

Parameters

EPA Methods 1-5B/202 Parameters	Run 1	Run 2	Run 3
Date	8/3/2011	8/3/2011	8/3/2011
Start Time	7:01	10:23	13:17
Stop Time	9:03	12:10	15:05
Dimensions of Sample Location, D_s (in)	186 X 139	186 X 139	186 X 139
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.982	0.983	0.990
Barometric Pressure, P_b (Inches Hg)	29.27	29.27	29.27
Static Pressure, P_s (Inches H_2O)	-5.5	-5.5	-5.5
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s ($^{\circ}F$)	333	339	342
Volume Metered, V_m (ft^3)	58.42	58.08	59.57
Meter Temperature, T_m ($^{\circ}F$)	103	113	105
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.17	1.17	1.18
Gas Meter Correction Factor, Y_d	0.9953	0.9953	0.9953
Carbon Dioxide (% dry)	12.7	13.3	12.5
Oxygen (% dry)	6.10	5.31	6.37
Weight of Water Collected, V_{wc} (g)	128.1	147.0	60.3
Silica Gel Net Weight, V_{wsg} (g)	16.9	15.9	27.2
Diameter of Nozzle, D_n (in)	0.200	0.200	0.200
Run Time, θ (minutes)	100	100	100

EPA METHODS 1-5B/202 RESULTS

Area of Sample Location, A_s (ft^2)	180	180	180
Stack Pressure Absolute (inches Hg)	28.87	28.87	28.87
Volume Metered Standard, $V_{m(std)}$ (ft^3)	53.44	52.26	54.38
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	6.84	7.68	4.13
Percent Moisture, B_{ws} (%)	11.3	12.8	7.05
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.28	30.34	30.25
Wet Molecular Weight, M_s (lbs/lb mole)	28.88	28.76	29.39
Gas Velocity, V_s (ft/sec)	68.8	69.3	69.1
Average Flowrate, Q_a (acfm)	740,694	746,268	744,550
Standard Flowrate, Q_{std} (scfm)	475,507	475,727	472,667
Dry Standard Flowrate, Q_{dstd} (dscfm)	421,742	414,932	439,513
Area of Nozzle, A_n (ft^2)	0.000218	0.000218	0.000218
Isokinetics (%)	104.3	103.7	101.9
Front-Half Particulate (g)	2.8568	3.3679	1.8319
Concentration (grains/dscf)	0.825	0.994	0.520
Emission Rate, F_d (lb/mmBtu)	1.67	1.92	1.07
Emission Rate (lb/hr)	2,982	3,537	1,958
Condensable Particulate (g)	0.3160	0.0200	0.1340
Concentration (grains/dscf)	0.0912	0.00589	0.0380
Emission Rate, F_d (lb/mmBtu)	0.184	0.0114	0.0783
Emission Rate (lb/hr)	330	21.0	143

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	8/3/2011	8/3/2011	8/3/2011
Start Time	7:01	10:23	13:17
Stop Time	9:10	12:30	15:39
Dimensions of Sample Location, D_s (in)	186 X 139	186 X 139	186 X 139
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.939	0.957	0.952
Barometric Pressure, P_b (Inches Hg)	29.27	29.27	29.27
Static Pressure, P_s (Inches H_2O)	-5.5	-5.5	-5.5
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s ($^{\circ}F$)	330	335	335
Volume Metered, V_m (ft^3)	72.70	69.50	69.64
Meter Temperature, T_m ($^{\circ}F$)	100	108	108
Average Sample Pressure, ΔH_{avg} (in. H_2O)	0.979	1.01	1.01
Gas Meter Correction Factor, Y_d	0.9952	0.9952	0.9952
Carbon Dioxide (% dry)	12.7	13.3	12.5
Oxygen (% dry)	6.10	5.31	6.37
Weight of Water Collected, V_{wc} (g)	114.8	110.8	118.6
Silica Gel Net Weight, V_{wsg} (g)	22.7	20.1	17.0
Diameter of Nozzle, D_n (in)	0.200	0.200	0.200
Run Time, θ (minutes)	120	120	120

EPA METHODS 1-4 RESULTS

Area of Sample Location, A_s (ft^2)	180	180	180
Stack Pressure Absolute (inches Hg)	28.87	28.87	28.87
Volume Metered Standard, $V_{m(std)}$ (ft^3)	66.84	63.07	63.19
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	6.48	6.17	6.39
Percent Moisture, B_{ws} (%)	8.84	8.91	9.19
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.28	30.34	30.25
Wet Molecular Weight, M_s (lbs/lb mole)	29.19	29.24	29.13
Gas Velocity, V_s (ft/sec)	65.3	66.7	66.5
Average Flowrate, Q_a (acfm)	703,672	718,854	716,078
Standard Flowrate, Q_{std} (scfm)	453,451	460,322	458,400
Dry Standard Flowrate, Q_{dstd} (dscfm)	413,524	419,458	416,446
Area of Nozzle, A_n (ft^2)	0.000218	0.000218	0.000218
Hydrogen Chloride (mg)	690	663	661
Concentration (lb/dscf)	2.28E-05	2.32E-05	2.31E-05
Concentration (ppmdv)	241	245	244
Emission Rate (lb/mmBtu)	0.322	0.314	0.333
Emission Rate (lb/hr)	565	583	576
Hydrogen Fluoride (mg)	54.5	48.9	49.7
Concentration (lb/dscf)	1.80E-06	1.71E-06	1.73E-06
Concentration (ppmdv)	34.6	32.9	33.4
Emission Rate (lb/mmBtu)	0.0254	0.0232	0.0250
Emission Rate (lb/hr)	44.6	43.0	43.3

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	8/3/2011	8/3/2011	8/3/2011
Start Time	7:01	10:23	13:17
Stop Time	9:10	12:30	15:39
Dimensions of Sample Location, D_s (in)	186 X 139	186 X 139	186 X 139
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	1.01	1.01	1.03
Barometric Pressure, P_b (Inches Hg)	29.27	29.27	29.27
Static Pressure, P_s (Inches H_2O)	-5.5	-5.5	-5.5
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s ($^{\circ}F$)	334	338	337
Volume Metered, V_m (ft^3)	70.61	71.68	73.10
Meter Temperature, T_m ($^{\circ}F$)	105	109	103
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.04	1.05	1.07
Gas Meter Correction Factor, Y_d	1.0087	1.0087	1.0087
Carbon Dioxide (% dry)	12.7	13.3	12.5
Oxygen (% dry)	6.10	5.31	6.37
Weight of Water Collected, V_{wc} (g)	179.8	181.2	157.2
Silica Gel Net Weight, V_{wsg} (g)	20.9	24.3	11.4
Diameter of Nozzle, D_n (in)	0.195	0.195	0.195
Run Time, θ (minutes)	125	125	125

EPA METHODS 1-4 RESULTS

Area of Sample Location, A_s (ft^2)	180	180	180
Stack Pressure Absolute (inches Hg)	28.87	28.87	28.87
Volume Metered Standard, $V_{m(std)}$ (ft^3)	65.26	65.78	67.81
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	9.46	9.69	7.95
Percent Moisture, B_{ws} (%)	12.7	12.8	10.5
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.28	30.34	30.25
Wet Molecular Weight, M_s (lbs/lb mole)	28.72	28.76	28.97
Gas Velocity, V_s (ft/sec)	70.7	71.4	72.1
Average Flowrate, Q_a (acfm)	761,090	768,793	776,512
Standard Flowrate, Q_{std} (scfm)	487,986	490,380	495,876
Dry Standard Flowrate, Q_{dstd} (dscfm)	426,361	427,589	444,019
Area of Nozzle, A_n (ft^2)	0.000207	0.000207	0.000207
Isokinetics (%)	106.1	106.6	105.8

Metals Lab Data Entry (ug)	Blank	Run 1	Run 2	Run 3
Front Half (ug)		3.88	3.48	5.4
Back Half (ug)		1.91	0.105	0.167
Antimony - Sb		5.79	3.59	5.57
Concentration (ug/dscm)		3.13	1.92	2.90
Emission Rate (lb/mmBtu)		2.77E-06	1.63E-06	2.61E-06
Emission Rate (lb/hr)		0.00500	0.00308	0.00482
Front Half (ug)		35.0	42.7	35.6
Back Half (ug)		14.6	12.8	3.17
Arsenic - As		49.6	55.5	38.8
Concentration (ug/dscm)		26.8	29.8	20.2
Emission Rate (lb/mmBtu)		2.37E-05	2.52E-05	1.82E-05
Emission Rate (lb/hr)		0.0429	0.0477	0.0336
Front Half (ug)		8.78	9.64	7.54
Back Half (ug)		0.032	<0.025	<0.025
Beryllium - Be		8.81	9.66	7.57
Concentration (ug/dscm)		4.77	5.19	3.94
Emission Rate (lb/mmBtu)		4.21E-06	4.39E-06	3.55E-06
Emission Rate (lb/hr)		0.00761	0.00831	0.00655
Front Half (ug)		17.1	17.80	14.6
Back Half (ug)		2.03	0.295	0.990
Cadmium - Cd		19.1	18.1	15.6
Concentration (ug/dscm)		10.3	9.71	8.12
Emission Rate (lb/mmBtu)		9.14E-06	8.22E-06	7.31E-06
Emission Rate (lb/hr)		0.0165	0.0156	0.0135
Front Half (ug)		327	313.50	253
Back Half (ug)		2.37	3.07	1.32
Chromium - Cr		329	317	254
Concentration (ug/dscm)		178	170	132
Emission Rate (lb/mmBtu)		1.57E-04	1.44E-04	1.19E-04
Emission Rate (lb/hr)		0.285	0.272	0.220
Front Half (ug)		24.0	24.3	23.3
Back Half (ug)		0.140	<0.1	<0.1
Cobalt - Co		24.1	24.4	23.4
Concentration (ug/dscm)		13.1	13.1	12.2
Emission Rate (lb/mmBtu)		1.15E-05	1.11E-05	1.10E-05
Emission Rate (lb/hr)		0.0209	0.0210	0.0203

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Front Half (ug)	60.4	51.3	48.2
Back Half (ug)	3.13	0.828	3.03
Lead - Pb	63.5	52.1	51.2
Concentration (ug/dscm)	34.4	28.0	26.7
Emission Rate (lb/mmBtu)	3.04E-05	2.36E-05	2.40E-05
Emission Rate (lb/hr)	0.0549	0.0448	0.0444
Front Half (ug)	248	247	222
Back Half (ug)	2.51	2.65	2.19
Manganese - Mn	251	250	224
Concentration (ug/dscm)	136	134	117
Emission Rate (lb/mmBtu)	1.20E-04	1.13E-04	1.05E-04
Emission Rate (lb/hr)	0.216	0.215	0.194
Front Half (ug)	133	137	92.5
Back Half (ug)	3.89	1.59	2.82
Nickel - Ni	137	138	95.3
Concentration (ug/dscm)	74.1	74.1	49.6
Emission Rate (lb/mmBtu)	6.54E-05	6.27E-05	4.47E-05
Emission Rate (lb/hr)	0.118	0.119	0.0826
Front Half (ug)	67.2	54.8	51.2
Back Half (ug)	68.2	99.7	14.5
Selenium - Se	135	154	65.7
Concentration (ug/dscm)	73.3	82.9	34.2
Emission Rate (lb/mmBtu)	6.47E-05	7.01E-05	3.08E-05
Emission Rate (lb/hr)	0.117	0.133	0.0569

Parameters	Run 1	Run 2	Run 3
Date	8/3/11	8/3/11	8/3/11
Start Time	7:01	10:23	13:17
Stop Time	9:03	12:04	15:02
Barometric Pressure, P_b (Inches Hg)	29.27	29.27	29.27
Un-Spiked			
Volume Metered, V_m (L)	42.38	42.97	43.18
Meter Temperature, T_m (°F)	109	121	120
Gas Meter Correction Factor, Y_d	0.9958	0.9958	0.9958
Run Time, θ (minutes)	90	90	90
Spiked/Paired			
Volume Metered, V_m (L)	42.02	43.44	42.87
Meter Temperature, T_m (°F)	110	122	120
Gas Meter Correction Factor, Y_d	0.9902	0.9902	0.9902
Run Time, θ (minutes)	90	90	90
Ash Bonded Mercury Collected Un-Spiked, m (ng)	1.06	0.835	1.28
Oxidized Mercury Collected Un-Spiked, m (ng)	143	116	103
Elemental Mercury Collected Un-Spiked, m (ng)	155	172	182
Total Mercury Collected Un-Spiked, m (ng)	299	289	286
Total Mercury Collected Spiked/Paired, m (ng)	476	462	445
Mass of Mercury Spiked, S (ng)	175	175	175

RESULTS

Volume Metered Un-Spiked, $V_{m(std)}$ (L)	38.32	38.02	38.29
Ash Bound Mercury Concentration Un-spiked Train, ($\mu\text{g}/\text{dscm}$)	0.0277	0.0220	0.0334
Oxidized Mercury Concentration Un-spiked Train, ($\mu\text{g}/\text{dscm}$)	3.73	3.05	2.69
Elemental Mercury Concentration Un-spiked Train, ($\mu\text{g}/\text{dscm}$)	4.05	4.52	4.75
Total Mercury Concentration Un-spiked Train, ($\mu\text{g}/\text{dscm}$)	7.80	7.60	7.47
Volume Metered Spiked/Paired, $V_{m(std)}$ (L)	37.7	38.2	37.8
Concentration Spiked/Paired Train, ($\mu\text{g}/\text{dscm}$)	12.6	12.1	11.8
Concentration Spiked Train Less Spike, ($\mu\text{g}/\text{dscm}$)	7.98	7.52	7.15
Concentration Recovered Spike, ($\mu\text{g}/\text{dscm}$)	4.82	4.50	4.32
Recovery, R (%)	104	98.2	93.1
Relative Deviation, RD (%)	1.13	0.539	2.18
Difference ($\mu\text{g}/\text{dscm}$)	0.178	0.0815	0.319
Average Result ($\mu\text{g}/\text{dscm}$)	7.89	7.56	7.31
Average Recovery (%)	98.4		

EPA Methods 1-5B/202 Parameters	Run 1	Run 2	Run 3
Date	8/3/2011	8/3/2011	8/3/2011
Start Time	7:01	10:19	13:17
Stop Time	8:46	12:03	15:04
Dimensions of Sample Location, D_s (in)	192	192	192
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.740	0.743	0.738
Barometric Pressure, P_b (Inches Hg)	29.27	29.27	29.27
Static Pressure, P_s (Inches H_2O)	-0.4	-0.4	-0.4
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s ($^{\circ}F$)	130	130	131
Volume Metered, V_m (ft^3)	55.09	53.26	53.27
Meter Temperature, T_m ($^{\circ}F$)	104	106	108
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.26	1.30	1.26
Gas Meter Correction Factor, Y_d	1.0141	1.0141	1.0141
Carbon Dioxide (% dry)	13.0	13.3	13.8
Oxygen (% dry)	5.83	5.37	4.89
Weight of Water Collected, V_{wc} (g)	173.7	173.4	271.1
Silica Gel Net Weight, V_{wsg} (g)	33.3	41.4	14.5
Diameter of Nozzle, D_n (in)	0.230	0.230	0.230
Run Time, θ (minutes)	90	90	90

EPA METHODS 1-5B/202 RESULTS

Area of Sample Location, A_s (ft^2)	201	201	201
Stack Pressure Absolute (inches Hg)	29.24	29.24	29.24
Volume Metered Standard, $V_{m(std)}$ (ft^3)	51.33	49.43	49.25
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	9.76	10.13	13.47
Percent Moisture, B_{ws} (%)	16.0	17.0	21.5
Moisture Saturation Point, B_{wsat} (%)	15.4	15.6	15.8
Dry Molecular Weight, M_d (lbs/lb mole)	30.31	30.34	30.40
Wet Molecular Weight, M_s (lbs/lb mole)	28.42	28.42	28.45
Gas Velocity, V_s (ft/sec)	44.8	44.9	44.7
Average Flowrate, Q_a (acfm)	540,076	542,209	538,665
Standard Flowrate, Q_{std} (scfm)	472,358	473,822	470,327
Dry Standard Flowrate, Q_{dstd} (dscfm)	399,908	400,165	396,228
Area of Nozzle, A_n (ft^2)	0.000289	0.000289	0.000289
Isokinetics (%)	99.4	95.7	96.3
Front-Half Particulate (g)	0.0366	0.0282	0.0241
Concentration (grains/dscf)	0.0110	0.00882	0.00754
Emission Rate, F_d (lb/mmBtu)	0.0218	0.0171	0.0141
Emission Rate (lb/hr)	37.7	30.3	25.6
Condensible Particulate (g)	0.0132	0.0134	0.0453
Concentration (grains/dscf)	0.00397	0.00418	0.0142
Emission Rate, F_d (lb/mmBtu)	0.00788	0.00813	0.0265
Emission Rate (lb/hr)	13.6	14.4	48.2

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	8/3/2011	8/3/2011	8/3/2011
Start Time	7:01	10:19	13:17
Stop Time	9:16	12:51	15:35
Dimensions of Sample Location, D_s (in)	192	192	192
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.660	0.657	0.626
Barometric Pressure, P_b (Inches Hg)	29.27	29.27	29.27
Static Pressure, P_s (Inches H_2O)	-0.4	-0.4	-0.4
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s ($^{\circ}F$)	130	132	133
Volume Metered, V_m (ft^3)	96.20	97.58	90.93
Meter Temperature, T_m ($^{\circ}F$)	103	103	111
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.96	1.93	1.77
Gas Meter Correction Factor, Y_d	0.9904	1.0159	1.0159
Carbon Dioxide (% dry)	13.0	13.3	13.8
Oxygen (% dry)	5.83	5.37	4.89
Weight of Water Collected, V_{wc} (g)	184.4	343.0	295.9
Silica Gel Net Weight, V_{wsg} (g)	37.8	33.1	31.1
Diameter of Nozzle, D_n (in)	0.270	0.270	0.270
Run Time, θ (minutes)	120	120	120

EPA METHODS 1-4 RESULTS

Area of Sample Location, A_s (ft^2)	201	201	201
Stack Pressure Absolute (inches Hg)	29.24	29.24	29.24
Volume Metered Standard, $V_{m(std)}$ (ft^3)	87.84	91.39	83.86
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	10.48	17.73	15.42
Percent Moisture, B_{ws} (%)	10.7	16.3	15.5
Moisture Saturation Point, B_{wsat} (%)	15.5	16.3	16.7
Dry Molecular Weight, M_d (lbs/lb mole)	30.31	30.34	30.40
Wet Molecular Weight, M_s (lbs/lb mole)	29.00	28.34	28.48
Gas Velocity, V_s (ft/sec)	39.5	39.9	37.9
Average Flowrate, Q_a (acfm)	476,680	480,963	457,251
Standard Flowrate, Q_{std} (scfm)	416,617	419,117	397,894
Dry Standard Flowrate, Q_{dstd} (dscfm)	372,370	351,147	336,234
Area of Nozzle, A_n (ft^2)	0.000398	0.000398	0.000398
Hydrogen Chloride (mg)	3.50	6.00	5.29
Concentration (lb/dscf)	8.78E-08	1.45E-07	1.39E-07
Concentration (ppmdv)	0.928	1.53	1.47
Emission Rate (lb/mmBtu)	0.00122	0.00197	0.00182
Emission Rate (lb/hr)	1.96	3.05	2.81
Hydrogen Fluoride (mg)	0.136	0.211	0.228
Concentration (lb/dscf)	3.41E-09	5.09E-09	5.99E-09
Concentration (ppmdv)	0.0657	0.0980	0.115
Emission Rate (lb/mmBtu)	0.0000474	0.0000692	0.0000785
Emission Rate (lb/hr)	0.0763	0.107	0.121

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	8/3/2011	8/3/2011	8/3/2011
Start Time	7:01	10:19	13:17
Stop Time	9:16	12:51	15:39
Dimensions of Sample Location, D_s (in)	192	192	192
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.744	0.732	0.715
Barometric Pressure, P_b (Inches Hg)	29.27	29.27	29.27
Static Pressure, P_s (Inches H_2O)	-0.4	-0.4	-0.4
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s ($^{\circ}F$)	131	131	131
Volume Metered, V_m (ft^3)	75.36	75.08	73.04
Meter Temperature, T_m ($^{\circ}F$)	108	113	114
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.28	1.26	1.19
Gas Meter Correction Factor, Y_d	0.9907	0.9907	0.9907
Carbon Dioxide (% dry)	13.0	13.3	13.8
Oxygen (% dry)	5.83	5.37	4.89
Weight of Water Collected, V_{wc} (g)	277.5	268.9	277.7
Silica Gel Net Weight, V_{wsg} (g)	33.5	33.7	20.7
Diameter of Nozzle, D_n (in)	0.230	0.230	0.230
Run Time, θ (minutes)	120	120	120

EPA METHODS 1-4 RESULTS

Area of Sample Location, A_s (ft^2)	201	201	201
Stack Pressure Absolute (inches Hg)	29.24	29.24	29.24
Volume Metered Standard, $V_{m(std)}$ (ft^3)	68.06	67.24	65.25
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	14.66	14.27	14.07
Percent Moisture, B_{ws} (%)	17.7	17.5	17.7
Moisture Saturation Point, B_{wsat} (%)	15.7	15.9	15.9
Dry Molecular Weight, M_d (lbs/lb mole)	30.31	30.34	30.40
Wet Molecular Weight, M_s (lbs/lb mole)	28.38	28.39	28.44
Gas Velocity, V_s (ft/sec)	45.1	44.3	43.3
Average Flowrate, Q_a (acfm)	543,476	534,867	522,380
Standard Flowrate, Q_{std} (scfm)	474,661	466,879	455,979
Dry Standard Flowrate, Q_{dstd} (dscfm)	400,212	392,995	383,819
Area of Nozzle, A_n (ft^2)	0.000289	0.000289	0.000289
Isokinetics (%)	98.8	99.4	98.8

Metals Lab Data Entry (μg)	Blank	Run 1	Run 2	Run 3
Front Half (ug)		1.87	1.63	1.24
Back Half (ug)		<0.1	0.145	<0.1
Antimony - Sb		1.97	1.77	1.34
Concentration (ug/dscm)		1.07	0.950	0.698
Emission Rate (lb/mmBtu)		9.25E-07	8.07E-07	5.70E-07
Emission Rate (lb/hr)		0.00160	0.00140	0.00100
Front Half (ug)		17.1	16.4	16.4
Back Half (ug)		1.19	0.750	0.857
Arsenic - As		18.3	17.1	17.3
Concentration (ug/dscm)		9.49	8.98	9.34
Emission Rate (lb/mmBtu)		8.23E-06	7.62E-06	7.63E-06
Emission Rate (lb/hr)		0.0142	0.0132	0.0134
Front Half (ug)		0.445	0.459	0.606
Back Half (ug)		<0.025	<0.025	<0.025
Beryllium - Be		0.470	0.484	0.631
Concentration (ug/dscm)		0.244	0.254	0.341
Emission Rate (lb/mmBtu)		2.11E-07	2.16E-07	2.79E-07
Emission Rate (lb/hr)		0.000366	0.000374	0.000491
Front Half (ug)		2.87	2.90	3.82
Back Half (ug)		<0.1	0.194	<0.1
Cadmium - Cd		2.97	3.09	3.92
Concentration (ug/dscm)		1.54	1.62	2.12
Emission Rate (lb/mmBtu)		1.34E-06	1.38E-06	1.73E-06
Emission Rate (lb/hr)		0.00231	0.00239	0.00305
Front Half (ug)		30.0	42.5	56.7
Back Half (ug)		2.56	3.58	2.65
Chromium - Cr		32.6	46.1	59.4
Concentration (ug/dscm)		16.9	24.2	32.1
Emission Rate (lb/mmBtu)		1.47E-05	2.05E-05	2.62E-05
Emission Rate (lb/hr)		0.0253	0.0356	0.0462
Front Half (ug)		1.25	1.74	1.64
Back Half (ug)		0.122	0.164	0.107
Cobalt - Co		1.37	1.90	1.75
Concentration (ug/dscm)		0.712	1.00	0.945
Emission Rate (lb/mmBtu)		6.17E-07	8.49E-07	7.72E-07
Emission Rate (lb/hr)		0.00107	0.00147	0.00136

Metals Lab Data Entry (μg)	Blank	Run 1	Run 2	Run 3
Front Half (μg)		5.88	5.71	5.60
Back Half (μg)		1.27	0.808	0.562
Lead - Pb		7.15	6.52	6.16
Concentration ($\mu\text{g}/\text{dscm}$)		3.71	3.42	3.33
Emission Rate (lb/mmBtu)		3.22E-06	2.91E-06	2.72E-06
Emission Rate (lb/hr)		0.00556	0.00504	0.00479
Front Half (μg)		18.3	20.8	22.2
Back Half (μg)		2.10	2.60	2.94
Manganese - Mn		20.4	23.3	25.1
Concentration ($\mu\text{g}/\text{dscm}$)		10.6	12.3	13.6
Emission Rate (lb/mmBtu)		9.18E-06	1.04E-05	1.11E-05
Emission Rate (lb/hr)		0.0159	0.0180	0.0196
Front Half (μg)		17.7	24.9	27.9
Back Half (μg)		1.49	3.51	4.36
Nickel - Ni		19.2	28.4	32.3
Concentration ($\mu\text{g}/\text{dscm}$)		10.0	14.9	17.5
Emission Rate (lb/mmBtu)		8.64E-06	1.26E-05	1.43E-05
Emission Rate (lb/hr)		0.0149	0.0219	0.0251
Front Half (μg)		64.1	68.2	77.3
Back Half (μg)		24.7	16.1	14.9
Selenium - Se		88.8	84.3	92.2
Concentration ($\mu\text{g}/\text{dscm}$)		46.1	44.3	49.9
Emission Rate (lb/mmBtu)		4.00E-05	3.76E-05	4.08E-05
Emission Rate (lb/hr)		0.0691	0.0652	0.0717

Parameters	Run 1	Run 2	Run 3
Date	8/3/11	8/3/11	8/3/11
Start Time	7:01	10:19	13:17
Stop Time	8:49	12:09	15:04
Barometric Pressure, P_b (Inches Hg)	29.27	29.27	29.27
Un-Spiked			
Volume Metered, V_m (L)	36.03	36.04	36.09
Meter Temperature, T_m (°F)	110	114	117
Gas Meter Correction Factor, Y_d	1.0072	1.0072	1.0072
Run Time, θ (minutes)	90	90	90
Spiked/Paired			
Volume Metered, V_m (L)	36.05	36.08	36.04
Meter Temperature, T_m (°F)	111	115	118
Gas Meter Correction Factor, Y_d	0.9985	0.9985	0.9985
Run Time, θ (minutes)	90	90	90
Ash Bonded Mercury Collected Un-Spiked, m (ng)	7.47	8.25	7.52
Oxidized Mercury Collected Un-Spiked, m (ng)	10.9	10.7	11.3
Elemental Mercury Collected Un-Spiked, m (ng)	14.3	12.4	12.3
Total Mercury Collected Un-Spiked, m (ng)	32.70	31.40	31.10
Total Mercury Collected Spiked/Paired, m (ng)	51.6	51.1	49.7
Mass of Mercury Spiked, S (ng)	20.0	20.0	20.0
RESULTS			
Volume Metered Un-Spiked, $V_{m(std)}$ (L)	32.88	32.63	32.54
Ash Bound Mercury Concentration Un-spiked Train, ($\mu\text{g}/\text{dscm}$)	0.227	0.253	0.231
Oxidized Mercury Concentration Un-spiked Train, ($\mu\text{g}/\text{dscm}$)	0.331	0.328	0.347
Elemental Mercury Concentration Un-spiked Train, ($\mu\text{g}/\text{dscm}$)	0.435	0.380	0.378
Total Mercury Concentration Un-spiked Train, ($\mu\text{g}/\text{dscm}$)	0.994	0.962	0.956
Volume Metered Spiked/Paired, $V_{m(std)}$ (L)	32.6	32.3	32.2
Concentration Spiked/Paired Train, ($\mu\text{g}/\text{dscm}$)	1.59	1.58	1.55
Concentration Spiked Train Less Spike, ($\mu\text{g}/\text{dscm}$)	0.971	0.962	0.923
Concentration Recovered Spike, ($\mu\text{g}/\text{dscm}$)	0.591	0.618	0.590
Recovery, R (%)	96.1	99.9	94.8
Relative Deviation, RD (%)	1.21	0.0210	1.72
Difference ($\mu\text{g}/\text{dscm}$)	0.0237	0.000404	0.0322
Average Result ($\mu\text{g}/\text{dscm}$)	0.983	0.962	0.940
Average Recovery (%)	97.0		

F Factor Parameters	Sample 1	Sample 2	Sample 3
Hydrogen (%)	5.14	5.18	5.27
Carbon (%)	73.54	72.92	74.68
Sulfur (%)	3.60	4.45	3.68
Nitrogen (%)	1.46	1.40	1.49
Oxygen (%)	5.03	4.16	4.83
Heating Value (Btu/lb)	13,092	12,987	13,318

Result	Sample 1	Sample 2	Sample 3
Fd (dscf/mmBtu)	10,019	10,106	10,026
Fc (dscf/mmBtu)	1,803	1,802	1,800
Fo	1.161	1.172	1.164