in H2O)=	1.210
Average Stack Temperature (F)=	182

Dry Molecular Weight=	30.54
Wet Molecular Weight=	28.96

Average Square Root of Delta P (in H2O)=	1.0961
% Isokinetic=	101.2

Pitot Coefficient=	0.84
Sampling Time (Minutes)=	80.0
Nozzle Diameter (Inches)=	0.146
Stack Axis #1 (Inches)=	57.0
Stack Axis #2 (Inches)=	66.0
Rectangular Stack	
Stack Area (Square Feet)=	26.13

Stack Velocity (Actual, Feet/min)=	4,179
Flow Rate (Actual, Cubic ft/min)=	109,175
Flow rate (Standard, Wet, Cubic ft/min)=	84,940
Flow Rate (Standard, Dry, Cubic ft/min)=	74,287

Particulate Loading - Front Half

Particulate Weight (g)=	0.0171
Particulate Loading, Dry Std. (gr/scf)=	0.0098
Particulate Loading, Actual (gr/cu ft)=	0.0067
Emission Rate (lb/hr)=	6.26

Corr. to 7% O2 & 12% CO2
0.0080 0.0079

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 36B
 RUN # - 36 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/18/99 Time: 1105-1225
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 09:06:51

Initial Meter Volume (Cubic Meters)= 1.154
 Final Meter Volume (Cubic Meters)= 1.891
 Meter Factor= 1.010
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.744
 Gas Volume (Dry Standard Cubic Meters)= 0.758

Barometric Pressure (mm Hg)= 767
 Static Pressure (mm H2O)= -658

Percent Oxygen= 3.8
 Percent Carbon Dioxide= 14.9
 Moisture Collected (ml)= 81.5
 Percent Water= 12.5

Average Meter Temperature (C)= 17
 Average Delta H (mm H2O)= 9.9
 Average Delta P (mm H2O)= 30.7
 Average Stack Temperature (C)= 83

Dry Molecular Weight= 30.54
 Wet Molecular Weight= 28.96

Average Square Root of Delta P (mm H2O)= 5.5243
 % Isokinetic= 101.2

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 80.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,274
 Flow rate (Actual, Cubic m/min)= 3,091
 Flow rate (Standard, Wet, Cubic m/min)= 2,405
 Flow rate (Standard, Dry, Cubic m/min)= 2,104

Particulate Loading - Front Half

Particulate Weight (g)= 0.0171
 Particulate Loading, Dry Std. (mg/cu m)= 22.6
 Particulate Loading, Actual (mg/cu m)= 15.3
 Emission Rate (kg/hr)= 2.84

Corr. to 7% O2 & 12% CO2
 18.4 18.2

No Back Half Analysis

FILE NAME - 36B
 RUN # - 36 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/18/99 Time: 1105-1225
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 09:06:51

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	1.300	0.41	183	59 58
2	1.200	0.38	182	59 58
3	1.200	0.38	182	60 59
4	0.860	0.27	182	61 59
5	1.300	0.42	182	62 60
6	1.100	0.35	182	62 61
7	1.300	0.42	182	63 61
8	0.870	0.28	183	64 62
9	1.300	0.42	184	65 63
10	1.300	0.42	182	65 64
11	0.930	0.30	182	66 64
12	1.300	0.42	181	67 65
13	1.000	0.32	180	68 65
14	1.500	0.49	179	68 66
15	1.400	0.46	180	69 66
16	1.500	0.49	179	69 67

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3951	3.3780	0.0000	0.0171

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.8595	3.8595	25.4	0.0000
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 37A
RUN # - 37 - Method 17 Train A for PM
LOCATION - Unit 2A Baghouse Outlet Duct
DATE - 11/18-19/99 Time: 2324-0043
PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
11-23-1999 09:14:43

Initial Meter Volume (Cubic Feet)= 418.645
Final Meter Volume (Cubic Feet)= 440.240
Meter Factor= 0.996
Final Leak Rate (cu ft/min)= 0.001
Net Meter Volume (Cubic Feet)= 21.509
Gas Volume (Dry Standard Cubic Feet)= 22.534

Barometric Pressure (in Hg)= 30.20
Static Pressure (Inches H2O)= -17.09

Percent Oxygen= 6.1
Percent Carbon Dioxide= 13.5
Moisture Collected (ml)= 56.1
Percent Water= 10.5

Average Meter Temperature (F)= 49
Average Delta H (in H2O)= 0.34
Average Delta P (in H2O)= 1.070
Average Stack Temperature (F)= 177

Dry Molecular Weight= 30.40
Wet Molecular Weight= 29.10

Average Square Root of Delta P (in H2O)= 0.9635
% Isokinetic= 99.7

Pitot Coefficient= 0.84
Sampling Time (Minutes)= 75.0
Nozzle Diameter (Inches)= 0.146
Stack Axis #1 (Inches)= 57.0
Stack Axis #2 (Inches)= 66.0
Rectangular Stack
Stack Area (Square Feet)= 26.13

Stack Velocity (Actual, Feet/min)= 3,609
Flow Rate (Actual, Cubic ft/min)= 94,290
Flow rate (Standard, Wet, Cubic ft/min)= 75,633
Flow Rate (Standard, Dry, Cubic ft/min)= 67,695

Particulate Loading - Front Half

Particulate Weight (g)= 0.0512
Particulate Loading, Dry Std. (gr/scf)= 0.0350
Particulate Loading, Actual (gr/cu ft)= 0.0251
Emission Rate (lb/hr)= 20.30

Corr. to 7% O2 & 12% CO2
0.0329 0.0311

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 37A
 RUN # - 37 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/18-19/99 Time: 2324-0043
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:14:43

Initial Meter Volume (Cubic Meters)= 11.854
 Final Meter Volume (Cubic Meters)= 12.466
 Meter Factor= 0.996
 Final Leak Rate (cu m/min)= 0.0000
 Net Meter Volume (Cubic Meters)= 0.609
 Gas Volume (Dry Standard Cubic Meters)= 0.638

Barometric Pressure (mm Hg)= 767
 Static Pressure (mm H2O)= -434

Percent Oxygen= 6.1
 Percent Carbon Dioxide= 13.5
 Moisture Collected (ml)= 56.1
 Percent Water= 10.5

Average Meter Temperature (C)= 9
 Average Delta H (mm H2O)= 8.5
 Average Delta P (mm H2O)= 27.2
 Average Stack Temperature (C)= 80

Dry Molecular Weight= 30.40
 Wet Molecular Weight= 29.10

Average Square Root of Delta P (mm H2O)= 4.8560
 % Isokinetic= 99.7

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 75.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,100
 Flow rate (Actual, Cubic m/min)= 2,670
 Flow rate (Standard, Wet, Cubic m/min)= 2,142
 Flow rate (Standard, Dry, Cubic m/min)= 1,917

Particulate Loading - Front Half

Particulate Weight (g)= 0.0512
 Particulate Loading, Dry Std. (mg/cu m)= 80.2
 Particulate Loading, Actual (mg/cu m)= 57.6
 Emission Rate (kg/hr)= 9.22

Corr. to 7% O2 & 12% CO2
 75.4 71.3

No Back Half Analysis

FILE NAME - 37A
 RUN # - 37 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/18-19/99 Time: 2324-0043
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:14:43

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	1.700	0.54	177	48 47
2	1.600	0.50	178	47 47
3	1.400	0.44	176	47 47
4	0.770	0.24	177	47 47
5	0.140	0.04	176	48 47
6	1.600	0.50	176	47 47
7	1.400	0.44	177	48 47
8	1.400	0.44	177	49 47
9	0.540	0.17	177	49 47
10	0.080	0.02	176	49 48
11	1.400	0.44	176	49 48
12	1.300	0.41	177	49 48
13	1.100	0.35	177	50 48
14	0.420	0.13	177	51 48
15	0.070	0.02	176	51 48
16	1.700	0.54	177	50 48
17	1.400	0.44	177	50 48
18	1.500	0.47	178	52 49
19	0.520	0.16	178	53 49
20	0.080	0.02	177	52 49
21	1.800	0.57	177	50 49
22	1.800	0.57	177	51 49
23	1.600	0.51	178	52 49
24	1.300	0.41	178	53 49
25	0.120	0.03	172	53 50

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.4202	3.3734	0.0000	0.0468

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.4512	3.4468	35.7	0.0044
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 37B
RUN # - 37 - Method 17 Train B for PM
LOCATION - Unit 2A Baghouse Outlet Duct
DATE - 11/18-19/99 Time: 2324-0044
PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
11-23-1999 09:14:57

Initial Meter Volume (Cubic Feet)=	76.934
Final Meter Volume (Cubic Feet)=	98.720
Meter Factor=	1.010
Final Leak Rate (cu ft/min)=	0.003
Net Meter Volume (Cubic Feet)=	22.004
Gas Volume (Dry Standard Cubic Feet)=	23.021

Barometric Pressure (in Hg)=	30.20
Static Pressure (Inches H2O)=	-17.09

Percent Oxygen=	6.1
Percent Carbon Dioxide=	13.5
Moisture Collected (ml)=	53.1
Percent Water=	9.8

Average Meter Temperature (F)=	50
Average Delta H (in H2O)=	0.27
Average Delta P (in H2O)=	0.833
Average Stack Temperature (F)=	179

Dry Molecular Weight=	30.40
Wet Molecular Weight=	29.19

Average Square Root of Delta P (in H2O)=	0.9112
% Isokinetic=	100.6

Pitot Coefficient=	0.84
Sampling Time (Minutes)=	80.0
Nozzle Diameter (Inches)=	0.146
Stack Axis #1 (Inches)=	57.0
Stack Axis #2 (Inches)=	66.0
Rectangular Stack	
Stack Area (Square Feet)=	26.13

Stack Velocity (Actual, Feet/min)=	3,415
Flow Rate (Actual, Cubic ft/min)=	89,219
Flow rate (Standard, Wet, Cubic ft/min)=	71,280
Flow Rate (Standard, Dry, Cubic ft/min)=	64,295

Particulate Loading - Front Half

Particulate Weight (g)=	0.0333
Particulate Loading, Dry Std. (gr/scf)=	0.0223
Particulate Loading, Actual (gr/cu ft)=	0.0160
Emission Rate (lb/hr)=	12.27

Corr. to 7% O2 & 12% CO2
0.0209 0.0198

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 37B
 RUN # - 37 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/18-19/99 Time: 2324-0044
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 09:14:57

Initial Meter Volume (Cubic Meters)= 2.178
 Final Meter Volume (Cubic Meters)= 2.795
 Meter Factor= 1.010
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.623
 Gas Volume (Dry Standard Cubic Meters)= 0.652

Barometric Pressure (mm Hg)= 767
 Static Pressure (mm H2O)= -434

Percent Oxygen= 6.1
 Percent Carbon Dioxide= 13.5
 Moisture Collected (ml)= 53.1
 Percent Water= 9.8

Average Meter Temperature (C)= 10
 Average Delta H (mm H2O)= 7.0
 Average Delta P (mm H2O)= 21.2
 Average Stack Temperature (C)= 82

Dry Molecular Weight= 30.40
 Wet Molecular Weight= 29.19

Average Square Root of Delta P (mm H2O)= 4.5925
 % Isokinetic= 100.6

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 80.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,041
 Flow rate (Actual, Cubic m/min)= 2,526
 Flow rate (Standard, Wet, Cubic m/min)= 2,018
 Flow rate (Standard, Dry, Cubic m/min)= 1,821

Particulate Loading - Front Half

Particulate Weight (g)= 0.0333
 Particulate Loading, Dry Std. (mg/cu m)= 51.1
 Particulate Loading, Actual (mg/cu m)= 36.8
 Emission Rate (kg/hr)= 5.57

Corr. to 7% O2 & 12% CO2
 48.0 45.4

No Back Half Analysis

FILE NAME - 37B
 RUN # - 37 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/18-19/99 Time: 2324-0044
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 09:14:57

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	0.910	0.30	180	48 48
2	0.840	0.28	179	48 48
3	0.870	0.29	180	48 48
4	0.870	0.29	179	48 48
5	0.940	0.31	180	48 48
6	0.860	0.28	179	49 48
7	0.830	0.27	179	49 49
8	0.800	0.26	180	49 49
9	0.770	0.25	179	50 49
10	0.820	0.27	179	50 49
11	0.650	0.21	180	50 49
12	0.890	0.30	178	51 50
13	0.820	0.27	180	52 51
14	0.950	0.32	179	52 51
15	0.910	0.30	179	53 51
16	0.600	0.20	179	53 51

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3931	3.3611	0.0000	0.0320

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.8260	3.8247	29.9	0.0013
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 38A
 RUN # - 38 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/19/99 Time: 0137-0256
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:15:15

Initial Meter Volume (Cubic Feet)=	440.664
Final Meter Volume (Cubic Feet)=	462.344
Meter Factor=	0.996
Final Leak Rate (cu ft/min)=	0.003
Net Meter Volume (Cubic Feet)=	21.593
Gas Volume (Dry Standard Cubic Feet)=	22.620

Barometric Pressure (in Hg)=	30.20
Static Pressure (Inches H2O)=	-17.08

Percent Oxygen=	5.7
Percent Carbon Dioxide=	13.0
Moisture Collected (ml)=	61.7
Percent Water=	11.4

Average Meter Temperature (F)=	49
Average Delta H (in H2O)=	0.34
Average Delta P (in H2O)=	1.066
Average Stack Temperature (F)=	177

Dry Molecular Weight=	30.31
Wet Molecular Weight=	28.91

Average Square Root of Delta P (in H2O)=	0.9565
% Isokinetic=	101.6

Pitot Coefficient=	0.84
Sampling Time (Minutes)=	75.0
Nozzle Diameter (Inches)=	0.146
Stack Axis #1 (Inches)=	57.0
Stack Axis #2 (Inches)=	66.0
Rectangular Stack	
Stack Area (Square Feet)=	26.13

Stack Velocity (Actual, Feet/min)=	3,597
Flow Rate (Actual, Cubic ft/min)=	93,959
Flow rate (Standard, Wet, Cubic ft/min)=	75,308
Flow Rate (Standard, Dry, Cubic ft/min)=	66,734

Particulate Loading - Front Half

Particulate Weight (g)=	0.0331
Particulate Loading, Dry Std. (gr/scf)=	0.0225
Particulate Loading, Actual (gr/cu ft)=	0.0160
Emission Rate (lb/hr)=	12.89

Corr. to 7% O2 & 12% CO2
0.0206 0.0208

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 38A
 RUN # - 38 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/19/99 Time: 0137-0256
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:15:15

Initial Meter Volume (Cubic Meters)= 12.478
 Final Meter Volume (Cubic Meters)= 13.092
 Meter Factor= 0.996
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.611
 Gas Volume (Dry Standard Cubic Meters)= 0.640

Barometric Pressure (mm Hg)= 767
 Static Pressure (mm H2O)= -434

Percent Oxygen= 5.7
 Percent Carbon Dioxide= 13.0
 Moisture Collected (ml)= 61.7
 Percent Water= 11.4

Average Meter Temperature (C)= 9
 Average Delta H (mm H2O)= 8.7
 Average Delta P (mm H2O)= 27.1
 Average Stack Temperature (C)= 81

Dry Molecular Weight= 30.31
 Wet Molecular Weight= 28.91

Average Square Root of Delta P (mm H2O)= 4.8208
 % Isokinetic= 101.6

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 75.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,096
 Flow rate (Actual, Cubic m/min)= 2,661
 Flow rate (Standard, Wet, Cubic m/min)= 2,132
 Flow rate (Standard, Dry, Cubic m/min)= 1,890

Particulate Loading - Front Half

Particulate Weight (g)= 0.0331
 Particulate Loading, Dry Std. (mg/cu m)= 51.7
 Particulate Loading, Actual (mg/cu m)= 36.7
 Emission Rate (kg/hr)= 5.85

Corr. to 7% O2 & 12% CO2
 47.3 47.7

No Back Half Analysis

FILE NAME - 38A
 RUN # - 38 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/19/99 Time: 0137-0256
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:15:15

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)	
1	1.700	0.55	177	48	48
2	1.700	0.55	178	47	47
3	1.600	0.51	179	48	47
4	0.820	0.26	178	49	47
5	0.140	0.04	176	49	47
6	1.600	0.52	178	49	47
7	1.400	0.45	178	50	48
8	1.300	0.42	178	50	47
9	0.560	0.18	177	51	48
10	0.070	0.02	177	50	48
11	1.600	0.52	174	50	48
12	1.400	0.45	178	50	47
13	1.200	0.39	177	50	47
14	0.400	0.13	179	51	48
15	0.030	0.01	177	51	48
16	1.600	0.52	177	50	48
17	1.500	0.49	177	50	48
18	1.400	0.45	177	52	48
19	0.580	0.18	178	52	48
20	0.050	0.01	176	52	48
21	1.700	0.55	177	50	48
22	1.800	0.58	177	50	48
23	1.200	0.39	178	51	48
24	1.200	0.39	177	53	49
25	0.100	0.03	177	52	49

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3855	3.3564	0.0000	0.0291

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.3977	3.3937	26.2	0.0040
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 38B
RUN # - 38 - Method 17 Train B for PM
LOCATION - Unit 2A Baghouse Outlet Duct
DATE - 11/19/99 Time: 0137-0257
PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
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Initial Meter Volume (Cubic Feet)=	99.002
Final Meter Volume (Cubic Feet)=	121.140
Meter Factor=	1.010
Final Leak Rate (cu ft/min)=	0.002
Net Meter Volume (Cubic Feet)=	22.359
Gas Volume (Dry Standard Cubic Feet)=	23.379

Barometric Pressure (in Hg)=	30.20
Static Pressure (Inches H2O)=	-17.08

Percent Oxygen=	5.7
Percent Carbon Dioxide=	13.0
Moisture Collected (ml)=	55.6
Percent Water=	10.1

Average Meter Temperature (F)=	50
Average Delta H (in H2O)=	0.29
Average Delta P (in H2O)=	0.862
Average Stack Temperature (F)=	180

Dry Molecular Weight=	30.31
Wet Molecular Weight=	29.07

Average Square Root of Delta P (in H2O)=	0.9280
% Isokinetic=	100.4

Pitot Coefficient=	0.84
Sampling Time (Minutes)=	80.0
Nozzle Diameter (Inches)=	0.146
Stack Axis #1 (Inches)=	57.0
Stack Axis #2 (Inches)=	66.0
Rectangular Stack	
Stack Area (Square Feet)=	26.13

Stack Velocity (Actual, Feet/min)=	3,486
Flow Rate (Actual, Cubic ft/min)=	91,065
Flow rate (Standard, Wet, Cubic ft/min)=	72,735
Flow Rate (Standard, Dry, Cubic ft/min)=	65,408

Particulate Loading - Front Half

Particulate Weight (g)=	0.0222
Particulate Loading, Dry Std. (gr/scf)=	0.0146
Particulate Loading, Actual (gr/cu ft)=	0.0105
Emission Rate (lb/hr)=	8.20

Corr. to 7% O2 & 12% CO2
0.0134 0.0135

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 38B
 RUN # - 38 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/19/99 Time: 0137-0257
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 09:15:26

Initial Meter Volume (Cubic Meters)= 2.803
 Final Meter Volume (Cubic Meters)= 3.430
 Meter Factor= 1.010
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.633
 Gas Volume (Dry Standard Cubic Meters)= 0.662

Barometric Pressure (mm Hg)= 767
 Static Pressure (mm H2O)= -434

Percent Oxygen= 5.7
 Percent Carbon Dioxide= 13.0
 Moisture Collected (ml)= 55.6
 Percent Water= 10.1

Average Meter Temperature (C)= 10
 Average Delta H (mm H2O)= 7.3
 Average Delta P (mm H2O)= 21.9
 Average Stack Temperature (C)= 82

Dry Molecular Weight= 30.31
 Wet Molecular Weight= 29.07

Average Square Root of Delta P (mm H2O)= 4.6772
 % Isokinetic= 100.4

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 80.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,062
 Flow rate (Actual, Cubic m/min)= 2,579
 Flow rate (Standard, Wet, Cubic m/min)= 2,060
 Flow rate (Standard, Dry, Cubic m/min)= 1,852

Particulate Loading - Front Half

Particulate Weight (g)= 0.0222
 Particulate Loading, Dry Std. (mg/cu m)= 33.5
 Particulate Loading, Actual (mg/cu m)= 24.1
 Emission Rate (kg/hr)= 3.72

Corr. to 7% O2 & 12% CO2
 30.7 31.0

No Back Half Analysis

FILE NAME - 38B
 RUN # - 38 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/19/99 Time: 0137-0257
 PROJECT # - 104703.1.002.05.02

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Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	0.870	0.29	178	49 48
2	0.920	0.30	179	48 48
3	0.900	0.30	179	48 48
4	0.870	0.29	179	49 49
5	0.830	0.27	180	49 49
6	0.790	0.26	181	50 49
7	0.790	0.26	180	50 49
8	0.960	0.32	178	51 49
9	0.920	0.31	179	51 50
10	0.840	0.28	181	51 50
11	0.820	0.27	180	51 50
12	0.820	0.27	179	51 50
13	0.860	0.29	180	51 50
14	0.880	0.29	181	52 50
15	0.870	0.29	179	52 50
16	0.850	0.28	179	52 51

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3188	3.2989	0.0000	0.0199

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.6497	3.6474	27.7	0.0023
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 39A
 RUN # - 39 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/19/99 Time: 0335-0504
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:15:42

Initial Meter Volume (Cubic Feet)= 463.012
 Final Meter Volume (Cubic Feet)= 484.276
 Meter Factor= 0.996
 Final Leak Rate (cu ft/min)= 0.002
 Net Meter Volume (Cubic Feet)= 21.179
 Gas Volume (Dry Standard Cubic Feet)= 22.196

Barometric Pressure (in Hg)= 30.20
 Static Pressure (Inches H2O)= -16.15

Percent Oxygen= 5.3
 Percent Carbon Dioxide= 13.3
 Moisture Collected (ml)= 54.8
 Percent Water= 10.4

Average Meter Temperature (F)= 49
 Average Delta H (in H2O)= 0.33
 Average Delta P (in H2O)= 1.030
 Average Stack Temperature (F)= 177

Dry Molecular Weight= 30.34
 Wet Molecular Weight= 29.05

Average Square Root of Delta P (in H2O)= 0.9415
 % Isokinetic= 100.3

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 75.0
 Nozzle Diameter (Inches)= 0.146
 Stack Axis #1 (Inches)= 57.0
 Stack Axis #2 (Inches)= 66.0
 Rectangular Stack
 Stack Area (Square Feet)= 26.13

Stack Velocity (Actual, Feet/min)= 3,525
 Flow Rate (Actual, Cubic ft/min)= 92,098
 Flow rate (Standard, Wet, Cubic ft/min)= 74,051
 Flow Rate (Standard, Dry, Cubic ft/min)= 66,337

Particulate Loading - Front Half

Particulate Weight (g)= 0.0311
 Particulate Loading, Dry Std. (gr/scf)= 0.0216
 Particulate Loading, Actual (gr/cu ft)= 0.0155
 Emission Rate (lb/hr)= 12.27

Corr. to 7% O2 & 12% CO2
 0.0192 0.0195

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 39A
 RUN # - 39 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/19/99 Time: 0335-0504
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:15:42

Initial Meter Volume (Cubic Meters)= 13.111
 Final Meter Volume (Cubic Meters)= 13.713
 Meter Factor= 0.996
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.600
 Gas Volume (Dry Standard Cubic Meters)= 0.629

Barometric Pressure (mm Hg)= 767
 Static Pressure (mm H2O)= -410

Percent Oxygen= 5.3
 Percent Carbon Dioxide= 13.3
 Moisture Collected (ml)= 54.8
 Percent Water= 10.4

Average Meter Temperature (C)= 9
 Average Delta H (mm H2O)= 8.4
 Average Delta P (mm H2O)= 26.2
 Average Stack Temperature (C)= 80

Dry Molecular Weight= 30.34
 Wet Molecular Weight= 29.05

Average Square Root of Delta P (mm H2O)= 4.7449
 % Isokinetic= 100.3

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 75.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,075
 Flow rate (Actual, Cubic m/min)= 2,608
 Flow rate (Standard, Wet, Cubic m/min)= 2,097
 Flow rate (Standard, Dry, Cubic m/min)= 1,878

Particulate Loading - Front Half

Particulate Weight (g)= 0.0311
 Particulate Loading, Dry Std. (mg/cu m)= 49.5
 Particulate Loading, Actual (mg/cu m)= 35.6
 Emission Rate (kg/hr)= 5.57

Corr. to 7% O2 & 12% CO2
 44.1 44.6

No Back Half Analysis

FILE NAME - 39A
 RUN # - 39 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/19/99 Time: 0335-0504
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:15:42

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	1.700	0.55	177	48 47
2	1.700	0.55	177	46 47
3	1.600	0.52	177	48 47
4	0.750	0.24	177	48 47
5	0.200	0.06	176	48 47
6	1.600	0.52	177	48 47
7	1.400	0.45	177	48 47
8	1.300	0.42	177	49 47
9	0.400	0.13	177	50 47
10	0.090	0.02	177	50 48
11	1.500	0.48	177	49 48
12	1.300	0.42	178	49 48
13	1.050	0.34	177	50 48
14	0.450	0.14	177	51 48
15	0.030	0.01	174	51 48
16	1.600	0.52	177	50 48
17	1.000	0.32	179	50 48
18	1.000	0.32	177	51 48
19	0.600	0.19	177	51 48
20	0.050	0.01	172	51 48
21	1.800	0.58	177	50 48
22	1.800	0.58	178	50 48
23	1.700	0.55	177	52 49
24	1.000	0.32	176	52 49
25	0.120	0.03	177	52 49

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3416	3.3143	0.0000	0.0273

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.5236	3.5198	21.6	0.0038
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 39B
 RUN # - 39 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/19/99 Time: 0335-0504
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 09:15:58

Initial Meter Volume (Cubic Feet)= 121.391
 Final Meter Volume (Cubic Feet)= 143.689
 Meter Factor= 1.010
 Final Leak Rate (cu ft/min)= 0.004
 Net Meter Volume (Cubic Feet)= 22.521
 Gas Volume (Dry Standard Cubic Feet)= 23.595

Barometric Pressure (in Hg)= 30.20
 Static Pressure (Inches H2O)= -16.15

Percent Oxygen= 5.3
 Percent Carbon Dioxide= 13.3
 Moisture Collected (ml)= 57.7
 Percent Water= 10.3

Average Meter Temperature (F)= 49
 Average Delta H (in H2O)= 0.29
 Average Delta P (in H2O)= 0.888
 Average Stack Temperature (F)= 179

Dry Molecular Weight= 30.34
 Wet Molecular Weight= 29.07

Average Square Root of Delta P (in H2O)= 0.9414
 % Isokinetic= 100.0

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 80.0
 Nozzle Diameter (Inches)= 0.146
 Stack Axis #1 (Inches)= 57.0
 Stack Axis #2 (Inches)= 66.0
 Rectangular Stack
 Stack Area (Square Feet)= 26.13

Stack Velocity (Actual, Feet/min)= 3,531
 Flow Rate (Actual, Cubic ft/min)= 92,255
 Flow rate (Standard, Wet, Cubic ft/min)= 73,881
 Flow Rate (Standard, Dry, Cubic ft/min)= 66,250

Particulate Loading - Front Half

Particulate Weight (g)= 0.0228
 Particulate Loading, Dry Std. (gr/scf)= 0.0149
 Particulate Loading, Actual (gr/cu ft)= 0.0107
 Emission Rate (lb/hr)= 8.45

Corr. to 7% O2 & 12% CO2
 0.0133 0.0134

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 39B
 RUN # - 39 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/19/99 Time: 0335-0504
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 09:15:58

Initial Meter Volume (Cubic Meters)= 3.437
 Final Meter Volume (Cubic Meters)= 4.069
 Meter Factor= 1.010
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.638
 Gas Volume (Dry Standard Cubic Meters)= 0.668

Barometric Pressure (mm Hg)= 767
 Static Pressure (mm H2O)= -410

Percent Oxygen= 5.3
 Percent Carbon Dioxide= 13.3
 Moisture Collected (ml)= 57.7
 Percent Water= 10.3

Average Meter Temperature (C)= 9
 Average Delta H (mm H2O)= 7.5
 Average Delta P (mm H2O)= 22.5
 Average Stack Temperature (C)= 82

Dry Molecular Weight= 30.34
 Wet Molecular Weight= 29.07

Average Square Root of Delta P (mm H2O)= 4.7444
 % Isokinetic= 100.0

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 80.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,076
 Flow rate (Actual, Cubic m/min)= 2,612
 Flow rate (Standard, Wet, Cubic m/min)= 2,092
 Flow rate (Standard, Dry, Cubic m/min)= 1,876

Particulate Loading - Front Half

Particulate Weight (g)= 0.0228
 Particulate Loading, Dry Std. (mg/cu m)= 34.1
 Particulate Loading, Actual (mg/cu m)= 24.5
 Emission Rate (kg/hr)= 3.84

Corr. to 7% O2 & 12% CO2
 30.4 30.8

No Back Half Analysis

FILE NAME - 39B
 RUN # - 39 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/19/99 Time: 0335-0504
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 09:15:58

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	0.900	0.30	179	48 48
2	0.880	0.29	179	48 48
3	0.870	0.29	179	48 48
4	0.920	0.30	180	48 48
5	0.840	0.28	179	49 48
6	0.840	0.28	179	49 48
7	0.760	0.25	180	49 49
8	0.970	0.32	180	49 49
9	0.920	0.31	179	49 49
10	0.860	0.28	180	49 49
11	0.840	0.28	180	50 49
12	0.800	0.26	179	49 49
13	0.920	0.31	179	49 49
14	1.050	0.35	180	50 49
15	0.970	0.32	179	50 49
16	0.860	0.29	178	50 50

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3137	3.2929	0.0000	0.0208

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.7299	3.7279	23.4	0.0020
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 40A
 RUN # - 40 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/20/99 Time: 0900-1020
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:16:08

Initial Meter Volume (Cubic Feet)= 485.988
 Final Meter Volume (Cubic Feet)= 507.367
 Meter Factor= 0.996
 Final Leak Rate (cu ft/min)= 0.004
 Net Meter Volume (Cubic Feet)= 21.293
 Gas Volume (Dry Standard Cubic Feet)= 21.591

Barometric Pressure (in Hg)= 30.08
 Static Pressure (Inches H2O)= -17.10

Percent Oxygen= 6.3
 Percent Carbon Dioxide= 12.5
 Moisture Collected (ml)= 64.7
 Percent Water= 12.4

Average Meter Temperature (F)= 64
 Average Delta H (in H2O)= 0.32
 Average Delta P (in H2O)= 1.033
 Average Stack Temperature (F)= 179

Dry Molecular Weight= 30.25
 Wet Molecular Weight= 28.74

Average Square Root of Delta P (in H2O)= 0.9439
 % Isokinetic= 99.4

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 75.0
 Nozzle Diameter (Inches)= 0.146
 Stack Axis #1 (Inches)= 57.0
 Stack Axis #2 (Inches)= 66.0
 Rectangular Stack
 Stack Area (Square Feet)= 26.13

Stack Velocity (Actual, Feet/min)= 3,572
 Flow Rate (Actual, Cubic ft/min)= 93,323
 Flow rate (Standard, Wet, Cubic ft/min)= 74,270
 Flow Rate (Standard, Dry, Cubic ft/min)= 65,084

Particulate Loading - Front Half

Particulate Weight (g)=	0.0107	Corr. to 7% O2 & 12% CO2
Particulate Loading, Dry Std. (gr/scf)=	0.0076	0.0073 0.0073
Particulate Loading, Actual (gr/cu ft)=	0.0053	
Emission Rate (lb/hr)=	4.26	

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 40A
 RUN # - 40 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/20/99 Time: 0900-1020
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:16:08

Initial Meter Volume (Cubic Meters)= 13.761
 Final Meter Volume (Cubic Meters)= 14.367
 Meter Factor= 0.996
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.603
 Gas Volume (Dry Standard Cubic Meters)= 0.611

Barometric Pressure (mm Hg)= 764
 Static Pressure (mm H2O)= -434

Percent Oxygen= 6.3
 Percent Carbon Dioxide= 12.5
 Moisture Collected (ml)= 64.7
 Percent Water= 12.4

Average Meter Temperature (C)= 18
 Average Delta H (mm H2O)= 8.1
 Average Delta P (mm H2O)= 26.2
 Average Stack Temperature (C)= 82

Dry Molecular Weight= 30.25
 Wet Molecular Weight= 28.74

Average Square Root of Delta P (mm H2O)= 4.7571
 % Isokinetic= 99.4

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 75.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,089
 Flow rate (Actual, Cubic m/min)= 2,643
 Flow rate (Standard, Wet, Cubic m/min)= 2,103
 Flow rate (Standard, Dry, Cubic m/min)= 1,843

Particulate Loading - Front Half

Particulate Weight (g)= 0.0107
 Particulate Loading, Dry Std. (mg/cu m)= 17.5
 Particulate Loading, Actual (mg/cu m)= 12.2
 Emission Rate (kg/hr)= 1.93

Corr. to 7% O2 & 12% CO2
 16.7 16.8

No Back Half Analysis

FILE NAME - 40A
 RUN # - 40 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/20/99 Time: 0900-1020
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:16:09

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	1.700	0.53	179	57 57
2	1.700	0.52	181	58 57
3	1.500	0.46	179	59 58
4	0.770	0.24	177	59 58
5	0.110	0.03	174	61 58
6	1.500	0.46	179	60 58
7	1.400	0.43	180	61 59
8	1.100	0.34	179	63 60
9	0.460	0.14	178	64 60
10	0.060	0.01	177	63 60
11	1.300	0.40	179	63 61
12	1.100	0.34	179	65 61
13	0.970	0.30	178	66 62
14	0.400	0.12	178	66 62
15	0.040	0.01	178	67 63
16	1.600	0.50	179	66 63
17	1.600	0.50	180	67 64
18	1.400	0.44	180	69 65
19	0.570	0.18	179	70 65
20	0.080	0.02	178	70 65
21	1.800	0.57	179	70 66
22	1.800	0.57	182	70 67
23	1.400	0.44	182	72 67
24	1.300	0.41	183	74 68
25	0.170	0.05	181	74 68

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3183	3.3086	0.0000	0.0097

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.5353	3.5343	19.5	0.0010
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 40B
RUN # - 40 - Method 17 Train B for PM
LOCATION - Unit 2A Baghouse Outlet Duct
DATE - 11/20/99 Time: 0900-1020
PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
11-23-1999 09:16:19

Initial Meter Volume (Cubic Feet)=	153.440
Final Meter Volume (Cubic Feet)=	174.366
Meter Factor=	1.010
Final Leak Rate (cu ft/min)=	0.002
Net Meter Volume (Cubic Feet)=	21.135
Gas Volume (Dry Standard Cubic Feet)=	21.430

Barometric Pressure (in Hg)=	30.08
Static Pressure (Inches H2O)=	-17.10

Percent Oxygen=	6.3
Percent Carbon Dioxide=	12.5
Moisture Collected (ml)=	64.3
Percent Water=	12.4

Average Meter Temperature (F)=	64
Average Delta H (in H2O)=	0.25
Average Delta P (in H2O)=	0.779
Average Stack Temperature (F)=	181

Dry Molecular Weight=	30.25
Wet Molecular Weight=	28.73

Average Square Root of Delta P (in H2O)=	0.8808
% Isokinetic=	99.3

Pitot Coefficient=	0.84
Sampling Time (Minutes)=	80.0
Nozzle Diameter (Inches)=	0.146
Stack Axis #1 (Inches)=	57.0
Stack Axis #2 (Inches)=	66.0
Rectangular Stack	
Stack Area (Square Feet)=	26.13

Stack Velocity (Actual, Feet/min)=	3,339
Flow Rate (Actual, Cubic ft/min)=	87,237
Flow rate (Standard, Wet, Cubic ft/min)=	69,182
Flow Rate (Standard, Dry, Cubic ft/min)=	60,616

Particulate Loading - Front Half

Particulate Weight (g)=	0.0089	Corr. to 7% O2 & 12% CO2
Particulate Loading, Dry Std. (gr/scf)=	0.0064	0.0061 0.0061
Particulate Loading, Actual (gr/cu ft)=	0.0044	
Emission Rate (lb/hr)=	3.32	

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 40B
 RUN # - 40 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/20/99 Time: 0900-1020
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
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Initial Meter Volume (Cubic Meters)= 4.345
 Final Meter Volume (Cubic Meters)= 4.937
 Meter Factor= 1.010
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.598
 Gas Volume (Dry Standard Cubic Meters)= 0.607

Barometric Pressure (mm Hg)= 764
 Static Pressure (mm H2O)= -434

Percent Oxygen= 6.3
 Percent Carbon Dioxide= 12.5
 Moisture Collected (ml)= 64.3
 Percent Water= 12.4

Average Meter Temperature (C)= 18
 Average Delta H (mm H2O)= 6.3
 Average Delta P (mm H2O)= 19.8
 Average Stack Temperature (C)= 83

Dry Molecular Weight= 30.25
 Wet Molecular Weight= 28.73

Average Square Root of Delta P (mm H2O)= 4.4390
 % Isokinetic= 99.3

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 80.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,018
 Flow rate (Actual, Cubic m/min)= 2,470
 Flow rate (Standard, Wet, Cubic m/min)= 1,959
 Flow rate (Standard, Dry, Cubic m/min)= 1,716

Particulate Loading - Front Half

Particulate Weight (g)= 0.0089
 Particulate Loading, Dry Std. (mg/cu m)= 14.7
 Particulate Loading, Actual (mg/cu m)= 10.2
 Emission Rate (kg/hr)= 1.51

Corr. to 7% O2 & 12% CO2
 14.0 14.1

No Back Half Analysis

FILE NAME - 40B
 RUN # - 40 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/20/99 Time: 0900-1020
 PROJECT # - 104703.1.002.05.02

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Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	0.780	0.25	181	59 58
2	0.800	0.25	182	59 58
3	0.820	0.26	179	60 59
4	0.700	0.22	180	60 59
5	0.700	0.22	182	61 59
6	0.730	0.23	180	62 60
7	0.650	0.21	181	63 61
8	0.670	0.21	182	64 62
9	0.720	0.23	180	65 63
10	0.700	0.22	181	66 64
11	0.750	0.24	182	66 64
12	0.770	0.25	182	68 65
13	0.820	0.26	181	68 66
14	0.790	0.25	182	70 67
15	1.100	0.36	184	71 68
16	0.970	0.31	183	72 69

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3225	3.3157	0.0000	0.0068

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.5574	3.5553	33.2	0.0021
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 41A
 RUN # - 41 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/20/99 Time: 1112-1231
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:16:31

Initial Meter Volume (Cubic Feet)= 507.643
 Final Meter Volume (Cubic Feet)= 530.756
 Meter Factor= 0.996
 Final Leak Rate (cu ft/min)= 0.001
 Net Meter Volume (Cubic Feet)= 23.021
 Gas Volume (Dry Standard Cubic Feet)= 22.684

Barometric Pressure (in Hg)= 30.07
 Static Pressure (Inches H2O)= -18.10

Percent Oxygen= 5.9
 Percent Carbon Dioxide= 13.3
 Moisture Collected (ml)= 68.4
 Percent Water= 12.4

Average Meter Temperature (F)= 79
 Average Delta H (in H2O)= 0.37
 Average Delta P (in H2O)= 1.152
 Average Stack Temperature (F)= 180

Dry Molecular Weight= 30.36
 Wet Molecular Weight= 28.83

Average Square Root of Delta P (in H2O)= 0.9915
 % Isokinetic= 99.9

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 75.0
 Nozzle Diameter (Inches)= 0.146
 Stack Axis #1 (Inches)= 57.0
 Stack Axis #2 (Inches)= 66.0
 Rectangular Stack
 Stack Area (Square Feet)= 26.13

Stack Velocity (Actual, Feet/min)= 3,754
 Flow Rate (Actual, Cubic ft/min)= 98,076
 Flow rate (Standard, Wet, Cubic ft/min)= 77,729
 Flow Rate (Standard, Dry, Cubic ft/min)= 68,063

Particulate Loading - Front Half

Particulate Weight (g)=	0.0223	Corr. to 7% O2 & 12% CO2
Particulate Loading, Dry Std. (gr/scf)=	0.0151	0.0140 0.0137
Particulate Loading, Actual (gr/cu ft)=	0.0105	
Emission Rate (lb/hr)=	8.83	

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 41A
 RUN # - 41 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/20/99 Time: 1112-1231
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
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Initial Meter Volume (Cubic Meters)= 14.374
 Final Meter Volume (Cubic Meters)= 15.029
 Meter Factor= 0.996
 Final Leak Rate (cu m/min)= 0.0000
 Net Meter Volume (Cubic Meters)= 0.652
 Gas Volume (Dry Standard Cubic Meters)= 0.642

Barometric Pressure (mm Hg)= 764
 Static Pressure (mm H2O)= -460

Percent Oxygen= 5.9
 Percent Carbon Dioxide= 13.3
 Moisture Collected (ml)= 68.4
 Percent Water= 12.4

Average Meter Temperature (C)= 26
 Average Delta H (mm H2O)= 9.4
 Average Delta P (mm H2O)= 29.3
 Average Stack Temperature (C)= 82

Dry Molecular Weight= 30.36
 Wet Molecular Weight= 28.83

Average Square Root of Delta P (mm H2O)= 4.9969
 % Isokinetic= 99.9

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 75.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,144
 Flow rate (Actual, Cubic m/min)= 2,777
 Flow rate (Standard, Wet, Cubic m/min)= 2,201
 Flow rate (Standard, Dry, Cubic m/min)= 1,927

Particulate Loading - Front Half

Particulate Weight (g)= 0.0223
 Particulate Loading, Dry Std. (mg/cu m)= 34.7
 Particulate Loading, Actual (mg/cu m)= 24.1
 Emission Rate (kg/hr)= 4.01

Corr. to 7% O2 & 12% CO2
 32.2 31.3

No Back Half Analysis

FILE NAME - 41A
 RUN # - 41 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/20/99 Time: 1112-1231
 PROJECT # - 104703.1.002.05.01

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Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	1.700	0.54	180	74 74
2	1.700	0.54	181	75 74
3	1.600	0.51	182	76 74
4	0.780	0.25	181	77 74
5	0.120	0.03	180	77 75
6	1.700	0.54	181	77 75
7	1.600	0.51	181	77 75
8	1.300	0.42	180	79 76
9	0.570	0.18	182	80 76
10	0.050	0.01	180	80 76
11	1.700	0.54	182	79 76
12	1.400	0.45	180	80 77
13	1.400	0.45	180	81 77
14	0.500	0.16	179	82 78
15	0.030	0.01	179	82 78
16	1.700	0.55	180	81 78
17	1.700	0.55	179	82 79
18	1.500	0.48	179	83 79
19	0.530	0.17	181	83 79
20	0.030	0.01	176	84 79
21	1.900	0.62	179	82 80
22	2.100	0.68	180	83 80
23	1.500	0.48	180	84 80
24	1.500	0.49	177	85 80
25	0.190	0.06	179	86 81

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3323	3.3124	0.0000	0.0199

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.3624	3.3600	29.9	0.0024
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 41B
 RUN # - 41 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/20/99 Time: 1112-1232
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 09:16:42

Initial Meter Volume (Cubic Feet)= 174.154
 Final Meter Volume (Cubic Feet)= 198.331
 Meter Factor= 1.010
 Final Leak Rate (cu ft/min)= 0.002
 Net Meter Volume (Cubic Feet)= 24.419
 Gas Volume (Dry Standard Cubic Feet)= 24.054

Barometric Pressure (in Hg)= 30.07
 Static Pressure (Inches H2O)= -18.10

Percent Oxygen= 5.9
 Percent Carbon Dioxide= 13.3
 Moisture Collected (ml)= 72.2
 Percent Water= 12.4

Average Meter Temperature (F)= 79
 Average Delta H (in H2O)= 0.33
 Average Delta P (in H2O)= 0.991
 Average Stack Temperature (F)= 182

Dry Molecular Weight= 30.36
 Wet Molecular Weight= 28.83

Average Square Root of Delta P (in H2O)= 0.9912
 % Isokinetic= 99.4

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 80.0
 Nozzle Diameter (Inches)= 0.146
 Stack Axis #1 (Inches)= 57.0
 Stack Axis #2 (Inches)= 66.0
 Rectangular Stack
 Stack Area (Square Feet)= 26.13

Stack Velocity (Actual, Feet/min)= 3,759
 Flow Rate (Actual, Cubic ft/min)= 98,212
 Flow rate (Standard, Wet, Cubic ft/min)= 77,562
 Flow Rate (Standard, Dry, Cubic ft/min)= 67,955

Particulate Loading - Front Half

Particulate Weight (g)= 0.0136
 Particulate Loading, Dry Std. (gr/scf)= 0.0087
 Particulate Loading, Actual (gr/cu ft)= 0.0060
 Emission Rate (lb/hr)= 5.07

Corr. to 7% O2 & 12% CO2
 0.0081 0.0079

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 41B
 RUN # - 41 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/20/99 Time: 1112-1232
 PROJECT # - 104703.1.002.05.02

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Initial Meter Volume (Cubic Meters)= 4.931
 Final Meter Volume (Cubic Meters)= 5.616
 Meter Factor= 1.010
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.691
 Gas Volume (Dry Standard Cubic Meters)= 0.681

Barometric Pressure (mm Hg)= 764
 Static Pressure (mm H2O)= -460

Percent Oxygen= 5.9
 Percent Carbon Dioxide= 13.3
 Moisture Collected (ml)= 72.2
 Percent Water= 12.4

Average Meter Temperature (C)= 26
 Average Delta H (mm H2O)= 8.3
 Average Delta P (mm H2O)= 25.2
 Average Stack Temperature (C)= 83

Dry Molecular Weight= 30.36
 Wet Molecular Weight= 28.83

Average Square Root of Delta P (mm H2O)= 4.9955
 % Isokinetic= 99.4

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 80.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,146
 Flow rate (Actual, Cubic m/min)= 2,781
 Flow rate (Standard, Wet, Cubic m/min)= 2,196
 Flow rate (Standard, Dry, Cubic m/min)= 1,924

Particulate Loading - Front Half

Particulate Weight (g)=	0.0136	Corr. to 7% O2 & 12% CO2
Particulate Loading, Dry Std. (mg/cu m)=	20.0	18.5 18.0
Particulate Loading, Actual (mg/cu m)=	13.8	
Emission Rate (kg/hr)=	2.30	

No Back Half Analysis

FILE NAME - 41B
 RUN # - 41 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/20/99 Time: 1112-1232
 PROJECT # - 104703.1.002.05.02

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Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	0.840	0.27	182	74 73
2	0.630	0.20	183	75 74
3	1.000	0.33	183	75 74
4	0.930	0.30	183	76 75
5	0.890	0.29	183	78 76
6	0.910	0.30	183	78 76
7	1.000	0.33	184	79 77
8	0.880	0.29	183	80 78
9	1.000	0.33	182	81 79
10	1.100	0.36	181	81 79
11	1.000	0.33	181	82 80
12	0.940	0.31	182	83 81
13	1.000	0.33	181	83 81
14	0.930	0.31	182	83 82
15	1.400	0.47	182	84 82
16	1.400	0.47	180	84 82

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3070	3.2939	0.0000	0.0131

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.3260	3.3255	32.2	0.0005
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 42A
 RUN # - 42 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/20/99 Time: 1350-1512
 PROJECT # - 104703.1.002.05.01

PROG.=VER 06/27/89
 11-23-1999 09:16:53

Initial Meter Volume (Cubic Feet)= 531.164
 Final Meter Volume (Cubic Feet)= 553.900
 Meter Factor= 0.996
 Final Leak Rate (cu ft/min)= 0.003
 Net Meter Volume (Cubic Feet)= 22.645
 Gas Volume (Dry Standard Cubic Feet)= 22.059

Barometric Pressure (in Hg)= 29.98
 Static Pressure (Inches H2O)= -18.07

Percent Oxygen= 5.1
 Percent Carbon Dioxide= 14.1
 Moisture Collected (ml)= 66.0
 Percent Water= 12.4

Average Meter Temperature (F)= 83
 Average Delta H (in H2O)= 0.35
 Average Delta P (in H2O)= 1.092
 Average Stack Temperature (F)= 181

Dry Molecular Weight= 30.46
 Wet Molecular Weight= 28.92

Average Square Root of Delta P (in H2O)= 0.9699
 % Isokinetic= 99.6

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 75.0
 Nozzle Diameter (Inches)= 0.146
 Stack Axis #1 (Inches)= 57.0
 Stack Axis #2 (Inches)= 66.0
 Rectangular Stack
 Stack Area (Square Feet)= 26.13

Stack Velocity (Actual, Feet/min)= 3,675
 Flow Rate (Actual, Cubic ft/min)= 96,004
 Flow rate (Standard, Wet, Cubic ft/min)= 75,745
 Flow Rate (Standard, Dry, Cubic ft/min)= 66,390

Particulate Loading - Front Half

Particulate Weight (g)= 0.0346
 Particulate Loading, Dry Std. (gr/scf)= 0.0242
 Particulate Loading, Actual (gr/cu ft)= 0.0167
 Emission Rate (lb/hr)= 13.74

Corr. to 7% O2 & 12% CO2
 0.0213 0.0206

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 42A
 RUN # - 42 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/20/99 Time: 1350-1512
 PROJECT # - 104703.1.002.05.01

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Initial Meter Volume (Cubic Meters)= 15.040
 Final Meter Volume (Cubic Meters)= 15.684
 Meter Factor= 0.996
 Final Leak Rate (cu m/min)= 0.0001
 Net Meter Volume (Cubic Meters)= 0.641
 Gas Volume (Dry Standard Cubic Meters)= 0.625

Barometric Pressure (mm Hg)= 761
 Static Pressure (mm H2O)= -459

Percent Oxygen= 5.1
 Percent Carbon Dioxide= 14.1
 Moisture Collected (ml)= 66.0
 Percent Water= 12.4

Average Meter Temperature (C)= 29
 Average Delta H (mm H2O)= 8.9
 Average Delta P (mm H2O)= 27.7
 Average Stack Temperature (C)= 83

Dry Molecular Weight= 30.46
 Wet Molecular Weight= 28.92

Average Square Root of Delta P (mm H2O)= 4.8883
 % Isokinetic= 99.6

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 75.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,120
 Flow rate (Actual, Cubic m/min)= 2,719
 Flow rate (Standard, Wet, Cubic m/min)= 2,145
 Flow rate (Standard, Dry, Cubic m/min)= 1,880

Particulate Loading - Front Half

Particulate Weight (g)= 0.0346
 Particulate Loading, Dry Std. (mg/cu m)= 55.4
 Particulate Loading, Actual (mg/cu m)= 38.3
 Emission Rate (kg/hr)= 6.24

Corr. to 7% O2 & 12% CO2
 48.8 47.1

No Back Half Analysis

FILE NAME - 42A
 RUN # - 42 - Method 17 Train A for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/20/99 Time: 1350-1512
 PROJECT # - 104703.1.002.05.01

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 11-23-1999 09:16:53

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	1.600	0.51	182	80 80
2	1.600	0.51	182	80 80
3	1.500	0.48	183	81 80
4	0.700	0.22	182	81 80
5	0.270	0.08	182	82 80
6	1.800	0.58	180	82 80
7	1.800	0.58	182	82 81
8	1.500	0.48	181	84 81
9	0.630	0.20	181	84 81
10	0.060	0.01	179	85 81
11	1.700	0.55	179	84 82
12	1.500	0.48	182	85 82
13	1.200	0.39	182	86 82
14	0.350	0.11	180	86 82
15	0.030	0.01	178	86 83
16	1.700	0.55	181	85 83
17	1.700	0.55	181	85 83
18	1.050	0.34	181	87 84
19	0.620	0.20	182	88 84
20	0.030	0.01	176	86 85
21	1.700	0.55	180	85 84
22	1.700	0.55	180	86 85
23	1.100	0.35	183	86 84
24	1.300	0.42	181	87 85
25	0.170	0.05	181	88 85

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3485	3.3191	0.0000	0.0294

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.7267	3.7215	30.1	0.0052
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

FILE NAME - 42B
RUN # - 42 - Method 17 Train B for PM
LOCATION - Unit 2A Baghouse Outlet Duct
DATE - 11/20/99 Time: 1350-1512
PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
11-23-1999 09:17:04

Initial Meter Volume (Cubic Feet)= 208.689
Final Meter Volume (Cubic Feet)= 231.754
Meter Factor= 1.010
Final Leak Rate (cu ft/min)= 0.001
Net Meter Volume (Cubic Feet)= 23.296
Gas Volume (Dry Standard Cubic Feet)= 22.643

Barometric Pressure (in Hg)= 29.98
Static Pressure (Inches H2O)= -18.07

Percent Oxygen= 5.1
Percent Carbon Dioxide= 14.1
Moisture Collected (ml)= 60.9
Percent Water= 11.2

Average Meter Temperature (F)= 84
Average Delta H (in H2O)= 0.29
Average Delta P (in H2O)= 0.875
Average Stack Temperature (F)= 184

Dry Molecular Weight= 30.46
Wet Molecular Weight= 29.06

Average Square Root of Delta P (in H2O)= 0.9323
% Isokinetic= 98.9

Pitot Coefficient= 0.84
Sampling Time (Minutes)= 80.0
Nozzle Diameter (Inches)= 0.146
Stack Axis #1 (Inches)= 57.0
Stack Axis #2 (Inches)= 66.0
Rectangular Stack
Stack Area (Square Feet)= 26.13

Stack Velocity (Actual, Feet/min)= 3,532
Flow Rate (Actual, Cubic ft/min)= 92,262
Flow rate (Standard, Wet, Cubic ft/min)= 72,471
Flow Rate (Standard, Dry, Cubic ft/min)= 64,323

Particulate Loading - Front Half

Particulate Weight (g)=	0.0210	Corr. to 7% O2 & 12% CO2
Particulate Loading, Dry Std. (gr/scf)=	0.0143	0.0126 0.0122
Particulate Loading, Actual (gr/cu ft)=	0.0100	
Emission Rate (lb/hr)=	7.87	

No Back Half Analysis

* * METRIC UNITS * *

FILE NAME - 42B
 RUN # - 42 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/20/99 Time: 1350-1512
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
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Initial Meter Volume (Cubic Meters)= 5.909
 Final Meter Volume (Cubic Meters)= 6.562
 Meter Factor= 1.010
 Final Leak Rate (cu m/min)= 0.0000
 Net Meter Volume (Cubic Meters)= 0.660
 Gas Volume (Dry Standard Cubic Meters)= 0.641

Barometric Pressure (mm Hg)= 761
 Static Pressure (mm H2O)= -459

Percent Oxygen= 5.1
 Percent Carbon Dioxide= 14.1
 Moisture Collected (ml)= 60.9
 Percent Water= 11.2

Average Meter Temperature (C)= 29
 Average Delta H (mm H2O)= 7.4
 Average Delta P (mm H2O)= 22.2
 Average Stack Temperature (C)= 84

Dry Molecular Weight= 30.46
 Wet Molecular Weight= 29.06

Average Square Root of Delta P (mm H2O)= 4.6986
 % Isokinetic= 98.9

Pitot Coefficient= 0.84
 Sampling Time (Minutes)= 80.0
 Nozzle Diameter (mm)= 3.71
 Stack Axis #1 (Meters)= 1.448
 Stack Axis #2 (Meters)= 1.676
 Rectangular Stack
 Stack Area (Square Meters)= 2.427

Stack Velocity (Actual, m/min)= 1,076
 Flow rate (Actual, Cubic m/min)= 2,613
 Flow rate (Standard, Wet, Cubic m/min)= 2,052
 Flow rate (Standard, Dry, Cubic m/min)= 1,821

Particulate Loading - Front Half

Particulate Weight (g)= 0.0210
 Particulate Loading, Dry Std. (mg/cu m)= 32.8
 Particulate Loading, Actual (mg/cu m)= 22.8
 Emission Rate (kg/hr)= 3.57

Corr. to 7% O2 & 12% CO2
 28.8 27.9

No Back Half Analysis

FILE NAME - 42B
 RUN # - 42 - Method 17 Train B for PM
 LOCATION - Unit 2A Baghouse Outlet Duct
 DATE - 11/20/99 Time: 1350-1512
 PROJECT # - 104703.1.002.05.02

PROG.=VER 06/27/89
 11-23-1999 09:17:04

Point #	Delta P (in. H2O)	Delta H (in. H2O)	Stack T (F)	Meter T In(F) Out(F)
1	0.840	0.28	184	82 81
2	0.820	0.27	184	82 82
3	0.850	0.28	185	82 82
4	0.840	0.28	185	82 82
5	1.300	0.43	184	83 82
6	0.780	0.26	184	84 83
7	0.870	0.29	183	85 83
8	0.950	0.31	184	85 83
9	0.950	0.32	184	86 84
10	0.760	0.25	183	86 84
11	0.830	0.28	183	87 85
12	0.670	0.22	183	87 85
13	1.000	0.33	185	87 86
14	0.930	0.31	182	88 86
15	0.970	0.32	183	88 86
16	0.640	0.21	183	88 87

Fraction	Final Wt. (g)	Tare Wt. (g)	Blank Wt. (g)	Net Wt. (g)
DRY CATCH	0.0000	0.0000	0.0000	0.0000
FILTER	3.3340	3.3140	0.0000	0.0200

Fraction	Final Wt. (g)	Tare Wt. (g)	Vol. (ml)	Net Wt. (g)
PROBE RINSE	3.6897	3.6887	25.4	0.0010
IMPINGERS	0.0000	0.0000	0.0	0.0000
Probe Rinse Blank (mg/ml)=	0.0000			
Impinger Blank (mg/ml)=	0.0000			

Particulate Matter Concentration Results Converted To Other Units

Standard Temperature = 68 °F

Standard Pressure = 29.92 in. Hg

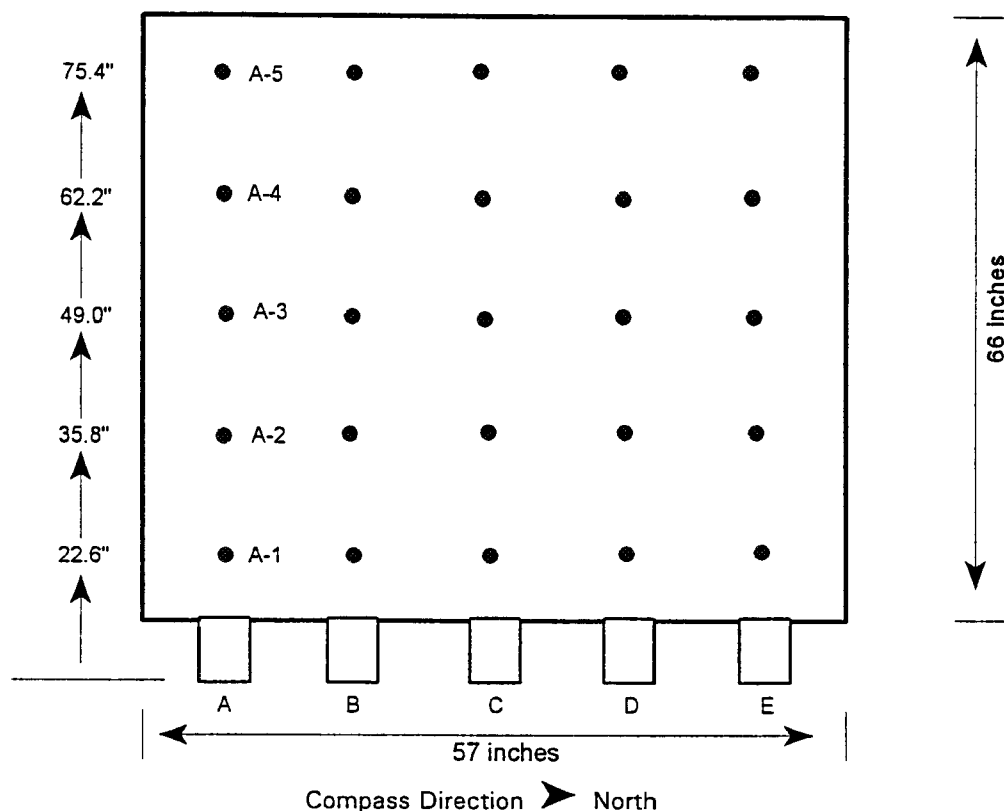
RCA#2

Run Number- Train Number	PM collected, grams	PM collected, mg	Sample Volume, dscf	Sample Volume, dscm	Average Gas Temp., °F	Barometric Pressure, in. Hg	Static Pressure, in. w.c.	Gas Pressure, in. Hg	Gas Moisture, percent	PM Loading, mg/acm	PM Loading, mg/dry m³ @ std. temp.*	PM Loading, mg/dscm	RSD, percent
30-A	0.0409	40.9	35.365	1.001	178	29.65	-25.90	27.75	11.1%	27.85	40.46	40.84	10.7%
30-B	0.0335	33.5	35.886	1.016	180	29.65	-25.90	27.75	11.0%	22.44	32.66	32.97	
31-A	0.0293	29.3	27.394	0.776	177	29.60	-26.00	27.69	12.2%	25.43	37.35	37.77	22.9%
31-B	0.0188	18.8	28.037	0.794	180	29.60	-26.00	27.69	11.0%	16.08	23.42	23.68	
32-A	0.0208	20.8	26.412	0.748	177	29.97	-27.12	27.98	11.3%	19.11	27.85	27.81	22.8%
32-B	0.0142	14.2	28.660	0.812	180	29.97	-27.12	27.98	11.9%	11.89	17.52	17.50	
33-A	0.0279	27.9	34.856	0.987	178	30.00	-26.85	28.03	12.3%	19.21	28.33	28.27	4.2%
33-B	0.0260	26.0	35.334	1.001	180	30.00	-26.85	28.03	11.6%	17.74	26.04	25.99	
34-A	0.0116	11.6	26.738	0.757	179	29.96	-27.39	27.95	13.0%	10.28	15.34	15.32	4.4%
34-B	0.0137	13.7	28.895	0.818	182	29.96	-27.39	27.95	12.5%	11.25	16.76	16.74	
35-A	0.0144	14.4	25.758	0.729	179	30.18	-25.00	28.34	12.0%	13.59	19.91	19.74	27.6%
35-B	0.0088	8.8	27.751	0.786	181	30.18	-25.00	28.34	11.4%	7.74	11.29	11.20	
36-A	0.0271	27.1	24.832	0.703	179	30.19	-25.91	28.28	11.6%	26.60	38.87	38.54	26.2%
36-B	0.0171	17.1	26.769	0.758	182	30.19	-25.91	28.28	12.5%	15.34	22.75	22.56	
37-A	0.0512	51.2	22.534	0.638	177	30.20	-17.09	28.94	10.5%	57.56	80.96	80.24	22.2%
37-B	0.0333	33.3	23.021	0.652	179	30.20	-17.09	28.94	9.8%	36.82	51.54	51.08	
38-A	0.0331	33.1	22.620	0.641	177	30.20	-17.08	28.94	11.4%	36.70	52.14	51.68	21.3%
38-B	0.0222	22.2	23.379	0.662	180	30.20	-17.08	28.94	10.1%	24.05	33.83	33.53	
39-A	0.0311	31.1	22.196	0.629	177	30.20	-16.15	29.01	10.4%	35.62	49.92	49.48	18.4%
39-B	0.0228	22.8	23.595	0.668	179	30.20	-16.15	29.01	10.3%	24.52	34.43	34.12	
40-A	0.0107	10.7	21.591	0.611	179	30.08	-17.10	28.82	12.4%	12.20	17.59	17.50	8.8%
40-B	0.0089	8.9	21.430	0.607	181	30.08	-17.10	28.82	12.4%	10.19	14.74	14.67	
41-A	0.0223	22.3	22.684	0.642	180	30.07	-18.10	28.74	12.4%	24.09	34.88	34.72	27.0%
41-B	0.0136	13.6	24.054	0.681	182	30.07	-18.10	28.74	12.4%	13.81	20.06	19.97	
42-A	0.0346	34.6	22.059	0.625	181	29.98	-18.07	28.65	12.4%	38.26	55.48	55.39	25.7%
42-B	0.0210	21.0	22.643	0.641	184	29.98	-18.07	28.65	11.2%	22.83	32.80	32.75	

* Unit condition at atmospheric pressure at CEMS location.

**40 CFR 60, APPENDIX A, METHOD 1 -
LOCATION OF TRAVERSE POINTS IN A RECTANGULAR DUCT**

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct
 Date: 11/15/99
 For Run Numbers: All



Flow is away from observer and is downward

Inside of far wall to outside of port (Distance A):	82.0 inches
Inside of near wall to outside of port (Distance B):	16.0 inches
Traverse distance (A - B):	66.0 inches
Internal duct dimension normal to traverses:	57.0 inches
Equivalent diameter:	61.17 inches
Cross-sectional area of duct:	26.125 square feet
Number of test ports:	5
Distance between port centers:	11.4 inches
Distance of nearest flow disturbance upstream from ports:	82 inches
Distance of nearest flow disturbance downstream from ports:	128 inches
Number of test points per traverse (i.e., per port):	5
Distance between test points on a traverse:	13.2 inches
Dimensions obtained by/from: direct measurements and blueprints	

Data recorded by: D. Griffin

COMMENTS:

METHOD 5 METERING CONSOLE QUALITY CONTROL CHECK

MRI Project No. 104703.1.002.05. Date: 11/16/99
 Metering Console No. N-12 Operator: C. Clapsaddle
 Dry Gas Meter Factor (Y): 0.996
 Orifice Meter Delta-H @, in. w.c. 1.810
 Barometric Pressure, in. Hg 30.00

Time, seconds	Dry Gas Meter Volume, ft. ³	Orifice Meter Delta-H, in. w.c.	Dry Gas Meter Inlet Temperature, °F	Dry Gas Meter Outlet Temperature, °F	Dry Gas Meter Factor (Yc)
------------------	---	--	--	---	------------------------------------

Run 1					
Final	600	299.606	1.81	59	52
Initial	0	292.193	1.81	54	52
	600	7.413	1.81	514 °R	
					0.997
Run 2					
Final	600	307.064	1.81	62	53
Initial	0	299.606	1.81	58	53
	600	7.458	1.81	516 °R	
					0.993
Run 3					
Final					
Initial					
				°R	
					Average Yc: 0.995
Acceptability Criterion: $0.97Y < Yc < 1.03Y$					
QC Check Result: Metering Console Is Acceptable					

Alternative Method 5 Post-Test Calibration

MRI Project No. 104703.1.002.05.01
 Sampling Location: Unit 2A Baghouse Outlet
 Run No. 30-Trn A Run Date: 11/16/99

Console No. N-12

data line	Orifice delta H	sqrt delta H	DGM temperature (tm)	
			inlet, °F	outlet, °F
1	0.72	0.84853	51	51
2	0.69	0.83066	52	52
3	0.53	0.72801	53	53
4	0.20	0.44721	53	52
5	0.01	0.10000	54	53
6	0.78	0.88318	53	53
7	0.75	0.86603	54	53
8	0.66	0.81240	55	54
9	0.24	0.48990	57	54
10	0.03	0.17321	57	54
11	0.79	0.88882	55	54
12	0.79	0.88882	57	55
13	0.76	0.87178	58	55
14	0.47	0.68557	59	55
15	0.07	0.26458	59	56
16	0.76	0.87178	58	56
17	0.72	0.84853	58	56
18	0.69	0.83066	60	57
19	0.38	0.61644	60	57
20	0.05	0.22361	60	57
21	0.73	0.85440	59	58
22	0.67	0.81854	61	58
23	0.57	0.75498	61	58
24	0.21	0.45826	62	58
25	0.03	0.17321	61	58
26				
27				
28				
29				
30				
31				
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48				

DGM delta H@: 1.81 in. w.c.

Orifice delta H (average):
0.49200 in. w.c.

sqrt delta H (average):
0.64916

DGM temperature (average):
515.75 °R

Barometric pressure:
29.65 in. Hg

Dry gas molecular weight (Md):
30.58 lb/lb-mole

Total sampling time:
100 minutes

Sample volume (uncorrected)
as read on DGM:
34.993 dcf

DGM correction factor (Y):
0.996

Yqa 0.9990

Difference 0.30%

Result: **PASS**

METHOD 5 METERING CONSOLE QUALITY CONTROL CHECK

MRI Project No. 104703.1.002.05. Date: 11/16/99
 Metering Console No. N-11 Operator: C. Clapsaddle
 Dry Gas Meter Factor (Y): 1.010
 Orifice Meter Delta-H @, in. w.c. 1.898
 Barometric Pressure, in. Hg 30.00

Time, seconds	Dry Gas Meter Volume, ft. ³	Orifice Meter Delta-H, in. w.c.	Dry Gas Meter Inlet Temperature, °F	Dry Gas Meter Outlet Temperature, °F	Dry Gas Meter Factor (Yc)
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Run 1

Final	600	932.994	1.90	64	60	0.982
Initial	0	925.421	1.90	60	58	
	600	7.573	1.90	520 °R		

Run 2

Final	600	940.462	1.90	65	60	0.997
Initial	0	932.994	1.90	63	60	
	600	7.468	1.90	522 °R		

Run 3

Final Initial					
				°R	

Average Yc: 0.990

Acceptability Criterion: $0.97Y < Yc < 1.03Y$
 QC Check Result: **Metering Console Is Acceptable**

Alternative Method 5 Post-Test Calibration

MRI Project No. 104703 1.002.05.01
 Sampling Location: Unit 2A Baghouse Outlet
 Run No. 30-Trn B Run Date: 11/16/99

Console No. N-11

data line	Orifice delta H	sqrt delta H	DGM temperature (tm)	
			inlet, °F	outlet, °F
1	0.85	0.92195	54	53
2	0.81	0.90000	54	54
3	0.68	0.82462	55	54
4	0.35	0.59161	55	55
5	0.05	0.22361	55	55
6	0.78	0.88318	55	55
7	0.65	0.80623	55	55
8	0.58	0.76158	56	55
9	0.23	0.47958	57	56
10	0.03	0.17321	57	56
11	0.75	0.86603	57	56
12	0.68	0.82462	58	57
13	0.58	0.76158	57	56
14	0.22	0.46904	58	57
15	0.03	0.17321	58	57
16	0.75	0.86603	58	57
17	0.71	0.84261	58	57
18	0.68	0.82462	59	58
19	0.30	0.54772	59	58
20	0.04	0.20000	60	58
21	0.88	0.93808	59	59
22	0.85	0.92195	59	59
23	0.75	0.86603	61	60
24	0.55	0.74162	62	60
25	0.04	0.20000	62	60
26				
27				
28				
29				
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48				

DGM delta H@: 1.898 in. w.c.

Orifice delta H (average):
0.51280 in. w.c.

sqrt delta H (average):
0.66435

DGM temperature (average):
516.77 °R

Barometric pressure:
29.65 in. Hg

Dry gas molecular weight (Md):
30.58 lb/lb-mole

Total sampling time:
100 minutes

Sample volume (uncorrected)
as read on DGM:
35.084 dcf

DGM correction factor (Y):
1.010

Yqa 0.9967

Difference -1.31%

Result: **PASS**

**ON SITE MERCURY BAROMETER READING CORRECTION
AND ANEROID BAROMETER CALIBRATION CHECK AT TEST LOCATION**

Mercury Barometer Description: Princo Model 453, S/N W13559
Mercury Barometer Location: Plant Control Room

Distance Of Barometer From Test Site: 0.00 miles
Altitude Of Barometer Above Sea Level: 124.0 feet
Latitude (north): 36 degrees, 0.00 minutes

Facility: Cogentrix of Rocky Mount, North Carolina

Test Site And Sampling Location: Unit 2A Baghouse Outlet Duct

MRI Project No. 104703.1.002.05.01
Date: 11/21/99
Time: 0958

Readings Obtained By: J. Surman



Observed Barometer Reading: 30.20 in. Hg

Mercury Column Temperature: 74 °F

Correction For Temperature: -0.12 in. Hg

Reading Corrected For Temperature: 30.08 in. Hg

Correction For Gravity: -0.03 in. Hg

Temperature Corrected Reading Corrected For Gravity: 30.05 in. Hg

Aneroid Barometer I.D. No.: Y-2101

Reading Before Adjustment: 30.03 in. Hg

Calibration Check Result: within 0.1 in. Hg

Reading After Adjustment: _____ in. Hg

Remarks:

BAROMETR.WK4 10/19/98 (rev. BARO4703.WK4 11/23/99 08:37 AM)

RCA #2 Appendix C

M17 Field Sampling Data Sheets

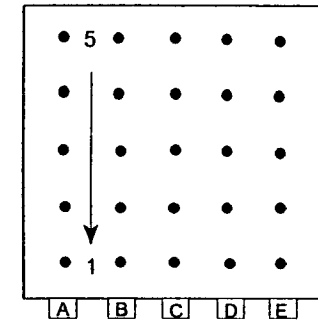
FIELD SAMPLING DATA FOR METHOD 17 TRAINS

page 1 of 2

Run No. 30 Date 11-16-99
 Project No. 104703.1.002.05.01
 Client U.S. EPA OAQPS EMAD EMC
 Source Cogentrix Unit 2A
 Sampling Location Baghouse Outlet
 Operator Bill
 Record data every 4 minutes
 Barometer No. Y-2021
 Barometric Pressure 29.68 in Hg
 Elevation to Meter Boxes 34 ft
 Meter Box P_{bar} 29.67 in Hg
 Elevation to Sampling Loc. 34 ft
 Sampling Location P_{bar} 29.65 in Hg
 Static Pressure 29.9 in H₂O

Train A No. M17-A
 Probe No. A Length: 10 ft
 Nozzle No. M17-9 Tip Dia. 0.146 in
 Pitot Tube No. A C_p 0.84
 Stack Thermocouple No. 3158A
 Filter Holder No. 1
 Filter Assembly No. F-1
 Impinger Box No. A-1
 Umbilical/Impinger Hookup UH-30
 Umbilical No. N50-4
 Meter Box No. N-10
 DGM Correction (Y) +0.07
 Orifice Meter ΔH@ 341.828

Train B No. M17-B
 Probe No. B Length: 10 ft
 Nozzle No. M17-10 Tip Dia. 0.146 in
 Pitot Tube No. B C_p 0.84
 Stack Thermocouple No. 3158B
 Filter Holder No. 2
 Filter Assembly No. F-2
 Impinger Box No. B-1
 Umbilical/Impinger Hookup UH-32
 Umbilical No. N50-1
 Meter Box No. N-11
 DGM Correction (Y) 1.010
 Orifice Meter ΔH@ 1.898



Traverse Point Layout
Compass Direction > North

Assumed Moisture 10 % Assumed %CO₂ 15 % O₂ 5 Nozzles are quartz-glass.

	Train A Pitot Tube Pressure Measurement System Leak Checks										Train B Pitot Tube Pressure Measurement System Leak Checks									
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	1048	1411									1052	1415								
Pass or Fail		pass										pass								

Train A Sampling System Leak Checks											
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	
Time (24 Hr)	1049	1413									
Vacuum, in Hg	15	9									
Leak Rate, cfm	.006	.004									
Final Meter Volume											
Initial Meter Volume											
Leak Check Volume											

Train B Sampling System Leak Checks											
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	
Time (24 Hr)	1054	1417									
Vacuum, in Hg	15	10									
Leak Rate, cfm	.001	.005									
Final Meter Volume							59.009				
Initial Meter Volume					38.517		23.925				
Leak Check Volume					3.524		35.084				

Remarks and Notes: List any other equipment requiring calibration below. 34.993

	TRAIN A	TRAIN B
Meter Volume at Start of Run	<u>203.524</u>	<u>823.925</u>
Meter Volume at End of Run	<u>238.517</u>	<u>859.009</u>
Total Leak Check or Non-Sample Volume		
Adjusted Final Volume	<u>34.993</u>	<u>35.084</u>

PS
11/18/99

Run No. 30
Date 11-16-99

Sampling Location Unit 2A Baghouse Outlet Duct
Project No. 104703.1.002.05.01

Operator Graff page 2 of 2

Sampling Data for Method 17 Train A No. M17-A

Initial Time	Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³		Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O		Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F		Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F
				Initial <u>209.524</u>	Desired		Desired	Actual		Inlet	Outlet		
	C-5	4	1219	205.75	205.41	2.3	0.72	0.72	174	51	51	8	46
	C-4	8	1223	207.13	207.23	2.2	0.69	0.69	177	52	52	7	42
	C-3	12	1227	208.70	208.85	1.7	0.53	0.53	177	53	53	7	42
1239	C-2	16	1231	209.67	209.77	0.65	0.20	0.20	177	53	52	6	42
	C-1	20	1235	209.94	209.93	0.05	0.01	0.01	175	54	53	4	44
	D-5	24	1243	211.83	211.50	2.5	0.78	0.78	178	53	53	8	48
	D-4	28	1247	213.70	213.40	2.4	0.75	0.75	178	54	53	8	42
	D-3	32	1251	215.45	215.20	2.1	0.66	0.66	178	55	54	8	41
	D-2	36	1255	216.51	216.30	0.77	0.24	0.24	176	57	54	7	42
1301	D-1	40	1259	216.89	216.79	0.10	0.03	0.03	175	57	54	5	44
	E-5	44	1305	218.80	218.63	2.5	0.79	0.79	178	55	54	8	47
	E-4	48	1309	220.71	220.42	2.5	0.79	0.79	179	57	55	8	43
	E-3	52	1313	222.59	222.29	2.4	0.76	0.76	179	58	55	8	41
	E-2	56	1317	224.07	223.88	1.5	0.47	0.47	180	59	55	8	42
	E-1	60	1321	224.65	224.65	0.23	0.07	0.07	180	59	56	6	43
1323	A-5	64	1327	226.53	226.55	2.4	0.76	0.76	180	58	56	8	46
	A-4	68	1331	228.36	228.39	2.3	0.72	0.72	180	58	56	8	42
	A-3	72	1335	230.17	230.13	2.2	0.69	0.69	180	60	57	8	42
	A-2	76	1339	231.50	231.50	1.2	0.38	0.38	179	60	57	7	42
	A-1	80	1343	232.00	231.97	0.17	0.05	0.05	178	60	57	5	44
1345	B-5	84	1347	233.84	233.84	2.9	0.73	0.73	180	59	58	9	46
	B-4	88	1353	235.61	235.61	2.1	0.67	0.67	178	61	58	9	42
	B-3	92	1357	237.24	237.16	1.8	0.57	0.57	177	61	58	8	43
	B-2	96	1401	238.25	238.20	0.68	0.21	0.21	178	62	58	7	43
	B-1	100	1405	238.670	238.517	0.12	0.03	0.03	178	61	58	5	45

Initial Time	Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³		Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O		Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F		Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F
				Initial <u>825.925</u>	Desired		Desired	Actual		Inlet	Outlet		
	A-5	4	1221	825.84	825.78	2.6	0.85	0.85	177	54	53	9	48
	4	8	1225	827.72	827.89	2.5	0.81	0.81	179	54	54	8	43
	3	12	1229	829.44	829.62	2.1	0.68	0.68	180	55	54	8	43
	2	16	1233	830.69	830.84	1.1	0.35	0.35	179	55	55	7	43
	1	20	1237	831.17	831.24	0.16	0.05	0.05	178	55	55	6	44
1241	B-5	24	1245	833.01	833.07	2.4	0.78	0.78	178	55	55	8	45
	4	28	1249	834.69	834.78	2.0	0.65	0.65	181	55	55	8	43
	3	32	1253	836.29	836.30	1.8	0.58	0.58	179	56	55	8	43
	2	36	1257	837.31	837.10	0.73	0.23	0.23	178	57	56	7	44
	1	40	1301	837.73	837.73	0.12	0.03	0.03	178	57	56	6	47
1303	C-5	44	1307	839.54	839.33	2.3	0.75	0.75	179	57	56	8	46
	4	48	1311	841.27	841.08	2.1	0.68	0.68	182	58	57	8	44
	3	52	1315	842.86	842.80	1.8	0.58	0.58	182	57	56	8	44
	2	56	1319	843.85	843.86	0.68	0.22	0.22	182	58	57	7	45
	1	60	1323	844.22	844.27	0.10	0.03	0.03	182	58	57	6	46
1325	D-5	64	1329	846.03	846.15	2.3	0.75	0.75	182	58	57	9	47
	4	68	1333	847.80	847.88	2.2	0.71	0.71	182	58	57	9	44
	3	72	1337	849.54	849.55	2.1	0.68	0.68	182	59	58	9	44
	2	76	1341	850.69	850.75	0.93	0.30	0.30	181	59	58	8	44
	1	80	1345	851.12	851.17	0.13	0.04	0.04	180	60	58	6	45
1347	E-5	84	1351	853.09	853.09	2.7	0.88	0.88	182	59	59	10	47
	4	88	1355	855.02	855.04	2.6	0.85	0.85	180	59	59	10	44
	3	92	1359	856.84	856.95	2.3	0.75	0.75	181	61	60	10	44
	2	96	1403	858.41	858.52	1.7	0.55	0.55	182	62	60	9	44
	1	100	1407	858.876	858.009	0.15	0.04	0.04	181	62	60	6	46

Remarks and Notes:

Total Pressure @ Pt. C-3 = 24.6"

PS
11/18/99

**40 CFR 60, APPENDIX A, METHOD 3B
INTEGRATED GAS SAMPLING DATA**

Run No. 30 Date 11-16-99 Client/Source U.S. EPA / Cogentrix Unit 2A
 Project No. 104703.1.002.05.01 Sampling Location Unit 2A Baghouse Outlet
 Sample Type (Multi-Point, ~~Single-Point~~) Operator Gordon
 Flow Control Device (Valve, ~~Critical Orifice~~) Bag Type Tedlar Sample No. NA
 Method 5 Meter Box No. N-12 Method 3B Train No. NA
 M3B Pump Type diaphragm M3B Flow Meter Type rotameter
 M3B Pump No. N-12 M3B Flow Meter No. 6800
 Desired Sampling Rate 200 cc/min
 Leak Check Before Sampling 0 After Sampling 0
 Total Sampling Time 95 min Average Flow Meter Reading 2.0
 Flow Rate, cc/min: Average 200 Highest 200 Lowest 200
 Estimated Total Sample Volume 28 liters

Time (24-Hr)	Flow Meter Reading	Start Purge	Start Sampling	Stop Sampling	Sampling	Remarks and Notes
1215	2.0	✓				
1216	2.0		✓			
1226	2.0				✓	
1235	2.0			✓		Port Change
1239	2.0	✓				
1240	2.0		✓			
1250	2.0				✓	
1259	2.0			✓		Port Change
1301	2.0	✓				
1302	2.0		✓			
1312	2.0				✓	
1321	2.0			✓		Port Change
1323	2.0	✓				
1324	2.0		✓			
1334	2.0				✓	
1343	2.0			✓		Port Change
1345	2.0	✓				
1346	2.0		✓			
1356	2.0				✓	
1405	2.0			✓		End of Run

M3BSAMP.WPD June 18, 1998

RB 11/18/99

40 CFR 60, APPENDIX A, METHOD 3B, GAS ANALYSIS BY ORSAT

Run No. 30 Date 11/16/99 Orsat Leak Check Before Analysis:
 Project No. 104703.1.002.05.01 Sample No. NA Burette NO Change in 4 Minutes
 Sampling Location Unit 2A Baghouse Outlet Duct Pipettes NO Change in 4 Minutes
 Analysis Start Time 1415 Orsat Leak Check After Analysis:
 Sample Type (Bag, Grab) Bag Burette NO Change in 4 Minutes
 Analyst J. Surman Pipettes NO Change in 4 Minutes

Analysis	1		2		3		Average Net Value (% v/v)
Gas	Actual Reading	Net Value	Actual Reading	Net Value	Actual Reading	Net Value	
CO ₂	1 <u>15.1</u> 2 <u>15.1</u> 3	<u>15.1</u>	1 <u>15.1</u> 2 <u>15.1</u> 3	<u>15.1</u>	1 <u>15.0</u> 2 <u>15.0</u> 3	<u>15.0</u>	<u>15.1</u>
O ₂ (Net is actual reading minus actual CO ₂ reading)	1 <u>19.3</u> 2 <u>19.3</u> 3	<u>4.2</u>	1 <u>19.3</u> 2 <u>19.3</u> 3	<u>4.2</u>	1 <u>19.2</u> 2 <u>19.2</u> 3	<u>4.2</u>	<u>4.2</u>

Acceptance Criteria per Method 3B

CO₂ > 4% 0.3% v/v O₂ ≥ 15% 0.2% v/v
 ≤ 4% 0.2% v/v < 15% 0.3% v/v

Remarks and Notes:

JS
11/18/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY TRAIN SET-UP DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01

Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A

Source Location: Rocky Mount, North Carolina

Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 30 Sampling Train A No. M17-A Impinger Box A No. A-1

Sampling Train B No. M17-B Impinger Box B No. B-1

Set-up person(s): J. Surman Date: 11/15/99

Transfer to Sampler:

Relinquished By J. Surman Received By D. Griffin Date/Time 11/16/99 0810

TRAIN COMPONENT	REAGENT	LOADING DATA	
		TRAIN A	TRAIN B
Sampling Nozzle (Quartz)*	Nozzle I.D. No.	<u>M17-9</u>	<u>M17-10</u>
Filter Assembly and Holder*	Filter Assembly No.	<u>1</u>	<u>2</u>
Filter Type: Whatman QM-A	Filter Holder No.	<u>1</u>	<u>2</u>
Probe (316 SS)			
Sample Transfer/Vacuum Line			
Male 1st Impinger Inlet Blank-Off			
		Initial Weights (grams)	
1st Impinger (Mod-GBS)	100-200 mLs ASTM Type I Water	<u>682.9</u>	<u>684.5</u>
U-Connector (A)		<u>6438</u>	<u>674.7</u>
2nd Impinger (GBS)	100-200 mLs ASTM Type I Water	<u>497.1</u>	<u>464.1</u>
U-Connector (B)			
3rd Impinger (Mod-GBS)	Empty	<u>706.3</u>	<u>708.4</u>
U-Connector (C)			
4th Impinger (Mod-GBS)	~200 g indicating silica gel	<u>716.7</u>	<u>683.8</u>
U-Connector (D)			
5th Impinger (Mod-GBS)	~200 g indicating silica gel		
Impinger Outlet Connector	Connector I.D. No.	<u>UH-30</u>	<u>UH-32</u>

* Before and after sampling: Nozzle inlet opening and filter assembly holder outlet opening covered with Teflon® tape, and entire filter assembly holder with filter assembly and nozzle wrapped in aluminum foil and placed in Ziploc® bag. 1st impinger inlet sealed with glass blank-off.

Comments:

593.6

PB
11/18/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY SAMPLE RECOVERY DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 30 Sampling Train A No. M17-A Impinger Box A No. A-1
Sampling Train B No. M17-B Impinger Box B No. B-1

Transfer for Recovery:

Relinquished By D. Griffin Received By J. Surman Date/Time 11/16/99 1430
Sample recovery person(s): J. Surman Date: 11/16/99

Weights below are in grams.

BACK HALF RECOVERIES

	TRAIN A				TRAIN B			
Impinger:	1st	2nd	3rd	4th & 5th	1st	2nd	3rd	4th & 5th
Final Wt.	<u>764.4</u>	<u>644.0</u>	<u>496.9</u>	<u>716.0 + 719.2</u>	<u>766.4</u>	<u>675.3</u>	<u>465.2</u>	<u>717.3 + 685.8</u>
Initial Wt.	<u>1168.8</u>	<u>1165.5</u>	<u>1147.7</u>	<u>1423.0</u>	<u>684.5</u>	<u>674.7</u>	<u>464.1</u>	<u>1392.2</u>
Net Wt.	<u>682.9</u>	<u>643.8</u>	<u>497.1</u>	<u>121.2</u>	<u>81.9</u>	<u>0.6</u>	<u>1.1</u>	<u>10.9</u>
Total Condensate Collected:				<u>93.7</u>				<u>94.5</u>
Description and/or color:	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>50% + 95%</u>	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>50% + 95%</u>
				% Blue				% Blue

FRONT HALF RECOVERIES

	TRAIN A	TRAIN B
FILTER ASSEMBLY:		
Sample Number:	<u>30 102</u>	<u>30 104</u>
PM Description/color:	<u>black</u>	<u>black</u>
TRAIN RINSES:		
Sample Number:	<u>30101</u>	<u>30103</u>
Components Rinsed*: nozzle, filter holder front		

* Acetone rinses with brushing 3 times or more until perceivably clean.

COMMENTS: Acetone rinses are transferred directly to tared Teflon® beaker liners for analysis.

JS
11/18/99

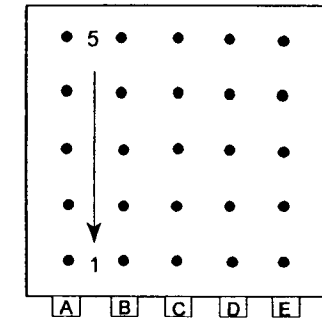
FIELD SAMPLING DATA FOR METHOD 17 TRAINS

page 1 of 2

Run No. 31 Date 11-16-99
 Project No. 104703.1.002.05.01
 Client U.S. EPA OAQPS EMAD EMC
 Source Cogentrix Unit 2A
 Sampling Location Baghouse Outlet
 Operator Griffin
 Record data every A-3 B-5 minutes
 Barometer No. Y-2021
 Barometric Pressure 29.63 in Hg
 Elevation to Meter Boxes 34 ft
 Meter Box P_{bar} 29.60 in Hg
 Elevation to Sampling Loc. 34 ft
 Sampling Location P_{bar} 29.60 in Hg
 Static Pressure 1825 -26.0 in H₂O

Train A No. M17-A
 Probe No. A Length: 10 ft
 Nozzle No. M17-14 Tip Dia. 0.146 in
 Pitot Tube No. A C_p 0.84
 Stack Thermocouple No. 3158A
 Filter Holder No. 3
 Filter Assembly No. F-3
 Impinger Box No. A-2
 Umbilical/Impinger Hookup UH-4 1
 Umbilical No. N50-4
 Meter Box No. N12
 DGM Correction (Y) 0.996
 Orifice Meter ΔH@ 1.810

Train B No. M17-B
 Probe No. B Length: 10 ft
 Nozzle No. M17-15 Tip Dia. 0.146 in
 Pitot Tube No. B C_p 0.84
 Stack Thermocouple No. 3158B
 Filter Holder No. 4
 Filter Assembly No. F-4
 Impinger Box No. B-2
 Umbilical/Impinger Hookup UH-2
 Umbilical No. N50-1
 Meter Box No. N-11
 DGM Correction (Y) 1.010
 Orifice Meter ΔH@ 1.898



Traverse Point Layout
 Compass Direction > North

Assumed Moisture 10 % Assumed %CO₂ 15 % O₂ 5 Nozzles are quartz-glass.

	Train A Pitot Tube Pressure Measurement System Leak Checks										Train B Pitot Tube Pressure Measurement System Leak Checks									
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	1457	1648									1459	1652								
Pass or Fail		pass																		

Train A Sampling System Leak Checks											
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	
Time (24 Hr)	1500	1650									
Vacuum, in Hg	15	8									
Leak Rate, cfm	.003	.002									
Final Meter Volume											
Initial Meter Volume											
Leak Check Volume											

Train B Sampling System Leak Checks											
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	
Time (24 Hr)	1502	1654									
Vacuum, in Hg	15	7									
Leak Rate, cfm	.004	.004									
Final Meter Volume						246.079			886.812		
Initial Meter Volume						238.859			859.315		
Leak Check Volume						27.220			27.497		

Remarks and Notes: List any other equipment requiring calibration below.

RB
11/18/99

	TRAIN A	TRAIN B
Meter Volume at Start of Run	<u>238.859</u>	<u>859.315</u>
Meter Volume at End of Run	<u>266.079</u>	<u>886.812</u>
Total Leak Check or Non-Sample Volume		
Adjusted Final Volume	<u>27.220</u>	<u>27.497</u>

Run No. 31
Date 11-16-99

Sampling Location Unit 2A Baghouse Outlet Duct
Project No. 104703.1.002.05.01

Operator Gri. lfm page 2 of 2

Sampling Data for Method 17 Train A No. M17-A

Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³		Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O		Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F		Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F
			Initial	Desired		Desired	Actual		Inlet	Outlet		
	0	1520	238.859									
A-5	3	1523	246.29	246.26	2.5	0.79	0.79	178	55	55	7	44
	4	1526	241.70	241.67	2.4	0.75	0.75	179	56	55	7	42
	9	1529	243.01	243.07	2.1	0.66	0.66	178	57	55	7	41
	12	1532	244.20	244.40	1.7	0.54	0.54	177	58	56	6	40
	15	1535	244.63	244.73	0.22	0.06	0.06	177	57	56	4	40
B-5	18	1540	246.07	246.02	2.5	0.79	0.79	178	57	56	7	42
	21	1543	247.40	247.35	2.1	0.64	0.66	178	58	56	7	42
	24	1546	248.71	248.63	2.1	0.66	0.66	177	58	56	7	40
	27	1549	249.54	249.46	0.84	0.26	0.26	177	58	56	6	39
	30	1552	249.81	249.76	0.09	0.02	0.02	178	58	57	4	41
C-5	33	1557	251.19	251.07	2.3	0.73	0.73	178	57	56	7	46
	36	1600	252.45	252.36	1.9	0.60	0.60	177	58	57	7	39
	39	1603	253.74	253.63	2.0	0.63	0.63	178	59	57	7	40
	42	1606	254.48	254.37	0.65	0.20	0.20	176	60	57	6	40
	45	1609	254.66	254.67	0.04	0.01	0.01	177	60	57	4	45
D-5	48	1616	256.07	256.10	2.4	0.76	0.76	177	58	57	7	41
	51	1619	257.39	257.39	2.1	0.66	0.66	177	58	57	7	40
	54	1622	258.75	258.70	2.2	0.70	0.70	178	59	57	7	39
	57	1625	259.66	259.60	1.0	0.31	0.31	179	59	57	6	39
	60	1628	260.05	259.87	0.19	0.06	0.06	178	59	57	4	44
E-5	63	1633	261.50	261.18	2.5	0.79	0.79	177	58	57	7	41
	66	1636	262.97	262.61	2.6	0.82	0.82	177	58	57	8	39
	69	1639	264.38	264.12	2.4	0.76	0.76	177	59	58	8	39
	72	1642	265.61	265.40	1.8	0.57	0.57	177	61	58	7	40
	75	1645	266.163	266.079	0.36	0.11	0.11	169	61	58	6	42

Sampling Data for Method 17 Train B No. M17-B

F 2.5	5	1526	861.14	861.22	1.5	0.49	0.49	180	56	56	7	47
	10	1531	863.03	863.03	1.6	0.52	0.52	180	57	57	7	43
	15	1536	864.92	864.95	1.6	0.52	0.52	180	57	57	7	43
	20	1543	866.75	866.75	1.5	0.49	0.49	180	58	58	7	41
	25	1548	868.39	868.70	1.2	0.39	0.39	179	58	57	7	41
	30	1553	870.22	870.53	1.5	0.49	0.49	181	58	58	7	42
	35	1600	872.11	872.42	1.6	0.52	0.52	181	58	58	7	44
	40	1605	873.82	874.11	1.3	0.42	0.42	180	58	58	7	41
	45	1610	875.53	875.79	1.3	0.42	0.42	179	59	58	7	42
	50	1619	877.43	877.67	1.6	0.52	0.52	180	59	59	7	45
	55	1624	879.32	879.49	1.6	0.52	0.52	179	58	58	7	43
	60	1629	881.03	881.11	1.3	0.42	0.42	179	58	58	7	42
	65	1636	882.98	883.02	1.7	0.55	0.55	181	58	58	7	46
	70	1641	884.87	884.90	1.6	0.52	0.52	179	58	58	7	42
	75	1646	886.770	886.812	1.6	0.52	0.52	179	59	58	7	42

Remarks and Notes:

Total Pressure "B" Train - 24.8 AP=1.7

PS
11/18/99

Run No. 31 Date 11-16-99 Client/Source U.S. EPA / Cogentrix Unit 2A
Project No. 104703.1.002.05.01 Sampling Location Unit 2A Baghouse Outlet
Sample Type (Multi-Point, ~~Single-Point~~) Operator Grylls
Flow Control Device (Valve, ~~Critical Orifice~~) Bag Type Tedlar Sample No. NA
Method 5 Meter Box No. N/A Method 3B Train No. NA
M3B Pump Type diaphragm M3B Flow Meter Type rotameter
M3B Pump No. N/A M3B Flow Meter No. 6800
Desired Sampling Rate 400 cc/min
Leak Check Before Sampling 0 After Sampling 0
Total Sampling Time 70 min Average Flow Meter Reading 3.0
Flow Rate, cc/min: Average 3.0 Highest 4.0 Lowest 2.0
Estimated Total Sample Volume 20 liters

[illegible]

RB
11/18/99

40 CFR 60, APPENDIX A, METHOD 3B, GAS ANALYSIS BY ORSAT

Run No. 31 Date 11/16/99
 Project No. 104703.1.002.05.01 Sample No. NA
 Sampling Location Unit 2A Baghouse Outlet Duct
 Analysis Start Time 1700
 Sample Type (Bag, Grab) Bag
 Analyst J. Surman

Orsat Leak Check Before Analysis:
 Burette No Change in 4 Minutes
 Pipettes No Change in 4 Minutes
 Orsat Leak Check After Analysis:
 Burette No Change in 4 Minutes
 Pipettes No Change in 4 Minutes

Analysis	1		2		3		Average Net Value (% v/v)
Gas	Actual Reading	Net Value	Actual Reading	Net Value	Actual Reading	Net Value	
CO ₂	1 <u>14.6</u> 2 <u>14.6</u> 3	<u>14.6</u>	1 <u>14.6</u> 2 <u>14.6</u> 3	<u>14.6</u>	1 <u>14.6</u> 2 <u>14.6</u> 3	<u>14.6</u>	<u>14.6</u>
O ₂ (Net is actual reading minus actual CO ₂ reading)	1 <u>19.1</u> 2 <u>19.1</u> 3	<u>4.5</u>	1 <u>19.1</u> 2 <u>19.1</u> 3	<u>4.5</u>	1 <u>19.1</u> 2 <u>19.1</u> 3	<u>4.5</u>	<u>4.5</u>

Acceptance Criteria per Method 3B

CO₂ > 4% 0.3% v/v O₂ ≥ 15% 0.2% v/v
 ≤ 4% 0.2% v/v < 15% 0.3% v/v

Remarks and Notes:

JS
11/18/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY TRAIN SET-UP DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01

Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A

Source Location: Rocky Mount, North Carolina

Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 31 Sampling Train A No. M17-A Impinger Box A No. A-2

Sampling Train B No. M17-B Impinger Box B No. B-2

Set-up person(s): J. Surman Date: 11/15/99

Transfer to Sampler:

Relinquished By J. Surman Received By D. Gritfin Date/Time 11/16/99 1445

TRAIN COMPONENT	REAGENT	LOADING DATA	
		TRAIN A	TRAIN B
Sampling Nozzle (Quartz)*	Nozzle I.D. No.	<u>M17-14</u>	<u>M17-15</u>
Filter Assembly and Holder*	Filter Assembly No.	<u>3</u>	<u>4</u>
Filter Type: Whatman QM-A	Filter Holder No.	<u>3</u>	<u>4</u>
Probe (316 SS)			
Sample Transfer/Vacuum Line			
Male 1st Impinger Inlet Blank-Off			
	Initial Weights (grams)		
1st Impinger (Mod-GBS) 100-200 mLs ASTM Type I Water		<u>704.5</u>	<u>676.6</u>
U-Connector (A)		<u>674.4</u>	<u>730.3</u>
2nd Impinger (GBS) 100-200 mLs ASTM Type I Water		<u>542.3</u>	<u>467.0</u>
U-Connector (B)		<u>717.2</u>	<u>786.7</u>
3rd Impinger (Mod-GBS) Empty		<u>738.2</u>	<u>729.1</u>
U-Connector (C)			
4th Impinger (Mod-GBS) ~200 g indicating silica gel			
U-Connector (D)			
5th Impinger (Mod-GBS) ~200 g indicating silica gel			
Impinger Outlet Connector	Connector I.D. No.	<u>UH-1</u>	<u>UH-2</u>

* Before and after sampling: Nozzle inlet opening and filter assembly holder outlet opening covered with Teflon® tape, and entire filter assembly holder with filter assembly and nozzle wrapped in aluminum foil and placed in Ziploc® bag. 1st impinger inlet sealed with glass blank-off.

Comments:

JB
11/18/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY SAMPLE RECOVERY DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 31 Sampling Train A No. M17-A Impinger Box A No. A-2
Sampling Train B No. M-17-B Impinger Box B No. B-2

Transfer for Recovery:

Relinquished By D. Griffin Received By J. Surman Date/Time 11/16/99 1730
Sample recovery person(s): J. Surman Date: 11/16/99

Weights below are in grams.

BACK HALF RECOVERIES

	TRAIN A				TRAIN B			
Impinger:	1st	2nd	3rd	4th & 5th	1st	2nd	3rd	4th & 5th
Final Wt.	<u>748.2</u>	<u>702.7</u>	<u>542.6</u>	<u>723.7+740.5</u>	<u>743.0</u>	<u>730.4</u>	<u>467.0</u>	<u>7925+730.5</u>
Initial Wt.	<u>704.5</u>	<u>674.4</u>	<u>542.3</u>	<u>1455.4</u>	<u>676.6</u>	<u>730.3</u>	<u>467.0</u>	<u>1515.8</u>
Net Wt.	<u>43.7</u>	<u>28.3</u>	<u>0.3</u>	<u>8.8</u>	<u>66.4</u>	<u>0.1</u>	<u>0</u>	<u>7.2</u>
Total Condensate Collected:				<u>81.1</u>				<u>73.7</u>
Description and/or color:	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>60% to 100%</u>	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>60% to 100%</u>
				% Blue				% Blue

FRONT HALF RECOVERIES

	TRAIN A	TRAIN B
FILTER ASSEMBLY:		
Sample Number:	<u>31 102</u>	<u>31 104</u>
PM Description/color:	<u>black</u>	<u>black</u>
TRAIN RINSES:		
Sample Number:	<u>31 101</u>	<u>31 103</u>
Components Rinsed*: nozzle, filter holder front		

* Acetone rinses with brushing 3 times or more until perceivably clean.

COMMENTS: Acetone rinses are transferred directly to tared Teflon® beaker liners for analysis.

JS
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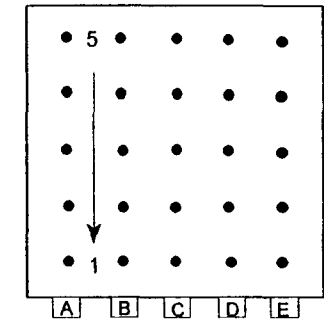
FIELD SAMPLING DATA FOR METHOD 17 TRAINS

page 1 of 2

Run No. 32 Date 11-17-99
 Project No. 104703.1.002.05.01
 Client U.S. EPA OAQPS EMAD EMC
 Source Cogentrix Unit 2A
 Sampling Location Baghouse Outlet
 Operator G. Griffin
 Record data every A-3 B-5 minutes
 Barometer No. Y-2021
 Barometric Pressure 30.00 in Hg
 Elevation to Meter Boxes 34 ft
 Meter Box P_{bar} 29.97 in Hg
 Elevation to Sampling Loc. 34 ft
 Sampling Location P_{bar} 29.97 in Hg
 Static Pressure 25-27.12 in H₂O

Train A No. M17-A
 Probe No. A Length: 10 ft
 Nozzle No. M17-9 Tip Dia. 0.146 in
 Pitot Tube No. A C_p 0.84
 Stack Thermocouple No. 3158A
 Filter Holder No. 5
 Filter Assembly No. F5
 Impinger Box No. A-1
 Umbilical/Impinger Hookup UH-30
 Umbilical No. N50-4
 Meter Box No. N12
 DGM Correction (Y) 0.996
 Orifice Meter ΔH@ 1.810

Train B No. M17-B
 Probe No. B Length: 10 ft
 Nozzle No. M17-10 Tip Dia. 0.146 in
 Pitot Tube No. B C_p 0.84
 Stack Thermocouple No. 3158B
 Filter Holder No. 6
 Filter Assembly No. F6
 Impinger Box No. B-1
 Umbilical/Impinger Hookup UH-32
 Umbilical No. N50-1
 Meter Box No. N-11
 DGM Correction (Y) 1.010
 Orifice Meter ΔH@ 1.898



Traverse Point Layout
 Compass Direction > North

Assumed Moisture 11 % Assumed %CO₂ 15 % O₂ 5 Nozzles are quartz-glass.

	Train A Pitot Tube Pressure Measurement System Leak Checks										Train B Pitot Tube Pressure Measurement System Leak Checks									
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	0831	1017									0835	1021								
Pass or Fail		pass										pass								

Train A Sampling System Leak Checks											
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	
Time (24 Hr)	0832	1019									
Vacuum, in Hg	15	9									
Leak Rate, cfm	.009	.007									
Final Meter Volume											
Initial Meter Volume											
Leak Check Volume											

Train B Sampling System Leak Checks											
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	
Time (24 Hr)	0837	1023									
Vacuum, in Hg	15	8									
Leak Rate, cfm	.003	.004									
Final Meter Volume							291.908			925.209	
Initial Meter Volume							266.919			897.879	
Leak Check Volume							25.389			27.330	

Remarks and Notes: List any other equipment requiring calibration below.

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11/18/99

	TRAIN A	TRAIN B
Meter Volume at Start of Run	<u>266.519</u>	<u>897.879</u>
Meter Volume at End of Run	<u>291.908</u>	<u>925.209</u>
Total Leak Check or Non-Sample Volume		
Adjusted Final Volume	<u>25.389</u>	<u>27.330</u>

Run No. 32
Date 11-17-99

Sampling Location Unit 2A Baghouse Outlet Duct
Project No. 104703.1.002.05.01

Operator Griph page 2 of 2

Sampling Data for Method 17 Train A No. M17-A

Initial Time	Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³		Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O		Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F		Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F
				Initial <u>266.519</u>	Desired		Desired	Actual		Inlet	Outlet		
0910	A-5	3	0854	267.89	267.80	2.5	0.75	0.75	177	40	40	8	38
	4	6	0900	269.21	269.15	2.3	0.69	0.69	178	41	41	8	36
	3	9	0903	270.44	270.44	2.0	0.60	0.60	178	42	41	7	35
	2	12	0906	271.33	271.29	1.05	0.31	0.31	178	43	41	6	35
	1	15	0909	271.79	271.70	0.27	0.08	0.08	174	43	42	5	35
0924	B-5	18	0913	273.11	272.91	2.3	0.70	0.70	177	44	43	8	36
	4	21	0916	274.35	274.21	2.0	0.61	0.61	175	44	42	7	35
	3	24	0919	275.62	275.48	2.1	0.64	0.64	178	47	43	7	34
	2	27	0922	276.39	276.30	0.78	0.23	0.23	177	47	43	6	34
	1	30	0925	276.72	276.70	0.14	0.04	0.04	178	48	44	5	35
0942	C-5	33	0929	278.02	277.81	2.2	0.67	0.67	176	47	44	8	36
	4	36	0932	279.24	279.12	1.9	0.58	0.58	178	48	45	8	35
	3	39	0935	280.42	280.35	1.8	0.55	0.55	178	50	45	8	34
	2	42	0938	281.15	281.04	0.70	0.21	0.21	177	50	45	6	34
	1	45	0941	281.37	281.35	0.06	0.01	0.01	176	50	46	5	35
0958	D-5	48	0945	282.73	282.70	2.4	0.73	0.73	177	49	46	8	37
	4	51	0948	284.01	283.99	2.1	0.64	0.64	177	50	46	8	35
	3	54	0951	285.29	285.25	2.1	0.64	0.64	177	51	47	8	35
	2	57	0954	286.12	286.05	0.87	0.26	0.26	177	53	48	7	35
	1	60	0957	286.37	286.30	0.08	0.02	0.02	177	53	48	6	36
	E-5	63	1001	287.71	287.68	2.3	0.70	0.70	177	51	49	8	38
	4	66	1004	289.09	289.01	2.4	0.74	0.74	177	53	49	9	36
	3	69	1007	290.44	290.34	2.3	0.71	0.71	175	54	49	9	36
	2	72	1010	291.49	291.43	1.4	0.43	0.43	177	56	50	8	35
	1	75	1013	291.95	291.908	0.27	0.08	0.08	178	56	50	6	36

Sampling Data for Method 17 Train B No. <u>M17-B</u>													
	0	0854	897.879										
F2.5	5	0859	899.51	899.54	1.3	0.40	0.40	178	43	43	7	41	
	10	0904	901.32	901.41	1.6	0.50	0.50	182	44	43	8	38	
	15	0909	903.08	903.18	1.5	0.47	0.47	179	44	43	8	38	
	20	0914	904.66	904.74	1.2	0.37	0.37	178	45	44	7	37	
	25	0919	906.24	906.36	1.2	0.37	0.37	179	47	45	7	38	
	30	0924	908.00	908.05	1.5	0.47	0.47	179	48	46	8	38	
	35	0929	909.72	909.74	1.4	0.44	0.44	179	50	47	8	38	
	40	0934	911.24	911.43	1.2	0.36	0.36	180	51	48	7	38	
	45	0939	912.96	913.14	1.4	0.44	0.44	181	52	48	8	38	
	50	0944	914.86	914.98	1.7	0.54	0.54	179	54	50	8	39	
	55	0949	916.57	916.65	1.4	0.44	0.44	180	55	51	8	39	
	60	0954	918.32	918.38	1.4	0.44	0.44	180	56	52	8	39	
	65	0959	919.99	919.99	1.3	0.41	0.41	181	57	53	8	39	
	70	1004	921.96	921.91	1.8	0.58	0.58	180	59	53	8	40	
	75	1009	923.63	923.63	1.3	0.41	0.41	178	58	54	8	40	
	80	1014	925.18	925.209	1.1	0.35	0.35	181	60	56	8	40	
	85	1019											
									</				

Remarks and Notes:

"B" Thin Total Pressure = -26.2 ΔP = 1.3

RS
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**40 CFR 60, APPENDIX A, METHOD 3B
INTEGRATED GAS SAMPLING DATA**

Run No. 32 Date 11-17-99 Client/Source U.S. EPA / Cogentrix Unit 2A
 Project No. 104703.1.002.05.01 Sampling Location Unit 2A Baghouse Outlet
 Sample Type (Multi-Point, ~~Single-Point~~) Operator Am/lin
 Flow Control Device (Valve, ~~Critical Orifice~~) Bag Type Tedlar Sample No. NA
 Method 5 Meter Box No. N12 Method 3B Train No. NA
 M3B Pump Type diaphragm M3B Flow Meter Type rotameter
 M3B Pump No. N12 M3B Flow Meter No. 6800
 Desired Sampling Rate 300 cc/min
 Leak Check Before Sampling 0 After Sampling 0
 Total Sampling Time 70 min Average Flow Meter Reading 3.0
 Flow Rate, cc/min: Average 300 Highest 300 Lowest 300
 Estimated Total Sample Volume 21 liters

Time (24-Hr)	Flow Meter Reading	Start Purge	Start Sampling	Stop Sampling	Sampling	Remarks and Notes
0854	3.0	✓				
0855	3.0		✓			
0905	3.0				✓	
0909	3.0			✓		Port Change
0910	3.0	✓				
0911	3.0		✓			
0921	3.0				✓	
0925	3.0			✓		Port Change
0926	3.0	✓				
0927	3.0		✓			
0937	3.0				✓	
0941	3.0			✓		Port Change
0942	3.0	✓				
0943	3.0		✓			
0953	3.0				✓	
0957	3.0			✓		Port Change
0958	3.0	✓				
0959	3.0		✓			
1009	3.0				✓	
1013	3.0			✓		End of Run

M3BSAMP WPD June 18, 1998

PS
11/18/99

40 CFR 60, APPENDIX A, METHOD 3B, GAS ANALYSIS BY ORSAT

Run No. 32 Date 11/12/99
 Project No. 104703.1.002.05.01 Sample No. NA
 Sampling Location Unit 2A Baghouse Outlet Duct
 Analysis Start Time 1100
 Sample Type (Bag, Grab) Bag
 Analyst J. Surman

Orsat Leak Check Before Analysis:
 Burrete No Change in 4 Minutes
 Pipettes No Change in 4 Minutes
 Orsat Leak Check After Analysis:
 Burrete No Change in 4 Minutes
 Pipettes No Change in 4 Minutes

Analysis	1		2		3		Average Net Value (% v/v)
Gas	Actual Reading	Net Value	Actual Reading	Net Value	Actual Reading	Net Value	
CO ₂	1 <u>14.7</u> 2 <u>14.7</u> 3	<u>14.7</u>	1 <u>14.7</u> 2 <u>14.7</u> 3	<u>14.7</u>	1 <u>14.7</u> 2 <u>14.7</u> 3	<u>14.7</u>	<u>14.7</u>
O ₂ (Net is actual reading minus actual CO ₂ reading)	1 <u>19.5</u> 2 <u>19.5</u> 3	<u>4.8</u>	1 <u>19.5</u> 2 <u>19.5</u> 3	<u>4.8</u>	1 <u>19.5</u> 2 <u>19.5</u> 3	<u>4.8</u>	<u>4.8</u>

Acceptance Criteria per Method 3B

CO₂ > 4% 0.3% v/v O₂ ≥ 15% 0.2% v/v
 ≤ 4% 0.2% v/v < 15% 0.3% v/v

Remarks and Notes:

JS
 11/18/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY TRAIN SET-UP DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 32 Sampling Train A No. M17-A Impinger Box A No. A-1
Sampling Train B No. M17-B Impinger Box B No. B-1

Set-up person(s): J. Surman Date: 11/16/99

Transfer to Sampler:
Relinquished By J. Surman Received By D. Griffin Date/Time 11/17/99 0805

TRAIN COMPONENT	REAGENT	LOADING DATA	
		TRAIN A	TRAIN B
Sampling Nozzle (Quartz)*	Nozzle I.D. No.	<u>M17-9</u>	<u>M17-10</u>
Filter Assembly and Holder*	Filter Assembly No.	<u>5</u>	<u>6</u>
Filter Type: Whatman QM-A	Filter Holder No.	<u>5</u>	<u>6</u>
Probe (316 SS)			
Sample Transfer/Vacuum Line			
Male 1st Impinger Inlet Blank-Off			
		Initial Weights (grams)	
1st Impinger (Mod-GBS) 100-200 mLs ASTM Type I Water		<u>642.8</u>	<u>632.6</u>
U-Connector (A)			
2nd Impinger (GBS) 100-200 mLs ASTM Type I Water		<u>644.0</u>	<u>675.2</u>
U-Connector (B)			
3rd Impinger (Mod-GBS) Empty		<u>496.8</u>	<u>465.2</u>
U-Connector (C)			
4th Impinger (Mod-GBS) ~200 g indicating silica gel		<u>716.0</u>	<u>717.2</u>
U-Connector (D)			
5th Impinger (Mod-GBS) ~200 g indicating silica gel		<u>719.2</u>	<u>685.7</u>
Impinger Outlet Connector	Connector I.D. No.	<u>UH-30</u>	<u>UH-32</u>

* Before and after sampling: Nozzle inlet opening and filter assembly holder outlet opening covered with Teflon® tape, and entire filter assembly holder with filter assembly and nozzle wrapped in aluminum foil and placed in Ziploc® bag. 1st impinger inlet sealed with glass blank-off.

Comments:

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40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY SAMPLE RECOVERY DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 32 Sampling Train A No. M17-A Impinger Box A No. A-1
Sampling Train B No. M17-B Impinger Box B No. B-1

Transfer for Recovery:

Relinquished By D. Griffin Received By J. Surman Date/Time 11/17/99 1100
Sample recovery person(s): J. Surman Date: 11/17/99

Weights below are in grams.

BACK HALF RECOVERIES

	TRAIN A				TRAIN B			
Impinger:	1st	2nd	3rd	4th & 5th	1st	2nd	3rd	4th & 5th
Final Wt.	<u>708.7</u>	<u>643.7</u>	<u>496.9</u>	<u>720.1 + 720.8</u>	<u>710.6</u>	<u>675.1</u>	<u>465.0</u>	<u>721.4 + 686.1</u>
Initial Wt.	<u>642.8</u>	<u>644.0</u>	<u>496.8</u>	<u>1435.2</u>	<u>632.6</u>	<u>675.2</u>	<u>465.2</u>	<u>1402.9</u>
Net Wt.	<u>65.9</u>	<u>-0.3</u>	<u>0.1</u>	<u>5.7</u>	<u>78.0</u>	<u>-0.1</u>	<u>-0.2</u>	<u>4.6</u>
Total Condensate Collected:				<u>71.4</u>				<u>82.3</u>
Description and/or color:	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>15% + 60%</u>	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>20% + 70%</u>
				% Blue				% Blue

FRONT HALF RECOVERIES

	TRAIN A	TRAIN B
FILTER ASSEMBLY:		
Sample Number:	<u>32102</u>	<u>32104</u>
PM Description/color:	<u>black</u>	<u>black</u>
TRAIN RINSES:		
Sample Number:	<u>32101</u>	<u>32103</u>
Components Rinsed*: nozzle, filter holder front		

* Acetone rinses with brushing 3 times or more until perceivably clean.

COMMENTS: Acetone rinses are transferred directly to tared Teflon® beaker liners for analysis.

JS
11/18/99

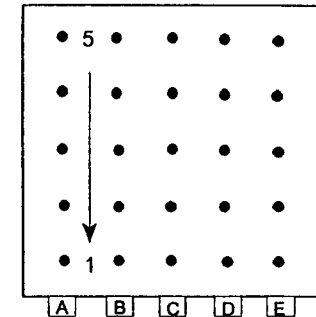
FIELD SAMPLING DATA FOR METHOD 17 TRAINS

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Run No. 33 Date 11-17-94
 Project No. 104703.1.002.05.01
 Client U.S. EPA OAQPS EMAD EMC
 Source Cogentrix Unit 2A
 Sampling Location Baghouse Outlet
 Operator G. H. H.
 Record data every 15 minutes
 Barometer No. Y-2021
 Barometric Pressure 30.03 in Hg
 Elevation to Meter Boxes 34 ft
 Meter Box P_{bar} 30.00 in Hg
 Elevation to Sampling Loc. 34 ft
 Sampling Location P_{bar} 30.00 in Hg
 Static Pressure 25-26.85 in H₂O

Train A No. M17-A
 Probe No. A Length: 10 ft
 Nozzle No. M17-1 Tip Dia. 0.146 in
 Pitot Tube No. A C_p 0.84
 Stack Thermocouple No. 3158A
 Filter Holder No. 7
 Filter Assembly No. F-7
 Impinger Box No. A-2
 Umbilical/Impinger Hookup UH-
 Umbilical No. N50-4
 Meter Box No. N12
 DGM Correction (Y) 0.916
 Orifice Meter ΔH@ 1.810

Train B No. M17-B
 Probe No. B Length: 10 ft
 Nozzle No. M17-15 Tip Dia. 0.146 in
 Pitot Tube No. B C_p 0.84
 Stack Thermocouple No. 3158B
 Filter Holder No. 8
 Filter Assembly No. F-8
 Impinger Box No. B-2
 Umbilical/Impinger Hookup UH-2
 Umbilical No. N50-1
 Meter Box No. N11
 DGM Correction (Y) 1.010
 Orifice Meter ΔH@ 1.878



Traverse Point Layout
Compass Direction > North

Assumed Moisture 11 % Assumed %CO₂ 15 % O₂ 5 Nozzles are quartz-glass.

	Train A Pitot Tube Pressure Measurement System Leak Checks										Train B Pitot Tube Pressure Measurement System Leak Checks									
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	1114	1118									1118	1122								
Pass or Fail		pass																		

Train A Sampling System Leak Checks

	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	1116	1120								
Vacuum, in Hg	15	8								
Leak Rate, cfm	0.004	0.001								
Final Meter Volume										
Initial Meter Volume										
Leak Check Volume										

Train B Sampling System Leak Checks

	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	1120	1124								
Vacuum, in Hg	15	9								
Leak Rate, cfm	0.005	0.003								
Final Meter Volume							41.362		77.979	
Initial Meter Volume							7.184		40.321	
Leak Check Volume							34.178		34.678	

Remarks and Notes: List any other equipment requiring calibration below.

2.3
11/18/94

	TRAIN A	TRAIN B
Meter Volume at Start of Run	<u>307.184</u>	<u>970.321</u>
Meter Volume at End of Run	<u>341.362</u>	<u>994.999</u>
Total Leak Check or Non-Sample Volume		
Adjusted Final Volume	<u>34.178</u>	<u>34.678</u>

Run No. 33
Date 11-17-99

Sampling Location Unit 2A Baghouse Outlet Duct
Project No. 104703.1.002.05.01

Operator G. K. page 2 of 2

Sampling Data for Method 17 Train A No. M17-A

Initial Time	Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³		Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O		Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F		Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F
				Initial <u>307.184</u>	Desired		Desired	Actual		Inlet	Outlet		
1155	C-5	4	1133										
	4	8	1137	308.94	308.98	2.2	0.67	0.67	180	53	52	7	46
	3	12	1141	310.61	310.65	2.0	0.61	0.61	181	53	52	7	40
	2	16	1145	312.20	312.20	1.8	0.55	0.55	180	55	53	7	40
	1	20	1149	313.14	313.05	0.62	0.19	0.19	180	55	53	6	39
1217	D-5	24	1153	313.40	313.38	0.05	0.01	0.01	180	56	53	5	39
	4	28	1159	315.24	315.22	2.4	0.74	0.74	180	55	54	7	42
	3	32	1203	316.84	316.82	1.8	0.82	0.82	178	56	54	7	38
	2	36	1207	318.53	318.50	2.0	0.62	0.62	177	58	54	7	37
	1	40	1211	319.47	319.47	0.62	0.19	0.19	177	59	55	6	37
1240	E-5	44	1215	319.88	319.88	0.12	0.03	0.03	175	57	55	5	38
	4	48	1221	321.78	321.72	2.5	0.78	0.78	174	57	55	7	40
	3	52	1225	323.63	323.52	2.4	0.74	0.74	178	58	55	7	38
	2	56	1229	325.48	325.37	2.4	0.75	0.75	177	60	56	7	38
	1	60	1233	326.95	326.85	1.5	0.47	0.47	175	61	56	7	38
1302	A-5	64	1237	327.51	327.41	0.21	0.06	0.06	175	62	57	5	38
	4	68	1244	329.33	329.24	2.3	0.72	0.72	174	60	57	8	40
	3	72	1248	331.11	331.05	2.2	0.68	0.68	180	60	57	8	40
	2	76	1252	333.01	332.92	2.5	0.78	0.78	177	62	58	8	38
	1	80	1256	334.24	334.21	1.05	0.33	0.33	176	63	58	7	38
1304	B-5	84	1300	334.77	334.77	0.19	0.05	0.05	177	64	58	5	39
	4	88	1306	336.55	336.55	2.2	0.69	0.69	176	61	58	8	40
	3	92	1310	338.29	338.25	2.1	0.65	0.65	179	60	59	8	42
	2	96	1314	339.81	339.81	1.6	0.50	0.50	179	63	59	7	39
	1	100	1318	340.83	340.85	0.71	0.22	0.22	180	64	59	6	39

Initial Time	Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³		Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O		Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F		Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F
				Initial <u>940.321</u>	Desired		Desired	Actual		Inlet	Outlet		
1157	A-5	4	1135										
	4	8	1139	942.15	942.27	2.4	0.77	0.77	182	61	60	8	48
	3	12	1143	943.94	944.08	2.3	0.74	0.74	184	61	60	8	43
	2	16	1147	945.57	945.72	1.9	0.61	0.61	183	61	60	7	42
	1	20	1151	947.12	947.21	1.7	0.55	0.55	182	62	60	7	41
1219	B-5	24	1155	947.69	947.78	0.23	0.07	0.07	182	63	61	5	42
	4	28	1201	949.49	949.57	2.3	0.74	0.74	181	64	62	8	44
	3	32	1205	951.17	951.28	2.0	0.65	0.65	181	64	62	8	43
	2	36	1209	952.77	952.89	1.8	0.58	0.58	179	64	62	7	41
	1	40	1213	953.86	953.94	0.83	0.27	0.27	178	65	63	6	41
1304	C-5	44	1217	954.18	954.33	0.07	0.02	0.02	178	66	63	5	42
	4	48	1223	955.95	956.07	2.2	0.72	0.72	177	66	63	8	44
	3	52	1227	957.64	957.77	2.0	0.65	0.65	180	66	64	8	45
	2	56	1231	959.16	959.27	1.6	0.52	0.52	178	66	64	7	41
	1	60	1235	960.12	960.22	0.64	0.21	0.21	177	67	65	6	41
1304	D-5	64	1239	960.36	960.65	0.04	0.01	0.01	177	68	65	5	42
	4	68	1246	962.13	962.39	2.2	0.72	0.72	179	68	65	8	44
	3	72	1250	963.91	964.13	2.2	0.72	0.72	180	68	66	8	43
	2	76	1254	965.65	965.81	2.1	0.69	0.69	179	68	66	8	41
	1	80	1258	966.72	966.78	0.76	0.24	0.24	181	69	66	6	41
1304	E-5	84	1302	967.20	967.33	0.17	0.05	0.05	180	70	67	5	42
	4	88	1308	969.06	969.20	2.4	0.79	0.79	180	70	67	9	44
	3	92	1312	971.03	971.07	2.7	0.88	0.88	181	69	67	9	45
	2	96	1316	972.86	972.90	2.3	0.75	0.75	181	70	68	9	41
	1	100	1320	974.47	974.50	1.8	0.59	0.59	184	71	68	8	41

Remarks and Notes:

Total Press -24.4 AP = 0.64

P.S.
11/18/99

**40 CFR 60, APPENDIX A, METHOD 3B
INTEGRATED GAS SAMPLING DATA**

Run No. 33 Date 11-17-99 Client/Source U.S. EPA / Cogentrix Unit 2A
 Project No. 104703.1.002.05.01 Sampling Location Unit 2A Baghouse Outlet
 Sample Type (Multi-Point, ~~Single-Point~~) Operator Griff
 Flow Control Device (Valve, Critical Orifice) Bag Type Tedlar Sample No. NA
 Method 5 Meter Box No. N12 Method 3B Train No. NA
 M3B Pump Type diaphragm M3B Flow Meter Type rotameter
 M3B Pump No. N12 M3B Flow Meter No. 6800
 Desired Sampling Rate 300 cc/min
 Leak Check Before Sampling 0 After Sampling 0
 Total Sampling Time 95 min Average Flow Meter Reading 3.0
 Flow Rate, cc/min: Average 300 Highest 300 Lowest 300
 Estimated Total Sample Volume 28 liters

Time (24-Hr)	Flow Meter Reading	Start Purge	Start Sampling	Stop Sampling	Sampling	Remarks and Notes
1133	3.0	✓				
1134	3.0		✓			
1144	3.0				✓	
1153	3.0			✓		Port Change
1155	3.0	✓				
1156	3.0		✓			
1206	3.0				✓	
1215	3.0			✓		Port Change
1217	3.0	✓				
1218	3.0		✓			
1228	3.0				✓	
1237	3.0			✓		Port Change
1240	3.0	✓				
1241	3.0		✓			
1251	3.0				✓	
1300	3.0			✓		Port Change
1302	3.0	✓				
1303	3.0		✓			
1313	3.0				✓	
1322	3.0			✓		End of Run

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JB
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40 CFR 60, APPENDIX A, METHOD 3B, GAS ANALYSIS BY ORSAT

Run No. 33 Date 11/17/99 Orsat Leak Check Before Analysis:
 Project No. 104703.1.002.05.01 Sample No. NA Burette No Change in 4 Minutes
 Sampling Location Unit 2A Baghouse Outlet Duct Pipettes No Change in 4 Minutes
 Analysis Start Time 1350 Orsat Leak Check After Analysis:
 Sample Type (Bag, Grab) Bag Burette No Change in 4 Minutes
 Analyst J. Surman Pipettes No Change in 4 Minutes

Analysis	1		2		3		Average Net Value (% v/v)
Gas	Actual Reading	Net Value	Actual Reading	Net Value	Actual Reading	Net Value	
CO ₂	1 <u>15.4</u> 2 <u>15.4</u> 3	<u>15.4</u>	1 <u>15.4</u> 2 <u>15.4</u> 3	<u>15.4</u>	1 <u>15.4</u> 2 <u>15.4</u> 3	<u>15.4</u>	<u>15.4</u>
O ₂ (Net is actual reading minus actual CO ₂ reading)	1 <u>18.7</u> 2 <u>18.7</u> 3	<u>3.3</u>	1 <u>18.7</u> 2 <u>18.7</u> 3	<u>3.3</u>	1 <u>18.7</u> 2 <u>18.7</u> 3	<u>3.3</u>	<u>3.3</u>

Acceptance Criteria per Method 3B

CO₂ > 4% 0.3% v/v O₂ ≥ 15% 0.2% v/v
 ≤ 4% 0.2% v/v < 15% 0.3% v/v

Remarks and Notes:

JS
11/18/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY TRAIN SET-UP DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 33 Sampling Train A No. M17-A Impinger Box A No. A-2
Sampling Train B No. M17-B Impinger Box B No. B-2
Set-up person(s): J. Surman Date: 11/16/99
Transfer to Sampler:
Relinquished By J. Surman Received By D. Griffin Date/Time 11/17/99 1100

TRAIN COMPONENT	REAGENT	LOADING DATA	
		TRAIN A	TRAIN B
Sampling Nozzle (Quartz)*	Nozzle I.D. No.	<u>M17-14</u>	<u>M17-15</u>
Filter Assembly and Holder*	Filter Assembly No.	<u>7</u>	<u>8</u>
Filter Type: Whatman QM-A	Filter Holder No.	<u>7</u>	<u>8</u>
Probe (316 SS)			
Sample Transfer/Vacuum Line			
Male 1st Impinger Inlet Blank-Off			
		Initial Weights (grams)	
1st Impinger (Mod-GBS) 100-200 mLs ASTM Type I Water		<u>748.2</u>	<u>743.0</u>
U-Connector (A)			
2nd Impinger (GBS) 100-200 mLs ASTM Type I Water		<u>702.7</u>	<u>730.4</u>
U-Connector (B)			
3rd Impinger (Mod-GBS) Empty		<u>542.6</u>	<u>462.0</u>
U-Connector (C)			
4th Impinger (Mod-GBS) ~200 g indicating silica gel		<u>723.7</u>	<u>792.5</u>
U-Connector (D)			
5th Impinger (Mod-GBS) ~200 g indicating silica gel		<u>740.5</u>	<u>730.5</u>
Impinger Outlet Connector	Connector I.D. No.	<u>UH-1</u>	<u>UH-2</u>

* Before and after sampling: Nozzle inlet opening and filter assembly holder outlet opening covered with Teflon® tape, and entire filter assembly holder with filter assembly and nozzle wrapped in aluminum foil and placed in Ziploc® bag. 1st impinger inlet sealed with glass blank-off.

Comments:

JS
11/18/99

**40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY SAMPLE RECOVERY DATA FOR TWO TRAINS**

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 33 Sampling Train A No. M17-A Impinger Box A No. A-2
Sampling Train B No. M17-B Impinger Box B No. B-2

Transfer for Recovery:

Relinquished By D. Griffin Received By J. Surman Date/Time 11/17/99 1345
Sample recovery person(s): J. Surman Date: 11/17/99

Weights below are in grams.

BACK HALF RECOVERIES

	TRAIN A				TRAIN B			
Impinger:	1st	2nd	3rd	4th & 5th	1st	2nd	3rd	4th & 5th
Final Wt.	<u>834.4</u>	<u>713.0</u>	<u>542.8</u>	<u>730.4 + 741.0</u>	<u>796.0</u>	<u>768.4</u>	<u>467.2</u>	<u>792.1 + 730.9</u>
Initial Wt.	<u>748.2</u>	<u>702.7</u>	<u>542.6</u>	<u>1464.2</u>	<u>743.0</u>	<u>730.4</u>	<u>467.0</u>	<u>1523.0</u>
Net Wt.	<u>86.2</u>	<u>10.3</u>	<u>0.2</u>	<u>7.2</u>	<u>53.0</u>	<u>38.0</u>	<u>0.2</u>	<u>7.0</u>
Total Condensate Collected:				<u>103.9</u>				<u>98.2</u>
Description and/or color:	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>40% + 95%</u>	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>40% + 95%</u>
				% Blue.				% Blue

FRONT HALF RECOVERIES

	TRAIN A	TRAIN B
FILTER ASSEMBLY:		
Sample Number:	<u>33 102</u>	<u>33 104</u>
PM Description/color:	<u>black</u>	<u>black</u>
TRAIN RINSES:		
Sample Number:	<u>33 101</u>	<u>33 103</u>
Components Rinsed*: nozzle, filter holder front		

* Acetone rinses with brushing 3 times or more until perceivably clean.

COMMENTS: Acetone rinses are transferred directly to tared Teflon® beaker liners for analysis.

PS
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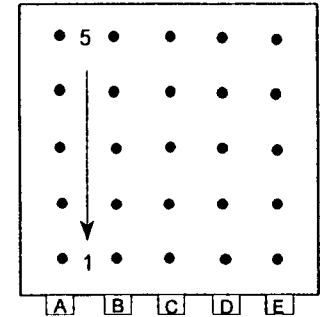
FIELD SAMPLING DATA FOR METHOD 17 TRAINS

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Run No. 31 Date 11-17-99
 Project No. 104703.1.002.05.01
 Client U.S. EPA OAQPS EMAD EMC
 Source Cogentrix Unit 2A
 Sampling Location Baghouse Outlet
 Operator Griffin
 Record data every 1-3 0-5 minutes
 Barometer No. Y-2021
 Barometric Pressure 29.99 in Hg
 Elevation to Meter Boxes 34 ft
 Meter Box P_{bar} 29.96 in Hg
 Elevation to Sampling Loc. 34 ft
 Sampling Location P_{bar} 29.96 in Hg
 Static Pressure 29.95-29.30 in H₂O

Train A No. M17-A
 Probe No. A Length: 10 ft
 Nozzle No. M17-9 Tip Dia. 0.146 in
 Pitot Tube No. A C_p 0.84
 Stack Thermocouple No. 3158A
 Filter Holder No. 1
 Filter Assembly No. F-9
 Impinger Box No. A-1
 Umbilical/Impinger Hookup UH-30
 Umbilical No. N50-4
 Meter Box No. N12
 DGM Correction (Y) 0.996
 Orifice Meter ΔH@ 1.810

Train B No. M17-B
 Probe No. B Length: 10 ft
 Nozzle No. M17-10 Tip Dia. 0.146 in
 Pitot Tube No. B C_p 0.84
 Stack Thermocouple No. 3158B
 Filter Holder No. 2
 Filter Assembly No. F-10
 Impinger Box No. B-1
 Umbilical/Impinger Hookup UH-32
 Umbilical No. N50-1
 Meter Box No. N-11
 DGM Correction (Y) 1.010
 Orifice Meter ΔH@ 1.898



Traverse Point Layout
Compass Direction > North

Assumed Moisture 11 % Assumed %CO₂ 15 % O₂ 5 Nozzles are quartz-glass.

	Train A Pitot Tube Pressure Measurement System Leak Checks										Train B Pitot Tube Pressure Measurement System Leak Checks									
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	1439	1618									1437	1622								
Pass or Fail		pass										pass								

	Train A Sampling System Leak Checks										Train B Sampling System Leak Checks									
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	1433	1621																		
Vacuum, in Hg	15	9																		
Leak Rate, cfm	.009	.003																		
Final Meter Volume																				
Initial Meter Volume																				
Leak Check Volume																				

	Train A Sampling System Leak Checks										Train B Sampling System Leak Checks									
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	1435	1620																		
Vacuum, in Hg	15	8																		
Leak Rate, cfm	.005	.003																		
Final Meter Volume																				
Initial Meter Volume																				
Leak Check Volume																				

Remarks and Notes: List any other equipment requiring calibration below.

FB
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	TRAIN A	TRAIN B
Meter Volume at Start of Run	<u>341.752</u>	<u>978.838</u>
Meter Volume at End of Run	<u>368.235</u>	<u>1007.228</u>
Total Leak Check or Non-Sample Volume	<u>26.5</u>	<u>—</u>
Adjusted Final Volume	<u>26.483</u>	<u>28.390</u>

Run No. 34
Date 11-17-99

Sampling Location Unit 2A Baghouse Outlet Duct
Project No. 104703.1.002.05.01

Operator Galt page 2 of 2

Sampling Data for Method 17 Train A No. M17-A

Initial Time

Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³		Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O		Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F		Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F
			Initial <u>341.752</u>	Desired		Desired	Actual		Inlet	Outlet		
A-5	3	1450	343.08	343.10	2.2	0.68	0.68	180	59	58	7	50
	4	1456	344.93	344.60	2.4	0.81	0.81	179	58	58	8	48
	3	1459	345.87	345.94	2.2	0.68	0.68	178	59	58	8	46
	2	1502	347.07	347.05	1.8	0.56	0.56	180	60	58	7	45
	1	1505	347.58	347.61	0.92	0.10	0.10	179	61	59	6	45
B-5	18	1510	348.92	348.92	2.2	0.69	0.69	177	61	59	7	45
	4	1513	350.23	350.21	2.1	0.65	0.65	181	61	59	7	45
	3	1526	351.50	351.47	2.0	0.62	0.62	179	62	59	7	44
	2	1529	352.34	352.32	0.85	0.26	0.26	179	63	60	6	43
	1	1532	352.64	352.63	0.11	0.03	0.03	178	63	60	5	43
C-5	33	1526	353.48	353.95	2.2	0.69	0.69	178	63	60	7	45
	4	1529	355.22	355.20	1.9	0.59	0.59	179	62	60	7	45
	3	1532	356.70	356.39	1.7	0.53	0.53	179	64	60	7	43
	2	1535	357.18	357.11	0.73	0.23	0.23	179	60	61	6	43
	1	1538	357.34	357.35	0.03	0.01	0.01	179	65	61	5	43
D-5	48	1545	358.71	358.74	2.3	0.72	0.72	179	63	61	8	47
	4	1548	360.05	360.08	2.2	0.68	0.68	182	63	61	8	43
	3	1551	361.33	361.35	2.0	0.63	0.63	178	65	62	8	47
	2	1554	362.10	362.13	0.72	0.22	0.22	178	66	62	6	43
	1	1557	362.42	362.42	0.12	0.03	0.03	178	66	62	5	43
E-5	63	1602	363.88	363.88	2.4	0.82	0.82	178	65	63	9	46
	4	1605	365.26	365.25	2.3	0.72	0.72	180	66	63	8	44
	3	1608	366.04	366.61	2.3	0.72	0.72	180	68	63	8	43
	2	1611	367.96	367.83	1.8	0.56	0.56	180	68	63	8	42
	1	1614	368.22	368.235	0.15	0.04	0.04	179	69	63	5	42

Sampling Data for Method 17 Train B No. M17-B

	0	1450	978.838									
F-2.5	5	1455	980.53	980.54	1.3	0.42	0.42	182	63	63	7	54
	10	1500	982.16	982.14	1.2	0.39	0.39	181	63	63	7	51
	15	1505	983.55	983.56	0.87	0.28	0.28	183	63	63	7	48
	20	1510	985.31	985.37	1.4	0.45	0.45	181	63	63	7	47
	25	1515	987.07	987.13	1.4	0.45	0.45	183	64	63	7	46
	30	1520	988.76	988.83	1.3	0.42	0.42	182	63	63	7	44
	35	1525	990.12	990.25	0.83	0.26	0.26	182	64	62	7	44
	40	1530	991.88	991.99	1.4	0.45	0.45	183	64	63	8	45
	45	1535	993.45	993.50	1.1	0.35	0.35	181	66	63	7	43
	50	1540	995.08	995.08	1.2	0.39	0.39	181	66	64	8	44
	55	1545	996.72	996.92	1.2	0.39	0.39	181	66	64	8	44
	60	1550	998.73	998.77	1.8	0.58	0.58	181	67	67	8	43
	65	1555	1000.44	1000.47	1.3	0.42	0.42	181	68	64	8	43
	70	1600	1001.97	1001.98	1.0	0.32	0.32	182	69	65	7	42
	75	1605	1003.83	1003.89	1.6	0.52	0.52	180	69	66	8	44
	80	1610	1005.73	1005.75	1.6	0.52	0.52	181	70	66	8	43
	85	1615	1007.20	1007.228	0.95	0.31	0.31	184	70	67	7	43

Remarks and Notes:

Up Train Total Pressure - -26.4 AP=1.4

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**40 CFR 60, APPENDIX A, METHOD 3B
INTEGRATED GAS SAMPLING DATA**

Run No. 34 Date 11-17-99 Client/Source U.S. EPA / Cogentrix Unit 2A
 Project No. 104703.1.002.05.01 Sampling Location Unit 2A Baghouse Outlet
 Sample Type (Multi-Point, ~~Single-Point~~) Operator Griffis
 Flow Control Device (Valve, Critical Orifice) Bag Type Tedlar Sample No. NA
 Method 5 Meter Box No. N12 Method 3B Train No. NA
 M3B Pump Type diaphragm M3B Flow Meter Type rotameter
 M3B Pump No. N12 M3B Flow Meter No. 6800
 Desired Sampling Rate 300 cc/min
 Leak Check Before Sampling C After Sampling C
 Total Sampling Time 70 min Average Flow Meter Reading 3.0
 Flow Rate, cc/min: Average 300 Highest 300 Lowest 300
 Estimated Total Sample Volume 21 liters

Time (24-Hr)	Flow Meter Reading	Start Purge	Start Sampling	Stop Sampling	Sampling	Remarks and Notes
1450	3.0	✓				
1451	3.0		✓			
1501	3.0				✓	
1505	3.0			✓		Post Change
1507	3.0	✓				
1508	3.0		✓			
1518	3.0				✓	
1522	3.0			✓		Post Change
1523	3.0	✓				
1524	3.0		✓			
1534	3.0				✓	
1538	3.0			✓		Post Change
1542	3.0	✓				
1543	3.0		✓			
1553	3.0				✓	
1557	3.0			✓		Post Change
1559	3.0	✓				
1600	3.0		✓			
1610	3.0				✓	
1614	3.0			✓		End of Run

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Run No. 34 Date 11-17-99 Client/Source U.S. EPA / Cogentrix Unit 2A
Project No. 104703.1.002.05.01 Sampling Location Unit 2A Baghouse Outlet
Sample Type (Multi-Point, Single-Point) _____ Operator Gruhn
Flow Control Device (Valve, Critical Orifice) _____ Bag Type Tedlar Sample No. NA
Method 5 Meter Box No. N-11 Method 3B Train No. NA
M3B Pump Type diaphragm M3B Flow Meter Type rotameter
M3B Pump No. N-11 M3B Flow Meter No. 542D
Desired Sampling Rate 300 cc/min
Leak Check Before Sampling 0 After Sampling 0
Total Sampling Time 84 min Average Flow Meter Reading 3.0
Flow Rate, cc/min: Average 300 Highest 300 Lowest 300
Estimated Total Sample Volume 26 liters

[illegible]

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40 CFR 60, APPENDIX A, METHOD 3B, GAS ANALYSIS BY ORSAT

Run No. 34 Date 11/17/99
 Project No. 104703.1.002.05.01 Sample No. NA
 Sampling Location Unit 2A Baghouse Outlet Duct
 Analysis Start Time 1630
 Sample Type (Bag, Grab) Bag Train A
 Analyst J. Surman

Orsat Leak Check Before Analysis:
 Burette No Change in 4 Minutes
 Pipettes No Change in 4 Minutes
 Orsat Leak Check After Analysis:
 Burette No Change in 4 Minutes
 Pipettes No Change in 4 Minutes

Analysis	1		2		3		Average Net Value (% v/v)
Gas	Actual Reading	Net Value	Actual Reading	Net Value	Actual Reading	Net Value	
CO ₂	1 <u>14.6</u> 2 <u>14.6</u> 3	<u>14.6</u>	1 <u>14.6</u> 2 <u>14.6</u> 3	<u>14.6</u>	1 2 3		<u>14.6</u>
O ₂ (Net is actual reading minus actual CO ₂ reading)	1 <u>18.8</u> 2 <u>18.8</u> 3	<u>4.2</u>	1 <u>18.8</u> 2 <u>18.8</u> 3	<u>4.2</u>	1 2 3		<u>4.2</u>

Acceptance Criteria per Method 3B

CO₂ > 4% 0.3% v/v O₂ ≥ 15% 0.2% v/v
 ≤ 4% 0.2% v/v < 15% 0.3% v/v

Remarks and Notes:

RS
11/18/99

40 CFR 60, APPENDIX A, METHOD 3B, GAS ANALYSIS BY ORSAT

Run No. 34 Date 11/17/99Project No. 104703.1.002.05.01 Sample No. NASampling Location Unit 2A Baghouse Outlet DuctAnalysis Start Time 1650Sample Type (Bag, Grab) Bag Train BAnalyst J. Surman

Orsat Leak Check Before Analysis:

Burrete No Change in 4 MinutesPipettes No Change in 4 Minutes

Orsat Leak Check After Analysis:

Burrete No Change in 4 MinutesPipettes No Change in 4 Minutes

Analysis	1		2		3		Average Net Value (% v/v)
Gas	Actual Reading	Net Value	Actual Reading	Net Value	Actual Reading	Net Value	
CO ₂	1 <u>14.8</u> 2 <u>14.8</u> 3	<u>14.8</u>	1 <u>14.8</u> 2 <u>14.8</u> 3	<u>14.8</u>	1 2 3		<u>14.8</u>
O ₂ (Net is actual reading minus actual CO ₂ reading)	1 <u>19.1</u> 2 <u>19.1</u> 3	<u>4.3</u>	1 <u>19.1</u> 2 <u>19.1</u> 3	<u>4.3</u>	1 2 3		<u>4.3</u>

Acceptance Criteria per Method 3B

CO₂ > 4% 0.3% v/v O₂ ≥ 15% 0.2% v/v
 ≤ 4% 0.2% v/v < 15% 0.3% v/v

Remarks and Notes:

JS
 11/18/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY TRAIN SET-UP DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01

Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A

Source Location: Rocky Mount, North Carolina

Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 34 Sampling Train A No. M17-A Impinger Box A No. A-1
Sampling Train B No. M17-B Impinger Box B No. B-1
Set-up person(s): J. Surman Date: 11/17/99

Transfer to Sampler:

Relinquished By J. Surman Received By D. Griffin Date/Time 11/17/99 1345

TRAIN COMPONENT	REAGENT	LOADING DATA	
		TRAIN A	TRAIN B
Sampling Nozzle (Quartz)*	Nozzle I.D. No.	<u>M17-9</u>	<u>M17-10</u>
Filter Assembly and Holder*	Filter Assembly No.	<u>9</u>	<u>10</u>
Filter Type: Whatman QM-A	Filter Holder No.	<u>1</u>	<u>2</u>
Probe (316 SS)			
Sample Transfer/Vacuum Line			
Male 1st Impinger Inlet Blank-Off			
		Initial Weights (grams)	
1st Impinger (Mod-GBS) 100-200 mLs ASTM Type I Water		<u>658.6</u>	<u>674.2</u>
U-Connector (A)		<u>643.7</u>	<u>675.1</u>
2nd Impinger (GBS) 100-200 mLs ASTM Type I Water		<u>495.8</u>	<u>465.0</u>
U-Connector (B)		<u>724.6</u>	<u>728.0</u>
3rd Impinger (Mod-GBS) Empty		<u>754.6</u>	<u>695.6</u>
U-Connector (C)			
4th Impinger (Mod-GBS) ~200 g indicating silica gel			
U-Connector (D)			
5th Impinger (Mod-GBS) ~200 g indicating silica gel			
Impinger Outlet Connector	Connector I.D. No.	<u>VH-30</u>	<u>VH-32</u>

- * Before and after sampling: Nozzle inlet opening and filter assembly holder outlet opening covered with Teflon® tape, and entire filter assembly holder with filter assembly and nozzle wrapped in aluminum foil and placed in Ziploc® bag. 1st impinger inlet sealed with glass blank-off.

Comments:

73
11/18/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY SAMPLE RECOVERY DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 34 Sampling Train A No. M17-A Impinger Box A No. A-1
Sampling Train B No. M17-B Impinger Box B No. B-1

Transfer for Recovery:

Relinquished By D. Griffin Received By J. Surman Date/Time 11/17/99 1645
Sample recovery person(s): J. Surman Date: 11/17/99

Weights below are in grams.

BACK HALF RECOVERIES

	TRAIN A				TRAIN B			
Impinger:	1st	2nd	3rd	4th & 5th	1st	2nd	3rd	4th & 5th
Final Wt.	<u>779.7</u>	<u>657.5</u>	<u>495.6</u>	<u>732.2+756.8</u>	<u>753.9</u>	<u>675.4</u>	<u>464.6</u>	<u>734.3+627.0</u>
Initial Wt.	<u>658.6</u>	<u>643.7</u>	<u>495.8</u>	<u>1479.2</u>	<u>674.2</u>	<u>675.1</u>	<u>465.0</u>	<u>1423.6</u>
Net Wt.	<u>61.1</u>	<u>13.8</u>	<u>-0.2</u>	<u>9.8</u>	<u>79.7</u>	<u>0.3</u>	<u>-0.4</u>	<u>7.7</u>
Total Condensate Collected:				<u>84.5</u>				<u>87.3</u>
Description and/or color:	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>50% + 95%</u>	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>45% + 95%</u>
				% Blue				% Blue

FRONT HALF RECOVERIES

	TRAIN A	TRAIN B
FILTER ASSEMBLY:		
Sample Number:	<u>34 102</u>	<u>34 104</u>
PM Description/color:	<u>black</u>	<u>black</u>
TRAIN RINSES:		
Sample Number:	<u>34 101</u>	<u>34 103</u>
Components Rinsed*: nozzle, filter holder front		

* Acetone rinses with brushing 3 times or more until perceivably clean.

COMMENTS: Acetone rinses are transferred directly to tared Teflon® beaker liners for analysis.

JS
11/18/99

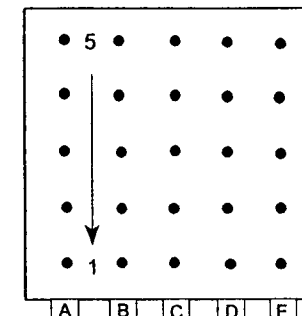
FIELD SAMPLING DATA FOR METHOD 17 TRAINS

page 1 of 2

Run No. 35 Date 11-18-99
 Project No. 104703.1.002.05.01
 Client U.S. EPA OAQPS EMAD EMC
 Source Cogentrix Unit 2A
 Sampling Location Baghouse Outlet
 Operator G. Miller
 Record data every 1-3 15 minutes
 Barometer No. Y-2021
 Barometric Pressure 30.21 in Hg
 Elevation to Meter Boxes 34 ft
 Meter Box P_{bar} 30.18 in Hg
 Elevation to Sampling Loc. 34 ft
 Sampling Location P_{bar} 30.18 in Hg
 Static Pressure -25 in H₂O

Train A No. M17-A
 Probe No. A Length: 10 ft
 Nozzle No. M17-14 Tip Dia. 0.146 in
 Pitot Tube No. A C_p 0.84
 Stack Thermocouple No. 3158A
 Filter Holder No. 3
 Filter Assembly No. F-11
 Impinger Box No. A-2
 Umbilical/Impinger Hookup UH-1
 Umbilical No. N50-4
 Meter Box No. N12
 DGM Correction (Y) 0.996
 Orifice Meter ΔH@ 1.810

Train B No. M17-B
 Probe No. B Length: 10 ft
 Nozzle No. M17-15 Tip Dia. 0.146 in
 Pitot Tube No. B C_p 0.84
 Stack Thermocouple No. 3158B
 Filter Holder No. 4
 Filter Assembly No. F-12
 Impinger Box No. B-2
 Umbilical/Impinger Hookup UH-2
 Umbilical No. N50-1
 Meter Box No. N-11
 DGM Correction (Y) 1.010
 Orifice Meter ΔH@ 1.895



Traverse Point Layout
Compass Direction > North

Assumed Moisture 11 % Assumed %CO₂ 15 % O₂ 5 Nozzles are quartz-glass.

	Train A Pitot Tube Pressure Measurement System Leak Checks										Train B Pitot Tube Pressure Measurement System Leak Checks									
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	0826	1015									0830	1019								
Pass or Fail		pass										pass								

	Train A Sampling System Leak Checks				Train B Sampling System Leak Checks			
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	0828	1017						
Vacuum, in Hg	15	7						
Leak Rate, cfm	.002	.002						
Final Meter Volume								
Initial Meter Volume								
Leak Check Volume								

	Train A Sampling System Leak Checks				Train B Sampling System Leak Checks			
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	0830	1021						
Vacuum, in Hg	15	7						
Leak Rate, cfm	.003	.003						
Final Meter Volume						93.901		40.414
Initial Meter Volume						68.652		14.138
Leak Check Volume						24.749		26.276

Remarks and Notes: List any other equipment requiring calibration below.

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11/20/99

	TRAIN A	TRAIN B
Meter Volume at Start of Run	<u>368.652</u>	<u>14.138</u>
Meter Volume at End of Run	<u>393.401</u>	<u>40.414</u>
Total Leak Check or Non-Sample Volume		
Adjusted Final Volume	<u>24.749</u>	<u>26.276</u>

Run No. 35
Date 11-18-94

Sampling Location Unit 2A Baghouse Outlet Duct
Project No. 104703.1.002.05.01

Operator Griffin page 2 of 2

Sampling Data for Method 17 Train A No. M17-A

Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³		Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O		Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F		Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F
			Initial	Desired		Desired	Actual		Inlet	Outlet		
Initia Time	0	0852	369.96	370.00	2.3	0.69	0.69	178	41	40	7	40
	4	0858	371.25	371.28	2.2	0.66	0.66	179	43	41	7	40
	3	0901	372.42	372.47	1.8	0.54	0.54	179	44	42	6	40
	2	0904	373.93	373.38	1.1	0.33	0.33	179	45	42	6	39
	1	0907	373.79	373.81	0.28	0.08	0.08	178	46	43	4	39
0908	B-5	0911	375.08	375.09	2.2	0.67	0.67	178	46	43	6	40
	4	0914	376.26	376.26	1.8	0.54	0.54	180	47	44	6	39
	3	0917	377.46	377.47	1.9	0.58	0.58	180	49	45	6	38
	2	0920	378.21	378.20	0.73	0.22	0.22	179	50	45	5	38
	1	0923	378.44	378.50	0.07	0.02	0.02	179	51	46	5	39
0925	C-5	0928	379.75	379.77	2.2	0.67	0.67	178	51	46	7	40
	4	0931	380.93	380.95	1.8	0.55	0.55	180	51	47	6	39
	3	0934	382.11	382.11	1.8	0.55	0.55	179	53	48	6	38
	2	0937	382.85	382.85	0.70	0.21	0.21	180	54	49	6	38
	1	0940	383.11	383.15	0.09	0.02	0.02	178	55	49	5	39
0941	D-5	0944	384.46	384.48	2.3	0.71	0.71	178	54	50	7	42
	4	0947	385.71	385.71	2.0	0.61	0.61	180	55	50	7	40
	3	0950	386.90	386.89	1.8	0.55	0.55	180	57	51	7	39
	2	0953	387.70	387.72	0.81	0.25	0.25	179	58	52	6	39
	1	0956	387.90	388.00	0.05	0.01	0.01	178	58	52	5	40
0958	E-5	1001	389.28	389.36	2.4	0.74	0.74	178	58	53	7	42
	4	1004	390.69	390.71	2.5	0.77	0.77	181	58	54	7	40
	3	1007	392.01	392.02	2.2	0.68	0.68	180	59	54	7	39
	2	1010	392.99	393.02	1.2	0.37	0.37	180	61	55	6	40
	1	1013	393.36	393.40	0.17	0.05	0.05	179	61	55	5	40

Sampling Data for Method 17 Train B No. <u>M17-B</u>												
F205	0	0853	14.138									
	5	0858	15.70	15.79	1.2	0.37	0.37	180	43	42	6	41
	10	0903	17.45	17.52	1.5	0.47	0.47	180	44	43	7	41
	15	0908	19.08	19.08	1.3	0.40	0.40	180	44	43	6	42
	20	0913	20.71	20.69	1.3	0.40	0.40	181	45	44	6	41
	25	0918	22.34	22.38	1.3	0.40	0.40	182	47	45	6	41
	30	0923	23.61	23.58	0.78	0.24	0.24	181	48	46	5	41
	35	0928	25.19	25.24	1.2	0.37	0.37	182	49	46	6	41
	40	0933	26.77	26.84	1.2	0.37	0.37	182	50	47	6	41
	45	0938	28.35	28.46	1.2	0.38	0.38	182	52	49	6	41
	50	0943	30.13	30.19	1.5	0.47	0.47	181	53	50	7	42
	55	0948	31.84	31.91	1.4	0.44	0.44	183	54	51	7	42
	60	0953	33.50	33.54	1.3	0.41	0.41	182	55	53	6	42
	65	0958	35.10	35.13	1.2	0.38	0.38	181	56	53	6	42
	70	1003	36.95	36.94	1.6	0.51	0.51	181	56	54	7	43
75	1008	38.74	38.77	1.5	0.48	0.48	183	57	55	7	43	
80	1013	40.34	40.414	1.2	0.38	0.38	182	58	56	6	43	

Remarks and Notes:

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11/20/94

**40 CFR 60, APPENDIX A, METHOD 3B
INTEGRATED GAS SAMPLING DATA**

Run No. 35 Date 11-18-99 Client/Source U.S. EPA / Cogentrix Unit 2A
 Project No. 104703.1.002.05.01 Sampling Location Unit 2A Baghouse Outlet
 Sample Type (Multi-Point, Single-Point) _____ Operator Gaffin
 Flow Control Device (Valve, Critical Orifice) _____ Bag Type Tedlar Sample No. NA
 Method 5 Meter Box No. N12 Method 3B Train No. NA
 M3B Pump Type diaphragm M3B Flow Meter Type rotameter
 M3B Pump No. N12 M3B Flow Meter No. 8900 1800
 Desired Sampling Rate 300 cc/min
 Leak Check Before Sampling 0 After Sampling 0
 Total Sampling Time 70 min Average Flow Meter Reading 3.0
 Flow Rate, cc/min: Average 300 Highest 300 Lowest 300
 Estimated Total Sample Volume 21 liters

Time (24-Hr)	Flow Meter Reading	Start Purge	Start Sampling	Stop Sampling	Sampling	Remarks and Notes
0852	3.0	✓				
0853	3.0		✓			
0903	3.0				✓	
0907	3.0			✓		Port Change
0908	3.0	✓				
0909	3.0		✓			
0919	3.0				✓	
0923	3.0			✓		Port Change
0925	3.0	✓				
0926	3.0		✓			
0936	3.0				✓	
0940	3.0			✓		Port Change
0941	3.0	✓				
0942	3.0		✓			
0952	3.0				✓	
0956	3.0			✓		Port Change
0958	3.0	✓				
0959	3.0		✓			
1009	3.0				✓	
1013	3.0			✓		End of Run

M3BSAMP WPD June 18, 1998

RB
11/20/99

40 CFR 60, APPENDIX A, METHOD 3B, GAS ANALYSIS BY ORSAT

Run No. 35 Date 11/18/99
 Project No. 104703.1.002.05.01 Sample No. NA
 Sampling Location Unit 2A Baghouse Outlet Duct
 Analysis Start Time 1020
 Sample Type (Bag, Grab) Bag
 Analyst J. Surman

Orsat Leak Check Before Analysis:
 Burette No Change in 4 Minutes
 Pipettes No Change in 4 Minutes
 Orsat Leak Check After Analysis:
 Burette No Change in 4 Minutes
 Pipettes No Change in 4 Minutes

Analysis	1		2		3		Average Net Value (% v/v)
Gas	Actual Reading	Net Value	Actual Reading	Net Value	Actual Reading	Net Value	
CO ₂	1 <u>15.0</u> 2 <u>15.0</u> 3	<u>15.0</u>	1 <u>15.0</u> 2 <u>15.0</u> 3	<u>15.0</u>	1 <u>15.0</u> 2 <u>15.0</u> 3	<u>15.0</u>	<u>15.0</u>
O ₂ (Net is actual reading minus actual CO ₂ reading)	1 <u>18.7</u> 2 <u>18.7</u> 3	<u>3.7</u>	1 <u>18.8</u> 2 <u>18.8</u> 3	<u>3.8</u>	1 <u>18.8</u> 2 <u>18.8</u> 3	<u>3.8</u>	<u>3.8</u>

Acceptance Criteria per Method 3B

CO₂ > 4% 0.3% v/v O₂ ≥ 15% 0.2% v/v
 ≤ 4% 0.2% v/v < 15% 0.3% v/v

Remarks and Notes:

PS
11/20/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY TRAIN SET-UP DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01

Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A

Source Location: Rocky Mount, North Carolina

Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 35 Sampling Train A No. M17-A Impinger Box A No. A-2
Sampling Train B No. M17-B Impinger Box B No. B-2

Set-up person(s): J. Surman Date: 11/17/99

Transfer to Sampler:

Relinquished By J. Surman Received By D. Griffin Date/Time 11/18/99 0805

TRAIN COMPONENT	REAGENT	LOADING DATA	
		TRAIN A	TRAIN B
Sampling Nozzle (Quartz)*	Nozzle I.D. No.	<u>M17-14</u>	<u>M17-15</u>
Filter Assembly and Holder*	Filter Assembly No.	<u>11</u>	<u>12</u>
Filter Type: Whatman QM-A	Filter Holder No.	<u>3</u>	<u>4</u>
Probe (316 SS)			
Sample Transfer/Vacuum Line			
Male 1st Impinger Inlet Blank-Off			
		Initial Weights (grams)	
1st Impinger (Mod-GBS) 100-200 mLs ASTM Type I Water		<u>674.2</u>	<u>621.1</u>
U-Connector (A)			
2nd Impinger (GBS) 100-200 mLs ASTM Type I Water		<u>647.8</u>	<u>705.9</u>
U-Connector (B)			
3rd Impinger (Mod-GBS) Empty		<u>542.8</u>	<u>467.2</u>
U-Connector (C)			
4th Impinger (Mod-GBS) ~200 g indicating silica gel		<u>730.4</u>	<u>799.1</u>
U-Connector (D)			
5th Impinger (Mod-GBS) ~200 g indicating silica gel		<u>740.9</u>	<u>730.9</u>
Impinger Outlet Connector	Connector I.D. No.	<u>UH-1</u>	<u>UH-2</u>

* Before and after sampling: Nozzle inlet opening and filter assembly holder outlet opening covered with Teflon® tape, and entire filter assembly holder with filter assembly and nozzle wrapped in aluminum foil and placed in Ziploc® bag. 1st impinger inlet sealed with glass blank-off.

Comments:

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11/20/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY SAMPLE RECOVERY DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 35 Sampling Train A No. M17-A Impinger Box A No. A-2
Sampling Train B No. M17-B Impinger Box B No. B-2

Transfer for Recovery:

Relinquished By D. Griffin Received By J. Surman Date/Time 11/18/99 1030
Sample recovery person(s): J. Surman Date: 11/18/99

Weights below are in grams.

BACK HALF RECOVERIES

	TRAIN A				TRAIN B			
Impinger:	1st	2nd	3rd	4th & 5th	1st	2nd	3rd	4th & 5th
Final Wt.	<u>744.0</u>	<u>647.5</u>	<u>542.9</u>	<u>735.3 + 741.2</u>	<u>692.1</u>	<u>705.6</u>	<u>467.1</u>	<u>803.7 + 731.4</u>
Initial Wt.	<u>674.2</u>	<u>647.8</u>	<u>542.8</u>	<u>1477.3</u>	<u>621.1</u>	<u>705.9</u>	<u>467.2</u>	<u>1530.0</u>
Net Wt.	<u>69.8</u>	<u>-0.3</u>	<u>0.1</u>	<u>5.2</u>	<u>71.0</u>	<u>-0.3</u>	<u>-0.1</u>	<u>5.1</u>
Total Condensate Collected:				<u>74.8</u>				<u>75.7</u>
Description and/or color:	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>25% + 90%</u>	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>15% + 90%</u>
				% Blue				% Blue

FRONT HALF RECOVERIES

	TRAIN A	TRAIN B
FILTER ASSEMBLY:		
Sample Number:	<u>35102</u>	<u>35104</u>
PM Description/color:	<u>black</u>	<u>black</u>
TRAIN RINSES:		
Sample Number:	<u>35101</u>	<u>35103</u>
Components Rinsed*: nozzle, filter holder front		

* Acetone rinses with brushing 3 times or more until perceivably clean.

COMMENTS: Acetone rinses are transferred directly to tared Teflon® beaker liners for analysis.

PS
11/20/99

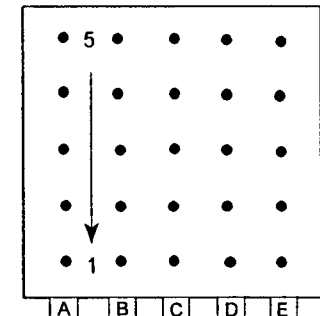
FIELD SAMPLING DATA FOR METHOD 17 TRAINS

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Run No. 36 Date 11-18-99
 Project No. 104703.1.002.05.01
 Client U.S. EPA OAQPS EMAD EMC
 Source Cogentrix Unit 2A
 Sampling Location Baghouse Outlet
 Operator G/H
 Record data every A=7 B=5 minutes
 Barometer No. Y-2021
 Barometric Pressure 30.22 in Hg
 Elevation to Meter Boxes 34 ft
 Meter Box P_{bar} 30.19 in Hg
 Elevation to Sampling Loc. 34 ft
 Sampling Location P_{bar} 30.19 in Hg
 Static Pressure -25.91 in H₂O

Train A No. M17-A
 Probe No. A Length: 10 ft
 Nozzle No. M17-10 Tip Dia. 0.146 in
 Pitot Tube No. A C_p 0.84
 Stack Thermocouple No. 3158A
 Filter Holder No. 6
 Filter Assembly No. F14
 Impinger Box No. A-1
 Umbilical/Impinger Hookup UH-30
 Umbilical No. N50-4
 Meter Box No. N12
 DGM Correction (Y) 0.996
 Orifice Meter ΔH@ 1.810

Train B No. M17-B
 Probe No. B Length: 10 ft
 Nozzle No. M17-9 Tip Dia. 0.146 in
 Pitot Tube No. B C_p 0.84
 Stack Thermocouple No. 3158B
 Filter Holder No. 5
 Filter Assembly No. F-13
 Impinger Box No. B-1
 Umbilical/Impinger Hookup UH-32
 Umbilical No. N50-1
 Meter Box No. N11
 DGM Correction (Y) 1.010
 Orifice Meter ΔH@ 1.898



Traverse Point Layout
 Compass Direction > North

Assumed Moisture 11 % Assumed %CO₂ 5 %O₂ 5 Nozzles are quartz-glass.

	Train A Pitot Tube Pressure Measurement System Leak Checks										Train B Pitot Tube Pressure Measurement System Leak Checks									
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	1056	1221									1058	1231								
Pass or Fail		pass										pass								

	Train A Sampling System Leak Checks				Train B Sampling System Leak Checks			
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	1057	1229						
Vacuum, in Hg	15	9						
Leak Rate, cfm	.003	.003						
Final Meter Volume								
Initial Meter Volume								
Leak Check Volume								

	Train A Sampling System Leak Checks				Train B Sampling System Leak Checks			
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	1055	1233						
Vacuum, in Hg	15	8						
Leak Rate, cfm	.004	.004						
Final Meter Volume					418.247	66.777		
Initial Meter Volume					393.787	40.759		
Leak Check Volume					22.460	26.018		

Remarks and Notes: List any other equipment requiring calibration below.

P3
 11/20/99

	TRAIN A	TRAIN B
Meter Volume at Start of Run	393.787	40.759
Meter Volume at End of Run	418.247	66.777
Total Leak Check or Non-Sample Volume		
Adjusted Final Volume	22.460	26.018

Run No. 36
Date 11-18-99

Sampling Location Unit 2A Baghouse Outlet Duct
Project No. 104703.1.002.05.01

page 2 of 2

Operator G. Sullivan

Sampling Data for Method 17 Train A No. M17-A

Initial Time	Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³		Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O		Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F		Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F
				Initial <u>393.787</u>	Desired		Desired	Actual		Inlet	Outlet		
1121	A-5	3	1108	395.11	395.13	2.2	0.68	0.68	180	57	57	7	50
	4	6	1111	396.50	396.49	2.4	0.74	0.74	181	59	58	8	49
	3	9	1114	397.76	397.74	2.0	0.62	0.62	180	59	58	7	49
	2	12	1117	398.61	398.60	0.89	0.27	0.27	180	61	58	6	48
	1	15	1120	399.07	399.02	0.27	0.09	0.08	180	62	59	5	47
1137	B-5	18	1124	400.35	400.27	2.0	0.62	0.62	179	61	59	7	48
	4	21	1127	401.53	401.50	1.9	0.59	0.59	179	61	59	7	47
	3	24	1130	402.72	402.64	1.6	0.50	0.50	180	63	60	7	45
	2	27	1133	403.47	403.39	0.68	0.21	0.21	180	64	60	6	45
	1	30	1136	403.74	403.66	0.09	0.02	0.02	179	64	60	5	46
1153	C-5	33	1140	405.01	404.91	2.0	0.63	0.63	178	64	61	8	47
	4	36	1143	406.22	406.13	1.8	0.56	0.56	182	64	61	8	47
	3	39	1146	407.36	407.27	1.4	0.50	0.50	182	66	62	8	45
	2	42	1149	408.09	408.06	0.64	0.20	0.20	181	67	62	8	45
	1	45	1152	408.24	408.27	0.03	0.01	0.01	179	66	62	5	46
1209	D-5	48	1156	409.59	409.59	2.2	0.69	0.69	179	65	63	8	49
	4	51	1159	410.73	410.70	1.6	0.50	0.50	180	66	63	8	47
	3	54	1202	411.98	411.91	1.9	0.60	0.60	179	68	63	8	45
	2	57	1205	412.77	412.75	0.75	0.23	0.23	179	68	63	7	45
	1	60	1208	412.97	412.95	0.05	0.01	0.01	177	68	64	5	46
	E-5	63	1212	414.35	414.29	2.3	0.72	0.72	179	66	64	9	49
	4	66	1215	415.79	415.70	2.5	0.79	0.79	178	68	64	9	47
	3	69	1218	416.94	416.87	1.6	0.50	0.50	178	69	65	8	46
	2	72	1221	417.80	417.78	0.88	0.28	0.28	177	70	65	7	45
	1	75	1224	418.24	418.247	0.24	0.07	0.07	176	70	65	6	46

Sampling Data for Method 17 Train B No. M17-B

				Sampling Data for Method 17 Train B No. <u>M17-B</u>									
F2.5	0	1105	40.754										
	5	1110	42.43	42.43	1.3	0.71	0.41	183	59	58	9	55	
	10	1115	44.04	44.07	1.2	0.38	0.38	182	59	58	7	51	
	15	1120	45.65	45.66	1.2	0.38	0.38	182	60	59	7	49	
	20	1125	47.02	47.04	0.86	0.27	0.27	182	61	59	7	48	
	25	1130	48.70	48.76	1.3	0.42	0.42	182	62	60	8	47	
	30	1135	50.25	50.29	1.1	0.35	0.35	182	62	61	7	47	
	35	1140	51.94	52.00	1.3	0.42	0.42	182	63	61	8	46	
	40	1145	53.32	53.40	0.87	0.28	0.28	183	64	62	7	46	
	45	1150	55.01	55.08	1.3	0.42	0.42	184	65	63	8	47	
	50	1155	56.70	56.73	1.3	0.42	0.42	182	65	64	8	46	
	55	1200	58.14	58.19	0.93	0.30	0.30	182	66	64	7	46	
	60	1205	59.84	59.93	1.3	0.42	0.42	181	67	65	8	47	
	65	1210	61.33	61.40	1.0	0.32	0.32	180	68	65	7	46	
	70	1215	63.16	63.32	1.5	0.49	0.49	179	68	66	8	47	
	75	1220	64.93	65.01	1.4	0.46	0.46	180	69	66	8	47	
	80	1225	66.77	66.777	1.5	0.49	0.49	179	69	67	8	47	

Remarks and Notes:

Total Pressure = -29.2 AP: 1.0 "B" Train

PS
11/20/99

**40 CFR 60, APPENDIX A, METHOD 3B
INTEGRATED GAS SAMPLING DATA**

Run No. 36 Date 11-18-99 Client/Source U.S. EPA / Cogentrix Unit 2A
 Project No. 104703.1.002.05.01 Sampling Location Unit 2A Baghouse Outlet
 Sample Type (Multi-Point, Single-Point) _____ Operator GPR
 Flow Control Device (Valve, Critical Orifice) _____ Bag Type Tedlar Sample No. NA
 Method 5 Meter Box No. N12 Method 3B Train No. NA
 M3B Pump Type diaphragm M3B Flow Meter Type rotameter
 M3B Pump No. N12 M3B Flow Meter No. 6800
 Desired Sampling Rate 300 cc/min
 Leak Check Before Sampling 0 After Sampling 0
 Total Sampling Time 70 min Average Flow Meter Reading 3.0
 Flow Rate, cc/min: Average 300 Highest 300 Lowest 300
 Estimated Total Sample Volume 21 liters

Time (24-Hr)	Flow Meter Reading	Start Purge	Start Sampling	Stop Sampling	Sampling	Remarks and Notes
1105	3.0	✓				
1106	3.0		✓			
1116	3.0				✓	
1120	3.0			✓		Port Change
1121	3.0	✓				
1122	3.0		✓			
1132	3.0				✓	
1136	3.0			✓		Port Change
1137	3.0	✓				
1138	3.0		✓			
1148	3.0				✓	
1152	3.0			✓		Port Change
1153	3.0	✓				
1154	3.0		✓			
1204	3.0				✓	
1208	3.0			✓		Port Change
1209	3.0	✓				
1210	3.0		✓			
1220	3.0				✓	
1224	3.0			✓		End of Run

M3BSAMP.WPD June 18, 1998

JS
11/20/99

40 CFR 60, APPENDIX A, METHOD 3B, GAS ANALYSIS BY ORSAT

Run No. 36 Date 11/18/99
 Project No. 104703.1.002.05.01 Sample No. NA
 Sampling Location Unit 2A Baghouse Outlet Duct
 Analysis Start Time 1235
 Sample Type (Bag, Grab) Bag
 Analyst J. Surman

Orsat Leak Check Before Analysis:
 Burrete No Change in 4 Minutes
 Pipettes No Change in 4 Minutes
 Orsat Leak Check After Analysis:
 Burrete No Change in 4 Minutes
 Pipettes No Change in 4 Minutes

Analysis	1		2		3		Average Net Value (% v/v)
Gas	Actual Reading	Net Value	Actual Reading	Net Value	Actual Reading	Net Value	
CO ₂	1 <u>14.9</u> 2 <u>14.9</u> 3	<u>14.9</u>	1 <u>14.9</u> 2 <u>14.9</u> 3	<u>14.9</u>	1 <u>14.9</u> 2 <u>14.9</u> 3	<u>14.9</u>	<u>14.9</u>
O ₂ (Net is actual reading minus actual CO ₂ reading)	1 <u>18.7</u> 2 <u>18.7</u> 3	<u>3.8</u>	1 <u>18.7</u> 2 <u>18.7</u> 3	<u>3.8</u>	1 <u>18.7</u> 2 <u>18.7</u> 3	<u>3.8</u>	<u>3.8</u>

Acceptance Criteria per Method 3B

CO₂ > 4% 0.3% v/v O₂ ≥ 15% 0.2% v/v
 ≤ 4% 0.2% v/v < 15% 0.3% v/v

Remarks and Notes:

PS
11/26/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY TRAIN SET-UP DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01

Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A

Source Location: Rocky Mount, North Carolina

Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 36 Sampling Train A No. M17-A Impinger Box A No. A-1
Sampling Train B No. M17-B Impinger Box B No. B-1

Set-up person(s): J. Surman Date: 11/17/99

Transfer to Sampler:

Relinquished By J. Surman Received By D. Griffin Date/Time 11/18/99 1030

TRAIN COMPONENT	REAGENT	LOADING DATA	
		TRAIN A	TRAIN B
Sampling Nozzle (Quartz)*	Nozzle I.D. No.	<u>M17-9</u>	<u>M17-10</u>
Filter Assembly and Holder*	Filter Assembly No.	<u>13</u>	<u>14</u>
Filter Type: Whatman QM-A	Filter Holder No.	<u>5</u>	<u>6</u>
Probe (316 SS)			
Sample Transfer/Vacuum Line			
Male 1st Impinger Inlet Blank-Off			
		Initial Weights (grams)	
1st Impinger (Mod-GBS) 100-200 mLs ASTM Type I Water		<u>645.4</u>	<u>667.6</u>
U-Connector (A)			
2nd Impinger (GBS) 100-200 mLs ASTM Type I Water		<u>657.5</u>	<u>675.4</u>
U-Connector (B)			
3rd Impinger (Mod-GBS) Empty		<u>495.6</u>	<u>464.6</u>
U-Connector (C)			
4th Impinger (Mod-GBS) ~200 g indicating silica gel		<u>732.2</u>	<u>734.3</u>
U-Connector (D)			
5th Impinger (Mod-GBS) ~200 g indicating silica gel		<u>756.8</u>	<u>697.0</u>
Impinger Outlet Connector	Connector I.D. No.	<u>UH-30</u>	<u>UH-32</u>

* Before and after sampling: Nozzle inlet opening and filter assembly holder outlet opening covered with Teflon® tape, and entire filter assembly holder with filter assembly and nozzle wrapped in aluminum foil and placed in Ziploc® bag. 1st impinger inlet sealed with glass blank-off.

Comments:

PS
11/20/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY SAMPLE RECOVERY DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 36 Sampling Train A No. M17-A Impinger Box A No. A-1
Sampling Train B No. M17-B Impinger Box B No. B-1

Transfer for Recovery:

Relinquished By D. Griffin Received By J. Surman Date/Time 11/18/99 1245
Sample recovery person(s): J. Surman Date: 11/18/99

Weights below are in grams.

BACK HALF RECOVERIES

	TRAIN A				TRAIN B			
Impinger:	1st	2nd	3rd	4th & 5th	1st	2nd	3rd	4th & 5th
Final Wt.	<u>700.2</u>	<u>665.6</u>	<u>495.7</u>	<u>737.2+758.3</u>	<u>733.5</u>	<u>685.4</u>	<u>464.9</u>	<u>739.5+697.1</u>
Initial Wt.	<u>645.4</u>	<u>657.5</u>	<u>495.6</u>	<u>1489.0</u>	<u>667.6</u>	<u>675.4</u>	<u>464.6</u>	<u>1431.3</u>
Net Wt.	<u>54.8</u>	<u>8.1</u>	<u>0.1</u>	<u>6.5</u>	<u>65.9</u>	<u>10.0</u>	<u>0.3</u>	<u>5.3</u>
Total Condensate Collected:				<u>69.5</u>				<u>81.5</u>
Description and/or color:	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>50% + 90%</u>	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>45% + 90%</u>
				% Blue				% Blue

FRONT HALF RECOVERIES

	TRAIN A	TRAIN B
FILTER ASSEMBLY:		
Sample Number:	<u>36 102</u>	<u>36 104</u>
PM Description/color:	<u>black</u>	<u>black</u>
TRAIN RINSES:		
Sample Number:	<u>36 101</u>	<u>36 103</u>
Components Rinsed*: nozzle, filter holder front		

* Acetone rinses with brushing 3 times or more until perceivably clean.

COMMENTS: Acetone rinses are transferred directly to tared Teflon® beaker liners for analysis.

JS
11/20/99

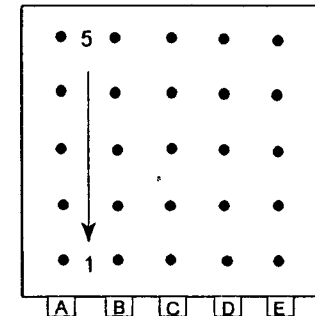
FIELD SAMPLING DATA FOR METHOD 17 TRAINS

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Run No. 31 Date 11-18-99
 Project No. 104703.1.002.05.01
 Client U.S. EPA OAQPS EMAD EMC
 Source Cogentrix Unit 2A
 Sampling Location Baghouse Outlet
 Operator G. Griffin
 Record data every A=3 B=5 minutes
 Barometer No. Y-2021
 Barometric Pressure 30.23 in Hg
 Elevation to Meter Boxes 34 ft
 Meter Box P_{bar} 30.20 in Hg
 Elevation to Sampling Loc. 34 ft
 Sampling Location P_{bar} 30.20 in Hg
 Static Pressure 12.25 - 12.09 in H₂O

Train A No. M17-A
 Probe No. A Length: 10 ft
 Nozzle No. M17-14 Tip Dia. 0.146 in
 Pitot Tube No. A C_p 0.84
 Stack Thermocouple No. 3158A
 Filter Holder No. 7
 Filter Assembly No. F15
 Impinger Box No. A-2
 Umbilical/Impinger Hookup UH-1
 Umbilical No. N50-4
 Meter Box No. N12
 DGM Correction (Y) 0.996
 Orifice Meter ΔH@ 1.810

Train B No. M17-B
 Probe No. B Length: 10 ft
 Nozzle No. M17-15 Tip Dia. 0.146 in
 Pitot Tube No. B C_p 0.84
 Stack Thermocouple No. 3158B
 Filter Holder No. 8
 Filter Assembly No. F16
 Impinger Box No. B-2
 Umbilical/Impinger Hookup UH-2
 Umbilical No. N50-7
 Meter Box No. N11
 DGM Correction (Y) 1.010
 Orifice Meter ΔH@ 1.898



Traverse Point Layout
 Compass Direction > North

	Train A Pitot Tube Pressure Measurement System Leak Checks										Train B Pitot Tube Pressure Measurement System Leak Checks									
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	1049	0047									1053	0051								
Pass or Fail		pass										pass								

Train A Sampling System Leak Checks										
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	1051	0049								
Vacuum, in Hg	15	6								
Leak Rate, cfm	1.002	1.001								
Final Meter Volume										
Initial Meter Volume										
Leak Check Volume										

Train B Sampling System Leak Checks										
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	1053	0053								
Vacuum, in Hg	15	6								
Leak Rate, cfm	1.003	1.003								
Final Meter Volume										
Initial Meter Volume										
Leak Check Volume										

Remarks and Notes: List any other equipment requiring calibration below.

PB
11/20/99

	TRAIN A	TRAIN B
Meter Volume at Start of Run	418.645	76.934
Meter Volume at End of Run	440.240	98.720
Total Leak Check or Non-Sample Volume		
Adjusted Final Volume		

RCA#2 APPENDIX C

Run No. 1036-37Sampling Location Unit 2A Baghouse Outlet Ductpage 2 of 2Date 11-18-99Project No. 104703.1.002.05.01Operator G. Miller

to 11/19/99 8.3

Sampling Data for Method 17 Train A No. M17-A

Initial Time	Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³		Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O		Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F		Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F
				Initial <u>418.645</u>			Desired	Actual		Inlet	Outlet		
2341	A-5	3	2327	419.81	419.85	1.7	0.54	0.54	177	48	47	6	39
	4	6	2330	420.94	420.99	1.6	0.50	0.50	178	47	47	6	36
	3	9	2333	422.00	422.02	1.4	0.44	0.44	176	47	47	5	36
	2	12	2336	422.78	422.78	0.77	0.24	0.24	177	47	47	5	37
	1	15	2339	423.11	423.06	0.14	0.04	0.04	176	48	47	4	37
2351	B-5	18	2344	424.25	424.18	1.6	0.50	0.50	176	47	47	5	37
	4	21	2347	425.30	425.26	1.4	0.44	0.44	177	48	47	5	37
	3	24	2350	426.36	426.29	1.4	0.44	0.44	177	49	47	5	35
	2	27	2353	427.02	426.96	0.54	0.17	0.17	177	49	47	5	35
	1	30	2356	427.27	427.23	0.08	0.02	0.02	176	49	48	4	36
2357	C-5	33	2400	428.33	428.27	1.4	0.44	0.44	176	49	48	5	37
	4	36	0003	429.35	429.27	1.3	0.41	0.41	177	49	48	5	35
	3	39	0006	430.29	430.23	1.1	0.35	0.35	177	50	48	5	35
	2	42	0009	431.38	431.33	0.42	0.13	0.13	177	51	48	5	35
	1	45	0012	431.11	431.00	0.07	0.02	0.02	176	51	48	3	35
0013	D-5	48	0016	432.28	432.16	1.7	0.54	0.54	177	50	48	6	37
	4	51	0019	433.34	433.23	1.4	0.44	0.44	177	50	48	5	35
	3	54	0022	434.44	434.34	1.5	0.47	0.47	178	52	49	6	35
	2	57	0025	435.09	435.06	0.52	0.16	0.16	178	53	49	5	34
	1	60	0028	435.35	435.34	0.08	0.02	0.02	177	52	49	4	35
0029	E-5	63	0032	436.55	436.53	1.8	0.57	0.57	177	50	49	6	37
	4	66	0035	437.75	437.75	1.8	0.57	0.57	177	51	49	6	34
	3	69	0038	438.89	438.89	1.6	0.51	0.51	178	52	49	6	34
	2	72	0041	439.92	439.90	1.3	0.41	0.41	178	53	49	6	34
	1	75	0043	440.23	440.240	0.12	0.03	0.03	172	53	50	4	35

				Sampling Data for Method 17 Train B No. <u>M17-B</u>								
	0	B24	76-934									
F2-5	5	2327 78.35	78.35	78.41	0.91	0.30	0.30	180	48	48	5	41
	10	7834	79.71	79.76	0.84	0.28	0.28	179	48	48	5	39
	15	7839	81.10	81.16	0.87	0.29	0.29	180	48	48	5	39
	20	2844	82.48	82.58	0.87	0.29	0.29	179	48	48	5	38
	25	2849	83.92	83.98	0.94	0.31	0.31	180	48	48	5	38
	30	2854	85.30	85.39	0.86	0.28	0.28	179	49	48	5	38
	35	2859	86.65	86.70	0.87	0.27	0.27	179	49	49	5	37
	40	0004	87.98	88.00	0.80	0.26	0.26	180	49	49	5	37
	45	0009	89.25	89.30	0.77	0.25	0.25	179	50	49	5	37
	50	0014	90.64	90.65	0.82	0.27	0.27	179	50	49	5	37
	55	0019	91.84	91.94	0.65	0.21	0.21	180	50	49	5	37
	60	0024	93.25	93.31	0.89	0.30	0.30	178	51	50	6	37
	65	0029	94.60	94.74	0.82	0.27	0.27	180	52	51	5	37
	70	0034	96.06	96.15	0.95	0.32	0.32	179	52	51	5	37
	75	0039	97.49	97.54	0.91	0.30	0.30	179	53	51	5	36
	80	0044	98.65	98.720	0.60	0.20	0.20	179	53	51	5	37

Remarks and Notes:

1/3 Train Total Pressure = -16.5
 AP = 0.83

28
 11/20/99

M17DPG2.WPD September 3, 1999

**40 CFR 60, APPENDIX A, METHOD 3B
INTEGRATED GAS SAMPLING DATA**

Run No. 136 37 Date 11-18-99

Client/Source U.S. EPA / Cogentrix Unit 2A

Project No. 104703.1.002.05.01

Sampling Location Unit 2A Baghouse Outlet

Sample Type (Multi-Point, ~~Single-Point~~)

Operator Griffin

Flow Control Device (Valve, ~~Critical Orifice~~)

Bag Type Tedlar Sample No. NA

Method 5 Meter Box No. N12

Method 3B Train No. NA

M3B Pump Type diaphragm

M3B Flow Meter Type rotameter

M3B Pump No. N12M3B Flow Meter No. 682cDesired Sampling Rate 300 cc/minLeak Check Before Sampling 0 After Sampling 0

Total Sampling Time 70 min Average Flow Meter Reading 3.0

Flow Rate, cc/min: Average 300 Highest 300 Lowest 300

Estimated Total Sample Volume 2 liters

[illegible]

M3BSAMP WPD June 18, 1998

P.S.
11/20/99

40 CFR 60, APPENDIX A, METHOD 3B, GAS ANALYSIS BY ORSAT

Run No. 37 Date 11/19/99Project No. 104703.1.002.05.01 Sample No. NASampling Location Unit 2A Baghouse Outlet DuctAnalysis Start Time 0115Sample Type (Bag, Grab) BagAnalyst J. Surman

Orsat Leak Check Before Analysis:

Burrete No Change in 4 MinutesPipettes No Change in 4 Minutes

Orsat Leak Check After Analysis:

Burrete No Change in 4 MinutesPipettes No Change in 4 Minutes

Analysis	1		2		3		Average Net Value (% v/v)
Gas	Actual Reading	Net Value	Actual Reading	Net Value	Actual Reading	Net Value	
CO ₂	1 <u>13.5</u> 2 <u>13.5</u> 3	<u>13.5</u>	1 <u>13.5</u> 2 <u>13.5</u> 3	<u>13.5</u>	1 <u>13.5</u> 2 <u>13.5</u> 3	<u>13.5</u>	<u>13.5</u>
O ₂ (Net is actual reading minus actual CO ₂ reading)	1 <u>19.6</u> 2 <u>19.6</u> 3	<u>6.1</u>	1 <u>19.6</u> 2 <u>19.6</u> 3	<u>6.1</u>	1 <u>19.6</u> 2 <u>19.6</u> 3	<u>6.1</u>	<u>6.1</u>

Acceptance Criteria per Method 3B

CO₂ > 4% 0.3% v/v O₂ ≥ 15% 0.2% v/v
 ≤ 4% 0.2% v/v < 15% 0.3% v/v

Remarks and Notes:

JB
11/20/99

**40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY TRAIN SET-UP DATA FOR TWO TRAINS**

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 37 Sampling Train A No. M17-A Impinger Box A No. A-2
Sampling Train B No. M17-B Impinger Box B No. B-2

Set-up person(s): J. Surman Date: 11/18/99

Transfer to Sampler:

Relinquished By J. Surman Received By D. Griffin Date/Time 11/18/99 2215
2015/11

TRAIN COMPONENT	REAGENT	LOADING DATA	
		TRAIN A	TRAIN B
Sampling Nozzle (Quartz)*	Nozzle I.D. No.	<u>M17-14</u>	<u>M17-15</u>
Filter Assembly and Holder*	Filter Assembly No.	<u>15</u>	<u>16</u>
Filter Type: Whatman QM-A	Filter Holder No.	<u>7</u>	<u>8</u>
Probe (316 SS)			
Sample Transfer/Vacuum Line			
Male 1st Impinger Inlet Blank-Off			
		Initial Weights (grams)	
1st Impinger (Mod-GBS)	100-200 mLs ASTM Type I Water	<u>684.9</u>	<u>692.1</u>
U-Connector (A)			
2nd Impinger (GBS)	100-200 mLs ASTM Type I Water	<u>647.6</u>	<u>705.6</u>
U-Connector (B)			
3rd Impinger (Mod-GBS)	Empty	<u>543.0</u>	<u>467.1</u>
U-Connector (C)			
4th Impinger (Mod-GBS)	~200 g indicating silica gel	<u>682.1</u>	<u>775.8</u>
U-Connector (D)			
5th Impinger (Mod-GBS)	~200 g indicating silica gel	<u>741.1</u>	<u>731.3</u>
Impinger Outlet Connector	Connector I.D. No.	<u>UH-1</u>	<u>UH-2</u>

* Before and after sampling: Nozzle inlet opening and filter assembly holder outlet opening covered with Teflon® tape, and entire filter assembly holder with filter assembly and nozzle wrapped in aluminum foil and placed in Ziploc® bag. 1st impinger inlet sealed with glass blank-off.

Comments:

PS
11/20/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY SAMPLE RECOVERY DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 37 Sampling Train A No. M17-A Impinger Box A No. A-2
Sampling Train B No. M17-B Impinger Box B No. B-2

Transfer for Recovery:

Relinquished By D. Griffin Received By J. Surman Date/Time 11/19/99 0130
Sample recovery person(s): J. Surman Date: 11/19/99

Weights below are in grams.

BACK HALF RECOVERIES

	TRAIN A				TRAIN B			
Impinger:	1st	2nd	3rd	4th & 5th	1st	2nd	3rd	4th & 5th
Final Wt.	<u>736.1</u>	<u>647.4</u>	<u>543.1</u>	<u>686.9 + 774.3</u>	<u>722.2</u>	<u>723.4</u>	<u>462.2</u>	<u>780.5 + 731.7</u>
Initial Wt.	<u>684.9</u>	<u>647.6</u>	<u>543.0</u>	<u>1423.2</u>	<u>692.1</u>	<u>705.6</u>	<u>467.1</u>	<u>1507.1</u>
Net Wt.	<u>51.2</u>	<u>-0.2</u>	<u>0.1</u>	<u>5.0</u>	<u>30.1</u>	<u>17.8</u>	<u>0.1</u>	<u>5.1</u>
Total Condensate Collected:				<u>56.1</u>				<u>53.1</u>
Description and/or color:	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>40% + 95%</u>	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>40% + 95%</u>
				% Blue				% Blue

FRONT HALF RECOVERIES

	TRAIN A	TRAIN B
FILTER ASSEMBLY:		
Sample Number:	<u>37102</u>	<u>37104</u>
PM Description/color:	<u>black</u>	<u>black</u>
TRAIN RINSES:		
Sample Number:	<u>37101</u>	<u>37103</u>
Components Rinsed*: nozzle, filter holder front		

* Acetone rinses with brushing 3 times or more until perceivably clean.

COMMENTS: Acetone rinses are transferred directly to tared Teflon® beaker liners for analysis.

RS
11/20/99

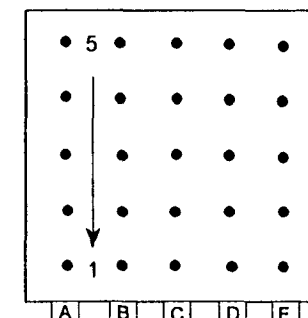
FIELD SAMPLING DATA FOR METHOD 17 TRAINS

page 1 of 2

Run No. 38 Date 11-19-99
 Project No. 104703.1.002.05.01
 Client U.S. EPA OAQPS EMAD EMC
 Source Cogentrix Unit 2A
 Sampling Location Baghouse Outlet
 Operator Griffen
 Record data every A=3 B=5 minutes
 Barometer No. Y-2021
 Barometric Pressure 30.23 in Hg
 Elevation to Meter Boxes 34 ft
 Meter Box P_{bar} 30.20 in Hg
 Elevation to Sampling Loc. 34 ft
 Sampling Location P_{bar} 30.20 in Hg
 Static Pressure A=16 -17.08 in H₂O

Train A No. M17-A
 Probe No. A Length: 10 ft
 Nozzle No. M17-10 Tip Dia. 0.146 in
 Pitot Tube No. A C_p 0.84
 Stack Thermocouple No. 3158A
 Filter Holder No. 2
 Filter Assembly No. F-18
 Impinger Box No. A-1
 Umbilical/Impinger Hookup UH-30
 Umbilical No. N50-4
 Meter Box No. N12
 DGM Correction (Y) 0.996
 Orifice Meter ΔH@ 1.810

Train B No. M17-B
 Probe No. B Length: 10 ft
 Nozzle No. M17-9 Tip Dia. 0.146 in
 Pitot Tube No. B C_p 0.84
 Stack Thermocouple No. 3158B
 Filter Holder No. 1
 Filter Assembly No. F-17
 Impinger Box No. B-1
 Umbilical/Impinger Hookup UH-32
 Umbilical No. N50-1
 Meter Box No. N11
 DGM Correction (Y) 1.010
 Orifice Meter ΔH@ 1.398



Traverse Point Layout
 Compass Direction > North

Assumed Moisture 9 % Assumed %CO₂ 15 % O₂ 5 Nozzles are quartz-glass.

Train A Pitot Tube Pressure Measurement System Leak Checks										Train B Pitot Tube Pressure Measurement System Leak Checks									
Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	<u>12:15</u>	<u>0259</u>								<u>12:15</u>	<u>0303</u>								
Pass or Fail	<u>0115</u>	<u>0000</u>								<u>0115</u>	<u>0000</u>								

Train A Sampling System Leak Checks										Train B Sampling System Leak Checks									
Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	<u>12:15</u>	<u>0117</u>	<u>0301</u>																
Vacuum, in Hg	<u>15</u>	<u>7</u>																	
Leak Rate, cfm	<u>.003</u>	<u>.003</u>																	
Final Meter Volume																			
Initial Meter Volume																			
Leak Check Volume																			

Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	<u>12:15</u>	<u>0119</u>	<u>0305</u>																
Vacuum, in Hg	<u>15</u>	<u>6</u>																	
Leak Rate, cfm	<u>.002</u>	<u>.002</u>																	
Final Meter Volume																			
Initial Meter Volume																			
Leak Check Volume																			

Remarks and Notes: List any other equipment requiring calibration below.

RS
11/20/99

	TRAIN A	TRAIN B
Meter Volume at Start of Run	<u>440.664</u>	<u>99.002</u>
Meter Volume at End of Run	<u>462.344</u>	<u>121.140</u>
Total Leak Check or Non-Sample Volume		
Adjusted Final Volume		

Run No. 38
Date 11-19-99

Sampling Location Unit 2A Baghouse Outlet Duct
Project No. 104703.1.002.05.01

page 2 of 2

Operator Grell

Sampling Data for Method 17 Train A No. M17-A

Intvl
Time

Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³		Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O		Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F		Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F
			Initial <u>440.664</u>	Desired		Desired	Actual		Inlet	Outlet		
A-5	3	0137										
	4	0140	441.84	441.91	1.7	0.55	0.55	177	48	48	7	38
	6	0143	443.02	443.11	1.7	0.55	0.55	178	47	47	7	38
	9	0146	444.16	444.22	1.6	0.51	0.51	179	48	47	6	38
	12	0149	444.95	445.04	0.82	0.26	0.26	178	49	47	5	38
	15	0152	445.32	445.37	0.14	0.04	0.04	176	49	47	5	38
B-5	18	0156	446.56	446.52	1.6	0.52	0.52	178	49	47	6	37
	21	0159	447.54	447.57	1.4	0.45	0.45	178	50	48	6	37
	24	0202	448.57	448.58	1.3	0.42	0.42	178	50	47	6	37
	27	0205	449.25	449.23	0.56	0.18	0.18	177	51	48	5	37
	30	0208	449.49	449.45	0.07	0.02	0.02	177	50	48	4	36
C-5	33	0212	450.64	450.60	1.6	0.52	0.52	174	50	48	6	37
	36	0215	451.71	451.66	1.4	0.45	0.45	178	50	47	6	36
	39	0218	452.70	452.70	1.2	0.39	0.39	177	50	47	6	36
	42	0221	453.27	453.27	0.46	0.13	0.13	179	51	48	5	36
	45	0224	453.43	453.38	0.03	0.01	0.01	177	51	48	4	36
D-5	48	0228	454.58	454.53	1.6	0.52	0.52	177	50	48	6	36
	51	0231	455.69	455.65	1.5	0.49	0.49	177	50	48	6	36
	54	0234	456.76	456.72	1.4	0.45	0.45	177	52	48	6	35
	57	0237	457.44	457.43	0.58	0.18	0.18	178	52	48	5	35
	60	0240	457.66	457.57	0.05	0.01	0.01	176	52	48	4	35
E-5	63	0244	458.84	458.76	1.7	0.55	0.55	177	50	48	6	35
	66	0247	460.06	459.98	1.9	0.58	0.58	177	50	48	7	35
	69	0250	461.05	461.02	1.2	0.39	0.39	178	51	48	6	34
	72	0253	462.05	462.02	1.2	0.39	0.39	177	53	49	6	35
	75	0256	462.34	462.344	0.10	0.03	0.03	177	52	49	5	35

0153

0209

0225

0241

C			99.002		Sampling Data for Method 17 Train B No. <u>M17-B</u>							
F2-5												
	5	0142	100.39	100.45	0.87	0.29	0.29	178	49	48	6	39
	10	0147	101.81	101.85	0.92	0.30	0.30	179	48	48	6	39
	15	0152	103.22	103.28	0.96	0.30	0.30	179	48	48	6	39
	20	0157	104.61	104.67	0.87	0.29	0.29	179	49	49	6	39
	25	0202	105.97	106.06	0.83	0.27	0.27	180	49	49	6	39
	30	0207	107.23	107.38	0.79	0.26	0.26	181	50	49	6	39
	35	0212	108.61	108.74	0.79	0.26	0.26	180	50	49	6	39
	40	0217	110.07	110.09	0.96	0.32	0.32	178	51	49	6	38
	45	0222	111.50	111.52	0.92	0.31	0.31	179	51	50	6	37
	50	0227	112.87	112.90	0.84	0.28	0.28	181	51	50	6	37
	55	0232	114.22	114.25	0.82	0.27	0.27	180	51	50	6	37
	60	0237	115.57	115.61	0.82	0.27	0.27	179	51	50	6	37
	65	0242	116.95	117.03	0.86	0.29	0.29	180	51	50	6	37
	70	0247	118.35	118.57	0.88	0.29	0.29	181	52	50	6	37
	75	0252	119.75	119.80	0.87	0.29	0.29	179	52	50	6	37
	80	0257	121.13	121.140	0.85	0.28	0.28	179	52	51	6	37

Remarks and Notes:

1" B Train Total Pressure - 16.4
AP = 0.96

PS
11/20/99

**40 CFR 60, APPENDIX A, METHOD 3B
INTEGRATED GAS SAMPLING DATA**

Run No. 38 Date 11-19-99 Client/Source U.S. EPA / Cogentrix Unit 2A
 Project No. 104703.1.002.05.01 Sampling Location Unit 2A Baghouse Outlet
 Sample Type (Multi-Point, Single-Point) _____ Operator Gyl
 Flow Control Device (Valve, Critical Orifice) _____ Bag Type Tedlar Sample No. NA
 Method 5 Meter Box No. N12 Method 3B Train No. NA
 M3B Pump Type diaphragm M3B Flow Meter Type rotameter
 M3B Pump No. N12 M3B Flow Meter No. 6800
 Desired Sampling Rate 300 cc/min
 Leak Check Before Sampling 0 After Sampling 0
 Total Sampling Time 70 min Average Flow Meter Reading 30
 Flow Rate, cc/min: Average 300 Highest 300 Lowest 300
 Estimated Total Sample Volume 21 liters

Time (24-Hr)	Flow Meter Reading	Start Purge	Start Sampling	Stop Sampling	Sampling	Remarks and Notes
0137	30	✓				
0138	30		✓			
0148	30				✓	
0152	30			✓		Port Change
0153	30	✓				
0154	30		✓			
0204	30				✓	
0208	30			✓		Port Change
0209	30	✓				
0210	30		✓			
0220	30				✓	
0224	30			✓		Port Change
0225	30	✓				
0226	30		✓			
0236	30				✓	
0240	30			✓		Port Change
0241	30	✓				
0242	30		✓			
0252	30				✓	
0256	30			✓		End of Run

M3BSAMP.WPD June 18, 1998

RS
11/20/99

40 CFR 60, APPENDIX A, METHOD 3B, GAS ANALYSIS BY ORSAT

Run No. 38 Date 11/19/99 Orsat Leak Check Before Analysis:
 Project No. 104703.1.002.05.01 Sample No. NA Burette ND Change in 4 Minutes
 Sampling Location Unit 2A Baghouse Outlet Duct Pipettes ND Change in 4 Minutes
 Analysis Start Time 0310 Orsat Leak Check After Analysis:
 Sample Type (Bag, Grab) Bag Burette ND Change in 4 Minutes
 Analyst J. Swiman Pipettes ND Change in 4 Minutes

Analysis	1		2		3		Average Net Value (% v/v)
Gas	Actual Reading	Net Value	Actual Reading	Net Value	Actual Reading	Net Value	
CO ₂	1 <u>13.0</u> 2 <u>13.0</u> 3	<u>13.0</u>	1 <u>13.0</u> 2 <u>13.0</u> 3	<u>13.0</u>	1 <u>13.0</u> 2 <u>13.0</u> 3	<u>13.0</u>	<u>13.0</u>
O ₂ (Net is actual reading minus actual CO ₂ reading)	1 <u>18.7</u> 2 <u>18.7</u> 3	<u>5.7</u>	1 <u>18.7</u> 2 <u>18.7</u> 3	<u>5.7</u>	1 <u>18.7</u> 2 <u>18.7</u> 3	<u>5.7</u>	<u>5.7</u>

Acceptance Criteria per Method 3B

CO₂ >4% 0.3% v/v O₂ ≥15% 0.2% v/v
 ≤4% 0.2% v/v <15% 0.3% v/v

Remarks and Notes:

PB
11/20/99

**40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY TRAIN SET-UP DATA FOR TWO TRAINS**

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 38 Sampling Train A No. M17-A Impinger Box A No. A-1
Sampling Train B No. M17-B Impinger Box B No. B-1

Set-up person(s): J. Surman Date: 11/18/99

Transfer to Sampler:

Relinquished By J. Surman Received By D. Grittin Date/Time 11/19/99 0130

TRAIN COMPONENT	REAGENT	LOADING DATA	
		TRAIN A	TRAIN B
Sampling Nozzle (Quartz) *	Nozzle I.D. No.	<u>M17-9</u>	<u>M17-10</u>
Filter Assembly and Holder *	Filter Assembly No.	<u>17</u>	<u>18</u>
Filter Type: Whatman QM-A	Filter Holder No.	<u>1</u>	<u>2</u>
Probe (316 SS)			
Sample Transfer/Vacuum Line			
Male 1st Impinger Inlet Blank-Off			
		Initial Weights (grams)	
1st Impinger (Mod-GBS) 100-200 mLs ASTM Type I Water		<u>648.1</u>	<u>647.3</u>
U-Connector (A)		<u>665.6</u>	<u>685.4</u>
2nd Impinger (GBS) 100-200 mLs ASTM Type I Water		<u>495.7</u>	<u>464.9</u>
U-Connector (B)		<u>737.2</u>	<u>739.5</u>
3rd Impinger (Mod-GBS) Empty		<u>758.3</u>	<u>697.1</u>
U-Connector (C)			
4th Impinger (Mod-GBS) ~200 g indicating silica gel			
U-Connector (D)			
5th Impinger (Mod-GBS) ~200 g indicating silica gel			
Impinger Outlet Connector	Connector I.D. No.	<u>UH-30</u>	<u>UH-32</u>

* Before and after sampling: Nozzle inlet opening and filter assembly holder outlet opening covered with Teflon® tape, and entire filter assembly holder with filter assembly and nozzle wrapped in aluminum foil and placed in Ziploc® bag. 1st impinger inlet sealed with glass blank-off.

Comments:

PS
11/20/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY SAMPLE RECOVERY DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 38 Sampling Train A No. M17-A Impinger Box A No. A-1
Sampling Train B No. M17-B Impinger Box B No. B-1

Transfer for Recovery:

Relinquished By D. Griffin Received By J. Surman Date/Time 11/19/99 0330
Sample recovery person(s): J. Surman Date: 11/19/99

Weights below are in grams.

BACK HALF RECOVERIES

	TRAIN A				TRAIN B			
Impinger:	1st	2nd	3rd	4th & 5th	1st	2nd	3rd	4th & 5th
Final Wt.	<u>700.4</u>	<u>652.7</u>	<u>513.0</u>	<u>741.2 + 259.3</u>	<u>698.6</u>	<u>685.3</u>	<u>464.9</u>	<u>743.3 + 697.7</u>
Initial Wt.	<u>648.1</u>	<u>665.6</u>	<u>495.7</u>	<u>1495.5</u>	<u>647.3</u>	<u>685.4</u>	<u>464.9</u>	<u>1436.6</u>
Net Wt.	<u>52.3</u>	<u>-12.9</u>	<u>17.3</u>	<u>5.0</u>	<u>51.3</u>	<u>-0.1</u>	<u>0</u>	<u>4.4</u>
Total Condensate Collected:				<u>61.7</u>				<u>55.6</u>
Description and/or color:	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>35% + 95%</u>	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>35% + 95%</u>
				% Blue				% Blue

FRONT HALF RECOVERIES

	TRAIN A	TRAIN B
FILTER ASSEMBLY:		
Sample Number:	<u>38 102</u>	<u>38 104</u>
PM Description/color:	<u>black</u>	<u>black</u>
TRAIN RINSES:		
Sample Number:	<u>38 101</u>	<u>38 103</u>
Components Rinsed*: nozzle, filter holder front		

* Acetone rinses with brushing 3 times or more until perceivably clean.

COMMENTS: Acetone rinses are transferred directly to tared Teflon® beaker liners for analysis.

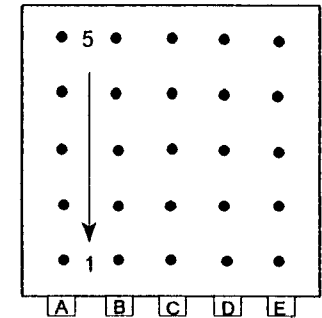
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FIELD SAMPLING DATA FOR METHOD 17 TRAINS

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Run No. 39 Date 11-19-99
 Project No. 104703.1.002.05.01
 Client U.S. EPA OAQPS EMAD EMC
 Source Cogentrix Unit 2A
 Sampling Location Baghouse Outlet
 Operator GJH
 Record data every A=3 B=5 minutes
 Barometer No. Y-2021
 Barometric Pressure 30.23 in Hg
 Elevation to Meter Boxes 34 ft
 Meter Box P_{bar} 30.20 in Hg
 Elevation to Sampling Loc. 34 ft
 Sampling Location P_{bar} 30.20 in Hg
 Static Pressure -16.15 in H₂O

Train A No. <u>M17-A</u>	Train B No. <u>M17-B</u>
Probe No. <u>A</u> Length: <u>10</u> ft	Probe No. <u>B</u> Length: <u>10</u> ft
Nozzle No. <u>M17-M</u> Tip Dia. <u>0.146</u> in	Nozzle No. <u>M17-15</u> Tip Dia. <u>0.146</u> in
Pitot Tube No. <u>A</u> C _p <u>0.84</u>	Pitot Tube No. <u>B</u> C _p <u>0.84</u>
Stack Thermocouple No. <u>3158A</u>	Stack Thermocouple No. <u>3158B</u>
Filter Holder No. <u>3</u>	Filter Holder No. <u>4</u>
Filter Assembly No. <u>F-19</u>	Filter Assembly No. <u>F-20</u>
Impinger Box No. <u>A-2</u>	Impinger Box No. <u>B-2</u>
Umbilical/Impinger Hookup <u>UH-1</u>	Umbilical/Impinger Hookup <u>UH-2</u>
Umbilical No. <u>N504</u>	Umbilical No. <u>N501</u>
Meter Box No. <u>N12</u>	Meter Box No. <u>N11</u>
DGM Correction (Y) <u>0.976</u>	DGM Correction (Y) <u>1.076</u>
Orifice Meter ΔH@ <u>1.810</u>	Orifice Meter ΔH@ <u>1.898</u>



Traverse Point Layout
Compass Direction > North

Assumed Moisture 9 % Assumed %CO₂ 15 % O₂ 5 Nozzles are quartz-glass.

Train A Pitot Tube Pressure Measurement System Leak Checks										Train B Pitot Tube Pressure Measurement System Leak Checks									
Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr) <u>0412</u>	<u>0507</u>									<u>0426</u>	<u>0511</u>								
Pass or Fail <u>0312</u>	<u>0320</u>									<u>0326</u>	<u>0330</u>								

Train A Sampling System Leak Checks										Train B Sampling System Leak Checks									
Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr) <u>0412</u>	<u>0507</u>									<u>0426</u>	<u>0511</u>								
Vacuum, in Hg <u>15</u>	<u>6</u>									<u>15</u>	<u>5</u>								
Leak Rate, cfm <u>.002</u>	<u>.002</u>									<u>.003</u>	<u>.004</u>								
Final Meter Volume																			
Initial Meter Volume																			
Leak Check Volume																			

Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr) <u>0412</u>	<u>0507</u>									<u>0426</u>	<u>0511</u>
Vacuum, in Hg <u>15</u>	<u>5</u>									<u>15</u>	<u>5</u>
Leak Rate, cfm <u>.003</u>	<u>.004</u>									<u>.003</u>	<u>.004</u>
Final Meter Volume											
Initial Meter Volume											
Leak Check Volume											

Remarks and Notes: List any other equipment requiring calibration below.

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	TRAIN A	TRAIN B
Meter Volume at Start of Run	<u>463.012</u>	<u>121.341</u>
Meter Volume at End of Run	<u>484.276</u>	<u>143.689</u>
Total Leak Check or Non-Sample Volume	<u>21.264</u>	<u>22.298</u>
Adjusted Final Volume	<u>463.012</u>	<u>121.341</u>

Run No. 39
 Date 11-19-99

Sampling Location Unit 2A Baghouse Outlet Duct
 Project No. 104703.1.002.05.01

Operator Griff page 2 of 2

Sampling Data for Method 17 Train A No. M17-A

Initial Time	Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³		Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O		Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F		Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F
				Initial <u>463.012</u>	Desired		Desired	Actual		Inlet	Outlet		
0337	A-5	3	0335	464.14	464.24	1.7	0.55	0.55	177	48	47	6	38
	4	6	0341	466.97	466.40	1.7	0.55	0.55	177	48	47	6	37
	3	9	0344	466.51	466.52	1.6	0.52	0.52	177	48	47	6	37
	2	12	0347	467.29	467.29	0.75	0.24	0.24	177	48	47	5	37
	1	15	0350	467.70	467.70	0.20	0.06	0.06	176	48	47	4	37
0407	B-5	18	0354	468.84	468.87	1.6	0.52	0.52	177	48	47	6	36
	4	21	0357	469.91	469.93	1.4	0.45	0.45	177	48	47	5	36
	3	24	0400	470.94	470.94	1.3	0.42	0.42	177	49	47	5	35
	2	27	0403	471.52	471.52	0.40	0.13	0.13	177	50	47	4	35
	1	30	0406	471.79	471.79	0.09	0.02	0.02	177	50	48	4	36
0432	C-5	33	0410	472.93	472.93	1.5	0.48	0.48	177	49	48	5	36
	4	36	0413	473.93	473.98	1.3	0.42	0.42	178	49	48	5	35
	3	39	0416	474.86	474.92	1.05	0.34	0.34	177	50	48	5	35
	2	42	0419	475.47	475.52	0.45	0.14	0.14	177	51	48	5	35
	1	45	0422	475.63	475.65	0.03	0.01	0.01	174	51	48	3	36
0449	D-5	48	0435	476.78	476.73	1.6	0.52	0.52	177	50	48	6	36
	4	51	0438	477.69	477.85	1.0	0.32	0.32	179	50	48	6	34
	3	54	0441	478.59	478.69	1.0	0.32	0.32	177	51	48	6	34
	2	57	0444	479.30	479.87	0.60	0.19	0.19	177	51	48	5	34
	1	60	0447	479.50	480.07	0.05	0.01	0.01	172	51	48	3	35
	E-5	63	0452	480.72	480.94	1.8	0.58	0.58	177	50	48	6	36
	4	66	0455	481.93	482.03	1.8	0.58	0.58	178	50	48	6	34
	3	69	0458	483.12	483.12	1.7	0.55	0.55	177	52	49	6	35
	2	72	0501	484.03	484.02	1.0	0.32	0.32	176	52	49	5	35
	1	75	0504	484.34	484.276	0.12	0.03	0.03	177	52	49	4	35

Sampling Data for Method 17 Train B No. M17-B

Initial Time	Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³		Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O		Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F		Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F
				Initial <u>121.391</u>	Desired		Desired	Actual		Inlet	Outlet		
0434	F2-5	5	0540	122.80	122.90	0.90	0.30	0.30	179	48	48	5	39
		10	0545	124.19	124.30	0.88	0.29	0.29	179	48	48	5	39
		15	0550	125.58	125.68	0.87	0.29	0.29	179	48	48	5	39
		20	0555	127.00	127.08	0.92	0.30	0.30	180	48	48	5	38
		25	0600	128.36	128.50	0.84	0.28	0.28	179	49	48	5	37
		30	0605	129.73	129.80	0.84	0.28	0.28	179	49	48	5	37
		35	0610	131.02	131.20	0.76	0.25	0.25	180	49	49	5	37
		40	0615	132.49	132.50	0.97	0.32	0.32	180	49	49	5	37
		45	0620	133.92	133.91	0.92	0.31	0.31	179	49	49	5	37
	Timers	50	0625	135.29	135.29	0.86	0.28	0.28	180	49	49	5	37
	0439	55	0630	136.66	136.70	0.84	0.28	0.28	180	50	49	5	37
	0444	60	0635	137.97	138.07	0.80	0.26	0.26	179	49	49	5	38
	0449	65	0640	139.42	139.40	0.92	0.31	0.31	179	49	49	5	38
	0454	70	0645	140.94	140.90	1.05	0.35	0.35	180	50	49	5	38
	0459	75	0650	142.41	142.27	0.97	0.32	0.32	179	50	49	5	38
	0504	80	0655	143.73	143.699	0.84	0.29	0.29	178	50	50	5	38

PG
11/20/99

Remarks and Notes:

"B" Train Total Pressure = -15.5 AP = 0.92
 "B" train Down @ 1625^{hrs} - Broke nozzle during port change - "A" train
 0425 Nozzle M17-16 replaces M17-14

**40 CFR 60, APPENDIX A, METHOD 3B
INTEGRATED GAS SAMPLING DATA**

Run No. 39 Date 11-19-99 Client/Source U.S. EPA / Cogentrix Unit 2A
 Project No. 104703.1.002.05.01 Sampling Location Unit 2A Baghouse Outlet
 Sample Type (Multi-Point, Single-Point) Single-Point Operator Geller
 Flow Control Device (Valve, Critical Orifice) Valve Bag Type Tedlar Sample No. NA
 Method 5 Meter Box No. N/A Method 3B Train No. NA
 M3B Pump Type diaphragm M3B Flow Meter Type rotameter
 M3B Pump No. N/A M3B Flow Meter No. 12800
 Desired Sampling Rate 200 cc/min
 Leak Check Before Sampling 0 After Sampling 0
 Total Sampling Time 70 min Average Flow Meter Reading 3.0
 Flow Rate, cc/min: Average 300 Highest 300 Lowest 300
 Estimated Total Sample Volume 21 liters

Time (24-Hr)	Flow Meter Reading	Start Purge	Start Sampling	Stop Sampling	Sampling	Remarks and Notes
0335	3.0	✓				
0336	3.0		✓			
0346	3.0				✓	
0350	3.0			✓		Port Change
0351	3.0	✓				
0352	3.0		✓			
0402	3.0				✓	
0406	3.0			✓		Port Change
0407	3.0	✓				
0408	3.0		✓			
0418	3.0				✓	
0422	3.0			✓		Port Change - Broke Nozzle
0432	3.0	✓				
0433	3.0		✓			
0443	3.0				✓	
0447	3.0			✓		Port Change
0449	3.0	✓				
0450	3.0		✓			
0500	3.0				✓	
0504	3.0			✓		End of Run

Down
10 min

RS 11/20/99

40 CFR 60, APPENDIX A, METHOD 3B, GAS ANALYSIS BY ORSAT

Run No. 39 Date 11/19/99 Orsat Leak Check Before Analysis:
 Project No. 104703.1.002.05.01 Sample No. NA Burette No Change in 4 Minutes
 Sampling Location Unit 2A Baghouse Outlet Duct Pipettes No Change in 4 Minutes
 Analysis Start Time 0520 Orsat Leak Check After Analysis:
 Sample Type (Bag, Grab) Bag Burette No Change in 4 Minutes
 Analyst J. Surman Pipettes No Change in 4 Minutes

Analysis	1		2		3		Average Net Value (% v/v)
Gas	Actual Reading	Net Value	Actual Reading	Net Value	Actual Reading	Net Value	
CO ₂	1 <u>13.3</u> 2 <u>13.3</u> 3	<u>13.3</u>	1 <u>13.3</u> 2 <u>13.3</u> 3	<u>13.3</u>	1 <u>13.3</u> 2 <u>13.3</u> 3	<u>13.3</u>	<u>13.3</u>
O ₂ (Net is actual reading minus actual CO ₂ reading)	1 <u>18.6</u> 2 <u>18.6</u> 3	<u>5.3</u>	1 <u>18.6</u> 2 <u>18.6</u> 3	<u>5.3</u>	1 <u>18.6</u> 2 <u>18.6</u> 3	<u>5.3</u>	<u>5.3</u>

Acceptance Criteria per Method 3B

CO₂ >4% 0.3% v/v O₂ ≥15% 0.2% v/v
 ≤4% 0.2% v/v <15% 0.3% v/v

Remarks and Notes:

JS
11/20/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY TRAIN SET-UP DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01

Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A

Source Location: Rocky Mount, North Carolina

Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 39 Sampling Train A No. M17-A Impinger Box A No. A-2

Sampling Train B No. M17-B Impinger Box B No. B-2

Set-up person(s): J. Surman

Date: 11/19/99

Transfer to Sampler:

Relinquished By J. Surman

Received By D. Griffin

Date/Time 11/19/99 0300

TRAIN COMPONENT	REAGENT	LOADING DATA	
		TRAIN A	TRAIN B
Sampling Nozzle (Quartz)*	Nozzle I.D. No.	<u>M17-14*</u>	<u>M17-15</u>
Filter Assembly and Holder*	Filter Assembly No.	<u>19</u>	<u>20</u>
Filter Type: Whatman QM-A	Filter Holder No.	<u>3</u>	<u>4</u>
Probe (316 SS)			
Sample Transfer/Vacuum Line			
Male 1st Impinger Inlet Blank-Off			
		Initial Weights (grams)	
1st Impinger (Mod-GBS) 100-200 mLs ASTM Type I Water		<u>691.6</u>	<u>624.7</u>
U-Connector (A)		<u>647.4</u>	<u>723.4</u>
2nd Impinger (GBS) 100-200 mLs ASTM Type I Water		<u>543.1</u>	<u>467.2</u>
U-Connector (B)		<u>686.9</u>	<u>780.5</u>
3rd Impinger (Mod-GBS) Empty		<u>741.3</u>	<u>731.7</u>
U-Connector (C)			
4th Impinger (Mod-GBS) ~200 g indicating silica gel			
U-Connector (D)			
5th Impinger (Mod-GBS) ~200 g indicating silica gel			
Impinger Outlet Connector	Connector I.D. No.	<u>UH-1</u>	<u>UH-2</u>

* Before and after sampling: Nozzle inlet opening and filter assembly holder outlet opening covered with Teflon® tape, and entire filter assembly holder with filter assembly and nozzle wrapped in aluminum foil and placed in Ziploc® bag. 1st impinger inlet sealed with glass blank-off.

Comments: * Nozzle M17-14 broken during port change. - Replaced with nozzle M17-16.

PS
11/20/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY SAMPLE RECOVERY DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 39 Sampling Train A No. M17-A Impinger Box A No. A-2
Sampling Train B No. M17-B Impinger Box B No. B-2

Transfer for Recovery:

Relinquished By D. Griffin Received By J. Surman Date/Time 11/19/99 10540
Sample recovery person(s): J. Surman Date: 11/19/99 1240

Weights below are in grams.

BACK HALF RECOVERIES

	TRAIN A				TRAIN B			
Impinger:	1st	2nd	3rd	4th & 5th	1st	2nd	3rd	4th & 5th
Final Wt.	<u>719.1</u>	<u>670.3</u>	<u>543.1</u>	<u>690.7 + 741.9</u>	<u>678.6</u>	<u>723.4</u>	<u>467.2</u>	<u>784.2 + 731.8</u>
Initial Wt.	<u>691.6</u>	<u>647.4</u>	<u>543.1</u>	<u>1428.2</u>	<u>624.7</u>	<u>723.4</u>	<u>467.2</u>	<u>1512.2</u>
Net Wt.	<u>27.5</u>	<u>22.9</u>	<u>0</u>	<u>4.4</u>	<u>53.9</u>	<u>0</u>	<u>0</u>	<u>3.8</u>
Total Condensate Collected:				<u>477.754.8</u>				<u>57.7</u>
Description and/or color:	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>40% + 95%</u>	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>48% + 90%</u>
				% Blue				% Blue

FRONT HALF RECOVERIES

	TRAIN A	TRAIN B
FILTER ASSEMBLY:		
Sample Number:	<u>39 102</u>	<u>39 104</u>
PM Description/color:	<u>black</u>	<u>black</u>
TRAIN RINSES:		
Sample Number:	<u>39 101</u>	<u>39 103</u>
Components Rinsed*: nozzle, filter holder front		

* Acetone rinses with brushing 3 times or more until perceivably clean.

COMMENTS: Acetone rinses are transferred directly to tared Teflon® beaker liners for analysis.

JB
11/20/99

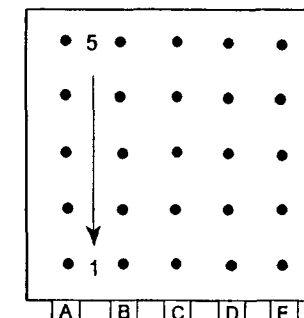
FIELD SAMPLING DATA FOR METHOD 17 TRAINS

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Run No. 40 Date 11-20-99
 Project No. 104703.1.002.05.01
 Client U.S. EPA OAQPS EMAD EMC
 Source Cogentrix Unit 2A
 Sampling Location Baghouse Outlet
 Operator Gyl
 Record data every A=3 B=5 minutes
 Barometer No. Y-2021
 Barometric Pressure 30.11 in Hg
 Elevation to Meter Boxes 34 ft
 Meter Box P_{bar} 30.08 in Hg
 Elevation to Sampling Loc. 34 ft
 Sampling Location P_{bar} 30.08 in Hg
 Static Pressure 42.5 -17.1 in H₂O

Train A No. M17-A
 Probe No. A Length: 10 ft
 Nozzle No. M17-9 Tip Dia. 0.146 in
 Pitot Tube No. A C_p 0.84
 Stack Thermocouple No. 3158A
 Filter Holder No. 5
 Filter Assembly No. F21
 Impinger Box No. A-1
 Umbilical/Impinger Hookup UH-30
 Umbilical No. N50-4
 Meter Box No. N12
 DGM Correction (Y) 0.996
 Orifice Meter ΔH@ 1.810

Train B No. M17-B
 Probe No. B Length: 10 ft
 Nozzle No. M17-10 Tip Dia. 0.146 in
 Pitot Tube No. B C_p 0.84
 Stack Thermocouple No. 3158B
 Filter Holder No. 6
 Filter Assembly No. F22
 Impinger Box No. B-1
 Umbilical/Impinger Hookup UH-32
 Umbilical No. N50-1
 Meter Box No. N11
 DGM Correction (Y) 1.010
 Orifice Meter ΔH@ 1.898



Traverse Point Layout
Compass Direction > North

Assumed Moisture 11 % Assumed %CO₂ 15 % O₂ 5 Nozzles are quartz-glass.

	Train A Pitot Tube Pressure Measurement System Leak Checks										Train B Pitot Tube Pressure Measurement System Leak Checks									
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	0849	1022									0849	1022								
Pass or Fail		pass										pass								

Train A Sampling System Leak Checks										
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	0841	1024								
Vacuum, in Hg	15	6								
Leak Rate, cfm	.012	.004								
Final Meter Volume										
Initial Meter Volume										
Leak Check Volume										

Train B Sampling System Leak Checks										
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	0846	1028								
Vacuum, in Hg	15	7								
Leak Rate, cfm	.007	.002								
Final Meter Volume										
Initial Meter Volume										
Leak Check Volume										

Remarks and Notes: List any other equipment requiring calibration below.

RB
11/20/99

	TRAIN A	TRAIN B
Meter Volume at Start of Run	485.988	153.470
Meter Volume at End of Run	507.367	174.366
Total Leak Check or Non-Sample Volume		
Adjusted Final Volume		

Run No. 40
Date 11-20-99

Sampling Location Unit 2A Baghouse Outlet Duct
Project No. 104703.1.002.05.01

Operator GHL page 2 of 2

Sampling Data for Method 17 Train A No. M17-A

Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³		Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O		Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F		Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F
			Initial <u>485.788</u>	Desired		Desired	Actual		Inlet	Outlet		
A-5	3	0903	487.15	487.18	1.7	0.53	0.53	179	57	57	6	55
	4	0906	488.72	488.77	1.7	0.52	0.52	181	58	57	6	99
	3	0909	489.42	489.40	1.5	0.46	0.46	179	59	58	6	47
	2	0912	490.21	490.20	0.77	0.24	0.24	177	59	58	5	47
	1	0915	490.51	490.51	0.11	0.03	0.03	174	61	58	5	47
B-5	18	0919	491.61	491.62	1.5	0.46	0.46	179	60	58	6	48
	4	0922	492.67	492.68	1.4	0.43	0.43	180	61	59	6	45
	3	0925	493.62	493.64	1.1	0.34	0.34	179	63	60	5	46
	2	0928	494.23	494.23	0.46	0.14	0.14	178	64	60	5	46
	1	0931	494.45	494.39	0.04	0.01	0.01	177	63	60	4	47
C-5	33	0935	495.43	495.41	1.3	0.40	0.40	179	63	61	6	49
	4	0938	496.43	496.39	1.1	0.34	0.34	179	65	61	6	48
	3	0941	497.32	497.31	0.97	0.30	0.30	178	66	62	6	46
	2	0944	497.40	497.87	0.40	0.12	0.12	178	66	62	5	47
	1	0947	498.08	498.01	0.04	0.01	0.01	178	67	63	4	49
D-5	48	0951	499.23	499.16	1.6	0.50	0.50	179	66	63	6	51
	4	0954	500.38	500.31	1.6	0.50	0.50	180	67	64	6	51
	3	0957	501.46	501.41	1.4	0.44	0.44	180	69	65	6	48
	2	1000	502.14	502.12	0.57	0.18	0.18	179	70	65	5	48
	1	1003	502.40	502.40	0.08	0.02	0.02	178	70	65	5	49
E-5	63	1008	503.63	503.63	1.8	0.57	0.57	179	70	66	6	52
	4	1011	504.85	504.83	1.8	0.57	0.57	182	70	67	6	52
	3	1014	505.93	505.92	1.4	0.44	0.44	182	72	67	6	50
	2	1017	506.98	506.93	1.3	0.41	0.41	183	74	68	6	49
	1	1020	507.36	507.36	0.17	0.05	0.05	181	74	68	5	50

Sampling Data for Method 17 Train B No. M17-B

F2-5	0	0900	153.440									
	5	0905	154.74	154.79	0.78	0.25	0.25	181	59	58	6	57
	10	0910	156.06	156.12	0.80	0.25	0.25	182	59	58	6	52
	15	0915	157.39	157.42	0.82	0.26	0.26	179	60	59	6	48
	20	0920	158.63	158.66	0.70	0.22	0.22	180	60	59	6	47
	25	0925	159.86	159.92	0.70	0.22	0.22	182	61	59	6	46
	30	0930	161.13	161.19	0.73	0.23	0.23	180	62	60	6	46
	35	0935	162.32	162.42	0.65	0.21	0.21	181	63	61	6	45
	40	0940	163.54	163.55	0.67	0.21	0.21	182	64	62	6	45
	45	0945	164.80	164.79	0.72	0.23	0.23	180	65	63	6	47
	50	0950	166.05	166.02	0.70	0.22	0.22	181	66	64	6	46
	55	0955	167.34	167.31	0.75	0.24	0.24	182	66	64	6	47
	60	1000	168.65	168.64	0.77	0.25	0.25	182	68	65	6	46
	65	1005	170.01	170.02	0.82	0.26	0.26	181	68	66	6	47
	70	1010	171.34	171.38	0.79	0.25	0.25	182	70	67	6	46
	75	1015	172.91	172.93	1.1	0.36	0.36	184	71	68	6	47
	80	1020	174.39	174.366	0.97	0.31	0.31	183	72	69	7	48

Remarks and Notes:

"B" Train Total Pressure = -15.6 | -15.0 | -13.6 | -15.7 | -17.7 | -22.0
AP = 0.70 | 0.49 | 0.72 | 0.83 | 0.66 | 1.2
-16.08 | -15.35 | -14.11 | -16.29 | -18.77 | 22.85

Multiple readings were taken throughout the run while the plant increased its power load

AB 11/20/99

**40 CFR 60, APPENDIX A, METHOD 3B
INTEGRATED GAS SAMPLING DATA**

Run No. 40 ~~2826~~ Date 11-20-99 Client/Source U.S. EPA / Cogentrix Unit 2A
 Project No. 104703.1.002.05.01 Sampling Location Unit 2A Baghouse Outlet
 Sample Type (Multi-Point, Single-Point) Single-Point Operator G. J. Khan
 Flow Control Device (Valve, Critical Orifice) Critical Orifice Bag Type Tedlar Sample No. NA
 Method 5 Meter Box No. N12 Method 3B Train No. NA
 M3B Pump Type diaphragm M3B Flow Meter Type rotameter
 M3B Pump No. N12 M3B Flow Meter No. 8900
 Desired Sampling Rate 300 cc/min
 Leak Check Before Sampling 0 After Sampling 0
 Total Sampling Time 70 min Average Flow Meter Reading 3.0
 Flow Rate, cc/min: Average 300 Highest 300 Lowest 300
 Estimated Total Sample Volume 21 liters

Time (24-Hr)	Flow Meter Reading	Start Purge	Start Sampling	Stop Sampling	Sampling	Remarks and Notes
0900	3.0	✓				
0901	3.0		✓			
0911	3.0				✓	
0915	3.0			✓		Port Change
0916	3.0	✓				
0917	3.0		✓			
0921	3.0				✓	
0931	3.0			✓		Port Change
0932	3.0	✓				
0933	3.0		✓			
0943	3.0				✓	
0947	3.0			✓		Port Change
0948	3.0	✓				
0949	3.0		✓			
0959	3.0				✓	
1003	3.0			✓		Port Change
1005	3.0	✓				
1006	3.0		✓			
1016	3.0				✓	
1020	3.0			✓		End of Run

PS
11/20/99

40 CFR 60, APPENDIX A, METHOD 3B, GAS ANALYSIS BY ORSAT

Run No. 40 Date 11/20/99
 Project No. 104703.1.002.05.01 Sample No. NA
 Sampling Location Unit 2A Baghouse Outlet Duct
 Analysis Start Time 1050
 Sample Type (Bag, Grab) Bag
 Analyst J. Surmen

Orsat Leak Check Before Analysis:
 Burrete Nc Change in 4 Minutes
 Pipettes Nb Change in 4 Minutes
 Orsat Leak Check After Analysis:
 Burrete Nc Change in 4 Minutes
 Pipettes Nb Change in 4 Minutes

Analysis	1		2		3		Average Net Value (% v/v)
Gas	Actual Reading	Net Value	Actual Reading	Net Value	Actual Reading	Net Value	
CO ₂	1 <u>12.5</u> 2 <u>12.5</u> 3	<u>12.5</u>	1 <u>12.5</u> 2 <u>12.5</u> 3	<u>12.5</u>	1 <u>12.5</u> 2 <u>12.5</u> 3	<u>12.5</u>	<u>12.5</u>
O ₂ (Net is actual reading minus actual CO ₂ reading)	1 <u>18.8</u> 2 <u>18.8</u> 3	<u>6.3</u>	1 <u>18.8</u> 2 <u>18.8</u> 3	<u>6.3</u>	1 <u>18.8</u> 2 <u>18.8</u> 3	<u>6.3</u>	<u>6.3</u>

Acceptance Criteria per Method 3B

CO₂ >4% 0.3% v/v O₂ ≥15% 0.2% v/v
 ≤4% 0.2% v/v <15% 0.3% v/v

Remarks and Notes:

JS
11/20/99

RCA#2 APPENDIX C

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY TRAIN SET-UP DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01

Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A

Source Location: Rocky Mount, North Carolina

Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 40 Sampling Train A No. M17-13 Impinger Box A No. A-1
Sampling Train B No. M17-B Impinger Box B No. B-1

Set-up person(s): J. Surman

Date: 11/19/99

Transfer to Sampler:

Relinquished By J. Surman

Received By D. Griffin

Date/Time 11/20/99 0810

TRAIN COMPONENT	REAGENT	LOADING DATA	
		TRAIN A	TRAIN B
Sampling Nozzle (Quartz)*	Nozzle I.D. No.	<u>M17-9</u>	<u>M17-10</u>
Filter Assembly and Holder*	Filter Assembly No.	<u>21</u>	<u>22</u>
Filter Type: Whatman QM-A	Filter Holder No.	<u>5</u>	<u>6</u>
Probe (316 SS)			
Sample Transfer/Vacuum Line			
Male 1st Impinger Inlet Blank-Off			
		Initial Weights (grams)	
1st Impinger (Mod-GBS) 100-200 mLs ASTM Type I Water		<u>596.0</u>	<u>698.6</u>
U-Connector (A)		<u>652.7</u>	<u>685.3</u>
2nd Impinger (GBS) 100-200 mLs ASTM Type I Water		<u>497.4</u>	<u>464.9</u>
U-Connector (B)		<u>693.1</u>	<u>704.0</u>
3rd Impinger (Mod-GBS) Empty		<u>759.3</u>	<u>697.7</u>
U-Connector (C)			
4th Impinger (Mod-GBS) ~200 g indicating silica gel			
U-Connector (D)			
5th Impinger (Mod-GBS) ~200 g indicating silica gel			
Impinger Outlet Connector	Connector I.D. No.	<u>UH-30</u>	<u>UH-32</u>

* Before and after sampling: Nozzle inlet opening and filter assembly holder outlet opening covered with Teflon® tape, and entire filter assembly holder with filter assembly and nozzle wrapped in aluminum foil and placed in Ziploc® bag. 1st impinger inlet sealed with glass blank-off.

Comments:

P.B.
11/20/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY SAMPLE RECOVERY DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 40 Sampling Train A No. M17-A Impinger Box A No. A-1
Sampling Train B No. M17-B Impinger Box B No. B-1

Transfer for Recovery:

Relinquished By D. Griffin Received By J. Surman Date/Time 11/20/99 1045
Sample recovery person(s): J. Surman Date: 11/20/99

Weights below are in grams.

BACK HALF RECOVERIES

	TRAIN A				TRAIN B			
Impinger:	1st	2nd	3rd	4th & 5th	1st	2nd	3rd	4th & 5th
Final Wt.	<u>640.8</u>	<u>663.0</u>	<u>497.5</u>	<u>701.2+760.7</u>	<u>757.6</u>	<u>685.6</u>	<u>465.0</u>	<u>709.0+697.6</u>
Initial Wt.	<u>596.0</u>	<u>652.7</u>	<u>497.4</u>	<u>1452.4</u>	<u>698.6</u>	<u>685.3</u>	<u>464.9</u>	<u>1401.7</u>
Net Wt.	<u>44.8</u>	<u>10.3</u>	<u>0.1</u>	<u>9.5</u>	<u>59.0</u>	<u>0.3</u>	<u>0.1</u>	<u>4.9</u>
Total Condensate Collected:				<u>64.7</u>				<u>64.3</u>
Description and/or color:	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>70% + 90%</u>	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>65% + 80%</u>
				% Blue				% Blue

FRONT HALF RECOVERIES

	TRAIN A	TRAIN B
FILTER ASSEMBLY:		
Sample Number:	<u>40102</u>	<u>40104</u>
PM Description/color:	<u>black</u>	<u>black</u>
TRAIN RINSES:		
Sample Number:	<u>40101</u>	<u>40103</u>
Components Rinsed*: nozzle, filter holder front		

* Acetone rinses with brushing 3 times or more until perceivably clean.

COMMENTS: Acetone rinses are transferred directly to tared Teflon® beaker liners for analysis.

PS
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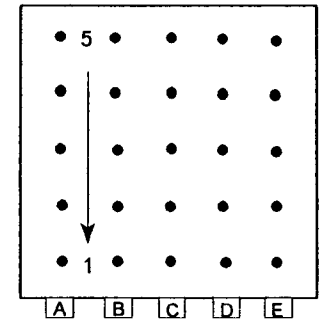
FIELD SAMPLING DATA FOR METHOD 17 TRAINS

page 1 of 2

Run No. 41 Date 11-20-99
 Project No. 104703.1.002.05.01
 Client U.S. EPA OAQPS EMAD EMC
 Source Cogentrix Unit 2A
 Sampling Location Baghouse Outlet
 Operator GAH
 Record data every A=3 B=5 minutes
 Barometer No. Y-2021
 Barometric Pressure 30.10 in Hg
 Elevation to Meter Boxes 34 ft
 Meter Box P_{bar} 30.07 in Hg
 Elevation to Sampling Loc. 34 ft
 Sampling Location P_{bar} 30.07 in Hg
 Static Pressure 11.25 -18.1 in H₂O

Train A No. M17-A
 Probe No. A Length: 10 ft
 Nozzle No. M17-16 Tip Dia. 0.146 in
 Pitot Tube No. A C_p 0.84
 Stack Thermocouple No. 3158A
 Filter Holder No. 7
 Filter Assembly No. F23
 Impinger Box No. A-2
 Umbilical/Impinger Hookup UH-1
 Umbilical No. N50-4
 Meter Box No. N12
 DGM Correction (Y) 0.996
 Orifice Meter ΔH@ 1.810

Train B No. M17-B
 Probe No. B Length: 10 ft
 Nozzle No. M17-16 Tip Dia. 0.146 in
 Pitot Tube No. B C_p 0.84
 Stack Thermocouple No. 3158B
 Filter Holder No. 8
 Filter Assembly No. F-24
 Impinger Box No. B-2
 Umbilical/Impinger Hookup UH-2
 Umbilical No. N50-1
 Meter Box No. N11
 DGM Correction (Y) 1.010
 Orifice Meter ΔH@ 1.898



Traverse Point Layout
Compass Direction > North

Assumed Moisture 11 % Assumed %CO₂ 15 %O₂ 5 Nozzles are quartz-glass.

	Train A Pitot Tube Pressure Measurement System Leak Checks										Train B Pitot Tube Pressure Measurement System Leak Checks									
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	1057	1234									1057	1238								
Pass or Fail		pass										pass								

Train A Sampling System Leak Checks											
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	
Time (24 Hr)	1057	1236									
Vacuum, in Hg	15	7									
Leak Rate, cfm	.002	.001									
Final Meter Volume											
Initial Meter Volume											
Leak Check Volume											

Train B Sampling System Leak Checks											
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	
Time (24 Hr)	1057	1240									
Vacuum, in Hg	15	7									
Leak Rate, cfm	.004	.002									
Final Meter Volume											
Initial Meter Volume											
Leak Check Volume											

Remarks and Notes: List any other equipment requiring calibration below.

7.5
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	TRAIN A	TRAIN B
Meter Volume at Start of Run	507.643	174.154
Meter Volume at End of Run	530.756	198.331
Total Leak Check or Non-Sample Volume		
Adjusted Final Volume		

Run No. 41
Date 11-20-99

Sampling Location Unit 2A Baghouse Outlet Duct
Project No. 104703.1.002.05.01

Operator Gyller page 2 of 2

Sampling Data for Method 17 Train A No. M17-A

Initial Time	Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³		Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O		Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F		Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F
				Initial	Desired		Desired	Actual		Inlet	Outlet		
		0	1112	507.643									
	A-5	3	1115	508.85	508.89	1.7	0.54	0.54	180	74	74	6	57
	4	6	1118	510.05	510.09	1.7	0.54	0.54	181	75	74	6	57
	3	9	1121	511.22	511.26	1.6	0.51	0.51	182	76	74	6	56
	2	12	1124	512.04	512.04	0.78	0.25	0.25	181	77	74	5	58
	1	15	1127	512.36	512.48	0.12	0.03	0.03	180	77	75	4	46
1128	B-5	18	1131	513.57	513.70	1.7	0.54	0.54	181	77	75	6	49
	4	21	1134	514.74	514.84	1.6	0.51	0.51	181	77	75	6	49
	3	24	1137	515.80	515.89	1.3	0.42	0.42	180	79	76	5	42
	2	27	1140	516.50	516.60	0.57	0.18	0.18	182	80	76	5	42
1144	1	30	1143	516.71	516.73	0.05	0.01	0.01	180	80	76	3.5	44
	C-5	33	1147	517.92	517.87	1.7	0.54	0.54	182	79	76	6	51
	4	36	1150	518.02	518.75	1.4	0.45	0.45	180	80	77	6	45
	3	39	1153	520.12	520.05	1.4	0.45	0.45	180	81	77	6	43
	2	42	1156	520.78	520.79	0.50	0.16	0.16	179	82	78	5	43
	1	45	1159	520.94	520.95	0.03	0.01	0.01	179	82	78	3.5	44
1200	D-5	48	1203	522.16	522.17	1.7	0.55	0.55	180	81	78	6	49
	4	51	1206	523.38	523.37	1.7	0.55	0.55	179	82	79	6	48
	3	54	1209	524.53	524.51	1.5	0.48	0.48	179	83	79	6	42
	2	57	1212	525.21	525.26	0.53	0.17	0.17	181	83	79	5	43
	1	60	1215	525.37	525.44	0.03	0.01	0.01	176	84	79	3.5	45
1214	E-5	63	1218	526.66	526.70	1.9	0.62	0.62	179	82	80	6	52
	4	66	1221	528.02	528.02	2.1	0.68	0.68	180	83	80	7	49
	3	69	1225	529.17	529.22	1.5	0.48	0.48	180	84	80	7	44
	2	72	1228	530.32	530.38	1.5	0.49	0.49	177	85	80	7	43
	1	75	1231	530.73	530.75	0.19	0.06	0.06	179	86	81	5	44

Sampling Data for Method 17 Train B No. <u>M17-B</u>													
Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³	Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O	Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F	Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F				
	0	1112	174.154										
F2-5	5	1117	175.54	175.60	0.84	0.27	0.27	182	74	73	5	57	
	10	1122	176.74	176.92	0.63	0.20	0.20	183	75	74	5	55	
	15	1127	178.26	178.48	1.0	0.33	0.33	183	75	74	5	54	
	20	1132	179.72	179.91	0.93	0.30	0.30	183	76	75	5	51	
	25	1137	181.16	181.32	0.89	0.29	0.29	183	78	76	5	47	
	30	1142	182.61	182.75	0.91	0.30	0.30	183	78	76	5	47	
	35	1147	184.14	184.26	1.0	0.33	0.33	184	79	77	5	47	
	40	1152	185.57	185.62	0.88	0.29	0.29	183	80	78	5	46	
	45	1157	187.10	187.17	1.0	0.33	0.33	182	81	79	5	47	
	50	1202	188.71	188.80	1.1	0.36	0.36	181	81	79	6	47	
	55	1207	190.25	190.33	1.0	0.33	0.33	181	82	80	5	46	
	60	1212	191.74	191.80	0.94	0.31	0.31	182	83	81	5	47	
	65	1217	193.28	193.23	1.0	0.33	0.33	181	83	81	5	47	
	70	1222	194.76	194.63	0.93	0.31	0.31	182	83	82	5	48	
	75	1227	196.57	196.45	1.4	0.47	0.47	182	84	82	7	48	
	80	1232	198.41	198.31	1.4	0.47	0.47	180	84	82	7	48	

Remarks and Notes:

Train Total Pressure = -15.8 | -16.5 | -17.0 | -16.9 | -20.8
AP = 0.98 | 0.72 | 0.94 | 0.95 | 1.3
-16.49 | -17.15 | -17.50 | -17.57 | -20.22

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11/26/99

**40 CFR 60, APPENDIX A, METHOD 3B
INTEGRATED GAS SAMPLING DATA**

Run No. 41 Date 11-20-99 Client/Source U.S. EPA / Cogentrix Unit 2A
 Project No. 104703.1.002.05.01 Sampling Location Unit 2A Baghouse Outlet
 Sample Type (Multi-Point, Single-Point) Single-Point Operator Carlin
 Flow Control Device (Valve, Critical Orifice) Valve Bag Type Tedlar Sample No. NA
 Method 5 Meter Box No. N12 Method 3B Train No. NA
 M3B Pump Type diaphragm M3B Flow Meter Type rotameter
 M3B Pump No. N12 M3B Flow Meter No. 8900
 Desired Sampling Rate 300 cc/min
 Leak Check Before Sampling 0 After Sampling 0
 Total Sampling Time 20 min Average Flow Meter Reading 3.0
 Flow Rate, cc/min: Average 300 Highest 300 Lowest 300
 Estimated Total Sample Volume 21 liters

Time (24-Hr)	Flow Meter Reading	Start Purge	Start Sampling	Stop Sampling	Sampling	Remarks and Notes
1112	3.0	✓				
1113	3.0		✓			
1123	3.0				✓	
1127	3.0			✓		Port Change
1128	3.0	✓				
1129	3.0		✓			
1139	3.0				✓	
1143	3.0			✓		Port Change
1144	3.0	✓				
1145	3.0		✓			
1155	3.0				✓	
1159	3.0			✓		Port Change
1200	3.0	✓				
1201	3.0		✓			
1211	3.0				✓	
1215	3.0			✓		Port Change
1216	3.0	✓				
1217	3.0		✓			
1227	3.0				✓	
1231	3.0			✓		End of Run

M3BSAMP.WPD June 18, 1998

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11/20/99

40 CFR 60, APPENDIX A, METHOD 3B, GAS ANALYSIS BY ORSAT

Run No. 41 Date 11/20/99
 Project No. 104703.1.002.05.01 Sample No. NA
 Sampling Location Unit 2A Baghouse Outlet Duct
 Analysis Start Time 1250
 Sample Type (Bag, Grab) Bag
 Analyst J. Surman

Orsat Leak Check Before Analysis:
 Burette NO Change in 4 Minutes
 Pipettes NO Change in 4 Minutes
 Orsat Leak Check After Analysis:
 Burette NO Change in 4 Minutes
 Pipettes NO Change in 4 Minutes

Analysis	1		2		3		Average Net Value (% v/v)
Gas	Actual Reading	Net Value	Actual Reading	Net Value	Actual Reading	Net Value	
CO ₂	1 <u>13.3</u> 2 <u>13.3</u> 3	<u>13.3</u>	1 <u>13.3</u> 2 <u>13.3</u> 3	<u>13.3</u>	1 <u>13.3</u> 2 <u>13.3</u> 3	<u>13.3</u>	<u>13.3</u>
O ₂ (Net is actual reading minus actual CO ₂ reading)	1 <u>19.2</u> 2 <u>19.2</u> 3	<u>5.9</u>	1 <u>19.2</u> 2 <u>19.2</u> 3	<u>5.9</u>	1 <u>19.2</u> 2 <u>19.2</u> 3	<u>5.9</u>	<u>5.9</u>

Acceptance Criteria per Method 3B

CO₂ > 4% 0.3% v/v O₂ ≥ 15% 0.2% v/v
 ≤ 4% 0.2% v/v < 15% 0.3% v/v

Remarks and Notes:

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11/20/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY TRAIN SET-UP DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 41 Sampling Train A No. M17-A Impinger Box A No. A-2
Sampling Train B No. M17-B Impinger Box B No. B-2
Set-up person(s): J. Surman Date: 11/19/99
Transfer to Sampler:
Relinquished By J. Surman Received By D. Griffin Date/Time 11/20/99 1000

TRAIN COMPONENT	REAGENT	LOADING DATA	
		TRAIN A	TRAIN B
Sampling Nozzle (Quartz)*	Nozzle I.D. No.	<u>M17-16</u>	<u>M17-15</u>
Filter Assembly and Holder*	Filter Assembly No.	<u>23</u>	<u>24</u>
Filter Type: Whatman QM-A			
Probe (316 SS)	Filter Holder No.	<u>7</u>	<u>8</u>
Sample Transfer/Vacuum Line			
Male 1st Impinger Inlet Blank-Off			
		Initial Weights (grams)	
1st Impinger (Mod-GBS)	100-200 mLs ASTM Type I Water	<u>719.1</u>	<u>678.6</u>
U-Connector (A)			
2nd Impinger (GBS)	100-200 mLs ASTM Type I Water	<u>670.3</u>	<u>723.4</u>
U-Connector (B)			
3rd Impinger (Mod-GBS)	Empty	<u>543.1</u>	<u>467.2</u>
U-Connector (C)			
4th Impinger (Mod-GBS)	~200 g indicating silica gel	<u>665.0</u>	<u>757.0</u>
U-Connector (D)			
5th Impinger (Mod-GBS)	~200 g indicating silica gel	<u>741.9</u>	<u>731.8</u>
Impinger Outlet Connector	Connector I.D. No.	<u>UH-1</u>	<u>UH-2</u>

* Before and after sampling: Nozzle inlet opening and filter assembly holder outlet opening covered with Teflon® tape, and entire filter assembly holder with filter assembly and nozzle wrapped in aluminum foil and placed in Ziploc® bag. 1st impinger inlet sealed with glass blank-off.

Comments:

PS
11/20/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY SAMPLE RECOVERY DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 41 Sampling Train A No. M17-A Impinger Box A No. A-2
Sampling Train B No. M17-B Impinger Box B No. B-2

Transfer for Recovery:

Relinquished By D. Gritton Received By J. Surman Date/Time 11/20/99 1250
Sample recovery person(s): J. Surman Date: 11/20/99

Weights below are in grams.

BACK HALF RECOVERIES

	TRAIN A				TRAIN B			
Impinger:	1st	2nd	3rd	4th & 5th	1st	2nd	3rd	4th & 5th
Final Wt.	<u>783.0</u>	<u>671.0</u>	<u>542.9</u>	<u>669.8 + 741.1</u>	<u>746.5</u>	<u>723.6</u>	<u>467.0</u>	<u>761.8 + 731.3</u>
Initial Wt.	<u>719.1</u>	<u>670.3</u>	<u>543.1</u>	<u>1406.9</u>	<u>678.6</u>	<u>723.4</u>	<u>467.2</u>	<u>1488.8</u>
Net Wt.	<u>63.9</u>	<u>0.7</u>	<u>-0.2</u>	<u>4.0</u>	<u>67.9</u>	<u>0.2</u>	<u>-0.2</u>	<u>4.3</u>
Total Condensate Collected:				<u>68.4</u>				<u>72.2</u>
Description and/or color:	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>30% + 90%</u>	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>30% + 90%</u>
				% Blue				% Blue

FRONT HALF RECOVERIES

	TRAIN A	TRAIN B
FILTER ASSEMBLY:		
Sample Number:	<u>41102</u>	<u>41104</u>
PM Description/color:	<u>black</u>	<u>black</u>
TRAIN RINSES:		
Sample Number:	<u>41101</u>	<u>41103</u>
Components Rinsed*: nozzle, filter holder front		

* Acetone rinses with brushing 3 times or more until perceivably clean.

COMMENTS: Acetone rinses are transferred directly to tared Teflon® beaker liners for analysis.

PS
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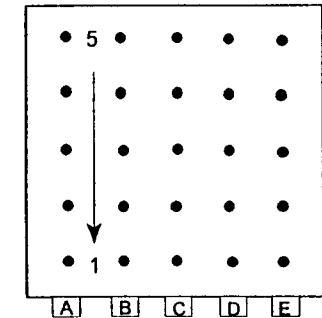
FIELD SAMPLING DATA FOR METHOD 17 TRAINS

page 1 of 1

Run No. 42 Date 11-20-99
 Project No. 104703.1.002.05.01
 Client U.S. EPA OAQPS EMAD EMC
 Source Cogentrix Unit 2A
 Sampling Location Baghouse Outlet
 Operator Gylo
 Record data every A=3 B=5 minutes
 Barometer No. Y-2021
 Barometric Pressure 30.01 in Hg
 Elevation to Meter Boxes 34 ft
 Meter Box P_{bar} 29.98 in Hg
 Elevation to Sampling Loc. 34 ft
 Sampling Location P_{bar} 29.98 in Hg
 Static Pressure 125-18.07 in H₂O

Train A No. M17-A
 Probe No. A Length: 10 ft
 Nozzle No. M17-9 Tip Dia. 0.146 in
 Pitot Tube No. A C_p 0.84
 Stack Thermocouple No. 3158A
 Filter Holder No. 1
 Filter Assembly No. F25
 Impinger Box No. A-1
 Umbilical/Impinger Hookup UH-30
 Umbilical No. N50-4
 Meter Box No. N12
 DGM Correction (Y) 0.996
 Orifice Meter ΔH@ 1.810

Train B No. M17-B
 Probe No. B Length: 10 ft
 Nozzle No. M17-10 Tip Dia. 0.146 in
 Pitot Tube No. B C_p 0.84
 Stack Thermocouple No. 3158B
 Filter Holder No. 2
 Filter Assembly No. F26
 Impinger Box No. B-1
 Umbilical/Impinger Hookup UH-32
 Umbilical No. N50-1
 Meter Box No. N11
 DGM Correction (Y) 1.010
 Orifice Meter ΔH@ 1.898



Traverse Point Layout
 Compass Direction > North

	Train A Pitot Tube Pressure Measurement System Leak Checks										Train B Pitot Tube Pressure Measurement System Leak Checks									
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Time (24 Hr)	1333	1514									1339	1518								
Pass or Fail		pass										pass								

Train A Sampling System Leak Checks											
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	
Time (24 Hr)	1335	1516									
Vacuum, in Hg	5	7									
Leak Rate, cfm	.003	.003									
Final Meter Volume											
Initial Meter Volume											
Leak Check Volume											

Train B Sampling System Leak Checks											
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	
Time (24 Hr)	1337	1520									
Vacuum, in Hg	15	7									
Leak Rate, cfm	.003	.001									
Final Meter Volume											
Initial Meter Volume											
Leak Check Volume											

Remarks and Notes: List any other equipment requiring calibration below.

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 11/21/99

	TRAIN A	TRAIN B
Meter Volume at Start of Run	531.164	208.689
Meter Volume at End of Run	553.900	231.754
Total Leak Check or Non-Sample Volume		
Adjusted Final Volume	22.736	

Sampling Data for Method 17 Train A No. M17-A

Initial Time	Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³		Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O		Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F		Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F
				Initial <u>531.164</u>	Desired		Desired	Actual		Inlet	Outlet		
1406	A-5	3	1353	532.35	532.33	1.6	0.51	0.51	182	80	80	6	57
	4	6	1356	533.53	533.57	1.6	0.51	0.51	182	80	80	6	58
	3	9	1359	534.67	534.63	1.5	0.48	0.48	183	81	80	6	49
	2	12	1402	535.45	535.43	0.70	0.22	0.22	182	81	80	6	48
	1	15	1405	535.94	535.89	0.27	0.08	0.08	182	82	80	5	48
1422	B-5	15	1409	537.19	537.12	1.8	0.58	0.58	180	82	80	7	50
	4	21	1412	538.45	538.35	1.8	0.58	0.58	182	82	81	7	49
	3	24	1415	539.60	539.52	1.5	0.48	0.48	181	84	81	7	44
	2	27	1418	540.35	540.33	0.63	0.20	0.20	181	84	81	6	44
	1	30	1421	540.58	540.55	0.06	0.01	0.01	179	85	81	5	47
1438	C-5	33	1425	541.80	541.78	1.7	0.55	0.55	179	84	82	7	51
	4	36	1428	542.95	542.93	1.5	0.48	0.48	182	85	82	7	51
	3	39	1431	543.98	543.99	1.2	0.39	0.39	182	86	82	6	45
	2	42	1434	544.54	544.61	0.35	0.11	0.11	180	86	82	5	45
	1	45	1437	544.71	544.82	0.03	0.01	0.01	178	86	83	5	48
Down 1450 Up 1452	D-5	48	1441	545.93	546.02	1.7	0.55	0.55	181	85	83	7	52
	4	51	1444	547.16	547.22	1.7	0.55	0.55	181	85	83	7	53
	3	54	1447	548.13	548.20	1.05	0.34	0.34	181	87	84	6	46
	2	57	1450	548.87	549.02	0.62	0.20	0.20	182	88	84	5	47
	1	60	1453	549.03	549.35	0.03	0.01	0.01	176	86	85	4	50
1457	E-5	63	1500	550.26	550.20	1.7	0.55	0.55	180	85	84	7	50
	4	66	1503	551.50	551.40	1.7	0.55	0.55	180	86	85	7	53
	3	69	1506	552.48	552.42	1.1	0.35	0.35	183	86	84	7	49
	2	72	1509	553.56	553.50	1.3	0.42	0.42	181	87	85	7	48
	1	75	1512	553.95	553.900	0.17	0.05	0.05	181	88	85	5	49

Initial Time	Traverse Point	Sampling Time, min.	Clock Time (24-Hr)	Dry Gas Meter Reading (V _m), ft ³		Velocity Head (Δp), in. H ₂ O	Orifice Pressure Differential (ΔH), in. H ₂ O		Stack Temp. (t _s), °F	Dry Gas Meter Temperature (t _m), °F		Pump Vacuum, in. Hg	Silica Gel Impinger Outlet Temp., °F
				Initial <u>208.689</u>	Desired		Desired	Actual		Inlet	Outlet		
Down 1450 Up 1452	F-25	5	1355	210.10	210.10	0.84	0.28	0.28	184	82	81	6	59
		10	1400	211.49	211.53	0.82	0.27	0.27	184	82	82	6	58
		15	1405	212.91	212.91	0.85	0.28	0.28	185	82	82	6	50
		20	1410	214.31	214.29	0.84	0.28	0.28	185	82	82	6	49
		25	1415	216.07	216.06	1.3	0.43	0.43	184	83	82	7	47
		30	1420	217.43	217.42	0.78	0.24	0.24	184	84	83	6	47
		35	1425	218.87	218.97	0.87	0.29	0.29	183	85	83	6	46
		40	1430	220.38	220.43	0.95	0.31	0.31	184	85	83	6	46
		45	1435	221.88	221.91	0.95	0.32	0.32	184	86	84	6	47
		50	1440	223.23	223.20	0.76	0.25	0.25	183	86	84	6	47
1457		55	1445	224.65	224.60	0.83	0.28	0.28	183	87	85	6	48
		60	1450	225.92	225.89	0.67	0.22	0.22	183	87	85	6	48
		65	1455	227.47	227.40	1.0	0.33	0.33	185	87	86	6	48
		70	1500	228.97	229.00	0.93	0.31	0.31	182	88	86	6	48
		75	1505	230.50	230.54	0.87	0.32	0.32	183	88	86	6	47
		80	1510	231.74	231.754	0.64	0.21	0.21	183	88	87	6	47

Remarks and Notes:

"B" Train Total pressure -17.4 AP=0.95

Both Trains Down @ 1450
Up @ 1452

PS
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**40 CFR 60, APPENDIX A, METHOD 3B
INTEGRATED GAS SAMPLING DATA**

Run No. 42 Date 11-20-99 Client/Source U.S. EPA / Cogentrix Unit 2A
Project No. 104703.1.002.05.01 Sampling Location Unit 2A Baghouse Outlet
Sample Type (Multi-Point, Single-Point) _____ Operator Griff
Flow Control Device (Valve, ~~Critical Orifice~~) _____ Bag Type Tedlar Sample No. NA
Method 5 Meter Box No. N12 Method 3B Train No. NA
M3B Pump Type diaphragm M3B Flow Meter Type rotameter
M3B Pump No. N12 M3B Flow Meter No. 8900
Desired Sampling Rate 300 cc/min
Leak Check Before Sampling 0 After Sampling 0
Total Sampling Time 70 min Average Flow Meter Reading 30
Flow Rate, cc/min: Average 300 Highest 300 Lowest 300
Estimated Total Sample Volume 21 liters

[illegible]

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40 CFR 60, APPENDIX A, METHOD 3B, GAS ANALYSIS BY ORSAT

Run No. 42 Date 11/20/99 Orsat Leak Check Before Analysis:
 Project No. 104703.1.002.05.01 Sample No. NA Burette No Change in 4 Minutes
 Sampling Location Unit 2A Baghouse Outlet Duct Pipettes No Change in 4 Minutes
 Analysis Start Time 1555 Orsat Leak Check After Analysis:
 Sample Type (Bag, Grab) Bag Burette No Change in 4 Minutes
 Analyst J. Surman Pipettes No Change in 4 Minutes

Analysis	1		2		3		Average Net Value (% v/v)
Gas	Actual Reading	Net Value	Actual Reading	Net Value	Actual Reading	Net Value	
CO ₂	1 <u>14.1</u> 2 <u>14.1</u> 3	<u>14.1</u>	1 <u>14.1</u> 2 <u>14.1</u> 3	<u>14.1</u>	1 <u>14.1</u> 2 <u>14.1</u> 3	<u>14.1</u>	<u>14.1</u>
O ₂ (Net is actual reading minus actual CO ₂ reading)	1 <u>19.2</u> 2 <u>19.2</u> 3	<u>5.1</u>	1 <u>9.2</u> 2 <u>9.2</u> 3	<u>5.1</u>	1 <u>9.2</u> 2 <u>9.2</u> 3	<u>5.1</u>	<u>5.1</u>

Acceptance Criteria per Method 3B

CO₂ > 4% 0.3% v/v O₂ ≥ 15% 0.2% v/v
 ≤ 4% 0.2% v/v < 15% 0.3% v/v

Remarks and Notes:

JSB
11/21/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY TRAIN SET-UP DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01

Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A

Source Location: Rocky Mount, North Carolina

Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 42 Sampling Train A No. M17-A Impinger Box A No. A-1
Sampling Train B No. M17-B Impinger Box B No. B-1

Set-up person(s): J. Surman Date: 11/20/99

Transfer to Sampler:

Relinquished By J. Surman Received By D. Griffin Date/Time 11/20/99 1240

TRAIN COMPONENT	REAGENT	LOADING DATA	
		TRAIN A	TRAIN B
Sampling Nozzle (Quartz)*	Nozzle I.D. No.	<u>M17-9</u>	<u>M17-10</u>
Filter Assembly and Holder*	Filter Assembly No.	<u>25</u>	<u>26</u>
Filter Type: Whatman QM-A	Filter Holder No.	<u>1</u>	<u>2</u>
Probe (316 SS)			
Sample Transfer/Vacuum Line			
Male 1st Impinger Inlet Blank-Off			
		Initial Weights (grams)	
1st Impinger (Mod-GBS) 100-200 mLs ASTM Type I Water		<u>640.8</u>	<u>704.3</u>
U-Connector (A)			
2nd Impinger (GBS) 100-200 mLs ASTM Type I Water		<u>663.0</u>	<u>685.6</u>
U-Connector (B)			
3rd Impinger (Mod-GBS) Empty		<u>497.5</u>	<u>465.0</u>
U-Connector (C)			
4th Impinger (Mod-GBS) ~200 g indicating silica gel		<u>701.2</u>	<u>709.0</u>
U-Connector (D)			
5th Impinger (Mod-GBS) ~200 g indicating silica gel		<u>760.7</u>	<u>697.6</u>
Impinger Outlet Connector	Connector I.D. No.	<u>UH-30</u>	<u>UH-32</u>

* Before and after sampling: Nozzle inlet opening and filter assembly holder outlet opening covered with Teflon® tape, and entire filter assembly holder with filter assembly and nozzle wrapped in aluminum foil and placed in Ziploc® bag. 1st impinger inlet sealed with glass blank-off.

Comments:

JB
11/21/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD LABORATORY SAMPLE RECOVERY DATA FOR TWO TRAINS

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Run No. 42 Sampling Train A No. M17-A Impinger Box A No. A-1
Sampling Train B No. M17-B Impinger Box B No. B-1

Transfer for Recovery:

Relinquished By D. Griffin Received By J. Surman Date/Time 11/20/99 1540
Sample recovery person(s): J. Surman Date: 11/20/99

Weights below are in grams.

BACK HALF RECOVERIES

	TRAIN A				TRAIN B			
Impinger:	1st	2nd	3rd	4th & 5th	1st	2nd	3rd	4th & 5th
Final Wt.	<u>723.1</u>	<u>663.3</u>	<u>497.2</u>	<u>704.3 + 761.3</u>	<u>760.7</u>	<u>786.1</u>	<u>464.8</u>	<u>713.1 + 687.7</u>
Initial Wt.	<u>640.8</u>	<u>663.0</u>	<u>497.5</u>	<u>1461.9</u>	<u>704.3</u>	<u>685.6</u>	<u>465.0</u>	<u>1406.6</u>
Net Wt.	<u>62.3</u>	<u>0.3</u>	<u>-0.3</u>	<u>3.7</u>	<u>56.4</u>	<u>0.5</u>	<u>-0.2</u>	<u>4.2</u>
Total Condensate Collected:				<u>66.0</u>				<u>60.9</u>
Description and/or color:	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>20% + 85%</u>	<u>clear</u>	<u>clear</u>	<u>clear</u>	<u>30% + 85%</u>
				% Blue				% Blue

FRONT HALF RECOVERIES

	TRAIN A	TRAIN B
FILTER ASSEMBLY:		
Sample Number:	<u>42 102</u>	<u>42 104</u>
PM Description/color:	<u>black</u>	<u>black</u>
TRAIN RINSES:		
Sample Number:	<u>42 101</u>	<u>42 103</u>
Components Rinsed*: nozzle, filter holder front		

* Acetone rinses with brushing 3 times or more until perceivably clean.

COMMENTS: Acetone rinses are transferred directly to tared Teflon® beaker liners for analysis.

JS
11/21/99

RCA #2 Appendix D

M17 Field Laboratory Particulate Weight Data

PARTICULATE MATTER (FRONT-HALF) RINSES ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman
 Beaker Liner Size and Type: 250-mL Teflon®
 Acetone Lot No. BO 363

Analyst: J. Surman

Sample Treatment: Acetone samples evaporated at ambient temperature and pressure in an enclosure with HEPA-filtered air; then, desiccated and weighed to a constant weight.

Weight Unit: grams

Run No. 30 1-A Beaker No. 1 Sample No. 30101
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

	Gross Wt.	Date	Time
Beaker + Liner + Sample + Rinses Wt.	<u>129.3</u>	<u>11/17/99</u>	<u>0830</u>
Beaker + Liner Tare Wt.	<u>104.3</u>	<u>11/17/99</u>	<u>1545</u>
Sample + Rinses Wt.	<u>25.0</u>		
Acetone Wt./0.79 = mLs Acetone:	<u>31.6</u>		
Beaker Liner + Residue Gross Weight used for data entry:	<u>3.6645</u>		
Beaker Liner Tare Weight from Tare Weight Data:	<u>3.6607</u>		
Acetone Blank for data entry =	<u>0</u>		mg/mL
Volume for data entry =	<u>31.6</u>		mLs

Comments:

Run No. 30 1-B Beaker No. 2 Sample No. 30103
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

	Gross Wt.	Date	Time
Beaker + Liner + Sample + Rinses Wt.	<u>132.8</u>	<u>11/17/99</u>	<u>0830</u>
Beaker + Liner Tare Wt.	<u>102.9</u>	<u>11/17/99</u>	<u>1545</u>
Sample + Rinses Wt.	<u>24.9</u>		
Acetone Wt./0.79 = mLs Acetone:	<u>31.5</u>		
Beaker Liner + Residue Gross Weight used for data entry:	<u>3.5871</u>		
Beaker Liner Tare Weight from Tare Weight Data:	<u>3.5857</u>		
Acetone Blank for data entry =	<u>0</u>		mg/mL
Volume for data entry =	<u>31.5</u>		mLs

Comments:

Run No. 31 2-A Beaker No. 3 Sample No. 31101
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

	Gross Wt.	Date	Time
Beaker + Liner + Sample + Rinses Wt.	<u>132.8</u>	<u>11/17/99</u>	<u>0830</u>
Beaker + Liner Tare Wt.	<u>115.3</u>	<u>11/17/99</u>	<u>1545</u>
Sample + Rinses Wt.	<u>17.5</u>		
Acetone Wt./0.79 = mLs Acetone:	<u>22.2</u>		
Beaker Liner + Residue Gross Weight used for data entry:	<u>3.6595</u>		
Beaker Liner Tare Weight from Tare Weight Data:	<u>3.6567</u>		
Acetone Blank for data entry =	<u>0</u>		mg/mL
Volume for data entry =	<u>22.2</u>		mLs

Comments:

NOTE: Control liner and reagent blank weight data and balance check data are documented on other forms.

JS
11/21/99

PARTICULATE MATTER (FRONT-HALF) RINSES ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman Analyst: J. Surman
 Beaker Liner Size and Type: 250-mL Teflon®
 Acetone Lot No. BO 363
 Sample Treatment: Acetone samples evaporated at ambient temperature and pressure in an enclosure with HEPA-filtered air; then, desiccated and weighed to a constant weight.
 Weight Unit: grams

31
 Run No. 2-B Beaker No. 4 Sample No. 31103
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

Beaker + Liner + Sample + Rinses Wt.	<u>122.6</u>	Gross Wt.	<u>3.6010</u>	Date	<u>11/17/99</u>	Time	<u>0830</u>
Beaker + Liner Tare Wt.	<u>103.1</u>		<u>3.6010</u>		<u>11/17/99</u>		<u>1545</u>
Sample + Rinses Wt.	<u>19.5</u>						
Acetone Wt./0.79 = mLs Acetone:	<u>24.7</u>						

Beaker Liner + Residue Gross Weight used for data entry: 3.6010
 Beaker Liner Tare Weight from Tare Weight Data: 3.6003
 Acetone Blank for data entry = 0 mg/mL
 Volume for data entry = 24.7 mLs

Comments:

32
 Run No. 3-A Beaker No. 5 Sample No. 32101
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

Beaker + Liner + Sample + Rinses Wt.	<u>133.7</u>	Gross Wt.	<u>3.7253</u>	Date	<u>11/18/99</u>	Time	<u>0820</u>
Beaker + Liner Tare Wt.	<u>112.6</u>		<u>3.7252</u>		<u>11/18/99</u>		<u>1430</u>
Sample + Rinses Wt.	<u>21.1</u>						
Acetone Wt./0.79 = mLs Acetone:	<u>26.7</u>						

Beaker Liner + Residue Gross Weight used for data entry: 3.7253
 Beaker Liner Tare Weight from Tare Weight Data: 3.7232
 Acetone Blank for data entry = 0 mg/mL
 Volume for data entry = 26.7 mLs

Comments:

32
 Run No. 3-B Beaker No. 6 Sample No. 32103
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

Beaker + Liner + Sample + Rinses Wt.	<u>132.0</u>	Gross Wt.	<u>3.5713</u>	Date	<u>11/18/99</u>	Time	<u>0820</u>
Beaker + Liner Tare Wt.	<u>118.1</u>		<u>3.5713</u>		<u>11/18/99</u>		<u>1430</u>
Sample + Rinses Wt.	<u>18.9</u>						
Acetone Wt./0.79 = mLs Acetone:	<u>23.9</u>						

Beaker Liner + Residue Gross Weight used for data entry: 3.5713
 Beaker Liner Tare Weight from Tare Weight Data: 3.5705
 Acetone Blank for data entry = 0 mg/mL
 Volume for data entry = 23.9 mLs

Comments:

NOTE: Control liner and reagent blank weight data and balance check data are documented on other forms.

PS
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PARTICULATE MATTER (FRONT-HALF) RINSES ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman
 Beaker Liner Size and Type: 250-mL Teflon®
 Acetone Lot No. BO 363

Analyst: J. Surman

Sample Treatment: Acetone samples evaporated at ambient temperature and pressure in an enclosure with HEPA-filtered air; then, desiccated and weighed to a constant weight.
 Weight Unit: grams

33
 Run No. 4-A Beaker No. 7 Sample No. 33101
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

	Gross Wt.	Date	Time	
Beaker + Liner + Sample + Rinses Wt.	<u>111.2</u>	<u>3.6527</u>	<u>11/18/99</u>	<u>0820</u>
Beaker + Liner Tare Wt.	<u>93.0</u>	<u>3.6527</u>	<u>11/18/99</u>	<u>1430</u>
Sample + Rinses Wt.	<u>18.2</u>			
Acetone Wt./0.79 = mLs Acetone:	<u>23.0</u>			
Beaker Liner + Residue Gross Weight used for data entry:	<u>3.6527</u>			
Beaker Liner Tare Weight from Tare Weight Data:	<u>3.6503</u>			
Acetone Blank for data entry =	<u>0</u>			mg/mL
Volume for data entry =	<u>23.0</u>			mLs

Comments:

33
 Run No. 4-B Beaker No. 8 Sample No. 33103
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

	Gross Wt.	Date	Time	
Beaker + Liner + Sample + Rinses Wt.	<u>123.9</u>	<u>3.9072</u>	<u>11/18/99</u>	<u>0820</u>
Beaker + Liner Tare Wt.	<u>105.5</u>	<u>3.9071</u>	<u>11/18/99</u>	<u>1430</u>
Sample + Rinses Wt.	<u>18.4</u>			
Acetone Wt./0.79 = mLs Acetone:	<u>23.3</u>			
Beaker Liner + Residue Gross Weight used for data entry:	<u>3.9072</u>			
Beaker Liner Tare Weight from Tare Weight Data:	<u>3.9065</u>			
Acetone Blank for data entry =	<u>0</u>			mg/mL
Volume for data entry =	<u>23.3</u>			mLs

Comments:

34
 Run No. 5-A Beaker No. 9 Sample No. 34101
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

	Gross Wt.	Date	Time	
Beaker + Liner + Sample + Rinses Wt.	<u>131.1</u>	<u>3.7852</u>	<u>11/18/99</u>	<u>0820</u>
Beaker + Liner Tare Wt.	<u>113.9</u>	<u>3.7852</u>	<u>11/18/99</u>	<u>1430</u>
Sample + Rinses Wt.	<u>17.2</u>			
Acetone Wt./0.79 = mLs Acetone:	<u>21.8</u>			
Beaker Liner + Residue Gross Weight used for data entry:	<u>3.7852</u>			
Beaker Liner Tare Weight from Tare Weight Data:	<u>3.7824</u>			
Acetone Blank for data entry =	<u>0</u>			mg/mL
Volume for data entry =	<u>21.8</u>			mLs

Comments:

NOTE: Control liner and reagent blank weight data and balance check data are documented on other forms.

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PARTICULATE MATTER (FRONT-HALF) RINSES ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman
 Beaker Liner Size and Type: 250-mL Teflon®
 Acetone Lot No. BO 363

Analyst: J. Surman

Sample Treatment: Acetone samples evaporated at ambient temperature and pressure in an enclosure with HEPA-filtered air; then, desiccated and weighed to a constant weight.

Weight Unit: grams

34
 Run No. 5-B Beaker No. 10 Sample No. 34103
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

Beaker + Liner + Sample + Rinses Wt.	<u>125.6</u>	Gross Wt.	<u>3.6078</u>	Date	<u>11/18/99</u>	Time	<u>0820</u>
Beaker + Liner Tare Wt.	<u>104.4</u>		<u>3.6078</u>		<u>11/18/99</u>		<u>1430</u>
Sample + Rinses Wt.	<u>21.2</u>						
Acetone Wt./0.79 = mLs Acetone:	<u>26.8</u>						
Beaker Liner + Residue Gross Weight used for data entry:			<u>3.6078</u>				
Beaker Liner Tare Weight from Tare Weight Data:			<u>3.6075</u>				
Acetone Blank for data entry =			<u>0</u>			mg/mL	
Volume for data entry =			<u>26.8</u>			mLs	

Comments:

35
 Run No. 6-A Beaker No. 11 Sample No. 35101
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

Beaker + Liner + Sample + Rinses Wt.	<u>115.6</u>	Gross Wt.	<u>3.6943</u>	Date	<u>11/18/99</u>	Time	<u>1430</u>
Beaker + Liner Tare Wt.	<u>94.1</u>		<u>3.6943</u>		<u>11/18/99</u>		<u>2230</u>
Sample + Rinses Wt.	<u>21.5</u>						
Acetone Wt./0.79 = mLs Acetone:	<u>27.2</u>						
Beaker Liner + Residue Gross Weight used for data entry:			<u>3.6943</u>				
Beaker Liner Tare Weight from Tare Weight Data:			<u>3.6933</u>				
Acetone Blank for data entry =			<u>0</u>			mg/mL	
Volume for data entry =			<u>27.2</u>			mLs	

Comments:

35
 Run No. 6-B Beaker No. 12 Sample No. 35103
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

Beaker + Liner + Sample + Rinses Wt.	<u>114.9</u>	Gross Wt.	<u>3.8241</u>	Date	<u>11/18/99</u>	Time	<u>1430</u>
Beaker + Liner Tare Wt.	<u>96.2</u>		<u>3.8240</u>		<u>11/18/99</u>		<u>2230</u>
Sample + Rinses Wt.	<u>18.7</u>						
Acetone Wt./0.79 = mLs Acetone:	<u>23.7</u>						
Beaker Liner + Residue Gross Weight used for data entry:			<u>3.8241</u>				
Beaker Liner Tare Weight from Tare Weight Data:			<u>3.8241</u>				
Acetone Blank for data entry =			<u>0</u>			mg/mL	
Volume for data entry =			<u>23.7</u>			mLs	

Comments:

NOTE: Control liner and reagent blank weight data and balance check data are documented on other forms.

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PARTICULATE MATTER (FRONT-HALF) RINSES ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman
 Beaker Liner Size and Type: 250-mL Teflon®
 Acetone Lot No. BO 363

Analyst: J. Surman

Sample Treatment: Acetone samples evaporated at ambient temperature and pressure in an enclosure with HEPA-filtered air; then, desiccated and weighed to a constant weight.
 Weight Unit: grams

36
 Run No. 7-A Beaker No. 13 Sample No. 36101
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

	Gross Wt.	Date	Time	
Beaker + Liner + Sample + Rinses Wt.	<u>141.1</u>	<u>3.8339</u>	<u>11/18/99</u>	<u>1430</u>
Beaker + Liner Tare Wt.	<u>116.7</u>	<u>3.8339</u>	<u>11/18/99</u>	<u>2230</u>
Sample + Rinses Wt.	<u>25.0</u>			
Acetone Wt./0.79 = mLs Acetone:	<u>31.6</u>			
Beaker Liner + Residue Gross Weight used for data entry:	<u>3.8339</u>			
Beaker Liner Tare Weight from Tare Weight Data:	<u>3.8323</u>			
Acetone Blank for data entry =	<u>0</u>			mg/mL
Volume for data entry =	<u>31.6</u>			mLs

Comments:

36
 Run No. 7-B Beaker No. 14 Sample No. 36103
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

	Gross Wt.	Date	Time	
Beaker + Liner + Sample + Rinses Wt.	<u>136.7</u>	<u>3.8595</u>	<u>11/18/99</u>	<u>1430</u>
Beaker + Liner Tare Wt.	<u>116.6</u>	<u>3.8595</u>	<u>11/18/99</u>	<u>2230</u>
Sample + Rinses Wt.	<u>20.1</u>			
Acetone Wt./0.79 = mLs Acetone:	<u>25.4</u>			
Beaker Liner + Residue Gross Weight used for data entry:	<u>3.8595</u>			
Beaker Liner Tare Weight from Tare Weight Data:	<u>3.8595</u>			
Acetone Blank for data entry =	<u>0</u>			mg/mL
Volume for data entry =	<u>25.4</u>			mLs

Comments:

37
 Run No. 5-A Beaker No. 15 Sample No. 37101
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

	Gross Wt.	Date	Time	
Beaker + Liner + Sample + Rinses Wt.	<u>132.5</u>	<u>3.4512</u>	<u>11/20/99</u>	<u>0815</u>
Beaker + Liner Tare Wt.	<u>104.3</u>	<u>3.4512</u>	<u>11/20/99</u>	<u>1600</u>
Sample + Rinses Wt.	<u>28.2</u>			
Acetone Wt./0.79 = mLs Acetone:	<u>35.7</u>			
Beaker Liner + Residue Gross Weight used for data entry:	<u>3.4512</u>			
Beaker Liner Tare Weight from Tare Weight Data:	<u>3.4468</u>			
Acetone Blank for data entry =	<u>0</u>			mg/mL
Volume for data entry =	<u>35.7</u>			mLs

Comments:

NOTE: Control liner and reagent blank weight data and balance check data are documented on other forms.

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PARTICULATE MATTER (FRONT-HALF) RINSES ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman
 Beaker Liner Size and Type: 250-mL Teflon®
 Acetone Lot No. BO 363

Analyst: J. Surman

Sample Treatment: Acetone samples evaporated at ambient temperature and pressure in an enclosure with HEPA-filtered air; then, desiccated and weighed to a constant weight.

Weight Unit: grams

37
 Run No. 8-B Beaker No. 16 Sample No. 37103
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

	Gross Wt.	Date	Time	
Beaker + Liner + Sample + Rinses Wt.	<u>111.4</u>	<u>3.8260</u>	<u>11/20/99</u>	<u>0815</u>
Beaker + Liner Tare Wt.	<u>87.8</u>	<u>3.8260</u>	<u>11/20/99</u>	<u>1600</u>
Sample + Rinses Wt.	<u>23.6</u>			
Acetone Wt./0.79 = mLs Acetone:	<u>29.9</u>			
Beaker Liner + Residue Gross Weight used for data entry:	<u>3.8260</u>			
Beaker Liner Tare Weight from Tare Weight Data:	<u>3.8247</u>			
Acetone Blank for data entry =	<u>0</u>			mg/mL
Volume for data entry =	<u>29.9</u>			mLs

Comments:

38
 Run No. 9-A Beaker No. 17 Sample No. 38101
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

	Gross Wt.	Date	Time	
Beaker + Liner + Sample + Rinses Wt.	<u>129.9</u>	<u>3.3977</u>	<u>11/20/99</u>	<u>0815</u>
Beaker + Liner Tare Wt.	<u>109.2</u>	<u>3.3976</u>	<u>11/20/99</u>	<u>1600</u>
Sample + Rinses Wt.	<u>20.7</u>			
Acetone Wt./0.79 = mLs Acetone:	<u>26.2</u>			
Beaker Liner + Residue Gross Weight used for data entry:	<u>3.3977</u>			
Beaker Liner Tare Weight from Tare Weight Data:	<u>3.3937</u>			
Acetone Blank for data entry =	<u>0</u>			mg/mL
Volume for data entry =	<u>26.2</u>			mLs

Comments:

38
 Run No. 9-B Beaker No. 18 Sample No. 38103
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

	Gross Wt.	Date	Time	
Beaker + Liner + Sample + Rinses Wt.	<u>137.9</u>	<u>3.6497</u>	<u>11/20/99</u>	<u>0815</u>
Beaker + Liner Tare Wt.	<u>116.0</u>	<u>3.6497</u>	<u>11/20/99</u>	<u>1600</u>
Sample + Rinses Wt.	<u>21.9</u>			
Acetone Wt./0.79 = mLs Acetone:	<u>27.7</u>			
Beaker Liner + Residue Gross Weight used for data entry:	<u>3.6497</u>			
Beaker Liner Tare Weight from Tare Weight Data:	<u>3.6474</u>			
Acetone Blank for data entry =	<u>0</u>			mg/mL
Volume for data entry =	<u>27.7</u>			mLs

Comments:

NOTE: Control liner and reagent blank weight data and balance check data are documented on other forms.

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PARTICULATE MATTER (FRONT-HALF) RINSES ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman
 Beaker Liner Size and Type: 250-mL Teflon®
 Acetone Lot No. BO 363

Analyst: J. Surman

Sample Treatment: Acetone samples evaporated at ambient temperature and pressure in an enclosure with HEPA-filtered air; then, desiccated and weighed to a constant weight.

Weight Unit: grams

³⁹
 Run No. 10-A Beaker No. 19 Sample No. 39101
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

Beaker + Liner + Sample + Rinses Wt.	<u>124.9</u>	Gross Wt.	<u>3.5236</u>	Date	<u>11/20/99</u>	Time	<u>0815</u>
Beaker + Liner Tare Wt.	<u>107.8</u>		<u>3.5236</u>		<u>11/20/99</u>		<u>1600</u>
Sample + Rinses Wt.	<u>17.1</u>						
Acetone Wt./0.79 = mLs Acetone:	<u>21.6</u>						
Beaker Liner + Residue Gross Weight used for data entry:			<u>3.5236</u>				
Beaker Liner Tare Weight from Tare Weight Data:			<u>3.5198</u>				
Acetone Blank for data entry =			<u>0</u>			mg/mL	
Volume for data entry =			<u>21.6</u>			mLs	

Comments:

³⁹
 Run No. 10-B Beaker No. 20 Sample No. 39103
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

Beaker + Liner + Sample + Rinses Wt.	<u>108.6</u>	Gross Wt.	<u>3.7299</u>	Date	<u>11/20/99</u>	Time	<u>0815</u>
Beaker + Liner Tare Wt.	<u>90.1</u>		<u>3.7299</u>		<u>11/20/99</u>		<u>1600</u>
Sample + Rinses Wt.	<u>18.5</u>						
Acetone Wt./0.79 = mLs Acetone:	<u>23.4</u>						
Beaker Liner + Residue Gross Weight used for data entry:			<u>3.7299</u>				
Beaker Liner Tare Weight from Tare Weight Data:			<u>3.7279</u>				
Acetone Blank for data entry =			<u>0</u>			mg/mL	
Volume for data entry =			<u>23.4</u>			mLs	

Comments:

⁴⁰
 Run No. 11-A Beaker No. 21 Sample No. 40101
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

Beaker + Liner + Sample + Rinses Wt.	<u>132.4</u>	Gross Wt.	<u>3.5352</u>	Date	<u>11/20/99</u>	Time	<u>1600</u>
Beaker + Liner Tare Wt.	<u>117.0</u>		<u>3.5353</u>		<u>11/21/99</u>		<u>0845</u>
Sample + Rinses Wt.	<u>15.4</u>						
Acetone Wt./0.79 = mLs Acetone:	<u>19.5</u>						
Beaker Liner + Residue Gross Weight used for data entry:			<u>3.5353</u>				
Beaker Liner Tare Weight from Tare Weight Data:			<u>3.5343</u>				
Acetone Blank for data entry =			<u>0</u>			mg/mL	
Volume for data entry =			<u>19.5</u>			mLs	

Comments:

NOTE: Control liner and reagent blank weight data and balance check data are documented on other forms.

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PARTICULATE MATTER (FRONT-HALF) RINSES ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman Analyst: J. Surman
 Beaker Liner Size and Type: 250-mL Teflon®
 Acetone Lot No. BO 363
 Sample Treatment: Acetone samples evaporated at ambient temperature and pressure in an enclosure with HEPA-filtered air; then, desiccated and weighed to a constant weight.
 Weight Unit: grams

40
 Run No. 11-B Beaker No. 22 Sample No. 40103
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

	Gross Wt.	Date	Time	
Beaker + Liner + Sample + Rinses Wt.	<u>116.5</u>	<u>3.5574</u>	<u>11/20/99</u>	<u>1600</u>
Beaker + Liner Tare Wt.	<u>90.3</u>	<u>3.5574</u>	<u>11/21/99</u>	<u>0845</u>
Sample + Rinses Wt.	<u>26.2</u>			
Acetone Wt./0.79 = mLs Acetone:	<u>33.2</u>			
Beaker Liner + Residue Gross Weight used for data entry:	<u>3.5574</u>			
Beaker Liner Tare Weight from Tare Weight Data:	<u>3.5553</u>			
Acetone Blank for data entry =	<u>0</u>			mg/mL
Volume for data entry =	<u>33.2</u>			mLs

Comments:

41
 Run No. 12-A Beaker No. 23 Sample No. 41101
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

	Gross Wt.	Date	Time	
Beaker + Liner + Sample + Rinses Wt.	<u>127.4</u>	<u>3.3624</u>	<u>11/20/99</u>	<u>1600</u>
Beaker + Liner Tare Wt.	<u>103.8</u>	<u>3.3624</u>	<u>11/21/99</u>	<u>0845</u>
Sample + Rinses Wt.	<u>23.6</u>			
Acetone Wt./0.79 = mLs Acetone:	<u>29.9</u>			
Beaker Liner + Residue Gross Weight used for data entry:	<u>3.3624</u>			
Beaker Liner Tare Weight from Tare Weight Data:	<u>3.3600</u>			
Acetone Blank for data entry =	<u>0</u>			mg/mL
Volume for data entry =	<u>29.9</u>			mLs

Comments:

41
 Run No. 12-B Beaker No. 24 Sample No. 41103
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights

	Gross Wt.	Date	Time	
Beaker + Liner + Sample + Rinses Wt.	<u>132.5</u>	<u>3.3260</u>	<u>11/20/99</u>	<u>1600</u>
Beaker + Liner Tare Wt.	<u>107.1</u>	<u>3.3260</u>	<u>11/21/99</u>	<u>0845</u>
Sample + Rinses Wt.	<u>25.4</u>			
Acetone Wt./0.79 = mLs Acetone:	<u>32.2</u>			
Beaker Liner + Residue Gross Weight used for data entry:	<u>3.3260</u>			
Beaker Liner Tare Weight from Tare Weight Data:	<u>3.3255</u>			
Acetone Blank for data entry =	<u>0</u>			mg/mL
Volume for data entry =	<u>32.2</u>			mLs

Comments:

NOTE: Control liner and reagent blank weight data and balance check data are documented on other forms.

P.S.
 11/21/99

PARTICULATE MATTER (FRONT-HALF) RINSES ANALYSIS DATA

MRI Project No. 104703.1.002.05.01

Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A

Source Location: Rocky Mount, North Carolina

Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman

Analyst: J. Surman

Beaker Liner Size and Type: 250-mL Teflon®

Acetone Lot No. BO 363

Sample Treatment: Acetone samples evaporated at ambient temperature and pressure in an enclosure with HEPA-filtered air; then, desiccated and weighed to a constant weight.

Weight Unit: grams

42
Run No. 13-B Beaker No. 25 Sample No. 42101
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights
Gross Wt. Date Time
Beaker + Liner + Sample + Rinses Wt. 133.5 3.7267 11/21/99 0845
Beaker + Liner Tare Wt. 109.7
Sample + Rinses Wt. 23.8
Acetone Wt./0.79 = mLs Acetone: 30.1
Beaker Liner + Residue Gross Weight used for data entry: 3.7267
Beaker Liner Tare Weight from Tare Weight Data: 3.7215
Acetone Blank for data entry = 0 mg/mL
Volume for data entry = 30.1 mLs

Comments:

42
Run No. 13-B Beaker No. 26 Sample No. 42103
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights
Gross Wt. Date Time
Beaker + Liner + Sample + Rinses Wt. 123.8 3.6897 11/21/99 0845
Beaker + Liner Tare Wt. 103.7
Sample + Rinses Wt. 20.1
Acetone Wt./0.79 = mLs Acetone: 25.4
Beaker Liner + Residue Gross Weight used for data entry: 3.6897
Beaker Liner Tare Weight from Tare Weight Data: 3.6887
Acetone Blank for data entry = 0 mg/mL
Volume for data entry = 25.4 mLs

Comments:

Run No. _____ Beaker No. _____ Sample No. _____
Sample Volume + Acetone Rinses of Bottle Beaker Liner + Sample Residue Weights
Gross Wt. Date Time
Beaker + Liner + Sample + Rinses Wt. _____
Beaker + Liner Tare Wt. _____
Sample + Rinses Wt. _____
Acetone Wt./0.79 = mLs Acetone: _____
Beaker Liner + Residue Gross Weight used for data entry: _____
Beaker Liner Tare Weight from Tare Weight Data: _____
Acetone Blank for data entry = _____ mg/mL
Volume for data entry = _____ mLs

Comments:

NOTE: Control liner and reagent blank weight data and balance check data are documented on other forms.

JS
11/21/99

PARTICULATE MATTER IN FILTER ASSEMBLY ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman

Analyst: J. Surman

Filter Size and Type: 47mm diameter, Whatman QM-A quartz glass fiber filter

Filter Lot No. 25460

Assembly Components: filter, aluminum foil gasket, and 316 stainless steel filter support

Filter Assembly Treatment: ~~Heat at 105 °C for 3 hours~~, desiccate and weigh to a constant weight.

Weight Unit: grams

75 11/30/94

Run No. 30 1-A Assembly No. 1 Sample No. 30102

Gross Wt.	Date	Time	Comments:
<u>3.3508</u>	<u>11/17/99</u>	<u>0830</u>	
<u>3.3508</u>	<u>11/17/99</u>	<u>1545</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry:			<u>3.3508</u>
Assembly Tare Weight from Tare Weight Data:			<u>3.3137</u>

Run No. 30 1-B Assembly No. 2 Sample No. 30104

Gross Wt.	Date	Time	Comments:
<u>3.3408</u>	<u>11/17/99</u>	<u>0830</u>	
<u>3.3408</u>	<u>11/17/99</u>	<u>1545</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry:			<u>3.3408</u>
Assembly Tare Weight from Tare Weight Data:			<u>3.3087</u>

Run No. 31 2-A Assembly No. 3 Sample No. 31102

Gross Wt.	Date	Time	Comments:
<u>3.4017</u>	<u>11/17/99</u>	<u>0830</u>	
<u>3.4017</u>	<u>11/17/99</u>	<u>1545</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry:			_____
Assembly Tare Weight from Tare Weight Data:			<u>3.3752</u>

NOTE: Control and blank assembly weight data and balance check data are documented on other forms.

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11/21/99

PARTICULATE MATTER IN FILTER ASSEMBLY ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman

Analyst: J. Surman

Filter Size and Type: 47mm diameter, Whatman QM-A quartz glass fiber filter

Filter Lot No. 25460

Assembly Components: filter, aluminum foil gasket, and 316 stainless steel filter support

Filter Assembly Treatment: Heat at 105 °C for 3 hours, desiccate and weigh to a constant weight.

Weight Unit: grams

7.3
11/30/99

Run No. 31 2-B Assembly No. 4 Sample No. 31104

Gross Wt.	Date	Time	Comments:
<u>3.3642</u>	<u>11/17/99</u>	<u>0830</u>	
<u>3.3642</u>	<u>11/17/99</u>	<u>1525</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry: <u>3.3642</u>			
Assembly Tare Weight from Tare Weight Data: <u>3.3461</u>			

Run No. 32 3-A Assembly No. 5 Sample No. 32102

Gross Wt.	Date	Time	Comments:
<u>3.3131</u>	<u>11/18/99</u>	<u>0820</u>	
<u>3.3131</u>	<u>11/18/99</u>	<u>1430</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry: <u>3.3131</u>			
Assembly Tare Weight from Tare Weight Data: <u>3.2944</u>			

Run No. 32 3-B Assembly No. 6 Sample No. 32104

Gross Wt.	Date	Time	Comments:
<u>3.3168</u>	<u>11/18/99</u>	<u>0820</u>	
<u>3.3168</u>	<u>11/18/99</u>	<u>1430</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry: <u>3.3168</u>			
Assembly Tare Weight from Tare Weight Data: <u>3.3034</u>			

NOTE: Control and blank assembly weight data and balance check data are documented on other forms.

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PARTICULATE MATTER IN FILTER ASSEMBLY ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman

Analyst: J. Surman

Filter Size and Type: 47mm diameter, Whatman QM-A quartz glass fiber filter

Filter Lot No. 25460

Assembly Components: filter, aluminum foil gasket, and 316 stainless steel filter support

Filter Assembly Treatment: ~~Heat at 105 °C for 3 hours~~, desiccate and weigh to a constant weight.

Weight Unit: grams

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Run No. 33 4-A Assembly No. 7 Sample No. 33102

Gross Wt.	Date	Time	Comments:
<u>3.3271</u>	<u>11/18/99</u>	<u>0820</u>	
<u>3.3270</u>	<u>11/18/99</u>	<u>1430</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry: <u>3.3271</u>			
Assembly Tare Weight from Tare Weight Data: <u>3.3016</u>			

Run No. 33 4-B Assembly No. 8 Sample No. 33104

Gross Wt.	Date	Time	Comments:
<u>3.3350</u>	<u>11/18/99</u>	<u>0820</u>	
<u>3.3349</u>	<u>11/18/99</u>	<u>1430</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry: <u>3.3350</u>			
Assembly Tare Weight from Tare Weight Data: <u>3.3097</u>			

Run No. 34 5-A Assembly No. 9 Sample No. 34102

Gross Wt.	Date	Time	Comments:
<u>3.3081</u>	<u>11/18/99</u>	<u>0820</u>	
<u>3.3081</u>	<u>11/18/99</u>	<u>1430</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry: <u>3.3081</u>			
Assembly Tare Weight from Tare Weight Data: <u>3.2993</u>			

NOTE: Control and blank assembly weight data and balance check data are documented on other forms.

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11/21/99

PARTICULATE MATTER IN FILTER ASSEMBLY ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman

Analyst: J. Surman

Filter Size and Type: 47mm diameter, Whatman QM-A quartz glass fiber filter

Filter Lot No. 25460

Assembly Components: filter, aluminum foil gasket, and 316 stainless steel filter support

Filter Assembly Treatment: ~~Heat at 105 °C for 3 hours~~, desiccate and weigh to a constant weight.

Weight Unit: grams

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Run No. 34 5-B Assembly No. 10 Sample No. 34104

Gross Wt.	Date	Time	Comments:
<u>3.2867</u>	<u>11/18/99</u>	<u>0820</u>	
<u>3.2867</u>	<u>11/18/99</u>	<u>1430</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry:			<u>3.2867</u>
Assembly Tare Weight from Tare Weight Data:			<u>3.2733</u>

Run No. 35 6-A Assembly No. 11 Sample No. 35102

Gross Wt.	Date	Time	Comments:
<u>3.3160</u>	<u>11/18/99</u>	<u>1430</u>	
<u>3.3161</u>	<u>11/18/99</u>	<u>2230</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry:			<u>3.3161</u>
Assembly Tare Weight from Tare Weight Data:			<u>3.3027</u>

Run No. 35 6-B Assembly No. 12 Sample No. 35104

Gross Wt.	Date	Time	Comments:
<u>3.3168</u>	<u>11/18/99</u>	<u>1430</u>	
<u>3.3168</u>	<u>11/18/99</u>	<u>2230</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry:			<u>3.3168</u>
Assembly Tare Weight from Tare Weight Data:			<u>3.3080</u>

NOTE: Control and blank assembly weight data and balance check data are documented on other forms.

JS
11/21/99

PARTICULATE MATTER IN FILTER ASSEMBLY ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman

Analyst: J. Surman

Filter Size and Type: 47mm diameter, Whatman QM-A quartz glass fiber filter

Filter Lot No. 25460

Assembly Components: filter, aluminum foil gasket, and 316 stainless steel filter support

Filter Assembly Treatment: ~~Heat at 105 °C for 3 hours~~, desiccate and weigh to a constant weight.

Weight Unit: grams

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Run No. 36 7-A Assembly No. 13 Sample No. 36102

Gross Wt.	Date	Time	Comments:
<u>3.3653</u>	<u>11/18/99</u>	<u>1430</u>	
<u>3.3653</u>	<u>11/18/99</u>	<u>2230</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry: <u>3.3653</u>			
Assembly Tare Weight from Tare Weight Data: <u>3.3398</u>			

Run No. 36 7-B Assembly No. 14 Sample No. 36104

Gross Wt.	Date	Time	Comments:
<u>3.3950</u>	<u>11/18/99</u>	<u>1430</u>	
<u>3.3952</u>	<u>11/18/99</u>	<u>2230</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry: <u>3.3951</u>			
Assembly Tare Weight from Tare Weight Data: <u>3.3780</u>			

Run No. 37 8-A Assembly No. 15 Sample No. 37102

Gross Wt.	Date	Time	Comments:
<u>3.4202</u>	<u>11/20/99</u>	<u>0815</u>	
<u>3.4202</u>	<u>11/20/99</u>	<u>1600</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry: <u>3.4202</u>			
Assembly Tare Weight from Tare Weight Data: <u>3.3734</u>			

NOTE: Control and blank assembly weight data and balance check data are documented on other forms.

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PARTICULATE MATTER IN FILTER ASSEMBLY ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman

Analyst: J. Surman

Filter Size and Type: 47mm diameter, Whatman QM-A quartz glass fiber filter

Filter Lot No. 25460

Assembly Components: filter, aluminum foil gasket, and 316 stainless steel filter support

Filter Assembly Treatment: ~~Heat at 105 °C for 3 hours~~, desiccate and weigh to a constant weight.

Weight Unit: grams

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11/30/99

Run No. ³⁷8-B Assembly No. 16 Sample No. 37104

Gross Wt.	Date	Time	Comments:
<u>3.3931</u>	<u>11/20/99</u>	<u>0815</u>	
<u>3.3931</u>	<u>11/20/99</u>	<u>1600</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry: <u>3.3931</u>			
Assembly Tare Weight from Tare Weight Data: <u>3.3611</u>			

Run No. ³⁸9-A Assembly No. 17 Sample No. 38102

Gross Wt.	Date	Time	Comments:
<u>3.3855</u>	<u>11/20/99</u>	<u>0815</u>	
<u>3.3855</u>	<u>11/20/99</u>	<u>1600</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry: <u>3.3855</u>			
Assembly Tare Weight from Tare Weight Data: <u>3.3564</u>			

Run No. ³⁸9-B Assembly No. 18 Sample No. 38104

Gross Wt.	Date	Time	Comments:
<u>3.3188</u>	<u>11/20/99</u>	<u>0815</u>	
<u>3.3188</u>	<u>11/20/99</u>	<u>1600</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry: <u>3.3188</u>			
Assembly Tare Weight from Tare Weight Data: <u>3.2989</u>			

NOTE: Control and blank assembly weight data and balance check data are documented on other forms.

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11/21/99

PARTICULATE MATTER IN FILTER ASSEMBLY ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman

Analyst: J. Surman

Filter Size and Type: 47mm diameter, Whatman QM-A quartz glass fiber filter

Filter Lot No. 25460

Assembly Components: filter, aluminum foil gasket, and 316 stainless steel filter support

Filter Assembly Treatment: ~~Heat at 105 °C for 3 hours~~, desiccate and weigh to a constant weight.

Weight Unit: grams

7.5 11/30/99

Run No. 39 10-A Assembly No. 19 Sample No. 39102

Gross Wt.	Date	Time	Comments:
<u>3.3416</u>	<u>11/20/99</u>	<u>0815</u>	
<u>3.3416</u>	<u>11/20/99</u>	<u>1600</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry:			<u>3.3416</u>
Assembly Tare Weight from Tare Weight Data:			<u>3.3143</u>

Run No. 39 10-B Assembly No. 20 Sample No. 39104

Gross Wt.	Date	Time	Comments:
<u>3.3137</u>	<u>11/20/99</u>	<u>0815</u>	
<u>3.3137</u>	<u>11/20/99</u>	<u>1600</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry:			<u>3.3137</u>
Assembly Tare Weight from Tare Weight Data:			<u>3.2929</u>

Run No. 40 11-A Assembly No. 21 Sample No. 40102

Gross Wt.	Date	Time	Comments:
<u>3.3183</u>	<u>11/20/99</u>	<u>1600</u>	
<u>3.3182</u>	<u>11/21/99</u>	<u>0845</u>	
_____	_____	_____	
_____	_____	_____	
Assembly Gross Weight used for data entry:			<u>3.3183</u>
Assembly Tare Weight from Tare Weight Data:			<u>3.3086</u>

NOTE: Control and blank assembly weight data and balance check data are documented on other forms.

7.8
11/21/99

PARTICULATE MATTER IN FILTER ASSEMBLY ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman

Analyst: J. Surman

Filter Size and Type: 47mm diameter, Whatman QM-A quartz glass fiber filter

Filter Lot No. 25460

Assembly Components: filter, aluminum foil gasket, and 316 stainless steel filter support

Filter Assembly Treatment: Heat at 105 °C for 3 hours, desiccate and weigh to a constant weight.

Weight Unit: grams

Run No. 40 11-B Assembly No. 22 Sample No. 40104

Gross Wt.	Date	Time	Comments:
<u>3.3225</u>	<u>11/20/99</u>	<u>1600</u>	
<u>3.3225</u>	<u>11/21/99</u>	<u>0845</u>	
Assembly Gross Weight used for data entry: <u>3.3225</u>			
Assembly Tare Weight from Tare Weight Data: <u>3.3157</u>			

Run No. 41 12-B Assembly No. 23 Sample No. 41102

Gross Wt.	Date	Time	Comments:
<u>3.3323</u>	<u>11/20/99</u>	<u>1600</u>	
<u>3.3323</u>	<u>11/21/99</u>	<u>0845</u>	
Assembly Gross Weight used for data entry: <u>3.3323</u>			
Assembly Tare Weight from Tare Weight Data: <u>3.3124</u>			

Run No. 41 12-B Assembly No. 24 Sample No. 41104

Gross Wt.	Date	Time	Comments:
<u>3.3070</u>	<u>11/20/99</u>	<u>1600</u>	
<u>3.3070</u>	<u>11/21/99</u>	<u>0845</u>	
Assembly Gross Weight used for data entry: <u>3.3070</u>			
Assembly Tare Weight from Tare Weight Data: <u>3.2939</u>			

NOTE: Control and blank assembly weight data and balance check data are documented on other forms.

PB
11/21/99

PARTICULATE MATTER IN FILTER ASSEMBLY ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman

Analyst: J. Surman

Filter Size and Type: 47mm diameter, Whatman QM-A quartz glass fiber filter

Filter Lot No. 25460

Assembly Components: filter, aluminum foil gasket, and 316 stainless steel filter support

Filter Assembly Treatment: ~~Heat at 105 °C for 3 hours~~, desiccate and weigh to a constant weight.

Weight Unit: grams

75 11/30/99

Run No. 42 13-B Assembly No. 25 Sample No. 42102

Gross Wt.	Date	Time	Comments:
<u>3.3485</u>	<u>11/20/99</u>	<u>1600</u>	
<u>3.3484</u>	<u>11/21/99</u>	<u>0845</u>	
_____	_____	_____	
_____	_____	_____	

Assembly Gross Weight used for data entry: 3.3485

Assembly Tare Weight from Tare Weight Data: 3.3191

Run No. 42 13-B Assembly No. 26 Sample No. 42104

Gross Wt.	Date	Time	Comments:
<u>3.3340</u>	<u>11/20/99</u>	<u>1600</u>	
<u>3.3340</u>	<u>11/21/99</u>	<u>0845</u>	
_____	_____	_____	
_____	_____	_____	

Assembly Gross Weight used for data entry: 3.3340

Assembly Tare Weight from Tare Weight Data: 3.3140

Run No. _____ Assembly No. _____ Sample No. _____

Gross Wt.	Date	Time	Comments:
_____	_____	_____	
_____	_____	_____	
_____	_____	_____	
_____	_____	_____	

Assembly Gross Weight used for data entry: _____

Assembly Tare Weight from Tare Weight Data: _____

NOTE: Control and blank assembly weight data and balance check data are documented on other forms.

JB
11/21/99

PARTICULATE MATTER CONTROLS ANALYSIS DATA

MRI Project No. 104703.1.002.05.01

Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A

Source Location: Rocky Mount, North Carolina

Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman

Analyst: J. Surman

Balance: AND ER-120A, MRI #12007

Weight Unit: grams

Control Filter Assembly Weights & Balance Checks:

Assembly No. 33
Original Tare Wt.: 3.3336

NIST Weight:
1 gram

Assembly No. 34
Original Tare Wt.: 3.3847

NIST Weight:
1 gram

Current Wt.	Date	Time	Balance Reading	Current Wt.	Date	Time	Balance Reading
<u>3.3335</u>	<u>11/17/99</u>	<u>0830</u>	<u>1.0000</u>				
<u>3.3336</u>	<u>11/17/99</u>	<u>1545</u>	<u>1.0000</u>				
<u>3.3336</u>	<u>11/18/99</u>	<u>0820</u>	<u>1.0000</u>				
<u>3.3335</u>	<u>11/18/99</u>	<u>1430</u>	<u>1.0000</u>				
<u>3.3336</u>	<u>11/18/99</u>	<u>2230</u>	<u>1.0000</u>				
<u>3.3336</u>	<u>11/20/99</u>	<u>0815</u>	<u>1.0000</u>				
<u>3.3336</u>	<u>11/20/99</u>	<u>1600</u>	<u>1.0000</u>				
<u>3.3336</u>	<u>11/21/99</u>	<u>0845</u>	<u>1.0000</u>				

Comments:

Control Beaker Liner Weights & Balance Checks:

Beaker No. 33
Original Tare Wt.: 3.4486

NIST Weight:
1 gram

Beaker No. 34
Original Tare Wt.: 3.7617

NIST Weight:
1 gram

Current Wt.	Date	Time	Balance Reading	Current Wt.	Date	Time	Balance Reading
<u>3.4486</u>	<u>11/17/99</u>	<u>0830</u>	<u>—</u>				
<u>3.4486</u>	<u>11/17/99</u>	<u>1545</u>	<u>—</u>				
<u>3.4486</u>	<u>11/18/99</u>	<u>0820</u>	<u>—</u>				
<u>3.4486</u>	<u>11/18/99</u>	<u>1430</u>	<u>—</u>				
<u>3.4486</u>	<u>11/18/99</u>	<u>2230</u>	<u>—</u>				
<u>3.4486</u>	<u>11/20/99</u>	<u>0815</u>	<u>—</u>				
<u>3.4486</u>	<u>11/20/99</u>	<u>1600</u>	<u>—</u>				
<u>3.4487</u>	<u>11/21/99</u>	<u>0845</u>	<u>—</u>				

Comments:

Controls are filter assemblies and beaker liners selected from the original prepared lots that are used for sampling and analysis. They are processed along with the assemblies and liners containing samples during analysis, i.e., they are heated, desiccated, and weighed along with the assemblies and liners containing samples. The results are not used for correcting analytical data, but are useful in monitoring changes between original tare weights and weights obtained during analysis of samples. Significant changes could indicate problems in maintaining relatively constant environmental conditions in the laboratory, processing procedures not replicating those used when tare weights were obtained, instrumentation calibration drift, and desiccant deterioration.

Each time filter assemblies or beaker liners are weighed, the balance is checked for accuracy by weighing NIST certified weights approximating the weights of the assemblies or liners.

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11/21/99

PARTICULATE MATTER REAGENT BLANK ANALYSIS DATA

MRI Project No. 104703.1.002.05.01
 Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
 Source Location: Rocky Mount, North Carolina
 Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Sampling Team Leader: Jim Surman Analyst: J. Surman
 Beaker Liner Size and Type: 250-mL Teflon®
 Acetone Lot No. BO 363
 Sample Treatment: Acetone samples evaporated at ambient temperature and pressure in an enclosure with HEPA-filtered air; then, desiccated and weighed to a constant weight.
 Filter Size and Type: 47mm diameter, Whatman QM-A quartz glass fiber filter
 Filter Lot No. 25460
 Assembly Components: filter, aluminum foil gasket, 316 stainless steel filter support
 Filter Assembly Treatment: ~~Heated at 105 °C for 3 hours~~, desiccated and weighed to a constant weight.
 Weight Unit: grams g 5 11 30 44

Acetone Blank Determination: For Run No.(s) A11 Beaker No. 32 Sample No. 30105
Acetone Reagent Blank Sample Volume Beaker Liner + Sample Residue Weights

	Gross Wt.	Date	Time
Beaker + Liner + Acetone Sample Wt.	<u>193.4</u>	<u>11/17/99</u>	<u>0830</u>
Beaker + Liner Tare Wt.	<u>106.1</u>	<u>11/17/99</u>	<u>1545</u>
Acetone Sample Wt.	<u>87.3</u>		

A. ----- Acetone Wt./0.79 = mLs Acetone: 110.5

Beaker Liner + Residue Gross Weight used for blank determination: 3.7202
 Beaker Liner Tare Weight from Tare Weight Data: 3.7202
 B. ----- Net Weight of Residue in beaker liner: 0
 Acetone Blank (B x 1000/A) for data entry: 0 mg/mL

Comments:

Filter Assembly Blank Determination: For Run No.(s) A11 Assembly No. 32 Sample No. 30107

Gross Wt.	Date	Time	Comments:
<u>3.3059</u>	<u>11/17/99</u>	<u>0830</u>	
<u>3.3060</u>	<u>11/17/99</u>	<u>1545</u>	

A. ----- Assembly Gross Weight used for blank determination: 3.3060
 B. ----- Assembly Tare Weight from Tare Weight Data: 3.3060
 Net Assembly Weight Difference (A - B) for data entry: 0
 [retain minus sign if value is negative]

NOTE: Control liner and filter assembly weights and balance check data are documented on another form.

JB
11/21/99

40 CFR 60, APPENDIX A, METHOD 17 - PARTICULATE MATTER TRAIN (M17)
FIELD REAGENT BLANK PREPARATION DATA

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Blank(s) Prepared By: J. Surman Date: 11/16/99

Weights below are in grams.

Reagent Blank Description	Sample Number	Bottle Tare Weight	Bottle Gross Weight	Net Sample Weight
Acetone for particulate matter Volume needed: 100 mLs Lot Number: BO 363	30105			
Filter Assembly for particulate matter Type: Whatman QM-A Filter Assembly Number: <u>32</u> Filter Lot Number: 25460	30107			

Acetone blank sample transferred directly to tared Teflon beaker liner for analysis.

NOTE: Lots may be identified above by a manufacturer's lot number or by the date of reagent preparation. If different lots of a particular reagent are used, indicate the applicable test and/or run number(s) and sampling location(s) where the train(s) loaded and/or recovered with that reagent are used (i.e., list each reagent blank sample number with the applicable test and/or run number(s) and sampling location(s) below):

Sample Number(s)	For Test and/or Run Number(s)	For Sampling Location(s)

COMMENTS:

*YB
11/21/99*

BEAKER LINER TARE WEIGHT DATA

MRI Project No. 104703.1.002.05.01

Sampling Team Leader: Jim Surman

Analyst: J. Surman

Beaker Liner Size and Type: 250-mL Teflon®

Beaker Liner Treatment: Wash to clean, rinse with DI water, dry at 105 °C, insert into glass beakers previously cleaned in the same manner, desiccate for 24 hours, and weigh to a constant.

Weight Unit: grams

Date: 11/15/99 11/16/99 _____Time Started: 1400 0940 _____

Balance Check before beaker liners are weighed:

Balance Used: AND ER-120A MRI# 12007Weight Value: 1g 1g _____Balance Reads: 1.0000 1.0000 _____

Beaker Liner in Beaker I.D. No.	First Weighing	Second Weighing	Third Weighing	Average Weight or Weight to be Used as the Tare
<u>1</u>	<u>3.6607</u>	<u>3.6607</u>		<u>3.6607</u>
<u>2</u>	<u>3.5857</u>	<u>3.5857</u>		<u>3.5857</u>
<u>3</u>	<u>3.6567</u>	<u>3.6567</u>		<u>3.6567</u>
<u>4</u>	<u>3.6003</u>	<u>3.6003</u>		<u>3.6003</u>
<u>5</u>	<u>3.7233</u>	<u>3.7232</u>		<u>3.7232</u>
<u>6</u>	<u>3.5705</u>	<u>3.5705</u>		<u>3.5705</u>
<u>7</u>	<u>3.6504</u>	<u>3.6503</u>		<u>3.6503</u>
<u>8</u>	<u>3.9065</u>	<u>3.9065</u>		<u>3.9065</u>
<u>9</u>	<u>3.7824</u>	<u>3.7824</u>		<u>3.7824</u>
<u>10</u>	<u>3.6075</u>	<u>3.6075</u>		<u>3.6075</u>
<u>11</u>	<u>3.6934</u>	<u>3.6933</u>		<u>3.6933</u>
<u>12</u>	<u>3.8241</u>	<u>3.8241</u>		<u>3.8241</u>
<u>13</u>	<u>3.8323</u>	<u>3.8323</u>		<u>3.8323</u>
<u>14</u>	<u>3.8596</u>	<u>3.8595</u>		<u>3.8595</u>
<u>15</u>	<u>3.4468</u>	<u>3.4468</u>		<u>3.4468</u>
<u>16</u>	<u>3.8247</u>	<u>3.8247</u>		<u>3.8247</u>
<u>17</u>	<u>3.3937</u>	<u>3.3937</u>		<u>3.3937</u>
<u>18</u>	<u>3.6474</u>	<u>3.6474</u>		<u>3.6474</u>
<u>19</u>	<u>3.5198</u>	<u>3.5198</u>		<u>3.5198</u>
<u>20</u>	<u>3.7279</u>	<u>3.7279</u>		<u>3.7279</u>

Balance Check after beaker liners are weighed:

Balance Reads: _____

COMMENTS:

2g
11/21/99

BEAKER LINER TARE WEIGHT DATA

MRI Project No. 104703.1.002.05.01

Sampling Team Leader: Jim Surman

Analyst: J. Surman

Beaker Liner Size and Type: 250-mL Teflon®

Beaker Liner Treatment: Wash to clean, rinse with DI water, dry at 105 °C, insert into glass beakers previously cleaned in the same manner, desiccate for 24 hours, and weigh to a constant.

Weight Unit: grams

Date: 11/15/99 11/16/99 _____

Time Started: 1400 0940

Balance Check before beaker liners are weighed:

Balance Used: AND ER-120A MRI#12007

Weight Value: 1g 1g

Balance Reads: _____

[illegible]

Balance Check after beaker liners are weighed:

Balance Reads: 1.0000 1.0000 _____

COMMENTS:

23
11/21/99

FILTER ASSEMBLY TARE WEIGHT DATA

MRI Project No. 104703.1.002.05.01

Sampling Team Leader: Jim Surman

Analyst: P. G. [Signature]

Filter Size and Type: 47mm diameter, Whatman QM-A quartz glass fiber filter

Filter Lot No. 25460

Assembly Components: filter, aluminum foil gasket, and 316 stainless steel filter support

Filter Assembly Treatment: Heat at 105 °C for 3 hours, desiccate, and weigh to a constant weight.

Weight Unit: grams

Date: 11-5-99 11-8-99 _____

Time Started: 1430 1000 _____

Balance Check before filter assemblies are weighed:

Balance Used: Mettler 10586
 Weight Value: 3.0000 3.0000 _____
 Balance Reads: 2.9999 3.0000 _____

Assembly No.	First Weighing	Second Weighing	Third Weighing	Average Weight or Weight to be Used as the Tare
1	3.3137	3.3138		3.3137
2	3.3086	3.3088		3.3087
3	3.3151	3.3153		3.3152
4	3.3461	3.3462		3.3461
5	3.2943	3.2946		3.2944
6	3.3033	3.3035		3.3034
7	3.3016	3.3017		3.3016
8	3.3096	3.3099		3.3097
9	3.2893	3.2893		3.2893
10	3.2732	3.2734		3.2733
11	3.3026	3.3029		3.3027
12	3.3080	3.3081		3.3080
13	3.3397	3.3400		3.3398
14	3.3779	3.3781		3.3780
15	3.3773	3.3735		3.3734
16	3.3610	3.3613		3.3611
17	3.3563	3.3566		3.3564
18	3.2988	3.2991		3.2989
19	3.3142	3.3145		3.3143
20	3.2928	3.2931		3.2929

Balance Check after filter assemblies are weighed:

Balance Reads: 2.9999 3.0000 _____

COMMENTS:

ps
11/21/99

FILTER ASSEMBLY TARE WEIGHT DATA

MRI Project No. 104703.1.002.05.01

Sampling Team Leader: Jim Surman

Analyst: D. Griffith

Filter Size and Type: 47mm diameter, Whatman QM-A quartz glass fiber filter

Filter Lot No. 25460

Assembly Components: filter, aluminum foil gasket, and 316 stainless steel filter support

Filter Assembly Treatment: Heat at 105 °C for 3 hours, desiccate, and weigh to a constant weight.

Weight Unit: grams

Date: 11-9-99 11-8-99

Time Started: 1430 1000

Balance Check before filter assemblies are weighed:

Balance Used: Mettler 16586

Weight Value: 3.0000 3.0000

Balance Reads: 2.9999 3.0000

Assembly No.	First Weighing	Second Weighing	Third Weighing	Average Weight or Weight to be Used as the Tare
21	3.3085	3.3087		3.3086
22	3.3156	3.3158		3.3157
23	3.3123	3.3126		3.3124
24	3.2938	3.2941		3.2939
25	3.3190	3.3193		3.3191
26	3.3139	3.3141		3.3140
27	3.2987	3.2989		3.2988
28	3.3153	3.3155		3.3154
29	3.3970	3.3971		3.3970
30	3.3394	3.3396		3.3395
31	3.2866	3.2869		3.2867
32	3.3059	3.3061		3.3060
33	3.3335	3.3338		3.3336
34	3.3846	3.3848		3.3847
35	3.3503	3.3505		3.3504
36	3.3004	3.3006		3.3005
37	3.4120	3.4122		3.4121
38	3.3560	3.3561		3.3560
39	3.3280	3.3281		3.3280
40	3.2893	3.2894		3.2893

Balance Check after filter assemblies are weighed:

Balance Reads: 2.9999 3.0000

COMMENTS:

JS
11/21/99

RCA #2 Appendix E

M17 Post-Test Calibration Sheets

METHOD 5 METERING CONSOLE CALIBRATION WITH CRITICAL ORIFICE

MRI Project No.	104703.1.002	Metering Console No.	N11
Date:	11/21/99	Previous Dry Gas Meter Factor (Y):	1.010
Operator:	D. Neal	Calibrated Critical Orifice No.	D12
		Critical Orifice Coefficient in English Units (K):	0.32080
		Ambient Temperature Meter No.	Y-0783

	Run 1	Run 2	Run 3
CALIBRATION GAS VOLUME DATA			
Initial Dry Gas Meter Gas Volume, ft. ³	269.601	273.772	277.937
Final Dry Gas Meter Gas Volume, ft. ³	273.772	277.937	282.137
Net Dry Gas Meter Gas Volume (V _m), ft. ³	4.171	4.165	4.200
CALIBRATION CONDITIONS DATA			
Dry Gas Meter Temperature, °F:			
Initial Inlet Temperature, °F	76.0	77.0	78.0
Final Inlet Temperature, °F	77.0	78.0	79.0
Initial Outlet Temperature, °F	74.0	75.0	76.0
Final Outlet Temperature, °F	75.0	76.0	77.0
Average Dry Gas Meter Temperature (t _m), °F	75.5	76.5	77.5
Time, seconds	600	600	600
Orifice Meter ΔH, inches H ₂ O	0.540	0.540	0.540
Barometric Pressure, in. Hg	30.01	30.01	30.01
Critical Orifice Inlet (Ambient) Temperature, °F:			
Initial Ambient Temperature, °F	69.0	69.0	70.0
Final Ambient Temperature, °F	70.0	70.0	70.0
Avg. Critical Orifice Inlet Temperature (t _{amb}), °F	69.5	69.5	70.0
Pump Vacuum, in. Hg	18	18	18
COMPUTED CALIBRATION RESULTS			
Critical Orifice Gas Volume (V _{or (std)}), standard ft. ³	4.185	4.185	4.183
Dry Gas Meter Gas Volume (V _{m (std)}), standard ft. ³	4.130	4.117	4.143
Dry Gas Meter Calibration Factor (Y)	1.013	1.017	1.010
Orifice Meter ΔH@	1.720	1.716	1.715
AVERAGE CALIBRATION RESULTS			
Average Dry Gas Meter Calibration Factor (Y)	1.013		
Average Orifice Meter ΔH@	1.717		
CALIBRATION RESULTS COMPARISON			
Criterion: Y Must Be Within 2% Of Average Y			
Percent Difference Of Y From Average Y	0.01%	0.34%	0.35%
Tolerance Result	PASS	PASS	PASS
COMPARISON WITH PRETEST RESULTS			
Criterion: Y Must Be Within 5% Of Previous Y			
% Difference Of Average Y From Previous Y	0.31%		
Tolerance Result	PASS		

Y = 1.013163954203880

Remarks:

DS
11/21/99

CONSOLE CALIBRATION WORKSHEET

Job No. 104703.1.002 Console No. N11
 Date 11-21-99 Orifice No. D12
 Performed By D. N. S. C. K Factor 0.3208
 Barometer 30.01 in. Hg. Previous Y 1.078 1.01 0.21-21-99 EE.

NOTE: Prior to running calibration, connect mercury manometer to sample orifice. Turn on pump and bring mercury manometer up to 18.0 in. Hg. Record mercury manometer and console vacuum gauge readings below. Insert critical orifice into console sample orifice. Set console vacuum gauge at 18.0 in. Hg. +/- the console vacuum gauge correction factor calculated below.

Mercury manometer readings: N/A + N/A = 18.0 In. Hg.

Console vacuum gauge reading: - N/A In. Hg.

Console vacuum gauge correction factor: N/A In. Hg.

	RUN #1	RUN #2	RUN #3
DGM Initial Volume:	<u>269.601</u> <u>0.21-21-99</u>		
Initial:	<u>267.104</u>	<u>273.772</u>	<u>277.937</u>
Final:	<u>273.772</u>	<u>277.937</u>	<u>282.137</u>
DGM Inlet Temperature:			
Initial:	<u>76</u>	<u>77</u>	<u>78</u>
Final:	<u>77</u>	<u>78</u>	<u>79</u>
DGM Outlet Temperature:			
Initial:	<u>74</u>	<u>75</u>	<u>76</u>
Final:	<u>75</u>	<u>76</u>	<u>77</u>
Time of run (In Seconds):	<u>600</u>	<u>600</u>	<u>600</u>
Orifice Delta H (in. H ₂ O):	<u>0.54</u>	<u>0.54</u>	<u>0.54</u>
Room Temperature:			
Initial:	<u>69</u>	<u>69</u>	<u>70</u>
Final:	<u>70</u>	<u>70</u>	<u>70</u>
Pump Vacuum (in. Hg):	<u>18.0</u>	<u>18.0</u>	<u>18.0</u>

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11/21/99

M5 CONSOLE POST TEST CHECKLIST

Job No. 104703.1.002 Date 11-21-99

Console No. N11 Performed By D. Neal

Place a check (in black ink) in the space provided after the required checks are performed.

1. ☒ Perform positive leak check of Delta H manometer.
(See back of this sheet.)
2. ☒ Leak check Delta P manometer.
3. N/A Clean pump.
4. ☒ Clean muffler jar(s).
5. ☒ Inspect/refill oiler jar.
6. ☒ Calibrate DGM thermocouples:

		Reference Thermometer* °F	DGM Thermometer* °F
Note: Reading must be Within +/-5.4°F	DGM Inlet:	65.4	66
	DGM Outlet:	65.3	65

7. ☒ Digital clock/timer in place and functional.
8. ☒ Vacuum check. (Leak check at 25 in. Hg. vacuum. Leak rate should be zero.)
9. ☒ Check indicator lights.
10. ☒ Check thermocouple switched.
11. ☒ Check fan.
12. ☒ Check pump heater.
13. ☒ Check heat controllers.
14. ☒ Check Orsat pump and rotameter.

If any of the above items were replaced or repaired, please document that information below:

* Reference Thermometer: ASTM 63F-FC Serial Number: 4441

PS
11/21/99

Procedure for positive leak check Delta H manometer:

1. Pump must not be run prior to this test. Pump needs to be cool in order to get an accurate reading.
2. Pump pressure and vacuum lines must be connected to console.
3. Null switch on console must be in the down position so solenoid valve is open to the sampling stream as it is during testing.
4. Plug meter exhaust and clamp off bottom tube from exhaust which goes to the Orsat pump.
5. Plug sample orifice.
6. Close main flow control valve.
7. Open fine control valve.
8. Disconnect right side Delta H manometer tube on front of console.
9. Blow into tubing until manometer reads 5 to 7 inches of water, and clamp off.
There should be no change in manometer reading.
10. Make certain you remove plug and clamp from meter exhaust immediately after this test to avoid damage to the meter pump when pump is started up!

METHOD 5 METERING CONSOLE CALIBRATION WITH CRITICAL ORIFICE

CALIBRATION(S) PERFORMED INCORRECTLY - MUST BE REDONE!!!

MRI Project No.	104703.1.002	Metering Console No.	N12
Date:	11/21/99	Previous Dry Gas Meter Factor (Y):	0.996
Operator:	D. Neal	Calibrated Critical Orifice No.	D12
Critical Orifice Coefficient in English Units (K):			0.32080
		Ambient Temperature Meter No.	Y-0783

	Run 1	Run 2	Run 3
CALIBRATION GAS VOLUME DATA			
Initial Dry Gas Meter Gas Volume, ft. ³	588.598	592.772	596.969
Final Dry Gas Meter Gas Volume, ft. ³	592.772	596.969	601.160
Net Dry Gas Meter Gas Volume (V _m), ft. ³	4.174	4.197	4.191
CALIBRATION CONDITIONS DATA			
Dry Gas Meter Temperature, °F:			
Initial Inlet Temperature, °F	79.0	79.0	81.0
Final Inlet Temperature, °F	79.0	80.0	81.0
Initial Outlet Temperature, °F	74.0	75.0	77.0
Final Outlet Temperature, °F	75.0	76.0	77.0
Average Dry Gas Meter Temperature (t _m), °F	76.8	77.5	79.0
Time, seconds	600	600	600
Orifice Meter ΔH, inches H ₂ O	0.530	0.530	0.530
Barometric Pressure, in. Hg	30.01	30.01	30.01
Critical Orifice Inlet (Ambient) Temperature, °F:			
Initial Ambient Temperature, °F	72.0	73.0	74.0
Final Ambient Temperature, °F	72.0	73.0	74.0
Avg. Critical Orifice Inlet Temperature (t _{amb}), °F	72.0	73.0	74.0
Pump Vacuum, in. Hg	18	18	
COMPUTED CALIBRATION RESULTS			
Critical Orifice Gas Volume (V _{cr (std)}), standard ft. ³	4.175	4.171	4.167
Dry Gas Meter Gas Volume (V _{m (std)}), standard ft. ³	4.123	4.140	4.123
Dry Gas Meter Calibration Factor (Y)	1.013	1.007	1.011
Orifice Meter ΔH@	1.692	1.692	1.691
AVERAGE CALIBRATION RESULTS			
Average Dry Gas Meter Calibration Factor (Y)	1.010		
Average Orifice Meter ΔH@	1.692		
CALIBRATION RESULTS COMPARISON			
Criterion: Y Must Be Within 2% Of Average Y			
Percent Difference Of Y From Average Y	0.23%	0.28%	0.05%
Tolerance Result	PASS	PASS	PASS
COMPARISON WITH PRETEST RESULTS			
Criterion: Y Must Be Within 5% Of Previous Y			
% Difference Of Average Y From Previous Y	1.43%		
Tolerance Result	PASS		

Y = 1 010267285942600

Remarks:

PS
11/21/99

CONSOLE CALIBRATION WORKSHEET

Job No. 104703.1,002 Console No. N12
 Date 11-21-99 Orifice No. 012
 Performed By B. NEOL K Factor 0.3208
 Barometer 30.01 in. Hg. Previous Y ~~1.810~~ 0.996 ^{DN 11-21-EE.}

NOTE: Prior to running calibration, connect mercury manometer to sample orifice. Turn on pump and bring mercury manometer up to 18.0 in. Hg. Record mercury manometer and console vacuum gauge readings below. Insert critical orifice into console sample orifice. Set console vacuum gauge at 18.0 in. Hg. +/- the console vacuum gauge correction factor calculated below.

Mercury manometer readings: N/A + N/A = 18.0 In. Hg.

Console vacuum gauge reading: - N/A In. Hg.

Console vacuum gauge correction factor: N/A In. Hg.

	RUN #1	RUN #2	RUN #3
DGM Initial Volume:			
Initial:	<u>588.598</u>	<u>592.772</u>	<u>596.969</u>
Final:	<u>592.772</u>	<u>596.969</u>	<u>601.160</u>
DGM Inlet Temperature:			
Initial:	<u>79</u>	<u>79</u>	<u>81</u>
Final:	<u>79</u>	<u>80</u>	<u>81</u>
DGM Outlet Temperature:			
Initial:	<u>74</u>	<u>75</u>	<u>77</u>
Final:	<u>75</u>	<u>76</u>	<u>77</u>
Time of run (In Seconds):	<u>600</u>	<u>600</u>	<u>600</u>
Orifice Delta H (in. H ₂ O):	<u>0.53</u>	<u>0.53</u>	<u>0.53</u>
Room Temperature:			
Initial:	<u>72</u>	<u>73</u>	<u>74</u>
Final:	<u>72</u>	<u>73</u>	<u>74</u>
Pump Vacuum (in. Hg):	<u>18.0</u>	<u>18.0</u>	<u>18.0</u>

PB
11/21/99

**METHOD 5 METERING CONSOLE CALIBRATION
CRITICAL ORIFICE BRACKETING DATA**

MRI Project No.	104703.1.002	Critical Orifice Being Evaluated	
Date:	11/21/99	Critical Orifice No.	D12
Operator:	D. Neal	Critical Orifices Used For Bracketing	
Metering Console No.	N12	First Orifice	
Dry Gas Meter Factor (Y):	1.010	Critical Orifice No.	D16
Orifice Used for the Calibration:	D12	Coefficient (K):	0.44410
Ambient Temperature Meter No.	Y-0783	Second Orifice	
Note: Critical orifice coefficients are in English units.		Critical Orifice No.	D19
		Coefficient (K):	0.51210

	First Orifice	Second Orifice
CALIBRATION GAS VOLUME DATA		
Initial Dry Gas Meter Gas Volume, ft. ³	601.801	607.901
Final Dry Gas Meter Gas Volume, ft. ³	607.618	614.637
Net Dry Gas Meter Gas Volume (V _m), ft. ³	5.817	6.736
CALIBRATION CONDITIONS DATA		
Dry Gas Meter Temperature, °F:		
Initial Inlet Temperature, °F	82.0	84.0
Final Inlet Temperature, °F	84.0	86.0
Initial Outlet Temperature, °F	78.0	79.0
Final Outlet Temperature, °F	78.0	79.0
Average Dry Gas Meter Temperature (t _m), °F	80.5	82.0
Time, seconds	600	600
Orifice Meter ΔH, inches H ₂ O	1.000	1.400
Barometric Pressure, in. Hg	30.01	30.01
Critical Orifice Inlet (Ambient) Temperature, °F:		
Initial Ambient Temperature, °F	74.0	75.0
Final Ambient Temperature, °F	75.0	75.0
Average Critical Orifice Inlet Temperature (t _{amb}), °F	74.5	75.0
Pump Vacuum, in. Hg	18	18
COMPUTED CALIBRATION RESULTS		
Critical Orifice Gas Volume (V _{cr (std)}), standard ft. ³	5.766	6.646
Dry Gas Meter Gas Volume (V _{m (std)}), standard ft. ³	5.713	6.604
Factor (Y) Obtained With Bracketing Orifice	1.009	1.006
CRITICAL ORIFICE ACCEPTABILITY		
<i>Criterion: All Ys Must Be Within 2% Of All Other Ys</i>		
Larger % Difference Between Dry Gas Meter Factor (Y) And Factor (Y) Obtained With The Bracketing Orifice	0.07%	0.36%
Larger % Difference Between Factors (Ys) Obtained With Bracketing Orifices	0.29%	
Acceptability Result	All Orifices Are Acceptable	

Remarks:

PS
11/21/99

CONSOLE BRACKETING WORKSHEET

Job No. 104703.1.002 Console No. N12
 Date 11-21-99 Bracketing Orifice No.1 D16
 Performed By D. Neal K Factor 0.4441
 Calibration Orifice No. D12 Bracketing Orifice No.2 D19
 New Y Factor _____ K Factor 0.5121
 Barometer 30.01 in. Hg.

NOTE: Prior to running calibration, connect mercury manometer to sample orifice. Turn on pump and bring mercury manometer up to 18.0 in. Hg. Record mercury manometer and console vacuum gauge readings below. Insert critical orifice into console sample orifice. Set console vacuum gauge at 18.0 in. Hg. +/- the console vacuum gauge correction factor calculated below.

Mercury manometer readings: N/A + N/A = 18.0 in. Hg.

Console vacuum gauge reading: - N/A in. Hg.

Console vacuum gauge correction factor: N/A in. Hg.

	RUN #1	RUN #2
DGM Initial Volume:		
Initial:	<u>601.801</u>	<u>607.901</u>
Final:	<u>607.618</u>	<u>614.637</u>
DGM Inlet Temperature:		
Initial:	<u>82</u>	<u>84</u>
Final:	<u>84</u>	<u>86</u>
DGM Outlet Temperature:		
Initial:	<u>78</u>	<u>79</u>
Final:	<u>78</u>	<u>79</u>
Time of run (In Seconds):	<u>600</u>	<u>600</u>
Orifice Delta H(in. H ₂ O):	<u>1.0</u>	<u>1.40</u>
Room Temperature:		
Initial:	<u>74</u>	<u>75</u>
Final:	<u>75</u>	<u>75</u>
Pump Vacuum (in. Hg):	<u>18.0</u>	<u>18.0</u>

M5 CONSOLE POST TEST CHECKLIST

Job No. 104703.1.002 Date 11-21-99

Console No. N12 Performed By D. NEAL

Place a check (in black ink) in the space provided after the required checks are performed.

1. ☒ Perform positive leak check of Delta H manometer.
(See back of this sheet.)
2. ☒ Leak check Delta P manometer.
3. ☒ Clean pump.
4. ☒ Clean muffler jar(s).
5. ☒ Inspect/refill oiler jar.
6. ☒ Calibrate DGM thermocouples:

Note: Reading must be Within +/-5.4°F		Reference Thermometer* °F	DGM Thermometer* °F
		65.2	64
	DGM Inlet:		
	DGM Outlet:	65.4	63

7. ☒ Digital clock/timer in place and functional.
8. ☒ Vacuum check. (Leak check at 25 in. Hg. vacuum. Leak rate should be zero.)
9. ☒ Check indicator lights.
10. ☒ Check thermocouple switched.
11. ☒ Check fan.
12. ☒ Check pump heater.
13. ☒ Check heat controllers.
14. ☒ Check Orsat pump and rotameter.

If any of the above items were replaced or repaired, please document that information below:

* Reference Thermometer: ASTM 63F-FC Serial Number: 4441

RS 11/21/99

Procedure for positive leak check Delta H manometer:

1. Pump must not be run prior to this test. Pump needs to be cool in order to get an accurate reading.
2. Pump pressure and vacuum lines must be connected to console.
3. Null switch on console must be in the down position so solenoid valve is open to the sampling stream as it is during testing.
4. Plug meter exhaust and clamp off bottom tube from exhaust which goes to the Orsat pump.
5. Plug sample orifice.
6. Close main flow control valve.
7. Open fine control valve.
8. Disconnect right side Delta H manometer tube on front of console.
9. Blow into tubing until manometer reads 5 to 7 inches of water, and clamp off.
There should be no change in manometer reading.
10. Make certain you remove plug and clamp from meter exhaust immediately after this test to avoid damage to the meter pump when pump is started up!

STACK THERMOCOUPLE CALIBRATION DATA FORM

Job No. 104703.1.002 Stack Thermocouple No. 3158A
 Date 11-21-99 Probe No. A
 Performed By D. N. G. C. Pyrometer No. N17
 Avg. Stack Temp. (°F) 180

Reference Instrument: Hart Scientific Model No. 9100A, Serial No. 84414 Dry-well, HDRC Handheld Block A. This instrument is calibrated in accordance with ITS-90 and ANSI/NC SL Z540-1.

Reference Instrument Temp. (°F)	Pyrometer Temp. (°F)	Temp. Difference (°F)	Temp. Difference (%)
(54.4°C) 129.9	128	1.9	0.32
(82.1°C) 179.8	178	1.8	0.28
(110.0°C) 230.0	231	-1.0	-0.15

(ref. Temp., F + 460) - (pyro. Temp., F + 460)

----- X 100 ≤ 1.5%
 (ref. Temp., F + 460)

P.B.
 11/21/99

STACK THERMOCOUPLE CALIBRATION DATA FORM

Job No. 104703.1.002 Stack Thermocouple No. 3158B
 Date 11-21-99 Probe No. B
 Performed By D. NEAL Pyrometer No. NII
 Avg. Stack Temp. (°F) 180

Reference Instrument: Hart Scientific Model No. 9100A, Serial No. 84414 Dry-well, HDRC Handheld Block A. This instrument is calibrated in accordance with ITS-90 and ANSI/NCSL Z540-1.

Reference Instrument Temp. (°F)	Pyrometer Temp. (°F)	Temp. Difference (°F)	Temp. Difference (%)
(54.3°C) 129.7	129	+0.7	0.12
(82.2°C) 179.96	181	-1.04	-0.16
(110.0°C) 230.0	232	-2.0	-0.29

$$\frac{(\text{ref. Temp., } F + 460) - (\text{pyro. Temp., } F + 460)}{(\text{ref. Temp., } F + 460)} \times 100 \leq 1.5\%$$

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11/21/99

GOOSENECK THERMOCOUPLE CALIBRATION DATA FORM

Job No. 104703.1.001 Pyrometer No. N11

Date 11-21-99 Reference Thermometer ASTM 63F-FC

Performed By D. NEAL Serial Number ^{DN} 11-21-99 1979299 4441

Calibration Method: Direct comparison of gooseneck thermocouple with reference thermometer in ambient air.

[illegible]

73
11/21/99

GOOSENECK THERMOCOUPLE CALIBRATION DATA FORM

Job No. 104703.1.002 Pyrometer No. N12
 Date 11-21-99 Reference Thermometer ASTM 63F-FC
 Performed By D. NEAL Serial Number 11-21-99 1979299 4941
D.N.

Calibration Method: Direct comparison of gooseneck thermocouple with reference thermometer in ambient air.

Goose-neck T.C. No.	Leak Check & Check Valve Pass/No-pass	Ref. Thermometer Temperature (°F)	Pyrometer Temp. (°F)	Temp. Difference Tolerance: +/- 2 °F
UH-1	N/A	DJ 11-21-99 67 66.8	65	-1.8
UH-30	N/A	67	65	-2.0

PS
11/24/99

Type S Pitot Tube Inspection Data Form

Pitot Tube #: B Date: 11/21/99 Performed By: Griff

Probe #: B Job #: 10403.1.002

Pitot tube assembly level? ✓ Yes No

Pitot tube openings damaged? Yes (explain below) ✓ No

$\alpha_1 =$ 0 ° (<10 °), $\alpha_2 =$ 0 ° (<10 °)

$\beta_1 =$ 0 ° (<5 °), $\beta_2 =$ 0 ° (<5 °)

$\gamma =$ 0 °, $\theta =$ 0 °, $A =$ 0.75 (in)

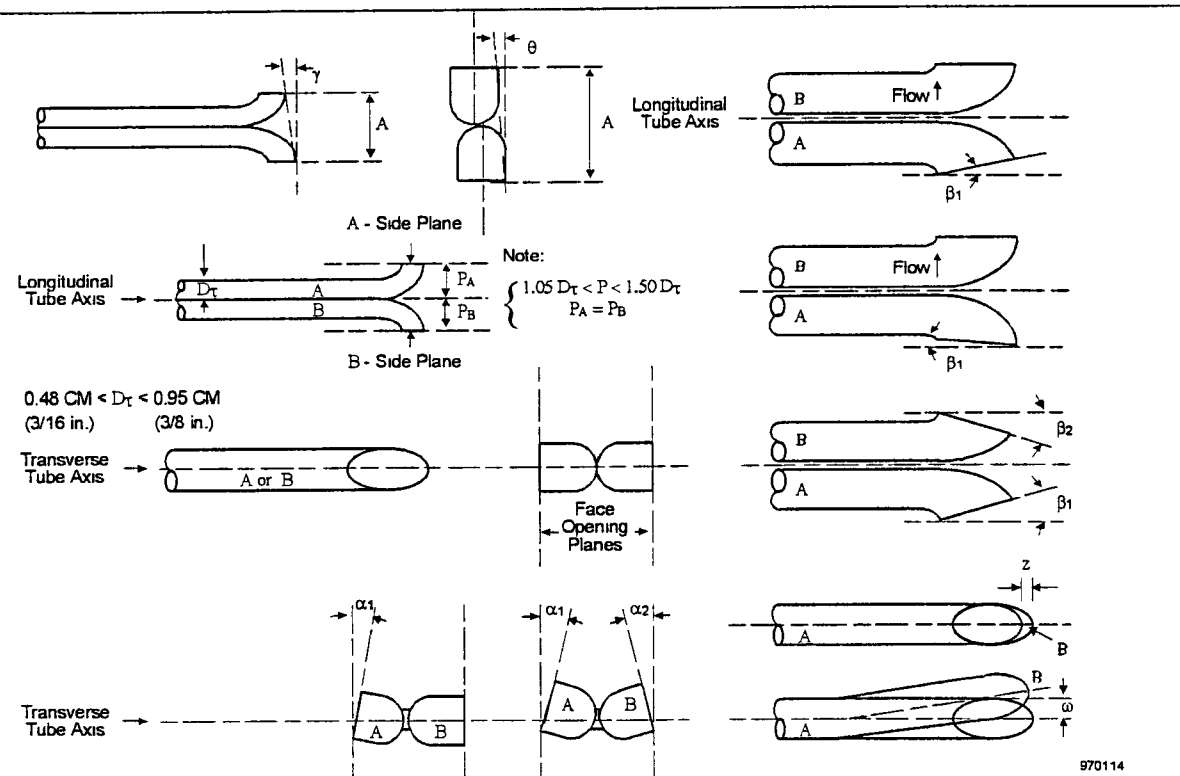
$z = A \sin \gamma$ 0 (in); (< 0.125 in)

$\omega = A \sin \theta$ 0 (in); (< 0.03125 in)

$P_A =$ 0.375 (in), $P_B =$ 0.375 (in), $D_T =$ 0.25 (in)

Calibration required? Yes ✓ No

Comments:



Handwritten: PB 11/21/99

Type S Pitot Tube Inspection Data Form

Pitot Tube #: A Date: 11-21-99 Performed By: Griffin

Probe #: A Job #: 104703.1.002

Pitot tube assembly level? ☒ Yes ☐ No

Pitot tube openings damaged? ☐ Yes (explain below) ☒ No

$\alpha_1 = \underline{0}^\circ$ ($<10^\circ$), $\alpha_2 = \underline{0}^\circ$ ($<10^\circ$)

$\beta_1 = \underline{0}^\circ$ ($<5^\circ$), $\beta_2 = \underline{0}^\circ$ ($<5^\circ$)

$\gamma = \underline{2}^\circ$, $\theta = \underline{0}^\circ$, $A = \underline{0.75}$ (in)

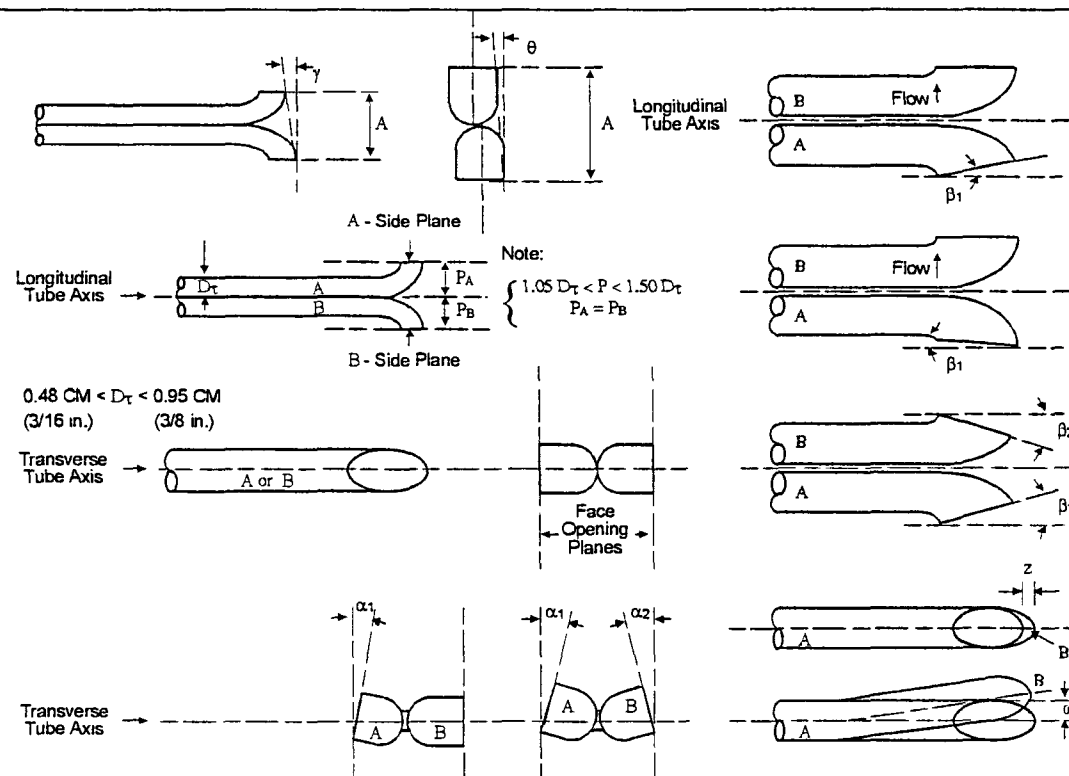
$z = A \sin \gamma = \underline{0.026}$ (in); (< 0.125 in)

$\varphi = A \sin \theta = \underline{0.0}$ (in); (< 0.03125 in)

$P_A = \underline{0.375}$ (in), $P_B = \underline{0.375}$ (in), $D_T = \underline{0.25}$ (in)

Calibration required? ☐ Yes ☒ No

Comments: _____



970114

75
11/21/99

ON SITE MERCURY BAROMETER READING CORRECTION
AND ANEROID BAROMETER CALIBRATION CHECK AT TEST LOCATION

Mercury Barometer Description: Finco Model 453, S/N W13556
Mercury Barometer Location: Plant Control Room

Distance Of Barometer From Test Site: 0.00 miles
Altitude Of Barometer Above Sea Level: 124.0 feet
Latitude (north): 36 degrees, 0.00 minutes

Facility: Gogenrix of Rocky Mount, North Carolina

Test Site And Sampling Location: Unit 2A Baghouse Outlet Duct

MRI Project No: 104703.1.002.05.01
Date: 11/21/99
Time: 0958

Readings Obtained by: J. Surman



Observed Barometer Reading: 30.20 in. Hg

Mercury Column Temperature: 71 °F

Correction For Temperature: 0.12 in. Hg

Reading Corrected For Temperature: 30.08 in. Hg

Correction For Gravity: -0.03 in. Hg

Temperature Corrected Reading Corrected For Gravity: 30.05 in. Hg

Aneroid Barometer I.D. No.: Y-2101

Reading Before Adjustment: 30.03 in. Hg

Calibration Check Result: within 0.1 in. Hg

Reading After Adjustment: _____ in. Hg

Remarks:

JSB
11/21/99

BAROMETER.WK4 10/19/98 (rev. BARO4703.WK4 11/21/99 10:01 AM)

SAMPLING NOZZLE CALIBRATION CHECK DATA

MRI Project No. 4702.02.04.09

Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A

Source Location: Rocky Mount, North Carolina

Sampling Location: Baghouse (Fabric Filter) Outlet Duct

Nozzle I.D. Number or Dedicated Sampling Train Number	Nozzle Type (Shape and Material of Construction)	Three Measured Diameters, inches			Average Diameter, inches	Measured By	Date
		D1	D2	D3			
M17-1	gooseneck/quartz	0.192	0.192	0.192	0.192	<i>[Signature]</i>	07-09-99
M17-2	"	0.193	0.193	0.194	0.193	<i>[Signature]</i>	07-09-99
M17-3	"	0.196	0.196	0.196	0.196	<i>[Signature]</i>	07-09-99
M17-4	"	0.193	0.193	0.193	0.193	<i>[Signature]</i>	07-09-99
M17-5	"	0.185	0.185	0.185	0.185	<i>[Signature]</i>	07-09-99
M17-6	"	0.184	0.184	0.184	0.184	<i>[Signature]</i>	07-09-99
M17-7	"	0.192	0.192	0.192	0.192	<i>[Signature]</i>	07-09-99
M17-8	"	0.193	0.193	0.193	0.193	<i>[Signature]</i>	07-09-99
M17-9	"	0.146	0.146	0.146	0.146	<i>[Signature]</i>	07-09-99
M17-10	"	0.146	0.146	0.146	0.146	<i>[Signature]</i>	07-10-99
M17-11	"	0.196	0.196	0.196	0.196	<i>[Signature]</i>	07-12-99
M17-12	"	0.186	0.186	0.186	0.186	<i>[Signature]</i>	07-13-99
M17-13	"	0.184	0.184	0.184	0.184	<i>[Signature]</i>	07-13-99

COMMENTS:

PS
11/21/99

MRI Project No. 104703.1.002.05.01
Client/Source: U.S. EPA OAQPS EMAD EMC / Cogentrix Unit 2A
Source Location: Rocky Mount, North Carolina
Sampling Location: Baghouse (Fabric Filter) Outlet Duct

[illegible]

PS
11/21/99

RCA #2 Appendix F

PM CEMS Data for Each Run

RCA #2 Testing - Run 30: High PM concentration

11/16/99	ESC P5B	Durag 300-40	Durag F904K	Moisture	Temp.
Time	raw mA	raw ra mA	raw mA	%	deg C
12:15	14.54	20.32		Moisture monitor not working properly	
12:16	12.15	20.47		F904K not working properly	
12:17	9.88	23.20			
12:18	10.43	24.01			
12:19	9.90	20.65			
12:20	11.02	19.27			
12:21	11.31	19.11			
12:22	11.26	19.93			
12:23	10.94	16.54			
12:24	11.19	18.52			
12:25	11.39	18.91			
12:26	10.91	17.34			
12:27	10.77	18.50			
12:28	11.47	19.93			
12:29	11.35	20.83			
12:30	9.76	26.05			
12:31	10.11	29.08			
12:32	10.09	28.39			
12:33	11.51	20.02			
12:34	13.81	20.11			
12:35	13.49	20.08			
12:36	11.94	18.79			
12:37	9.86	22.12			
12:38	9.97	22.66			
12:39	9.79	22.33			
12:40	11.12	19.18			
12:41	11.81	19.99			
12:42	11.81	21.13			
12:43	11.25	18.41			
12:44	11.91	19.17			
12:45	11.70	19.45			
12:46	11.94	19.21			
12:47	11.58	18.70			
12:48	11.60	20.32			
12:49	12.09	21.04			
12:50	10.64	24.37			
12:51	10.29	29.92			
12:52	10.63	30.79			
12:53	10.83	22.54			
12:54	13.51	20.74			
12:55	14.56	21.13			
12:56	13.24	21.40			
12:57	9.87	22.99			
12:58	10.00	24.58			
12:59	10.43	26.11			
13:00	11.01	20.17			
13:01	11.86	21.58			
13:02	11.76	21.46			
13:03	11.44	19.33			

13:04	11.61	18.12
13:05	11.91	18.44
13:06	11.71	19.16
13:07	11.85	17.98
13:08	11.39	20.11
13:09	11.75	20.08
13:10	10.72	21.91
13:11	10.22	27.91
13:12	11.37	27.55
13:13	11.15	24.82
13:14	13.45	18.94
13:15	13.91	20.53
13:16	14.47	20.74
13:17	10.45	21.22
13:18	9.96	23.92
13:19	10.84	25.36
13:20	10.70	20.86
13:21	11.59	21.55
13:22	11.70	20.35
13:23	11.79	20.65
13:24	11.48	17.64
13:25	11.74	18.38
13:26	12.46	19.29
13:27	11.58	17.56
13:28	11.32	19.14
13:29	11.50	19.48
13:30	11.75	21.73
13:31	9.78	28.33
13:32	10.82	28.69
13:33	10.67	27.25
13:34	11.62	17.44
13:35	13.52	19.87
13:36	13.69	20.62
13:37	11.01	19.36
13:38	10.00	23.17
13:39	10.67	24.46
13:40	10.55	22.12
13:41	11.69	20.38
13:42	11.82	20.50
13:43	12.72	21.34
13:44	10.84	18.00
13:45	11.46	19.09
13:46	11.96	19.41
13:47	11.92	18.34
13:48	11.15	18.85
13:50	12.21	20.23
13:51	10.09	25.36
13:52	10.16	28.45
13:52	10.32	28.30
13:53	10.60	27.52
13:54	12.59	17.98
13:55	14.26	21.43

13:56	14.77	20.11
13:57	10.82	20.71
13:58	9.97	24.88
13:59	10.67	26.41
14:00	11.40	23.62
14:01	12.13	23.14
14:02	12.45	22.84
14:03	12.54	22.18
14:04	11.58	19.21
14:05	12.35	20.26
14:06	12.38	21.10
14:07	12.29	19.48

Average	11.49	21.56	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Minimum	9.76	16.54	0.00	0.00	0.00	
Maximum	14.77	30.79	0.00	0.00	0.00	

Run 30

M17 Results	For P5B & 300-40 mg/acm	For RSD & F904K mg/dscm	Moisture %
Train A	27.9	40.8	11.1
Train B	22.4	33	11
Average	25.15	36.9	11.05

Failed precision test.

RCA #2 Testing - Run 31: High PM concentration

11/16/99	ESC P5B	Durag 300-40	Durag F904K	Moisture	Temp.
Time	raw mA	raw ra mA	raw mA	%	deg C
15:20	10.91	27.10		Moisture monitor not working properly	
15:21	10.12	23.53	F904K not working properly		
15:22	11.60	21.40			
15:23	12.05	21.37			
15:24	12.06	22.15			
15:25	11.90	19.45			
15:26	11.92	19.16			
15:27	11.95	19.72			
15:28	11.92	18.98			
15:29	11.78	19.69			
15:30	12.38	20.53			
15:31	12.56	20.80			
15:32	9.98	26.35			
15:33	10.39	29.50			
15:34	11.32	28.90			
15:35	12.13	18.64			
15:36	14.43	20.29			
15:37	14.65	20.71			
15:38	12.08	21.28			
15:39	9.93	22.87			
15:40	10.89	24.73			
15:41	9.95	23.17			
15:42	10.87	20.65			
15:43	11.54	20.62			
15:44	11.21	20.71			
15:45	11.58	19.09			
15:46	11.75	19.57			
15:47	12.71	21.19			
15:48	12.98	22.09			
15:49	11.47	19.06			
15:50	12.22	21.31			
15:51	12.34	22.36			
15:52	11.18	25.27			
15:53	10.45	33.34			
15:54	11.12	32.50			
15:55	11.41	26.20			
15:56	13.77	20.11			
15:57	14.82	21.67			
15:58	14.07	23.35			
15:59	10.16	21.94			
16:00	10.58	25.09			
16:01	10.88	26.89			
16:02	10.85	21.67			
16:03	11.74	21.04			
16:04	11.94	21.61			
16:05	12.28	20.77			
16:06	11.47	18.53			
16:07	11.58	19.21			
16:08	11.71	20.44			

16:09	11.58	18.40
16:10	12.03	19.24
16:11	11.70	19.61
16:12	10.62	22.18
16:13	9.85	28.06
16:14	10.68	29.29
16:15	11.67	27.28
16:16	12.48	17.86
16:17	13.79	19.72
16:18	14.56	20.44
16:19	10.03	21.04
16:20	10.50	24.49
16:21	10.55	24.22
16:22	10.24	22.06
16:23	11.41	21.13
16:24	12.05	21.82
16:25	12.20	21.82
16:26	11.21	18.40
16:27	12.52	19.83
16:28	12.28	19.99
16:29	11.78	17.82
16:30	11.83	19.39
16:31	12.52	21.07
16:32	11.56	21.91
16:33	9.93	27.85
16:34	10.33	31.60
16:35	11.21	30.25
16:36	12.10	21.37
16:37	14.91	22.30
16:38	15.00	23.74
16:39	11.14	21.82
16:40	9.91	23.86
16:41	10.08	25.96
16:42	9.83	23.17
16:43	11.67	21.40
16:44	11.87	21.82
16:45	11.93	21.40
16:46	12.24	19.30

Average	11.69	22.41	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Minimum	9.83	17.82	0.00	0.00	0.00	
Maximum	15.00	33.34	0.00	0.00	0.00	

Run 31

M17 Results	For P5B & 300-40 mg/acm	For RSD & F904K mg/dscm	Moisture %
Train A	25.4	37.8	12.2
Train B			
Average	25.4	37.8	12.2
Single point	16.1	23.7	11

RCA #2 Testing - Run 32: Mid-high PM concentration

11/17/99	ESC P5B	Durag 300-40	Durag F904K	Moisture	Temp.
Time	raw mA	raw ra mA	raw mA	%	deg C
8:54	9.30	20.95	F904K broken	10.62	82
8:55	9.82	17.38		10.74	82
8:56	10.07	17.41		10.38	82
8:57	9.88	17.72		10.40	83
8:58	10.08	15.32		10.44	84
8:59	10.08	15.50		10.92	84
9:00	10.24	16.62		10.92	84
9:01	10.68	16.95		10.80	84
9:02	9.47	15.00		10.56	84
9:03	10.10	17.02		10.98	82
9:04	10.10	17.29		10.98	82
9:05	8.97	19.33		10.86	82
9:06	8.65	24.19		10.74	82
9:07	9.03	23.95		10.50	82
9:08	9.74	20.74		10.50	82
9:09	10.67	15.18		10.86	82
9:10	11.26	17.26		10.86	82
9:11	13.48	17.49		10.86	82
9:12	8.50	16.57		10.74	82
9:13	8.46	18.78		10.62	82
9:14	8.83	19.46		10.26	82
9:15	8.78	15.87		10.26	82
9:16	9.55	16.68		10.50	82
9:17	9.86	16.53		10.62	82
9:18	9.68	16.42		10.50	82
9:19	9.44	13.89		10.38	82
9:20	9.61	14.49		10.53	83
9:21	10.08	15.32		10.68	84
9:22	10.18	14.16		10.31	84
9:23	10.29	16.62		10.62	82
9:24	10.02	16.89		10.62	82
9:25	9.91	18.28		10.74	82
9:26	9.02	23.23		10.50	82
9:27	8.85	23.26		10.62	82
9:28	9.48	24.37		10.62	82
9:29	10.88	15.38		10.50	82
9:30	11.82	16.90		10.38	82
9:31	11.86	17.34		10.50	82
9:32	8.94	16.14		10.50	82
9:33	8.92	19.24		10.38	82
9:34	9.06	19.72		10.50	82
9:35	8.81	18.94		10.50	82
9:36	9.84	18.24		10.62	82
9:37	9.84	17.69		10.74	82
9:38	9.96	18.30		10.62	82
9:39	9.45	15.19		10.62	82
9:40	10.44	16.34		10.74	82
9:41	10.86	17.02		10.62	82
9:42	10.22	15.75		10.26	82

9:43	9.62	16.88	10.50	82	
9:44	10.04	17.57	10.50	82	
9:45	10.62	17.68	10.50	82	
9:46	8.90	23.11	10.38	82	
9:47	9.88	25.18	10.38	82	
9:48	9.71	26.29	10.38	82	
9:49	10.40	16.08	10.38	82	
9:50	12.47	18.64	10.26	82	
9:51	12.65	18.97	10.26	82	
9:52	10.53	17.86	10.38	82	
9:53	8.97	21.73	10.62	82	
9:54	9.55	22.48	10.86	82	
9:55	9.44	22.06	10.74	82	
9:56	10.17	18.56	10.86	82	
9:57	10.46	19.15	11.10	82	
9:58	11.42	20.14	10.86	82	
9:59	10.47	18.20	10.74	82	
10:00	11.20	18.23	10.86	82	
10:01	11.19	17.75	10.74	82	
10:02	10.85	17.49	10.38	82	
10:03	10.32	17.52	10.50	82	
10:04	10.14	18.74	10.50	82	
10:05	11.22	19.99	10.38	82	
10:06	9.65	24.04	10.26	82	
10:07	9.02	26.02	10.26	82	
10:08	9.53	24.94	10.50	82	
10:09	9.99	20.05	10.38	82	
10:10	12.07	18.17	10.38	82	
10:11	12.11	18.78	10.50	82	
10:12	11.39	18.90	10.50	82	
10:13	8.62	19.00	10.38	82	
10:14	9.36	20.98	10.62	82	
Average	10.06	18.64	10.57	82.20	180
Minimum	8.46	13.89	10.26	82.00	
Maximum	13.48	26.29	11.10	84.00	

Run 32

M17 Results	For P5B & 300-40 mg/acm	For RSD & F904K mg/dscm	Moisture %
Train A	19.1	27.8	11.3
Train B			
Average	19.1	27.8	11.3
Single point	11.9	17.5	11.9

RCA #2 Testing - Run 33: Mid-high PM concentration

11/17/99	ESC P5B	Durag 300-40	Durag F904K	Moisture	Temp.
Time	raw mA	raw ra mA	raw mA	%	deg C
11:33	11.74	20.62	F904K broken	10.20	84
11:34	9.38	20.05		10.32	84
11:35	9.20	20.95		10.32	84
11:36	9.64	22.57		10.32	84
11:37	9.51	18.48		10.44	84
11:38	10.48	19.51		10.56	84
11:38	10.34	19.54		10.56	84
11:39	10.90	19.78		10.56	84
11:40	10.01	17.65		10.56	84
11:41	9.77	16.10		10.44	84
11:42	10.23	15.89		10.44	84
11:43	10.26	15.88		10.32	84
11:44	9.49	15.10		10.20	84
11:45	10.08	16.78		10.44	84
11:46	10.26	17.24		10.32	84
11:47	9.05	20.17		10.44	84
11:48	9.52	24.79		10.68	84
11:49	9.37	25.42		10.68	84
11:50	9.77	20.32		10.68	84
11:51	11.37	16.29		10.68	84
11:52	11.45	17.90		10.44	84
11:53	11.32	18.07		10.68	84
11:54	8.60	18.46		11.05	84
11:55	9.31	19.42		11.05	84
11:56	8.74	20.62		11.05	84
11:57	8.67	16.30		10.92	84
11:58	9.83	17.51		11.05	84
11:59	9.68	17.90		11.01	83
12:00	9.76	16.63		10.86	82
12:01	9.30	13.93		10.98	82
12:02	9.47	14.59		11.10	82
12:03	9.93	15.41		10.98	82
12:04	9.35	14.73		10.74	82
12:05	9.26	15.93		10.86	82
12:06	9.69	16.59		10.98	82
12:07	8.78	16.86		10.98	82
12:08	8.26	20.80		10.74	82
12:09	8.30	20.95		10.62	82
12:10	9.12	20.47		10.62	82
12:11	10.53	13.84		10.50	82
12:12	11.21	16.19		10.62	82
12:13	11.29	16.85		10.74	82
12:14	8.68	17.55		10.86	82
12:15	8.75	19.60		10.86	82
12:16	9.07	21.04		11.10	82
12:17	9.48	20.23		10.98	82
12:18	10.33	19.03		11.10	82
12:19	10.17	18.66		11.10	82
12:20	10.68	18.93		11.10	82

12:21	9.74	15.08	11.10	82
12:22	10.03	15.91	11.10	82
12:23	10.16	16.47	11.23	82
12:24	9.78	14.59	10.98	82
12:25	9.09	15.51	10.98	82
12:26	9.36	16.44	10.86	82
12:27	9.13	17.86	10.85	82
12:28	8.00	21.67	10.68	80
12:29	8.58	23.14	10.68	80
12:30	8.82	23.23	10.71	81
12:31	9.87	15.75	10.62	82
12:32	11.34	17.07	10.62	82
12:33	11.98	17.75	10.74	82
12:34	9.15	17.38	10.74	82
12:35	8.95	19.48	10.62	82
12:36	8.71	20.20	10.62	82
12:37	8.84	18.58	10.38	82
12:38	9.86	18.00	10.26	82
12:39	9.51	17.84	10.65	83
12:40	9.92	17.62	10.80	84
12:41	9.36	14.50	10.92	84
12:42	9.46	14.71	11.05	84
12:43	9.59	15.10	11.01	83
12:44	9.43	14.44	10.86	82
12:45	8.86	14.34	10.74	82
12:46	9.28	16.51	10.86	82
12:47	9.46	16.75	10.86	82
12:48	8.40	20.26	10.74	82
12:49	8.44	22.24	10.62	82
12:50	8.92	24.82	10.62	82
12:51	9.12	15.93	10.62	82
12:52	10.88	15.27	10.50	82
12:53	10.90	15.70	10.50	82
12:54	9.46	16.18	10.50	82
12:55	8.58	16.73	10.38	82
12:56	8.68	18.41	10.50	82
12:57	8.64	19.21	10.43	84
12:58	9.02	16.29	10.56	84
12:59	9.67	17.16	10.56	84
13:00	9.93	17.65	10.56	84
13:01	9.37	16.03	10.80	84
13:02	10.01	16.18	10.64	83
13:03	10.10	16.05	11.05	84
13:04	10.13	16.49	10.92	84
13:05	9.45	13.64	10.56	84
13:06	9.64	14.80	10.68	84
13:07	9.14	15.34	10.68	84
13:08	8.69	17.68	10.56	84
13:09	7.85	20.05	10.20	84
13:10	8.21	20.23	10.07	84
13:11	8.88	17.57	9.95	84
13:12	9.75	13.67	9.83	84

13:13	10.57	15.09	9.95	84
13:14	11.79	17.12	10.07	84
13:15	8.19	15.52	10.32	84
13:16	8.46	19.72	10.32	84
13:17	9.08	20.44	10.44	84
13:18	8.92	17.59	10.20	84
13:19	9.96	18.87	10.56	84
13:20	10.26	18.85	10.70	85
13:21	10.11	18.15	10.50	86
13:22	9.95	15.53	10.50	86
13:23	10.28	15.87	10.62	86
13:24	10.31	16.33	10.74	86

Average	9.60	17.77	10.66	83.05	181
Minimum	7.85	13.64	9.83	80.00	
Maximum	11.98	25.42	11.23	86.00	

Run 33

M17 Results	For P5B & 300-40 mg/acm	For RSD & F904K mg/dscm	Moisture %
Train A	19.2	28.3	12.3
Train B	17.7	26	11.6
Average	18.45	27.15	11.95

RCA #2 Testing - Run 34: Medium-high PM concentration

11/17/99	ESC P5B	Durag 300-40	Durag F904K	Moisture	Temp.
Time	raw mA	raw ra mA	raw mA	%	degC
14:50	8.89	23.29	F904K broken	10.80	84
14:51	9.50	23.89		10.80	84
14:52	9.06	25.51		10.80	84
14:53	10.47	14.85		10.80	84
14:54	11.56	17.75		10.80	84
14:55	11.48	17.07		10.56	84
14:56	9.13	17.26		10.68	84
14:57	8.99	20.86		10.80	84
14:58	9.05	22.57		10.80	84
14:59	9.19	20.74		10.80	84
15:00	10.21	19.93		10.80	84
15:01	10.50	20.80		10.80	84
15:02	10.78	20.23		10.80	84
15:03	9.45	16.22		10.56	84
15:04	9.74	15.42		10.68	84
15:05	9.69	15.39		10.68	84
15:06	9.83	15.08		10.44	84
15:07	9.52	15.26		10.44	84
15:08	9.72	15.53		10.56	84
15:09	10.04	16.04		10.44	84
15:10	8.20	19.15		10.56	84
15:11	8.42	21.46		10.56	84
15:12	8.41	21.64		10.68	84
15:13	9.67	15.65		10.56	84
15:14	11.30	15.51		10.56	84
15:15	11.29	16.00		10.68	84
15:16	9.54	16.24		10.68	84
15:17	8.50	17.82		10.56	84
15:18	8.55	18.47		10.68	84
15:19	8.24	18.25		10.68	84
15:20	8.86	15.60		10.68	84
15:21	9.14	16.28		10.68	84
15:22	9.44	15.99		10.68	84
15:23	8.72	13.73		10.68	84
15:24	9.05	13.64		10.68	84
15:25	9.61	14.45		10.68	84
15:26	9.52	14.66		10.56	84
15:27	9.38	13.47		10.44	84
15:28	9.39	15.28		10.68	84
15:29	9.45	15.75		10.80	84
15:30	8.70	17.20		10.80	84
15:31	8.56	22.42		10.68	84
15:32	9.42	21.67		10.80	84
15:33	8.93	18.52		10.68	84
15:34	10.72	15.37		10.68	84
15:35	10.86	16.11		10.56	84
15:36	10.76	17.16		10.56	84
15:37	8.17	16.59		10.68	84
15:38	8.60	18.70		10.68	84

15:39	8.56	18.77		10.56	84	
15:40	8.71	15.61		10.20	84	
15:41	9.16	16.14		10.56	84	
15:42	9.50	16.66		11.05	84	
15:43	9.55	17.07		10.92	84	
15:44	9.60	14.54		10.92	84	
15:45	9.81	15.25		11.05	84	
15:46	9.98	15.93		11.05	84	
15:47	9.74	14.74		10.79	84	
15:48	9.83	16.05		10.74	82	
15:49	9.98	16.43		10.74	82	
15:50	8.87	18.07		10.74	82	
15:51	8.57	22.24		10.67	84	
15:52	9.17	23.65		10.80	84	
15:53	8.78	21.49		10.80	84	
15:54	10.40	14.65		10.68	84	
15:55	11.03	16.56		10.80	84	
15:56	11.67	16.88		10.80	84	
15:57	8.17	16.48		10.68	84	
15:58	8.47	18.14		10.68	84	
15:59	8.30	18.97		10.68	84	
16:00	8.50	16.75		10.56	84	
16:01	9.02	15.97		10.68	84	
16:02	9.70	16.93		10.56	84	
16:03	9.79	16.43		10.44	84	
16:04	8.92	13.40		10.32	84	
16:05	9.43	14.08		10.44	84	
16:06	9.51	14.90		10.56	84	
16:07	9.52	13.79		10.32	84	
16:08	8.89	14.57		10.68	84	
16:09	9.07	15.21		10.80	84	
16:10	8.84	15.56		10.92	84	
16:11	7.95	19.69		10.77	83	
16:12	8.31	20.89		10.74	82	
16:13	8.57	21.13		10.74	82	
16:14	9.12	14.06		10.62	82	
16:15	10.71	15.69		10.62	82	
	P5B	DR 300-40	F904K	Moisture	Temp	
Average	9.42	17.32		10.68	83.83	183
Minimum	7.95	13.40		10.20	82.00	
Maximum	11.67	25.51		11.05	84.00	

Run 34

M17 Results	For P5B & 300-40 mg/acm	For RSD & F904K mg/dscm	Moisture %
Train A	10.3	15.3	13
Train B			
Average	10.3	15.3	13
Single point	11.3	16.7	12.5

RCA #2 Testing - Run 35: Medium PM concentration

11/18/99	ESC P5B	Durag 300-40	Durag F904K	Moisture	Temp.
Time	raw mA	raw ra mA	raw mA	%	deg C
8:52	7.31	14.08		10.68	84
8:53	7.51	11.57		10.80	84
8:54	8.01	12.25		10.80	84
8:55	8.16	12.36		10.80	84
8:56	7.42	10.93		10.68	84
8:57	7.70	10.31		10.80	84
8:58	7.92	10.62		10.80	84
8:59	7.91	10.93		10.80	84
9:00	7.56	10.03		10.32	84
9:01	7.45	10.55		10.68	84
9:02	7.65	10.87		10.68	84
9:03	7.18	12.05	7.05	10.68	84
9:04	7.25	15.23	7.05	10.68	84
9:05	7.20	15.35	7.05	10.68	84
9:06	7.20	13.57	7.05	10.68	84
9:07	8.10	10.27	7.05	10.56	84
9:08	8.58	11.50	7.05	10.68	84
9:09	8.53	11.24	7.05	10.68	84
9:10	6.77	11.23	7.05	10.68	84
9:11	6.94	12.97	7.05	10.68	84
9:12	6.98	13.68	7.05	10.80	84
9:13	7.21	11.67	7.05	10.80	84
9:14	7.53	11.86	7.05	10.92	84
9:15	7.72	12.17	7.05	10.92	84
9:16	7.79	11.65	6.82	10.80	84
9:17	7.25	9.70	6.82	10.80	84
9:18	7.74	10.33	6.82	10.92	84
9:19	7.79	10.65	6.82	10.80	84
9:20	7.65	10.46	6.82	10.32	84
9:21	7.66	10.69	6.82	10.56	84
9:22	7.67	11.31	6.82	10.56	84
9:23	7.71	12.19	6.82	10.68	84
9:24	7.17	15.57	6.82	10.80	84
9:25	7.37	16.49	6.82	10.80	84
9:26	7.44	17.03	6.82	10.80	84
9:27	8.45	11.06	6.82	10.68	84
9:28	9.10	12.36	6.82	10.80	84
9:29	9.32	12.28	6.58	10.80	84
9:30	7.56	12.18	6.50	10.80	84
9:31	7.23	14.27	6.50	10.68	84
9:32	7.55	15.73	6.50	10.68	84
9:33	7.83	14.23	6.50	10.68	84
9:34	7.98	12.89	6.50	10.68	84
9:35	8.24	13.66	6.50	10.68	84
9:36	8.43	13.39	6.50	10.68	84
9:37	7.82	11.90	6.50	10.44	84
9:38	8.24	12.18	6.50	10.68	84
9:39	8.41	12.20	6.50	10.68	84
9:40	8.46	12.35	6.50	10.32	84

9:41	8.14	12.49	6.50	10.68	84
9:42	8.44	13.78	6.97	10.80	84
9:43	8.69	14.08	7.13	10.80	84
9:44	7.63	17.85	7.13	10.80	84
9:45	7.71	19.39	7.13	10.80	84
9:46	7.65	18.88	7.13	10.80	84
9:47	8.43	13.73	7.13	10.68	84
9:48	9.44	13.57	7.13	10.68	84
9:49	9.58	13.64	7.13	10.80	84
9:50	8.46	13.46	7.13	10.80	84
9:51	7.30	14.92	7.13	10.68	84
9:52	7.38	15.64	7.13	10.68	84
9:53	8.15	15.91	7.13	10.56	84
9:54	8.06	13.33	7.13	10.68	84
9:55	8.30	14.11	6.98	10.68	84
9:56	8.35	14.35	6.82	10.68	84
9:57	7.77	12.44	6.82	10.56	84
9:58	8.27	11.91	6.82	10.68	84
9:59	8.40	12.70	6.82	10.68	84
10:00	8.40	12.78	6.82	10.44	84
10:01	8.03	12.44	6.82	10.56	84
10:02	8.16	13.26	6.82	10.68	84
10:03	8.44	13.82	6.82	10.68	84
10:04	7.88	14.83	6.82	10.68	84
10:05	7.98	18.35	6.82	10.68	84
10:06	7.54	18.57	6.82	10.68	84
10:07	7.79	14.76	6.82	10.56	84
10:08	9.17	13.03	6.96	10.56	84
10:09	9.53	13.41	7.38	10.68	84
10:10	9.38	14.68	7.38	10.68	84
10:11	7.57	15.60	7.38	10.80	84
10:12	8.15	17.25	7.38	10.80	84
10:13	8.43	18.36	7.38	10.68	84
10:14			7.38		
10:15			7.38		
10:16			7.38		
10:17			7.38		
10:18			7.38		
10:19			7.38		
10:20			7.38		
10:21			7.38		
10:22			9.21		
10:23			9.21		
10:24			9.21		
10:25			9.21		
10:26			9.21		
10:27			9.21		
10:28			9.21		

	P5B	DR 300-40	F904K	Moisture	Temp	
Average	7.95	13.31	7.14	10.70	84.00	183
Minimum	6.77	9.70	6.50	10.32	84.00	
Maximum	9.58	19.39	9.21	10.92	84.00	

Run 35

M17 Results	For P5B & 300-40 mg/acm	For RSD & F904K mg/dscm	Moisture %
Train A	13.6	19.7	12
Train B			
Average	13.6	19.7	12
Single point	7.7	11.2	11.4

RCA #2 Testing - Run 36: Mid-high PM concentration

11/18/99	ESC P5B	Durag 300-40	Durag F904K	Moisture	Temp.
Time	raw mA	raw ra mA	raw mA	%	deg C
11:05	10.23	29.80		10.44	84
11:06	10.82	33.52		10.32	84
11:07	11.60	33.28		10.32	84
11:08	12.08	23.11		10.20	84
11:09	13.58	22.63		10.20	84
11:10	13.88	23.11		10.32	84
11:11	12.00	24.04		10.44	84
11:12	10.51	25.78		10.44	84
11:13	10.72	30.16		10.68	84
11:14	11.13	29.95		10.68	84
11:15	11.54	24.85	10.65	10.68	84
11:16	12.04	25.81	10.65	10.56	84
11:17	12.68	25.09	10.65	10.68	84
11:18	12.21	23.26	10.65	10.56	84
11:19	12.46	22.06	10.65	10.56	84
11:20	12.88	23.35	10.65	10.56	84
11:21	13.00	24.46	10.65	10.56	84
11:22	11.94	22.06	10.65	10.20	84
11:23	12.33	23.80	10.65	10.32	84
11:24	11.98	25.33	10.65	10.32	84
11:25	11.28	26.08	10.65	10.32	84
11:26	10.41	33.13	10.65	10.20	84
11:27	10.23	32.23	10.65	10.20	84
11:28	10.79	26.77	11.25	10.20	84
11:29	12.69	21.67	11.45	10.20	84
11:30	12.84	23.26	11.45	10.20	84
11:31	12.30	23.20	11.45	10.20	84
11:32	9.38	21.16	11.45	10.20	84
11:33	9.13	24.85	11.45	10.20	84
11:34	10.26	25.51	11.45	10.20	84
11:35	9.75	20.47	11.45	10.07	84
11:36	10.99	22.27	11.45	10.20	84
11:37	11.08	21.31	11.45	10.20	84
11:38	11.20	21.01	11.45	10.07	84
11:39	11.02	18.83	11.45	10.20	84
11:40	11.21	18.81	11.45	10.20	84
11:41	11.26	19.03	10.45	10.20	84
11:42	11.52	18.15	9.45	9.95	84
11:43	10.50	18.64	9.45	10.20	84
11:44	10.32	20.41	9.45	10.32	84
11:45	10.23	22.60	9.45	10.44	84
11:46	9.26	26.05	9.45	10.32	84
11:47	9.17	26.47	9.45	10.44	84
11:48	9.72	26.29	9.45	10.32	84
11:49	10.64	17.11	9.45	10.32	84
11:50	12.33	19.63	9.45	10.32	84
11:51	12.68	20.29	9.45	10.32	84
11:52	8.89	20.23	9.45	10.32	84
11:53	9.01	21.97	9.45	10.44	84

11:54	9.29	23.11	9.73	10.44	84	
11:55	9.44	20.50	10.01	10.20	84	
11:56	10.64	20.68	10.01	10.44	84	
11:57	10.98	22.09	10.01	10.68	84	
11:58	11.28	22.06	10.01	10.68	84	
11:59	10.58	17.58	10.01	10.68	84	
12:00	11.45	19.32	10.01	10.80	84	
12:01	11.71	19.99	10.01	10.80	84	
12:02	11.31	18.07	10.01	10.56	84	
12:03	10.67	19.44	10.01	10.50	82	
12:04	10.91	20.41	10.01	10.74	82	
12:05	10.42	20.74	10.01	10.74	82	
12:06	9.50	25.69	10.01	10.74	82	
12:07	9.68	28.81	10.07	10.74	82	
12:08	9.96	28.03	10.25	10.86	82	
12:09	10.38	17.51	10.25	10.62	82	
12:10	12.21	19.54	10.25	10.38	82	
12:11	13.53	20.95	10.25	10.50	82	
12:12	12.06	20.26	10.25	10.74	82	
12:13	9.31	22.78	10.25	10.74	82	
12:14	9.52	24.25	10.25	10.86	82	
12:15	9.13	22.93	10.25	10.62	82	
12:16	10.73	20.74	10.25	10.74	82	
12:17	10.44	20.77	10.25	10.74	82	
12:18	11.10	21.10	10.25	10.62	82	
12:19	10.03	16.77	10.25	10.38	82	
12:20	10.71	17.44	10.25	10.50	82	
12:21	11.00	18.25	9.85	10.62	82	
12:22	11.27	18.40	9.85	10.50	82	
12:23	10.45	18.73	9.85	10.74	82	
12:24	11.00	20.29	9.85	10.74	82	
12:25	10.89	20.50	9.85	10.98	82	
12:26			9.85			
12:27			9.85			
12:28			9.85			
12:29			9.85			
12:30			9.85			
12:31			9.85			
12:32			9.85			
12:33			9.85			
	P5B	DR 300-40	F904K	Moisture	Temp	
Average	11.00	22.72	10.28	10.45	83.43	182
Minimum	8.89	16.77	9.45	9.95	82.00	
Maximum	13.88	33.52	11.45	10.98	84.00	

Run 36

M17 Results	For P5B & 300-40 mg/acm	For RSD & F904K mg/dscm	Moisture %
Train A	26.6	38.5	11.6
Train B			
Average	26.6	38.5	11.6
Single point	15.3	22.6	12.5

RCA #2 Testing - Run 37: High PM concentration

11/18-19/99	ESC P5B	Durag 300-40	Durag F904K	Moisture	Temp.
Time	raw mA	raw ra mA	raw mA	%	deg C
23:24	12.94	22.75		8.98	84
23:25	15.14	25.72		9.22	84
23:26	15.49	26.62		9.22	84
23:27	14.68	25.48		9.19	83
23:28	12.84	20.02		9.17	82
23:29	11.66	19.90		9.05	82
23:30	14.58	24.31		9.05	82
23:31	14.60	26.86		9.17	82
23:32	14.40	27.22		9.05	82
23:33	13.70	23.65		8.93	82
23:34	15.18	24.19		9.05	82
23:35	14.17	24.61	14.89	9.29	82
23:36	13.95	25.84	14.89	9.17	82
23:37	12.47	30.40	14.89	9.05	82
23:38	13.72	32.32	14.89	9.05	82
23:39	13.74	31.24	14.89	8.93	82
23:40	14.32	20.89	14.89	9.17	82
23:41	16.07	23.14	14.89	9.29	82
23:42	15.86	23.38	14.89	9.29	82
23:43	13.05	24.94	14.89	9.17	82
23:44	12.68	29.89	14.89	9.17	82
23:45	12.68	30.40	14.89	9.29	82
23:46	11.89	25.75	14.89	9.17	82
23:47	14.20	22.42	14.89	9.17	82
23:48	14.69	23.29	15.13	9.17	82
23:49	14.25	23.53	15.21	9.29	82
23:50	12.14	18.88	15.21	9.05	82
23:51	12.10	19.90	15.21	9.17	82
23:52	12.25	19.18	15.21	9.17	82
23:53	13.64	19.48	15.21	9.05	82
23:54	12.75	19.55	15.21	8.81	82
23:55	13.43	18.61	15.21	9.17	82
23:56	12.94	19.48	15.21	9.29	82
23:57	14.41	25.33	15.21	9.66	82
23:58	14.20	25.93	15.21	9.41	82
23:59	14.88	26.74	15.21	9.17	82
0:02	14.36	25.42	13.84	9.17	82
0:03	11.82	23.98	13.84	9.17	82
0:04	12.68	29.83	13.84	9.17	82
0:05	12.94	31.03	13.84	9.17	82
0:06	12.31	26.17	13.84	9.05	82
0:07	15.04	21.40	13.84	9.05	82
0:08	15.03	21.97	13.84	9.05	82
0:09	14.69	21.52	13.84	9.05	82
0:10	11.52	23.74	13.84	9.05	82
0:11	12.20	27.31	13.84	9.05	82
0:12	12.24	27.70	13.84	9.05	82
0:13	11.76	19.93	13.84	9.05	82
0:14	13.40	21.61	14.10	9.17	82

0:15	13.19	20.62	14.89	9.05	82	
0:16	12.79	20.35	14.89	8.81	82	
0:17	12.29	17.71	14.89	8.93	82	
0:18	11.27	17.96	14.89	9.05	82	
0:19	10.98	16.44	14.89	9.05	82	
0:20	12.17	17.22	14.89	9.05	82	
0:21	11.39	18.24	14.89	8.81	82	
0:22	12.87	17.33	14.89	9.17	82	
0:23	13.09	19.42	14.89	9.29	82	
0:24	13.43	24.31	14.89	9.17	82	
0:25	14.10	25.12	14.89	9.17	82	
0:26	13.67	23.41	14.89	8.93	82	
0:27	13.68	22.24	14.89	9.05	82	
0:28	14.46	24.94	14.41	9.05	82	
0:29	14.80	25.06	14.41	8.93	82	
0:30	13.38	26.38	14.41	9.05	82	
0:31	12.25	30.67	14.41	9.17	82	
0:32	14.21	30.49	14.41	9.05	82	
0:33	14.43	23.23	14.41	9.05	82	
0:34	15.62	22.27	14.41	9.17	82	
0:35	15.86	23.02	14.41	9.17	82	
0:36	14.08	21.37	14.41	9.17	82	
0:37	12.08	27.61	14.41	9.05	82	
0:38	12.66	29.02	14.41	9.17	82	
0:39	11.83	26.53	14.41	9.17	82	
0:40	13.13	21.52	14.41	9.17	82	
0:41	13.38	23.02	15.31	9.29	82	
0:42	14.01	21.82	15.61	9.29	82	
0:43	13.59	21.04	15.61	9.05	82	
0:44	11.49	19.63	15.61	8.93	82	
0:45			15.61			
0:46			15.61			
0:47			15.61			
0:48			15.61			
0:49			15.61			
0:50			15.61			
0:51			15.61			
0:52			15.61			
0:53			15.61			
	P5B	DR 300-40	F904K	Moisture	Temp	
Average	13.44	23.69	14.80	9.12	82.09	180
Minimum	10.98	16.44	13.84	8.81	82.00	
Maximum	16.07	32.32	15.61	9.66	84.00	

Run 37

M17 Results	For P5B & 300-40 mg/acm	For RSD & F904K mg/dscm	Moisture %
Train A	57.6	80.2	10.5
Train B			
Average	57.6	80.2	10.5
Single point	36.8	51.1	9.8

RCA#2 Testing - Run 38: Mid-high PM concentration

11/19/99	ESC P5B	Durag 300-40	Durag F904K	Moisture	Temp.
Time	raw mA	raw ra mA	raw mA	%	deg C
1:37	8.83	18.35		8.93	82
1:38	9.38	20.80		8.69	82
1:39	9.81	20.83		8.81	82
1:40	9.87	15.11		8.81	82
1:41	10.59	15.00		8.93	82
1:42	10.64	16.03		9.05	82
1:43	11.00	16.18		9.05	82
1:44	9.39	13.44		8.81	82
1:45	9.49	13.51		8.93	82
1:46	9.47	13.96		9.05	82
1:47	9.18	14.30		8.93	82
1:48	8.93	14.09	11.21	8.93	82
1:49	9.99	15.01	11.21	8.69	82
1:50	9.74	14.38	11.21	8.93	82
1:51	9.85	13.72	11.21	8.93	82
1:52	10.05	14.57	11.21	8.81	82
1:53	10.01	14.35	11.21	8.93	82
1:54	10.47	13.84	11.21	8.81	82
1:55	10.55	14.76	11.21	8.81	82
1:56	10.36	16.96	11.21	8.93	82
1:57	11.75	19.57	11.21	9.05	82
1:58	11.32	20.50	11.21	8.93	82
1:59	10.79	18.37	11.21	8.69	82
2:00	11.61	19.96	11.41	8.69	82
2:01	11.24	19.69	11.61	8.69	82
2:02	12.11	20.05	11.61	8.81	82
2:03	10.09	21.91	11.61	8.81	82
2:04	10.67	23.41	11.61	8.81	82
2:05	10.58	23.20	11.61	8.81	82
2:06	11.61	15.94	11.61	8.93	82
2:07	12.15	17.39	11.61	9.17	82
2:08	12.49	16.96	11.61	9.05	82
2:09	11.04	16.18	11.61	9.05	82
2:10	9.66	20.05	11.61	8.93	82
2:11	9.98	21.16	11.61	8.81	82
2:12	10.06	20.05	11.61	8.81	82
2:13	10.33	15.59	11.49	8.81	82
2:14	10.69	15.29	11.13	8.81	82
2:15	11.93	17.12	11.13	8.57	82
2:16	10.39	15.54	11.13	8.45	82
2:17	9.59	14.09	11.13	8.58	83
2:18	9.83	14.28	11.13	8.74	84
2:19	9.94	14.44	11.13	8.86	84
2:20	10.34	15.05	11.13	8.86	84
2:21	9.71	14.73	11.13	8.86	84
2:22	10.16	14.07	11.13	8.95	83
2:23	9.69	14.80	11.13	8.93	82
2:24	9.87	15.03	11.13	8.93	82
2:25	10.48	14.52	11.13	9.05	82

2:26	10.04	14.52	11.13	8.93	82	
2:27	9.95	14.38	9.78	8.93	82	
2:28	10.67	15.27	9.78	8.93	82	
2:29	10.13	15.80	9.78	8.81	82	
2:30	11.17	17.87	9.78	8.93	82	
2:31	11.74	20.08	9.78	9.05	82	
2:32	12.20	20.44	9.78	9.05	82	
2:33	11.46	18.25	9.78	8.57	82	
2:34	12.30	18.83	9.78	8.69	82	
2:35	12.47	19.36	9.78	8.57	82	
2:36	11.83	19.78	9.78	8.57	82	
2:37	9.83	21.94	9.78	8.57	82	
2:38	10.89	22.66	9.78	8.81	82	
2:39	10.92	22.21	9.78	8.93	82	
2:40	11.42	16.12	11.69	8.81	82	
2:41	12.52	17.31	12.33	8.81	82	
2:42	12.85	17.79	12.33	8.93	82	
2:43	11.30	16.98	12.33	8.93	82	
2:44	9.37	19.36	12.33	8.81	82	
2:45	9.66	21.07	12.33	8.93	82	
2:46	10.08	20.47	12.33	8.81	82	
2:47	10.74	15.38	12.33	8.93	82	
2:48	10.75	15.89	12.33	8.93	82	
2:49	10.78	15.50	12.33	8.93	82	
2:50	9.99	14.95	12.33	8.69	82	
2:51	9.11	14.89	12.33	8.81	82	
2:52	10.17	13.86	12.33	8.81	82	
2:53	9.47	14.24	11.57	8.81	82	
2:54	10.69	14.09	10.81	8.81	82	
2:55	10.16	13.74	10.81	8.81	82	
2:56	10.40	14.88	10.81	8.69	82	
2:57	10.09	14.63	10.81	8.69	82	
2:58			10.81			
2:59			10.81			
3:00			10.81			
3:01			10.81			
3:02			10.81			
3:03			10.81			
3:04			10.81			
3:05			10.81			
	P5B	DR 300-40	F904K	Moisture	Temp	
Average	10.53	16.92	11.15	8.85	82.12	180
Minimum	8.83	13.44	9.78	8.45	82.00	
Maximum	12.85	23.41	12.33	9.17	84.00	

Run 38

M17 Results	For P5B & 300-40 mg/acm	For RSD & F904K mg/dscm	Moisture %
Train A	36.7	51.7	11.4
Train B			
Average	36.7	51.7	11.4
Single point	24.1	33.5	10.1

RCA #2 Testing - Run 39: Mid PM concentration

11/19/99	ESC P5B	Durag 300-40	Durag F904K	Moisture	Temp.
Time	raw mA	raw ra mA	raw mA	%	deg C
3:36	10.59	15.93		8.93	82
3:37	10.97	15.23		8.93	82
3:37	10.78	15.04		8.93	82
3:38	10.62	14.76		8.93	82
3:39	10.47	15.50		8.93	82
3:40	10.39	16.42		8.93	82
3:41	10.62	14.78		8.93	82
3:42	11.04	15.95		8.93	82
3:43	11.19	15.33		8.93	82
3:44	11.11	15.58		8.81	82
3:45	10.84	16.41		8.81	82
3:46	12.00	19.18	11.21	9.05	82
3:47	12.06	22.06	11.21	9.05	82
3:48	12.55	21.88	11.21	9.05	82
3:49	11.43	19.21	11.21	8.69	82
3:50	11.82	19.93	11.21	8.81	82
3:51	11.95	20.62	11.21	8.93	82
3:52	11.91	21.10	11.21	8.93	82
3:53	10.37	25.15	11.21	8.93	82
3:54	11.52	27.16	11.21	8.93	82
3:55	11.30	25.63	11.21	8.93	82
3:56	12.22	17.23	11.21	8.81	82
3:57	13.74	18.67	11.21	8.93	82
3:58	13.26	18.67	11.21	8.93	82
3:59	10.80	17.92	11.51	8.93	82
4:00	11.19	22.45	11.61	8.93	82
4:01	10.39	23.83	11.61	8.81	82
4:02	10.25	18.85	11.61	8.69	82
4:03	10.90	17.48	11.61	8.93	82
4:04	11.70	16.97	11.61	8.93	82
4:05	11.25	17.14	11.61	8.93	82
4:06	9.40	15.24	11.61	8.69	82
4:07	9.90	13.65	11.61	8.81	82
4:08	10.65	14.56	11.61	8.93	82
4:09	10.20	13.97	11.61	8.93	82
4:10	10.75	14.05	11.61	8.93	82
4:11	10.09	14.00	11.61	8.93	82
4:12	10.01	14.33	11.33	9.05	82
4:13	10.77	15.13	11.05	9.05	82
4:14	10.19	14.95	11.05	8.93	82
4:15	10.69	14.54	11.05	9.05	82
4:16	11.49	15.65	11.05	8.93	82
4:17	10.17	16.27	11.05	8.93	82
4:18	10.93	16.95	11.05	8.93	82
4:19	11.02	16.60	11.05	8.93	82
4:20	11.03	16.01	11.05	8.93	82
4:21	11.31	15.73	11.05	9.05	82
4:22	11.91	21.85	11.05	9.05	82
4:23	12.31	22.27	11.05	9.05	82

4:24	12.50	22.21	11.05	9.05	82	
4:25	11.18	17.93	11.11	8.69	82	
4:26	12.64	19.69	11.29	8.93	82	
4:27	12.30	19.42	11.29	8.93	82	
4:28	10.42	19.45	11.29	8.93	82	
4:29	9.89	25.18	11.29	8.93	82	
4:30	11.12	24.13	11.29	8.93	82	
4:31	10.50	21.19	11.29	9.05	82	
4:32	11.93	17.44	11.29	8.93	82	
4:33	12.45	17.66	11.29	8.93	82	
4:34	11.97	17.55	11.29	8.93	82	
4:35	9.59	18.64	11.29	8.93	82	
4:36	9.71	20.98	11.29	8.93	82	
4:37	9.68	21.28	11.29	8.93	82	
4:38	10.09	16.80	11.29	8.81	82	
4:39	10.66	17.50	11.69	8.93	82	
4:40	11.20	17.59	11.69	9.05	82	
4:41	11.06	16.15	11.69	8.93	82	
4:42	9.64	14.34	11.69	8.93	82	
4:43	10.01	14.97	11.69	9.05	82	
4:44	9.48	14.51	11.69	9.05	82	
4:45	9.97	15.07	11.69	8.81	82	
4:46	10.96	15.79	11.69	8.81	82	
4:47	11.40	15.12	11.69	8.93	82	
4:48	9.97	15.98	11.69	8.81	82	
4:49	10.51	16.25	11.69	9.05	82	
4:50	10.21	16.53	11.69	9.05	82	
4:51	11.23	15.84	11.69	9.05	82	
4:52	10.95	15.69	11.09	9.05	82	
4:53	11.72	16.21	10.89	9.05	82	
4:54	11.48	16.14	10.89	9.17	82	
4:55	10.48	15.58	10.89	9.17	82	
4:56	11.04	16.10	10.89	9.17	82	
4:57	10.94	17.02	10.89	9.17	82	
4:58	12.15		10.89	9.17	82	
4:59	12.15		10.89	9.17	82	
5:00	13.05		10.89	9.05	82	
5:01	11.94		10.89	8.69	82	
5:02	12.19		10.89	8.93	82	
5:03	12.52		10.89	8.93	82	
5:04	10.48	21.82	10.89	9.05	82	
5:05			11.53			
5:06			12.16			
5:07			12.16			
5:08			12.16			
5:09			12.16			
	P5B	DR 300-40	F904K	Moisture	Temp	
Average	11.08	17.76	11.34	8.95	82.00	180
Minimum	9.40	13.65	10.89	8.69	82.00	
Maximum	13.74	27.16	12.16	9.17	82.00	

Run 39

M17 Results	For P5B & 300-40 mg/acm	For RSD & F904K mg/dscm	Moisture %
Train A	35.6	49.5	10.4
Train B			
Average	35.6	49.5	10.4
Single point	24.5	34.1	10.3

RCA #2 Testing - Run 40: Low PM concentration

11/20/99	ESC P5B	Durag 300-40	Durag F904K	Moisture	Temp.
Time	raw mA	raw ra mA	raw mA	%	deg C
9:00	6.49	8.17		10.07	84
9:01	6.75	8.02		10.20	84
9:02	6.82	9.34		10.32	84
9:03	6.59	8.08		9.71	84
9:04	6.49	7.73		9.10	84
9:05	6.30	7.22		8.01	84
9:06	6.53	7.76		7.99	83
9:07	6.70	8.05		7.97	82
9:08	6.33	8.78		8.09	82
9:09	6.53	10.71		8.09	82
9:10	6.79	11.46		8.21	82
9:11	6.81	9.92	6.02	8.21	82
9:12	7.54	8.22	6.02	8.33	82
9:13	7.77	8.82	6.02	8.69	82
9:14	7.93	9.15	6.02	8.81	82
9:15	6.40	9.01	6.02	8.96	83
9:16	6.42	10.42	6.02	8.98	84
9:17	6.66	10.49	6.02	8.86	84
9:18	6.69	8.68	6.02	8.62	84
9:19	6.93	8.55	6.02	8.50	84
9:20	6.84	8.35	6.02	8.25	84
9:21	6.84	8.08	6.02	8.00	84
9:22	6.18	7.09	6.02	7.85	82
9:23	6.21	7.26	6.02	7.72	82
9:24	6.16	7.41	6.65	7.48	82
9:25	6.22	7.33	6.65	7.36	82
9:26	6.10	7.29	6.65	7.24	82
9:27	6.28	7.21	6.65	7.24	82
9:28	6.16	7.17	6.65	7.50	83
9:29	6.28	7.12	6.65	7.53	84
9:30	6.38	7.06	6.65	7.65	84
9:31	6.32	7.39	6.65	8.13	84
9:32	6.23	7.30	6.65	8.38	84
9:33	6.45	7.00	6.65	8.62	84
9:34	6.29	7.17	6.65	9.10	84
9:35	6.45	7.22	6.65	9.41	82
9:36	6.43	7.49	6.65	9.29	82
9:37	6.46	7.55	6.35	9.05	82
9:38	6.32	7.68	6.25	9.29	82
9:39	6.63	7.91	6.25	9.17	82
9:40	6.54	7.81	6.25	9.05	82
9:41	6.54	7.63	6.25	8.93	82
9:42	6.48	7.48	6.25	8.93	82
9:43	6.82	7.39	6.25	8.93	82
9:44	6.49	8.03	6.25	9.31	83
9:45	6.50	8.23	6.25	9.71	84
9:46	6.62	8.08	6.25	9.83	84
9:47	6.76	7.91	6.25	9.71	84
9:48	6.71	8.07	6.25	9.71	84

9:49	6.79	8.59	6.25	9.71	84	
9:50	6.79	8.33	6.25	9.71	84	
9:51	6.77	8.39	6.25	9.71	84	
9:52	7.45	9.19	6.25	9.83	84	
9:53	7.31	9.45	6.25	9.95	84	
9:54	7.23	9.52	6.25	9.95	84	
9:55	7.11	8.99	6.25	9.59	84	
9:56	6.93	8.96	6.25	9.71	84	
9:57	7.28	9.22	6.25	9.70	84	
9:58	6.66	9.77	6.25	9.54	82	
9:59	6.70	11.79	6.25	9.55	83	
10:00	6.93	12.06	6.25	9.59	84	
10:01	7.18	11.77	6.25	9.83	84	
10:02	7.82	9.17	6.25	10.07	84	
10:03	8.29	9.55	6.15	10.20	84	
10:04	8.33	10.19	5.85	10.07	84	
10:05	6.76	10.68	5.85	10.20	84	
10:06	7.41	12.73	5.85	10.44	84	
10:07	7.44	14.83	5.85	10.56	84	
10:08	7.61	12.97	5.85	10.56	84	
10:09	8.81	12.93	5.85	10.80	84	
10:10	9.67	14.73	5.85	11.05	84	
10:11	11.22	16.80	5.85	11.05	84	
10:12	11.30	18.55	5.85	11.17	84	
10:13	12.85	22.75	5.85	11.29	84	
10:14	13.84	25.69	5.85	11.29	84	
10:15	13.46	23.53	5.85	10.92	84	
10:16	13.30	25.36	6.15	10.80	84	
10:17	13.77	27.52	7.05	10.56	84	
10:18	13.51	29.20	7.05	10.44	84	
10:19	10.82	35.86	7.05	10.32	84	
10:20	11.55	40.03	7.05	10.20	84	
10:21			7.05			
10:22			7.05			
10:23			7.05			
10:24			7.05			
10:25			7.05			
10:26			7.05			
10:27			7.05			
10:28			7.05			
10:29			7.05			
	P5B	DR 300-40	F904K	Moisture	Temp	
Average	7.54	11.07	6.35	9.29	83.35	182
Minimum	6.10	7.00	5.85	7.24	82.00	
Maximum	13.84	40.03	7.05	11.29	84.00	

Run 40

M17 Results	For P5B & 300-40 mg/acm	For RSD & F904K mg/dscm	Moisture %
Train A	12.2	17.5	12.4
Average	12.2	17.5	12.4
Single point	10.2	14.7	12.4

RCA #2 Testing - Run 41: Low PM concentration

11/20/99	ESC P5B	Durag 300-40	Durag F904K	Moisture	Temp.
Time	raw mA	raw ra mA	raw mA	%	deg C
11:12	6.58	10.13		8.62	84
11:13	7.00	11.52		8.62	84
11:14	6.77	12.17		8.50	84
11:15	6.77	9.24		8.25	84
11:16	7.31	9.46		8.50	84
11:17	7.56	9.77		8.62	84
11:18	7.25	9.93		8.62	84
11:19	6.54	8.28		8.62	84
11:20	6.86	8.74		8.62	84
11:21	6.88	8.45		8.62	84
11:22	7.08	9.13		8.74	84
11:23	7.17	9.45	7.30	8.74	84
11:24	7.12	9.74	7.30	8.74	84
11:25	7.59	9.46	7.30	8.62	84
11:26	7.47	9.57	7.30	8.38	84
11:27	7.98	10.11	7.30	8.62	84
11:28	7.42	10.14	7.30	8.74	84
11:29	7.72	9.79	7.30	8.62	84
11:30	7.86	9.63	7.30	8.50	84
11:31	7.74	10.49	7.30	8.50	84
11:32	7.78	10.42	7.30	8.50	84
11:33	8.06	10.59	7.30	8.50	84
11:34	7.70	10.32	7.30	8.50	84
11:35	8.72	12.83	7.30	8.74	84
11:36	8.48	12.89	7.60	8.74	84
11:37	8.34	12.39	7.70	8.74	84
11:38	8.05	11.85	7.70	8.50	84
11:39	8.23	11.85	7.70	8.62	84
11:40	8.43	11.86	7.70	8.62	84
11:41	7.40	12.74	7.70	8.62	84
11:42	7.27	16.02	7.70	8.62	84
11:43	7.30	15.53	7.70	8.62	84
11:44	7.27	13.26	7.70	8.62	84
11:45	9.15	11.05	7.70	8.62	84
11:46	9.32	11.58	7.70	8.62	84
11:47	8.92	11.46	7.70	8.86	84
11:48	6.84	11.87	7.70	8.86	84
11:49	7.12	13.89	7.94	8.98	84
11:50	7.42	14.13	8.18	8.98	84
11:51	7.55	11.34	8.18	8.74	84
11:52	8.16	12.15	8.18	8.98	84
11:53	8.26	11.45	8.18	8.86	84
11:54	7.84	10.90	8.18	8.62	84
11:55	7.18	8.83	8.18	8.62	84
11:56	6.71	8.73	8.18	8.62	84
11:57	6.89	8.68	8.17	8.74	84
11:58	7.05	8.49	8.18	8.74	84
11:59	6.85	8.78	8.18	8.71	83
12:00	6.80	9.02	8.18	9.17	82

12:01	7.10	8.98	8.18	9.05	82	
12:02	7.18	9.39	7.80	9.05	82	
12:03	7.38	9.73	6.65	8.93	82	
12:04	8.13	11.58	6.65	9.05	82	
12:05	8.48	12.52	6.65	9.10	84	
12:06	8.32	12.02	6.65	9.22	84	
12:07	7.58	11.32	6.65	9.10	84	
12:08	8.05	11.95	6.65	9.83	84	
12:09	8.43	12.75	6.65	9.82	84	
12:10	7.88	14.40	6.65	9.90	82	
12:11	8.28	20.89	6.65	9.66	82	
12:12	9.30	24.52	6.65	9.90	82	
12:13	9.77	25.39	6.65	10.02	82	
12:14	12.70	18.85	6.65	10.26	82	
12:15	14.78	21.49	6.65	10.26	82	
12:16	15.66	23.41	7.05	10.26	82	
12:17	11.23	26.11	7.05	10.41	83	
12:18	11.68	29.77	7.05	10.44	84	
12:19	11.77	31.51	7.05	10.44	84	
12:20	11.38	27.40	7.05	10.44	84	
12:21	12.52	24.04	7.05	10.32	84	
12:22	12.88	24.25	7.05	10.04	83	
12:23	13.60	24.61	7.05	9.78	82	
12:24	13.14	23.20	7.05	9.90	82	
12:25	14.14	25.75	7.05	9.90	82	
12:26	14.37	26.71	7.05	9.78	82	
12:27	12.99	23.83	7.05	9.54	82	
12:28	12.95	24.79	7.05	9.66	82	
12:29	13.46	24.58	10.33	9.66	82	
12:30	12.77	24.37	10.33	9.66	82	
12:31	10.43	32.56	10.33	9.54	82	
12:32	10.41	34.12	10.33	9.66	82	
12:33			10.33			
12:34			10.33			
12:35			10.33			
12:36			10.33			
12:37			10.33			
12:38			10.33			
12:39			10.33			
12:40			10.33			
12:41			10.33			
	P5B	DR 300-40	F904K	Moisture	Temp	
Average	8.87	14.90	7.86	9.10	83.42	182
Minimum	6.54	8.28	6.65	8.25	82.00	
Maximum	15.66	34.12	10.33	10.44	84.00	

Run 41

M17 Results	For P5B & 300-40 mg/acm	For RSD & F904K mg/dscm	Moisture %
Train A	24.1	34.7	12.4
Average	24.1	34.7	12.4
Single poin	13.8	20	12.4

RCA #2 Testing - Run 42: High PM concentration

11/20/99	ESC P5B	Durag 300-40	Durag F904K	Moisture	Temp.
Time	raw mA	raw ra mA	raw mA	%	deg C
13:50	14.93	27.13		8.50	84
13:51	15.56	31.60		8.74	84
13:52	12.29	39.55		8.74	84
13:53	14.61	44.71		8.88	85
13:54	15.48	45.58		9.03	86
13:55	16.87	32.05		9.03	86
13:56	19.73	36.37		9.15	86
13:57	19.96	37.84		9.28	86
13:58	16.55	41.08		9.28	86
13:59	17.04	143.41		9.40	86
14:00	17.37	56.29		9.40	86
14:01	15.88	81.67		9.15	86
14:02	15.98	36.61	12.01	9.24	85
14:03	16.69	37.84	12.01	9.22	84
14:04	18.27	36.70	12.01	9.10	84
14:05	18.22	36.55	12.01	8.98	84
14:06	19.67	39.07	12.01	9.10	84
14:07	19.39	37.48	12.01	8.98	84
14:08	18.54	34.09	12.01	8.62	84
14:09	15.40	32.23	12.01	8.62	84
14:10	16.70	33.70	12.01	8.62	84
14:11	16.86	32.65	12.01	8.74	84
14:12	12.36	35.65	12.01	8.62	84
14:13	10.48	37.03	12.01	8.13	84
14:14	10.61	33.13	12.01	7.89	84
14:15	10.52	21.52	13.28	7.65	84
14:16	12.42	20.74	13.28	7.40	84
14:17	12.54	20.38	13.28	7.53	84
14:18	10.16	18.30	13.28	7.53	84
14:19	8.48	19.60	13.28	7.77	84
14:20	8.69	21.04	13.28	8.13	84
14:21	8.79	21.10	13.28	8.01	84
14:22	8.87	16.00	13.28	8.38	84
14:23	9.43	16.55	13.28	8.38	84
14:24	9.52	17.37	13.28	8.38	84
14:25	8.87	14.33	13.28	8.25	84
14:26	8.67	13.12	13.28	8.25	84
14:27	8.80	13.05	13.28	8.13	84
14:28	9.12	12.96	10.53	8.13	84
14:29	7.96	12.24	9.61	7.77	84
14:30	8.70	13.11	9.61	8.01	84
14:31	9.61	15.13	9.61	8.13	84
14:32	8.29	16.72	9.61	8.25	84
14:33	8.16	21.40	9.61	8.38	84
14:34	8.97	22.93	9.61	8.50	84
14:35	9.17	21.34	9.61	8.50	84
14:36	11.30	16.68	9.61	8.25	84
14:37	12.34	18.09	9.61	8.25	84
14:38	11.26	17.57	9.61	8.38	84

14:39	8.92	17.68	9.61	8.25	84
14:40	9.27	21.61	9.61	8.13	84
14:41	9.74	22.30	9.74	8.13	84
14:42	9.93	19.87	9.78	8.01	84
14:43	11.78	21.88	9.78	8.25	84
14:44	11.80	21.58	9.78	8.38	84
14:45	12.11	20.95	9.78	8.13	84
14:46	12.12	20.86	9.78	8.25	84
14:47	11.99	22.63	9.78	8.50	84
14:48	12.82	22.57	9.78	8.74	84
14:49	10.65	19.93	9.78	8.38	84
14:50	11.70	21.82	9.78	8.50	84
14:51	12.36	23.62	9.78	8.38	84
14:52	10.34	23.50	9.78	8.38	84
14:53	9.82	29.71	9.78	8.25	84
14:54	9.92	30.55	9.81	8.25	84
14:55	10.73	31.15	9.85	8.13	84
14:56	12.38	18.79	9.85	8.01	84
14:57	13.93	22.18	9.85	8.25	84
14:58	13.98	22.06	9.85	8.25	84
14:58	12.84	22.09	9.85	8.25	84
14:59	12.44	22.75	9.85	8.25	84
15:00	10.81	27.04	9.85	8.25	84
15:01	10.84	28.24	9.85	8.38	84
15:01	10.79	28.87	9.85	8.38	84
15:02	11.50	23.98	9.85	8.13	84
15:03	13.38	25.12	9.85	8.38	84
15:04	13.42	23.89	9.85	8.50	84
15:05	13.44	24.10	9.85	8.25	84
15:06	13.68	24.49	9.85	8.50	84
15:07	16.00	29.44	9.97	8.86	84
15:08	16.18	31.90	10.09	8.98	84
15:09	15.14	30.82	10.09	8.86	84
15:10	16.47	32.98	10.09	9.22	84
15:11	17.17	35.59	10.09	9.35	84
15:12	16.12	38.08	10.09	9.35	84
15:13			10.09		
15:14			10.09		
15:15			10.09		
15:16			10.09		
15:17			10.09		
15:18			10.09		
15:19			10.09		
15:20			10.85		
15:21			13.13		
15:22			13.13		
15:23			13.13		
15:24			13.13		
15:25			13.13		
15:26			13.13		

	P5B	DR 300-40	F904K	Moisture	Temp	
Average	12.74	28.30	10.92	8.47	84.21	184
Minimum	7.96	12.24	9.61	7.40	84.00	
Maximum	19.96	143.41	13.28	9.40	86.00	

Run 42

M17 Results	For P5B & 300-40 mg/acm	For RSD & F904K mg/dscm	Moisture %
Train A	38.3	55.4	12.4
Average	38.3	55.4	12.4
Single point	22.8	32.8	11.2

RCA #2 Appendix G

Statistical Analysis Data and Graphs from Initial Correlation and RCA Data

ESC P5B - Linear

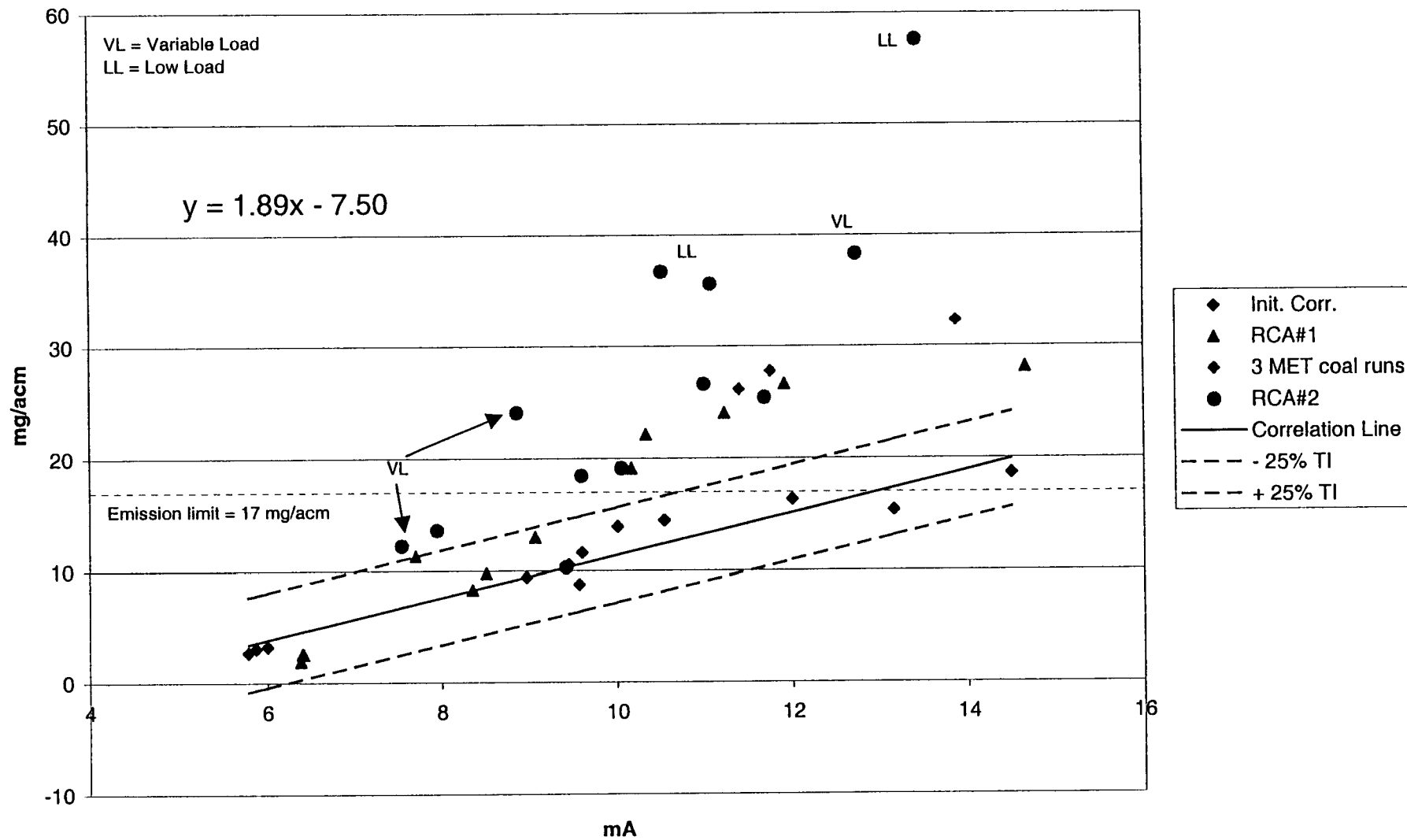


Table G-1. ESC Light Scatter - Linear

Run	x (mA)	y (mg/acm)	ylin
13	9.60	11.61	10.62
14	10.01	13.92	11.40
15	10.54	14.47	12.40
16	5.87	3.03	3.58
17	5.78	2.68	3.41
18	6.00	3.20	3.83
19	12.00	16.33	15.16
20	9.45	10.52	10.34
21	8.97	9.42	9.43
22	13.16	15.39	17.35
23	9.57	8.76	10.57
24	14.50	18.66	19.88
1	14.66	28.09	RCA #1 data
2	6.38	1.90	
3	6.41	2.55	
4	6.40	2.59	
5	8.51	9.77	
6	8.35	8.29	
7	7.70	11.30	
8	10.34	22.12	
9	11.23	24.05	
10	11.92	26.62	
11	9.07	12.97	
12	10.17	19.10	
10	11.40	26.13	Three MET coal runs during initial correlation tests.
11	11.76	27.76	
12	13.88	32.28	
31	11.69	25.40	RCA #2 data
32	10.06	19.10	
33	9.60	18.45	
34	9.42	10.30	
35	7.95	13.60	
36	11.00	26.60	
37	13.44	57.60	
38	10.53	36.70	
39	11.08	35.60	
40	7.54	12.20	
41	8.87	24.10	
42	12.74	38.30	

Durag DR 300-40 - Linear

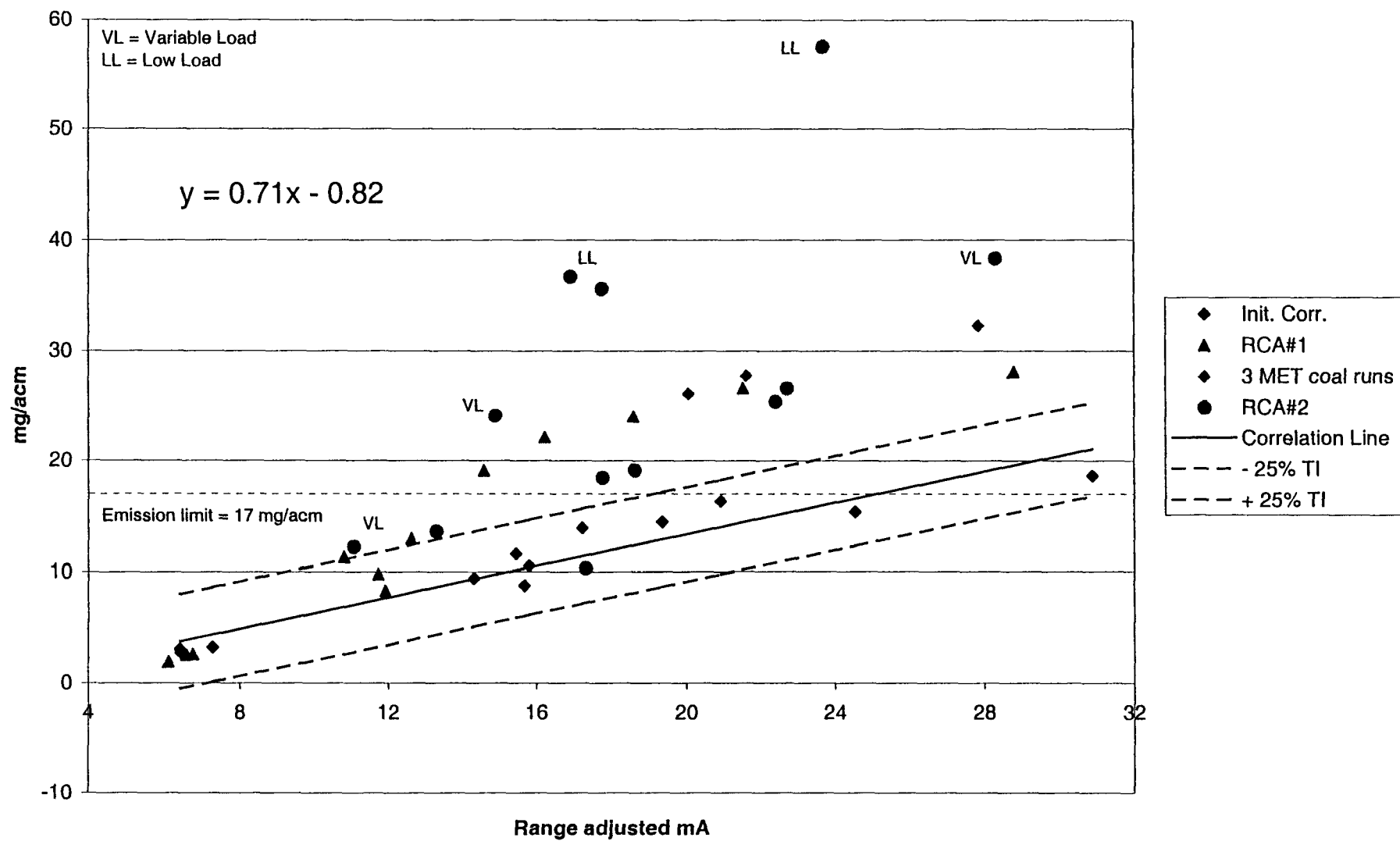


Table G-3. Durag Light Scatter - Linear

Run	x (mA)	y (mg/acm)	ylin
13	15.45	11.61	10.14
14	17.22	13.92	11.39
15	19.36	14.47	12.91
16	6.42	3.03	3.73
17	6.44	2.68	3.75
18	7.28	3.20	4.34
19	20.93	16.33	14.02
20	15.80	10.52	10.38
21	14.32	9.42	9.33
22	24.54	15.39	16.58
23	15.68	8.76	10.30
24	30.88	18.66	21.08
1	28.77	28.09	RCA #1 data
2	6.11	1.90	
3	6.59	2.55	
4	6.75	2.59	
5	11.72	9.77	
6	11.92	8.29	
7	10.80	11.30	
8	16.22	22.12	
9	18.60	24.05	
10	21.53	26.62	
11	12.62	12.97	
12	14.59	19.10	
10	20.06	26.13	Three MET coal runs during initial correlation tests.
11	21.62	27.76	
12	27.83	32.28	
31	22.41	25.40	RCA #2 data
32	18.64	19.10	
33	17.77	18.45	
34	17.32	10.30	
35	13.31	13.60	
36	22.72	26.60	
37	23.69	57.60	
38	16.92	36.70	
39	17.76	35.60	
40	11.07	12.20	
41	14.90	24.10	
42	28.30	38.30	

Durag F904K - Linear

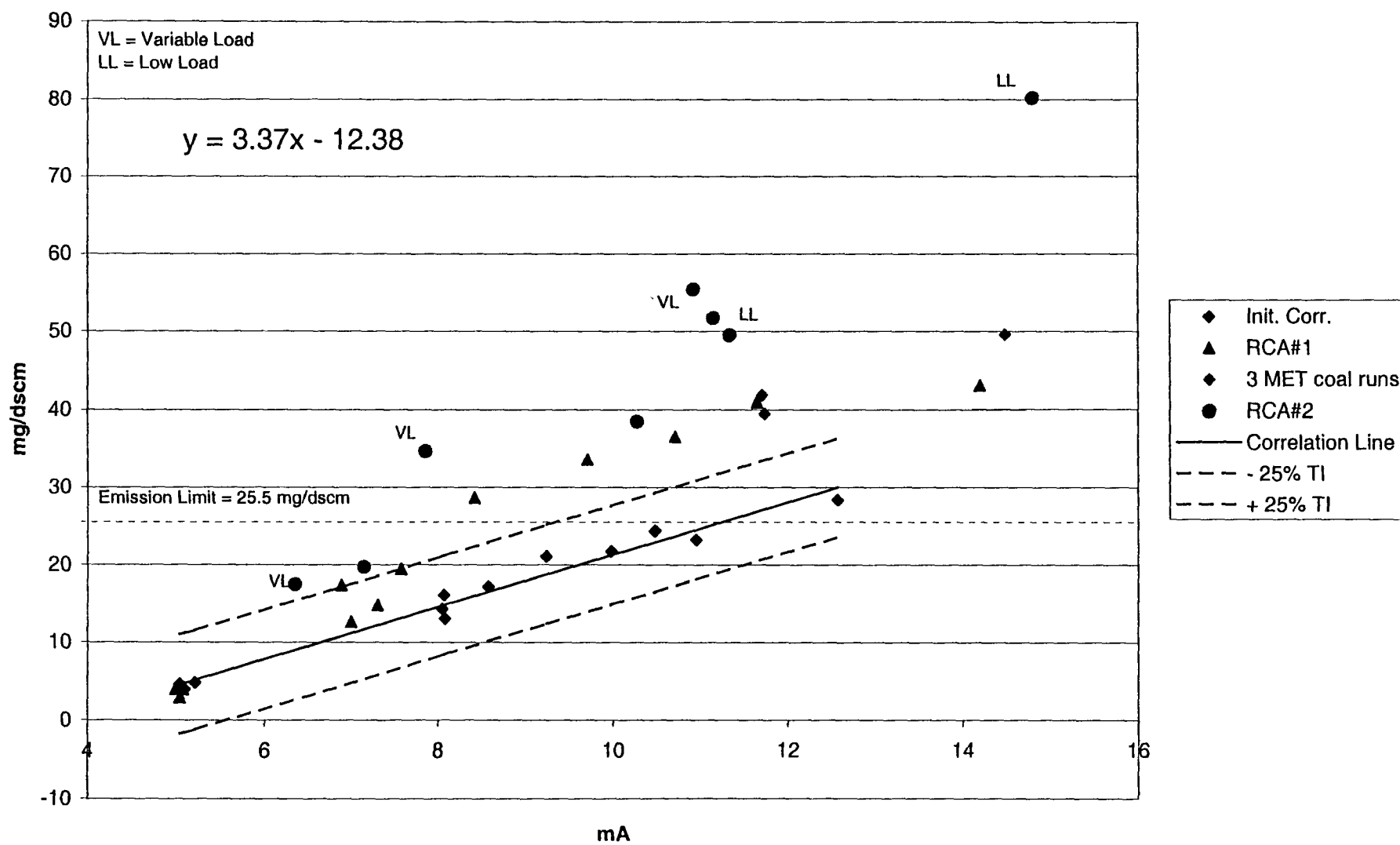


Table G-2. Durag Beta Gauge - Linear

Run	x (mA)	y (mg/dscm)	ylin
13	8.58	17.20	16.53
14	9.24	21.10	18.75
15	9.98	21.75	21.25
16	5.04	4.60	4.60
17	5.09	4.00	4.77
18	5.21	4.80	5.17
19	10.48	24.40	22.93
20	8.07	16.10	14.81
21	8.05	14.30	14.74
22	10.95	23.25	24.52
23	8.08	13.05	14.85
24	12.57	28.35	29.97
1	14.20	43.05	RCA #1 data
2	5.04	2.90	
3	5.07	3.95	
4	4.99	4.00	
5	7.30	14.80	
6	6.99	12.65	
7	6.88	17.40	
8	9.71	33.65	
9	10.71	36.60	
10	11.65	41.00	
11	7.57	19.45	
12	8.42	28.65	
10	11.74	39.50	Three MET coal runs during initial correlation tests.
11	11.71	41.80	
12	14.49	49.55	
31	<i>Probe broken</i>		RCA #2 data
32	"	"	
33	"	"	
34	"	"	
35	7.14	19.70	
36	10.28	38.50	
37	14.80	80.20	
38	11.15	51.70	
39	11.34	49.50	
40	6.35	17.50	
41	7.86	34.70	
42	10.92	55.40	

TECHNICAL REPORT DATA

(Please read Instructions on reverse before completing)

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16. ABSTRACT This final report describes an extended field demonstration of three particulate matter (PM) continuous emission monitoring systems (CEMS) at a coal-fired boiler equipped with a lime slurry scrubber and baghouse for air pollution control. The primary objectives of the field study were to: (1) demonstrate whether the PM CEMS could provide reliable and accurate data over an extended period, (2) evaluate the PM CEMS for durability, data availability, and setup/maintenance requirements, and (3) determine whether the PM CEMS satisfy all the requirements of draft PS-11 and the quality assurance (QA) criteria specified in draft Procedure 2, or determine if changes are needed in the requirements of PS-11 and/or Procedure 2. This report presents the results of the study involving two different PM CEMS technologies (light scatter and beta gauge) at the coal-fired boiler. The report consists of five separate volumes.					
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