Big Rivers Electric | **Method 5B/202 Parameters** | **Project No. 3648**

Coleman ESP 1

EPA Methods 1-5B/202 Parameters	Run 1	Run 2	Run 3
Date	7/8/2011	7/12/2011	7/12/2011
Start Time	10:08	9:50	12:30
Stop Time	11:49	11:20	14:00
Dimensions of Sample Location, D_s (in)	132	132	132
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.879	0.878	0.882
Barometric Pressure, P_b (Inches Hg)	28.90	29.90	29.90
Static Pressure, P_s (Inches H_2O)	-2.0	-2.0	-2.0
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	324	343	338
Volume Metered, V_m (ft^3)	54.83	59.43	55.17
Meter Temperature, T_m (°F)	80.3	120	107
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.24	1.23	1.30
Gas Meter Correction Factor, Y_d	0.9904	1.0159	1.0159
Carbon Dioxide (% dry)	12.0	11.9	12.1
Oxygen (% dry)	7.28	7.38	7.07
Weight of Water Collected, V_{wc} (g)	51.0	106.0	52.0
Silica Gel Net Weight, V_{wsg} (g)	34.0	28.0	40.0
Diameter of Nozzle, D_n (in)	0.220	0.220	0.220
Run Time, θ (minutes)	90	90	90
EPA METHODS 1-5B/202 RESULTS			
Area of Sample Location, A_s (ft^2)	95.0	95.0	95.0
Stack Pressure Absolute (inches Hg)	28.75	29.75	29.75
Volume Metered Standard, $V_{m(std)}$ (ft^3)	51.40	55.06	52.26
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	4.01	6.32	4.34
Percent Moisture, B_{ws} (%)	7.23	10.3	7.66
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.21	30.20	30.22
Wet Molecular Weight, M_s (lbs/lb mole)	29.33	28.94	29.28
Gas Velocity, V_s (ft/sec)	60.9	60.9	60.6
Average Flowrate, Q_a (acfm)	347,156	347,039	345,628
Standard Flowrate, Q_{std} (scfm)	224,494	226,896	227,295
Dry Standard Flowrate, Q_{dstd} (dscfm)	208,339	203,623	209,959
Area of Nozzle, A_n (ft^2)	0.000264	0.000264	0.000264
Isokinetics (%)	98.7	108.2	99.6
Front-Half Particulate (g)	0.4854	0.3144	0.2909
Concentration (grains/dscf)	0.146	0.0881	0.0859
Emission Rate, Fd (lb/mmBtu)	0.312	0.195	0.182
Emission Rate (lb/hr)	260	154	155
Condensible Particulate (g)	0.0379	0.0788	0.0501
Concentration (grains/dscf)	0.0114	0.0221	0.0148
Emission Rate, Fd (lb/mmBtu)	0.0244	0.0488	0.0314
Emission Rate (lb/hr)	20.3	38.5	26.6

Big Rivers Electric

Method 26 Parameters
Coleman ESP 1

Project No. 3648

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	7/7/2011	7/8/2011	7/8/2011
Start Time	8:05	6:41	13:48
Stop Time	12:05	10:41	17:48
Dimensions of Sample Location, D_s (in)	132	132	132
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.835	0.831	0.822
Barometric Pressure, P_b (Inches Hg)	29.58	28.90	28.90
Static Pressure, P_s (Inches H_2O)	-2.0	-2.0	-2.0
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	348	319	332
Volume Metered, V_m (ft^3)	128.66	141.46	140.71
Meter Temperature, T_m (°F)	107	87.3	103
Average Sample Pressure, ΔH_{avg} (in. H_2O)	0.924	1.17	1.13
Gas Meter Correction Factor, Y_d	1.0159	1.0159	1.0159
Carbon Dioxide (% dry)	12.0	11.9	12.1
Oxygen (% dry)	7.28	7.38	7.07
Weight of Water Collected, V_{wc} (g)	227.0	200.0	264.0
Silica Gel Net Weight, V_{wsg} (g)	47.0	46.0	59.0
Diameter of Nozzle, D_n (in)	0.220	0.225	0.220
Run Time, θ (minutes)	240	240	240
EPA METHODS 1-4 RESULTS			
Area of Sample Location, A_s (ft^2)	95.0	95.0	95.0
Stack Pressure Absolute (inches Hg)	29.43	28.75	28.75
Volume Metered Standard, $V_{m(std)}$ (ft^3)	120.67	134.27	129.74
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	12.92	11.60	15.23
Percent Moisture, B_{ws} (%)	9.67	7.95	10.5
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.21	30.20	30.22
Wet Molecular Weight, M_s (lbs/lb mole)	29.03	29.23	28.94
Gas Velocity, V_s (ft/sec)	58.3	57.4	57.6
Average Flowrate, Q_a (acfm)	332,345	327,433	328,348
Standard Flowrate, Q_{std} (scfm)	213,687	213,190	210,320
Dry Standard Flowrate, Q_{dstd} (dscfm)	193,099	196,316	188,300
Area of Nozzle, A_n (ft^2)	0.000264	0.000276	0.000264
Hydrogen Chloride (mg)	242	310	274
Concentration (lb/dscf)	4.42E-06	5.09E-06	4.66E-06
Concentration (ppmdv)	46.7	53.8	49.2
Emission Rate (lb/mmBtu)	0.0665	0.0780	0.0691
Emission Rate (lb/hr)	51.2	60.0	52.6
Hydrogen Fluoride (mg)	1.07	1.29	1.18
Concentration (lb/dscf)	1.95E-08	2.12E-08	2.01E-08
Concentration (ppmdv)	0.376	0.408	0.386
Emission Rate (lb/mmBtu)	0.000294	0.000325	0.000297
Emission Rate (lb/hr)	0.226	0.249	0.227

Big Rivers Electric | **Method 29 Parameters ESP 1** | **Project No. 3648**

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	7/7/2011	7/7/2011	7/8/2011
Start Time	8:05	11:00	6:41
Stop Time	10:06	13:02	8:41
Dimensions of Sample Location, D_s (in)	132	132	132
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.869	0.836	0.872
Barometric Pressure, P_b (Inches Hg)	29.58	29.58	28.90
Static Pressure, P_s (Inches H_2O)	-2.0	-2.0	-2.0
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (^oF)	348	348	316
Volume Metered, V_m (ft^3)	69.08	73.15	75.56
Meter Temperature, T_m (^oF)	100	110	81.6
Average Sample Pressure, ΔH_{avg} (in. H_2O)	0.998	1.14	1.18
Gas Meter Correction Factor, Y_d	0.9904	0.9904	0.9904
Carbon Dioxide (% dry)	12.0	11.9	12.1
Oxygen (% dry)	7.28	7.38	7.07
Weight of Water Collected, V_{wc} (g)	59.0	140.0	159.0
Silica Gel Net Weight, V_{wsg} (g)	16.0	20.0	21.0
Diameter of Nozzle, D_n (in)	0.220	0.220	0.220
Run Time, θ (minutes)	120	120	120
EPA METHODS 1-4 RESULTS			
Area of Sample Location, A_s (ft^2)	95.0	95.0	95.0
Stack Pressure Absolute (inches Hg)	29.43	29.43	28.75
Volume Metered Standard, $V_{m(std)}$ (ft^3)	63.85	66.47	70.65
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	3.54	7.54	8.49
Percent Moisture, B_{ws} (%)	5.25	10.2	10.7
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.21	30.20	30.22
Wet Molecular Weight, M_s (lbs/lb mole)	29.57	28.96	28.91
Gas Velocity, V_s (ft/sec)	60.2	58.5	60.5
Average Flowrate, Q_a (acfm)	343,095	333,473	344,800
Standard Flowrate, Q_{std} (scfm)	220,349	214,280	225,486
Dry Standard Flowrate, Q_{dstd} (dscfm)	208,870	192,518	201,386
Area of Nozzle, A_n (ft^2)	0.000264	0.000264	0.000264
Isokinetics (%)	91.8	103.6	105.3

Big Rivers Electric | **Method 29 Parameters ESP 1** | **Project No. 3648**

Metals Lab Data Entry (µg)	Blank	Run 1	Run 2	Run 3
Front Half (ug)	0.556	7.77	9.66	17.2
Back Half (ug)	<0.1	0.984	0.329	0.528
Antimony - Sb		8.75	9.98	17.7
Concentration (ug/dscm)		4.84	5.30	8.86
Emission Rate (lb/mmBtu)		4.55E-06	5.02E-06	8.21E-06
Emission Rate (lb/hr)		0.00379	0.00382	0.00668
Front Half (ug)	<0.05	33.9	39.4	59.0
Back Half (ug)	<0.1	3.33	6.79	8.59
Arsenic - As		37.2	46.1	67.6
Concentration (ug/dscm)		20.6	24.5	33.8
Emission Rate (lb/mmBtu)		1.93E-05	2.32E-05	3.13E-05
Emission Rate (lb/hr)		0.0161	0.0177	0.0255
Front Half (ug)	<0.013	3.26	4.14	7.53
Back Half (ug)	<0.025	<0.025	<0.025	<0.025
Berylium - Be		3.29	4.17	7.56
Concentration (ug/dscm)		1.82	2.21	3.78
Emission Rate (lb/mmBtu)		1.71E-06	2.10E-06	3.50E-06
Emission Rate (lb/hr)		0.00142	0.00160	0.00285
Front Half (ug)	<0.05	4.51	5.12	8.91
Back Half (ug)	<0.1	3.12	0.429	0.735
Cadmium - Cd		7.63	5.54	9.65
Concentration (ug/dscm)		4.22	2.94	4.82
Emission Rate (lb/mmBtu)		3.96E-06	2.79E-06	4.47E-06
Emission Rate (lb/hr)		0.00330	0.00212	0.00364
Front Half (ug)	0.190	216	81.5	92.0
Back Half (ug)	2.68	3.37	2.74	10.5
Chromium - Cr		219	84.2	103
Concentration (ug/dscm)		121	44.7	51.2
Emission Rate (lb/mmBtu)		1.14E-04	4.24E-05	4.75E-05
Emission Rate (lb/hr)		0.0949	0.0323	0.0386
Front Half (ug)	<0.05	9.41	10.0	16.7
Back Half (ug)	<0.1	0.131	0.305	0.216
Cobalt - Co		9.54	10.3	16.9
Concentration (ug/dscm)		5.28	5.50	8.45
Emission Rate (lb/mmBtu)		4.96E-06	5.21E-06	7.84E-06
Emission Rate (lb/hr)		0.00413	0.00396	0.00638

Big Rivers Electric | **Method 29 Parameters ESP 1** | **Project No. 3648**

Metals Lab Data Entry (µg)	Blank	Run 1	Run 2	Run 3
Front Half (ug)	0.062	27.7	60.0	56.1
Back Half (ug)	0.286	0.748	0.742	2.58
Lead - Pb		28.4	60.7	58.7
Concentration (ug/dscm)		15.7	32.2	29.3
Emission Rate (lb/mmBtu)		1.48E-05	3.05E-05	2.72E-05
Emission Rate (lb/hr)		0.0123	0.0233	0.0221
Front Half (ug)	0.275	80.1	82.3	134
Back Half (ug)	2.93	3.96	4.53	7.69
Manganese - Mn		84.1	86.8	142
Concentration (ug/dscm)		46.5	46.1	70.8
Emission Rate (lb/mmBtu)		4.37E-05	4.37E-05	6.57E-05
Emission Rate (lb/hr)		0.0364	0.0332	0.0534
Front Half (ug)	0.061	194	75.0	83.2
Back Half (ug)	1.87	1.51	1.50	2.87
Nickel - Ni		196	76.5	86.1
Concentration (ug/dscm)		108	40.6	43.0
Emission Rate (lb/mmBtu)		1.02E-04	3.85E-05	3.99E-05
Emission Rate (lb/hr)		0.0846	0.0293	0.0325
Front Half (ug)	<0.05	153	151	152
Back Half (ug)	<0.1	81.7	162	101
Selenium - Se		235	313	253
Concentration (ug/dscm)		130	166	126
Emission Rate (lb/mmBtu)		1.22E-04	1.58E-04	1.17E-04
Emission Rate (lb/hr)		0.102	0.120	0.0954

Big Rivers Electric | **Methods 1-4 Parameters** | **Project No. 3648**

Coleman ESP 1

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	7/12/2011	7/13/2011	7/13/2011
Start Time	16:00	6:47	8:30
Stop Time	17:30	8:17	10:20
Dimensions of Sample Location, D_s (in)	132	132	132
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.886	0.886	0.886
Barometric Pressure, P_b (Inches Hg)	29.90	29.65	29.65
Static Pressure, P_s (Inches H_2O)	-2.0	-2.0	-2.0
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	319	318	318
Volume Metered, V_m (ft^3)	58.64	58.37	58.79
Meter Temperature, T_m (°F)	78.6	85.6	88.5
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.50	1.50	1.50
Gas Meter Correction Factor, Y_d	1.0159	1.0159	1.0159
Carbon Dioxide (% dry)	12.0	11.9	12.1
Oxygen (% dry)	7.28	7.38	7.07
Volume of Water Collected, V_{wc} (g)	25.0	26.0	30.0
Silica Gel Net Weight, V_{wsg} (g)	5.0	6.0	5.0
Run Time, θ (minutes)	90	90	90

EPA METHODS 1-4 RESULTS			
Area of Sample Location, A_s (ft^2)	95.0	95.0	95.0
Stack Pressure Absolute (inches Hg)	29.75	29.50	29.50
Volume Metered Standard, $V_{m(std)}$ (ft^3)	58.55	57.05	57.16
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	1.41	1.51	1.65
Percent Moisture, B_{ws} (%)	2.36	2.57	2.80
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.21	30.20	30.22
Wet Molecular Weight, M_s (lbs/lb mole)	29.92	29.89	29.88
Gas Velocity, V_s (ft/sec)	59.5	59.8	59.8
Average Flowrate, Q_a (acfm)	339,168	340,965	341,087
Standard Flowrate, Q_{std} (scfm)	228,511	227,986	228,043
Dry Standard Flowrate, Q_{dstd} (dscfm)	223,218	222,210	221,743

Big Rivers Electric | **Method 30B Data Entry** | **Project No. 3648**

ESP 1

Parameters	**Run 1**	**Run 2**	**Run 3**
Date	7/12/11	7/13/11	7/13/11
Start Time	16:00	6:47	8:50
Stop Time	17:30	8:17	10:20
Barometric Pressure, P_b (Inches Hg)	29.90	29.65	29.65
Un-Spiked			
Volume Metered, V_m (L)	31.50	30.12	30.99
Meter Temperature, T_m (°F)	101	100	117
Gas Meter Correction Factor, Y_d	1.00720	1.00720	1.00720
Run Time, θ (minutes)	90	90	90
Spiked/Paired			
Volume Metered, V_m (L)	32.59	31.12	31.07
Meter Temperature, T_m (°F)	102	102	118
Gas Meter Correction Factor, Y_d	0.99850	0.99850	0.99850
Run Time, θ (minutes)	90	90	90
Oxidized Mercury Collected Un-Spiked, m (ng)	9.75	15.6	14.5
Elemental Mercury Collected Un-Spiked, m (ng)	272	170	178
Total Mercury Collected Un-Spiked, m (ng)	281	185	193
Total Mercury Collected Spiked/Paired, m (ng)	463	367	362
Mass of Mercury Spiked, S (ng)	175	175	175
RESULTS			
Volume Metered Un-Spiked, $V_{m(std)}$ (L)	29.83	28.33	28.30
Oxidized Mercury Concentration Un-spiked Train, (µg/dscm)	0.327	0.551	0.512
Elemental Mercury Concentration Un-spiked Train, (µg/dscm)	9.12	6.00	6.29
Total Mercury Concentration Un-spiked Train, (µg/dscm)	9.42	6.53	6.82
Volume Metered Spiked/Paired, $V_{m(std)}$ (L)	30.5	28.9	28.1
Concentration Spiked/Paired Train, (µg/dscm)	15.2	12.7	12.9
Concentration Spiked Train Less Spike, (µg/dscm)	9.43	6.64	6.66
Concentration Recovered Spike, (µg/dscm)	5.74	6.15	6.08
Recovery, R (%)	100	102	97.5
Relative Deviation, RD (%)	0.0522	0.791	1.15
Difference (µg/dscm)	0.00984	0.104	0.155
Average Result (ug/dscm)	9.42	6.58	6.74
Average Recovery (%)	99.8		

Big Rivers Electric | **Methods 1-4 Parameters** | **Project No. 3648**

Coleman ESP 1

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	7/12/2011	7/13/2011	7/13/2011
Start Time	16:00	6:47	8:30
Stop Time	17:30	8:17	10:20
Dimensions of Sample Location, D_s (in)	132	132	132
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.886	0.886	0.886
Barometric Pressure, P_b (Inches Hg)	29.90	29.65	29.65
Static Pressure, P_s (Inches H_2O)	-2.0	-2.0	-2.0
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (^oF)	319	318	318
Volume Metered, V_m (ft^3)	58.64	58.37	58.79
Meter Temperature, T_m (^oF)	78.6	85.6	88.5
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.50	1.50	1.50
Gas Meter Correction Factor, Y_d	1.0159	1.0159	1.0159
Carbon Dioxide (% dry)	12.0	11.9	12.1
Oxygen (% dry)	7.28	7.38	7.07
Volume of Water Collected, V_{wc} (g)	25.0	26.0	30.0
Silica Gel Net Weight, V_{wsg} (g)	5.0	6.0	5.0
Run Time, θ (minutes)	90	90	90
EPA METHODS 1-4 RESULTS			
Area of Sample Location, A_s (ft^2)	95.0	95.0	95.0
Stack Pressure Absolute (inches Hg)	29.75	29.50	29.50
Volume Metered Standard, $V_{m(std)}$ (ft^3)	58.55	57.05	57.16
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	1.41	1.51	1.65
Percent Moisture, B_{ws} (%)	2.36	2.57	2.80
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.21	30.20	30.22
Wet Molecular Weight, M_s (lbs/lb mole)	29.92	29.89	29.88
Gas Velocity, V_s (ft/sec)	59.5	59.8	59.8
Average Flowrate, Q_a (acfm)	339,168	340,965	341,087
Standard Flowrate, Q_{std} (scfm)	228,511	227,986	228,043
Dry Standard Flowrate, Q_{dstd} (dscfm)	223,218	222,210	221,743
Average Hg Result (ug/dscm)	9.42	6.58	6.74
Concentration (ug/dscm)	5.68	4.07	4.16
Emission Rate (lb/mmBtu)	5.35E-06	3.85E-06	3.86E-06
Emission Rate (lb/hr)	0.00475	0.00339	0.00346

Big Rivers Electric | **Method 5B/202 Parameters** | **Project No. 3648**

Coleman ESP 2

EPA Methods 1-5B/202 Parameters	Run 1	Run 2	Run 3
Date	7/8/2011	7/12/2011	7/12/2011
Start Time	10:08	9:50	12:30
Stop Time	11:49	11:20	14:00
Dimensions of Sample Location, D_s (in)	132	132	132
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.887	0.897	0.900
Barometric Pressure, P_b (Inches Hg)	28.90	29.90	29.90
Static Pressure, P_s (Inches H_2O)	-0.8	-0.8	-0.8
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	296	318	318
Volume Metered, V_m (ft^3)	54.61	57.42	57.13
Meter Temperature, T_m (°F)	78.1	105	102
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.23	1.34	1.32
Gas Meter Correction Factor, Y_d	0.9891	1.0087	1.0087
Carbon Dioxide (% dry)	11.4	11.4	11.2
Oxygen (% dry)	8.00	7.99	8.20
Weight of Water Collected, V_{wc} (g)	92.4	99.5	103.7
Silica Gel Net Weight, V_{wsg} (g)	24.4	22.4	18.4
Diameter of Nozzle, D_n (in)	0.220	0.220	0.220
Run Time, θ (minutes)	90	90	90
EPA METHODS 1-5B/202 RESULTS			
Area of Sample Location, A_s (ft^2)	95.0	95.0	95.0
Stack Pressure Absolute (inches Hg)	28.84	29.84	29.84
Volume Metered Standard, $V_{m(std)}$ (ft^3)	51.33	54.27	54.31
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	5.51	5.75	5.76
Percent Moisture, B_{ws} (%)	9.69	9.58	9.58
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.14	30.14	30.12
Wet Molecular Weight, M_s (lbs/lb mole)	28.97	28.98	28.96
Gas Velocity, V_s (ft/sec)	60.6	61.1	61.3
Average Flowrate, Q_a (acfm)	345,692	348,255	349,529
Standard Flowrate, Q_{std} (scfm)	232,509	235,555	236,645
Dry Standard Flowrate, Q_{dstd} (dscfm)	210,065	213,082	214,049
Area of Nozzle, A_n (ft^2)	0.000264	0.000264	0.000264
Isokinetics (%)	97.8	101.9	101.5
Front-Half Particulate (g)	0.2378	0.3962	0.3807
Concentration (grains/dscf)	0.0715	0.113	0.108
Emission Rate, Fd (lb/mmBtu)	0.162	0.260	0.250
Emission Rate (lb/hr)	129	206	199
Condensible Particulate (g)	0.0648	0.0277	0.0604
Concentration (grains/dscf)	0.0195	0.00786	0.0172
Emission Rate, Fd (lb/mmBtu)	0.0441	0.0182	0.0396
Emission Rate (lb/hr)	35.1	14.4	31.5

Big Rivers Electric | **Method 26 Parameters** | **Project No. 3648**

Coleman ESP 2

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	7/7/2011	7/8/2011	7/8/2011
Start Time	8:05	6:41	13:48
Stop Time	12:05	10:41	17:48
Dimensions of Sample Location, D_s (in)	132	132	132
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.954	0.953	0.953
Barometric Pressure, P_b (Inches Hg)	29.58	28.90	28.90
Static Pressure, P_s (Inches H_2O)	-0.8	-0.8	-0.8
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	310	296	304
Volume Metered, V_m (ft^3)	152.65	153.04	155.07
Meter Temperature, T_m (°F)	104	85.0	104
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.40	1.40	1.40
Gas Meter Correction Factor, Y_d	1.0087	1.0087	1.0087
Carbon Dioxide (% dry)	11.4	11.4	11.2
Oxygen (% dry)	8.00	7.99	8.20
Weight of Water Collected, V_{wc} (g)	246.2	261.4	248.5
Silica Gel Net Weight, V_{wsg} (g)	39.8	24.1	50.1
Diameter of Nozzle, D_n (in)	0.220	0.220	0.220
Run Time, θ (minutes)	240	240	240
EPA METHODS 1-4 RESULTS			
Area of Sample Location, A_s (ft^2)	95.0	95.0	95.0
Stack Pressure Absolute (inches Hg)	29.52	28.84	28.84
Volume Metered Standard, $V_{m(std)}$ (ft^3)	142.93	144.90	141.91
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	13.48	13.46	14.08
Percent Moisture, B_{ws} (%)	8.62	8.50	9.03
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.14	30.14	30.12
Wet Molecular Weight, M_s (lbs/lb mole)	29.10	29.11	29.03
Gas Velocity, V_s (ft/sec)	64.9	64.9	65.4
Average Flowrate, Q_a (acfm)	369,869	370,185	372,637
Standard Flowrate, Q_{std} (scfm)	250,306	249,285	248,144
Dry Standard Flowrate, Q_{dstd} (dscfm)	228,818	228,186	225,838
Area of Nozzle, A_n (ft^2)	0.000264	0.000264	0.000264
Hydrogen Chloride (mg)	387	209	230
Concentration (lb/dscf)	5.97E-06	3.18E-06	3.57E-06
Concentration (ppmdv)	63.1	33.6	37.8
Emission Rate (lb/mmBtu)	0.0949	0.0510	0.0577
Emission Rate (lb/hr)	82.0	43.5	48.4
Hydrogen Fluoride (mg)	38.1	20.8	33.4
Concentration (lb/dscf)	5.88E-07	3.16E-07	5.19E-07
Concentration (ppmdv)	11.3	6.09	9.99
Emission Rate (lb/mmBtu)	0.00934	0.00508	0.00838
Emission Rate (lb/hr)	8.07	4.33	7.03

Big Rivers Electric | **Method 29 Parameters ESP 2** | **Project No. 3648**

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	7/7/2011	7/7/2011	7/8/2011
Start Time	8:05	11:00	6:41
Stop Time	10:05	13:00	8:41
Dimensions of Sample Location, D_s (in)	132	132	132
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.884	0.884	0.887
Barometric Pressure, P_b (Inches Hg)	29.58	29.58	28.90
Static Pressure, P_s (Inches H_2O)	-0.8	-0.8	-0.8
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	324	327	297
Volume Metered, V_m (ft^3)	81.69	82.35	82.70
Meter Temperature, T_m (°F)	99.7	101	81.8
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.52	1.56	1.58
Gas Meter Correction Factor, Y_d	0.9891	0.9891	0.9891
Carbon Dioxide (% dry)	11.4	11.4	11.2
Oxygen (% dry)	8.00	7.99	8.20
Weight of Water Collected, V_{wc} (g)	113.7	154.8	179.7
Silica Gel Net Weight, V_{wsg} (g)	22.8	17.8	12.2
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)	95.0	95.0	95.0
Stack Pressure Absolute (inches Hg)	29.52	29.52	28.84
Volume Metered Standard, $V_{m(std)}$ (ft^3)	75.62	76.12	77.27
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	6.44	8.14	9.05
Percent Moisture, B_{ws} (%)	7.84	9.66	10.5
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.14	30.14	30.12
Wet Molecular Weight, M_s (lbs/lb mole)	29.19	28.97	28.85
Gas Velocity, V_s (ft/sec)	60.5	60.9	60.8
Average Flowrate, Q_a (acfm)	345,184	347,039	346,563
Standard Flowrate, Q_{std} (scfm)	229,305	229,634	232,890
Dry Standard Flowrate, Q_{dstd} (dscfm)	211,403	207,538	208,561
Area of Nozzle, A_n (ft^2)	0.000289	0.000289	0.000289
Isokinetics (%)	98.2	100.7	101.8

Big Rivers Electric | **Method 29 Parameters ESP 2** | **Project No. 3648**

Metals Lab Data Entry (µg)	Blank	Run 1	Run 2	Run 3
Front Half (ug)	0.556	9.69	8.36	12.7
Back Half (ug)	<0.1	0.826	1.31	0.537
Antimony - Sb		10.5	9.66	13.2
Concentration (ug/dscm)		4.91	4.48	6.05
Emission Rate (lb/mmBtu)		4.87E-06	4.45E-06	6.11E-06
Emission Rate (lb/hr)		0.00389	0.00348	0.00473
Front Half (ug)	<0.05	36.5	32.4	43.5
Back Half (ug)	<0.1	8.78	10.6	4.63
Arsenic - As		45.3	42.9	48.1
Concentration (ug/dscm)		21.1	19.9	22.0
Emission Rate (lb/mmBtu)		2.10E-05	1.97E-05	2.22E-05
Emission Rate (lb/hr)		0.0167	0.0155	0.0172
Front Half (ug)	<0.013	4.46	3.91	6.00
Back Half (ug)	<0.025	<0.025	<0.025	<0.025
Berylium - Be		4.49	3.94	6.03
Concentration (ug/dscm)		2.09	1.83	2.75
Emission Rate (lb/mmBtu)		2.08E-06	1.81E-06	2.78E-06
Emission Rate (lb/hr)		0.00166	0.00142	0.00215
Front Half (ug)	<0.05	6.32	5.68	6.63
Back Half (ug)	<0.1	0.295	0.122	0.122
Cadmium - Cd		6.62	5.80	6.75
Concentration (ug/dscm)		3.09	2.69	3.09
Emission Rate (lb/mmBtu)		3.06E-06	2.67E-06	3.12E-06
Emission Rate (lb/hr)		0.00245	0.00209	0.00241
Front Half (ug)	0.190	62.0	134	207
Back Half (ug)	2.68	2.66	3.03	2.85
Chromium - Cr		64.7	137	210
Concentration (ug/dscm)		30.2	63.3	95.9
Emission Rate (lb/mmBtu)		3.00E-05	6.28E-05	9.68E-05
Emission Rate (lb/hr)		0.0239	0.0492	0.0749
Front Half (ug)	<0.05	10.6	12.7	15.4
Back Half (ug)	<0.1	0.274	0.196	0.158
Cobalt - Co		10.9	12.8	15.6
Concentration (ug/dscm)		5.08	5.96	7.11
Emission Rate (lb/mmBtu)		5.04E-06	5.91E-06	7.18E-06
Emission Rate (lb/hr)		0.00402	0.00463	0.00555

Big Rivers Electric | **Method 29 Parameters** | **Project No. 3648**

ESP 2

Metals Lab Data Entry (µg)	Blank	Run 1	Run 2	Run 3
Front Half (ug)	0.062	35.7	30.8	40.8
Back Half (ug)	0.286	0.790	0.722	0.491
Lead - Pb		36.5	31.5	41.3
Concentration (ug/dscm)		17.0	14.6	18.9
Emission Rate (lb/mmBtu)		1.69E-05	1.45E-05	1.91E-05
Emission Rate (lb/hr)		0.0135	0.0114	0.0147
Front Half (ug)	0.275	72.5	87.4	107
Back Half (ug)	2.93	5.37	5.41	4.65
Manganese - Mn		77.9	92.8	112
Concentration (ug/dscm)		36.4	43.1	51.0
Emission Rate (lb/mmBtu)		3.61E-05	4.27E-05	5.15E-05
Emission Rate (lb/hr)		0.0288	0.0335	0.0399
Front Half (ug)	0.061	56.7	159	143
Back Half (ug)	1.87	1.68	1.53	3.75
Nickel - Ni		58.4	160	147
Concentration (ug/dscm)		27.3	74.2	67.1
Emission Rate (lb/mmBtu)		2.70E-05	7.36E-05	6.77E-05
Emission Rate (lb/hr)		0.0216	0.0577	0.0524
Front Half (ug)	<0.05	97.8	84.1	63.3
Back Half (ug)	<0.1	217	277	83.9
Selenium - Se		315	361	147
Concentration (ug/dscm)		147	167	67.3
Emission Rate (lb/mmBtu)		1.46E-04	1.66E-04	6.79E-05
Emission Rate (lb/hr)		0.116	0.130	0.0526

Big Rivers Electric | **Method 30B Data Entry** | **Project No. 3648**
ESP 2

Parameters	Run 1	Run 2	Run 3
Date	7/12/11	7/13/11	7/13/11
Start Time	16:00	6:47	8:50
Stop Time	17:30	8:17	10:20
Barometric Pressure, P_b (Inches Hg)	29.90	29.65	29.65
Un-Spiked			
Volume Metered, V_m (L)	40.66	38.05	37.59
Meter Temperature, T_m (°F)	92.0	98.1	112
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)	40.92	37.19	39.46
Meter Temperature, T_m (°F)	92.4	99.4	112
Gas Meter Correction Factor, Y_d	0.9902	0.9902	0.9902
Run Time, θ (minutes)	90	90	90
Oxidized Mercury Collected Un-Spiked, m (ng)	17.2	8.90	11.0
Elemental Mercury Collected Un-Spiked, m (ng)	276	189	199
Total Mercury Collected Un-Spiked, m (ng)	293	198	210
Total Mercury Collected Spiked/Paired, m (ng)	472	361	396
Mass of Mercury Spiked, S (ng)	175	175	175
RESULTS			
Volume Metered Un-Spiked, $V_{m(std)}$ (L)	38.69	35.51	34.25
Oxidized Mercury Concentration Un-spiked Train, (µg/dscm)	0.445	0.251	0.321
Elemental Mercury Concentration Un-spiked Train, (µg/dscm)	7.13	5.32	5.81
Total Mercury Concentration Un-spiked Train, (µg/dscm)	7.57	5.58	6.13
Volume Metered Spiked/Paired, $V_{m(std)}$ (L)	38.7	34.4	35.8
Concentration Spiked/Paired Train, (µg/dscm)	12.2	10.5	11.1
Concentration Spiked Train Less Spike, (µg/dscm)	7.68	5.40	6.18
Concentration Recovered Spike, (µg/dscm)	4.63	4.91	4.95
Recovery, R (%)	102	96.6	101
Relative Deviation, RD (%)	0.685	1.59	0.415
Difference (µg/dscm)	0.104	0.174	0.051
Average Result (ug/dscm)	7.63	5.49	6.16
Average Recovery (%)	100		

Big Rivers Electric | **Methods 1-4 Parameters** | **Project No. 3648**

Coleman ESP 2

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	7/12/2011	7/13/2011	7/13/2011
Start Time	16:00	6:47	8:50
Stop Time	17:30	8:17	10:20
Dimensions of Sample Location, D_s (in)	132	132	132
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.888	0.885	0.891
Barometric Pressure, P_b (Inches Hg)	29.90	29.65	29.65
Static Pressure, P_s (Inches H_2O)	-0.8	-0.8	-0.8
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	312	310	310
Volume Metered, V_m (ft^3)	60.77	61.10	61.52
Meter Temperature, T_m (°F)	78.0	92.7	111
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.50	1.50	1.50
Gas Meter Correction Factor, Y_d	1.0087	1.0087	1.0087
Carbon Dioxide (% dry)	11.4	11.4	11.2
Oxygen (% dry)	8.00	7.99	8.20
Volume of Water Collected, V_{wc} (g)	24.0	25.0	23.0
Silica Gel Net Weight, V_{wsg} (g)	5.0	5.0	5.0
Run Time, θ (minutes)	90	90	90
EPA METHODS 1-4 RESULTS			
Area of Sample Location, A_s (ft^2)	95.0	95.0	95.0
Stack Pressure Absolute (inches Hg)	29.84	29.59	29.59
Volume Metered Standard, $V_{m(std)}$ (ft^3)	60.31	58.54	57.09
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	1.37	1.41	1.32
Percent Moisture, B_{ws} (%)	2.21	2.36	2.26
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.14	30.14	30.12
Wet Molecular Weight, M_s (lbs/lb mole)	29.88	29.86	29.85
Gas Velocity, V_s (ft/sec)	59.3	59.3	59.7
Average Flowrate, Q_a (acfm)	338,260	338,222	340,665
Standard Flowrate, Q_{std} (scfm)	230,722	229,283	230,839
Dry Standard Flowrate, Q_{dstd} (dscfm)	225,705	223,972	225,720

Big Rivers Electric | **Method 5B/202 Parameters** | **Project No. 3648**

Coleman ESP 3

EPA Methods 1-5B/202 Parameters	Run 1	Run 2	Run 3
Date	7/8/2011	7/12/2011	7/12/2011
Start Time	10:08	9:50	12:30
Stop Time	11:38	11:20	14:00
Dimensions of Sample Location, D_s (in)	132	132	132
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.923	0.989	0.918
Barometric Pressure, P_b (Inches Hg)	28.90	29.90	29.90
Static Pressure, P_s (Inches H_2O)	-1.6	-1.6	-1.6
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	307	318	310
Volume Metered, V_m (ft^3)	49.90	59.59	54.19
Meter Temperature, T_m (°F)	82.2	106	104
Average Sample Pressure, ΔH_{avg} (in. H_2O)	0.928	1.43	1.06
Gas Meter Correction Factor, Y_d	0.9952	0.9952	0.9952
Carbon Dioxide (% dry)	11.4	11.6	11.5
Oxygen (% dry)	8.00	7.76	7.79
Weight of Water Collected, V_{wc} (g)	87.4	119.7	82.8
Silica Gel Net Weight, V_{wsg} (g)	18.2	18.0	18.1
Diameter of Nozzle, D_n (in)	0.200	0.210	0.210
Run Time, θ (minutes)	90	90	90
EPA METHODS 1-5B/202 RESULTS			
Area of Sample Location, A_s (ft^2)	95.0	95.0	95.0
Stack Pressure Absolute (inches Hg)	28.78	29.78	29.78
Volume Metered Standard, $V_{m(std)}$ (ft^3)	46.81	55.43	50.54
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	4.98	6.49	4.76
Percent Moisture, B_{ws} (%)	9.61	10.5	8.60
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.14	30.17	30.15
Wet Molecular Weight, M_s (lbs/lb mole)	28.98	28.89	29.11
Gas Velocity, V_s (ft/sec)	63.6	67.5	62.1
Average Flowrate, Q_a (acfm)	362,369	384,909	354,269
Standard Flowrate, Q_{std} (scfm)	239,742	259,974	241,817
Dry Standard Flowrate, Q_{dstd} (dscfm)	216,778	232,808	221,101
Area of Nozzle, A_n (ft^2)	0.000218	0.000241	0.000241
Isokinetics (%)	104.6	104.6	100.4
Front-Half Particulate (g)	0.2874	0.2642	0.2415
Concentration (grains/dscf)	0.0947	0.0735	0.0737
Emission Rate, Fd (lb/mmBtu)	0.214	0.167	0.165
Emission Rate (lb/hr)	176	147	140
Condensible Particulate (g)	0.0966	0.0182	0.0201
Concentration (grains/dscf)	0.0318	0.00505	0.00614
Emission Rate, Fd (lb/mmBtu)	0.0721	0.01148	0.0137
Emission Rate (lb/hr)	59.2	10.1	11.6

Big Rivers Electric | **Method 26 Parameters** Coleman ESP 3 | **Project No. 3648**

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	7/7/2011	7/8/2011	7/8/2011
Start Time	8:05	6:41	13:48
Stop Time	12:05	10:41	17:48
Dimensions of Sample Location, D_s (in)	132	132	132
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.974	0.802	0.808
Barometric Pressure, P_b (Inches Hg)	29.58	28.90	28.90
Static Pressure, P_s (Inches H_2O)	-1.6	-1.6	-1.6
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	326	301	306
Volume Metered, V_m (ft^3)	137.52	118.30	129.62
Meter Temperature, T_m (°F)	102	81.1	100
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.02	0.782	0.914
Gas Meter Correction Factor, Y_d	1.0141	1.0141	1.0141
Carbon Dioxide (% dry)	11.4	11.6	11.5
Oxygen (% dry)	8.00	7.76	7.79
Weight of Water Collected, V_{wc} (g)	369.3	139.4	134.3
Silica Gel Net Weight, V_{wsg} (g)	29.7	28.8	30.6
Diameter of Nozzle, D_n (in)	0.200	0.200	0.200
Run Time, θ (minutes)	240	240	240
EPA METHODS 1-4 RESULTS			
Area of Sample Location, A_s (ft^2)	95.0	95.0	95.0
Stack Pressure Absolute (inches Hg)	29.46	28.78	28.78
Volume Metered Standard, $V_{m(std)}$ (ft^3)	129.75	113.25	119.92
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	18.81	7.93	7.78
Percent Moisture, B_{ws} (%)	12.7	6.54	6.09
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.14	30.17	30.15
Wet Molecular Weight, M_s (lbs/lb mole)	28.61	29.37	29.41
Gas Velocity, V_s (ft/sec)	67.6	54.6	55.2
Average Flowrate, Q_a (acfm)	385,351	311,349	314,680
Standard Flowrate, Q_{std} (scfm)	254,746	207,815	208,668
Dry Standard Flowrate, Q_{dstd} (dscfm)	222,577	194,292	196,041
Area of Nozzle, A_n (ft^2)	0.000218	0.000218	0.000218
Hydrogen Chloride (mg)	<0.0272	<0.0236	0.483
Concentration (lb/dscf)	<4.62E-10	<4.59E-10	8.88E-09
Concentration (ppmdv)	<0.00488	<0.00486	0.0938
Emission Rate (lb/mmBtu)	<0.00000734	<0.00000724	0.000139
Emission Rate (lb/hr)	<0.00617	<0.00536	0.104
Hydrogen Fluoride (mg)	<0.0409	0.322	0.298
Concentration (lb/dscf)	<6.95E-10	6.27E-09	5.48E-09
Concentration (ppmdv)	<0.0134	0.121	0.106
Emission Rate (lb/mmBtu)	<0.00001104	0.0000988	0.0000857
Emission Rate (lb/hr)	<0.00928	0.0731	0.0644

Big Rivers Electric | **Method 29 Parameters ESP 3** | **Project No. 3648**

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	7/7/2011	7/7/2011	7/8/2011
Start Time	8:05	11:00	6:41
Stop Time	10:05	13:00	8:41
Dimensions of Sample Location, D_s (in)	132	132	132
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.975	0.976	0.852
Barometric Pressure, P_b (Inches Hg)	29.58	29.58	28.90
Static Pressure, P_s (Inches H_2O)	-1.6	-1.6	-1.6
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	325	328	302
Volume Metered, V_m (ft^3)	70.10	69.81	60.68
Meter Temperature, T_m (°F)	98.3	106	79.7
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.04	1.04	0.788
Gas Meter Correction Factor, Y_d	0.9952	0.9952	0.9952
Carbon Dioxide (% dry)	11.4	11.6	11.5
Oxygen (% dry)	8.00	7.76	7.79
Weight of Water Collected, V_{wc} (g)	170.8	111.5	123.3
Silica Gel Net Weight, V_{wsg} (g)	24.7	25.2	13.3
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)	95.0	95.0	95.0
Stack Pressure Absolute (inches Hg)	29.46	29.46	28.78
Volume Metered Standard, $V_{m(std)}$ (ft^3)	65.37	64.25	57.16
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	9.22	6.45	6.44
Percent Moisture, B_{ws} (%)	12.4	9.12	10.1
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.14	30.17	30.15
Wet Molecular Weight, M_s (lbs/lb mole)	28.64	29.06	28.92
Gas Velocity, V_s (ft/sec)	67.5	67.2	58.5
Average Flowrate, Q_a (acfm)	385,010	383,344	333,507
Standard Flowrate, Q_{std} (scfm)	255,008	252,750	222,337
Dry Standard Flowrate, Q_{dstd} (dscfm)	223,583	229,797	199,902
Area of Nozzle, A_n (ft^2)	0.000218	0.000218	0.000218
Isokinetics (%)	106.2	101.5	103.9

Big Rivers Electric | **Method 29 Parameters ESP 3** | **Project No. 3648**

Metals Lab Data Entry (µg)	Blank	Run 1	Run 2	Run 3
Front Half (ug)	0.556	5.00	13.2	8.87
Back Half (ug)	<0.1	3.34	0.603	0.572
Antimony - Sb		8.34	13.8	9.44
Concentration (ug/dscm)		4.50	7.56	5.83
Emission Rate (lb/mmBtu)		4.47E-06	7.37E-06	5.70E-06
Emission Rate (lb/hr)		0.00377	0.00651	0.00437
Front Half (ug)	<0.05	19.3	40.4	34.8
Back Half (ug)	<0.1	23.3	9.95	5.55
Arsenic - As		42.6	50.3	40.4
Concentration (ug/dscm)		23.0	27.7	24.9
Emission Rate (lb/mmBtu)		2.28E-05	2.70E-05	2.44E-05
Emission Rate (lb/hr)		0.0193	0.0238	0.0187
Front Half (ug)	<0.013	2.37	4.72	4.60
Back Half (ug)	<0.025	0.477	<0.025	<0.025
Berylium - Be		2.85	4.74	4.63
Concentration (ug/dscm)		1.54	2.61	2.86
Emission Rate (lb/mmBtu)		1.53E-06	2.54E-06	2.79E-06
Emission Rate (lb/hr)		0.00129	0.00224	0.00214
Front Half (ug)	<0.05	3.36	7.19	6.24
Back Half (ug)	<0.1	0.862	0.100	0.614
Cadmium - Cd		4.22	7.29	6.85
Concentration (ug/dscm)		2.28	4.01	4.23
Emission Rate (lb/mmBtu)		2.26E-06	3.91E-06	4.14E-06
Emission Rate (lb/hr)		0.00191	0.00345	0.00317
Front Half (ug)	0.190	122	188	141
Back Half (ug)	2.68	163	57.3	20.2
Chromium - Cr		285	245	161
Concentration (ug/dscm)		154	135	99.6
Emission Rate (lb/mmBtu)		1.53E-04	1.31E-04	9.74E-05
Emission Rate (lb/hr)		0.129	0.116	0.0746
Front Half (ug)	<0.05	7.73	12.8	11.9
Back Half (ug)	<0.1	2.41	0.400	0.267
Cobalt - Co		10.1	13.1	12.2
Concentration (ug/dscm)		5.48	7.23	7.52
Emission Rate (lb/mmBtu)		5.43E-06	7.04E-06	7.35E-06
Emission Rate (lb/hr)		0.00459	0.00622	0.00563

Big Rivers Electric | **Method 29 Parameters ESP 3** | **Project No. 3648**

Metals Lab Data Entry (µg)	Blank	Run 1	Run 2	Run 3
Front Half (ug)	0.062	18.0	38.7	33.9
Back Half (ug)	0.286	10.6	1.54	1.06
Lead - Pb		28.6	40.2	35.0
Concentration (ug/dscm)		15.4	22.1	21.6
Emission Rate (lb/mmBtu)		1.53E-05	2.16E-05	2.11E-05
Emission Rate (lb/hr)		0.0129	0.0190	0.0162
Front Half (ug)	0.275	64.8	104	93.9
Back Half (ug)	2.93	19.0	4.60	4.80
Manganese - Mn		83.8	108	98.7
Concentration (ug/dscm)		45.3	59.4	61.0
Emission Rate (lb/mmBtu)		4.49E-05	5.79E-05	5.96E-05
Emission Rate (lb/hr)		0.0379	0.0511	0.0457
Front Half (ug)	0.061	41.3	67.9	65.0
Back Half (ug)	1.87	38.6	15.7	10.7
Nickel - Ni		79.9	83.5	75.7
Concentration (ug/dscm)		43.2	45.9	46.8
Emission Rate (lb/mmBtu)		4.28E-05	4.47E-05	4.57E-05
Emission Rate (lb/hr)		0.0361	0.0395	0.0350
Front Half (ug)	<0.05	81.1	120	77.6
Back Half (ug)	<0.1	178	248	128
Selenium - Se		259	368	206
Concentration (ug/dscm)		140	202	127
Emission Rate (lb/mmBtu)		1.39E-04	1.97E-04	1.24E-04
Emission Rate (lb/hr)		0.117	0.174	0.0951

Big Rivers Electric | **Method 30B Data Entry** | **Project No. 3648**
Coleman ESP 3

Parameters	Run 1	Run 2	Run 3
Date	7/12/11	7/13/11	7/13/11
Start Time	16:00	6:47	8:50
Stop Time	17:30	8:17	10:20
Barometric Pressure, P_b (Inches Hg)	29.90	29.65	29.65
Un-Spiked			
Volume Metered, V_m (L)	31.56	31.41	31.42
Meter Temperature, T_m (°F)	75.4	78.4	95.7
Gas Meter Correction Factor, Y_d	1.0000	1.0000	1.0000
Run Time, θ (minutes)	90	90	90
Spiked/Paired			
Volume Metered, V_m (L)	31.41	31.40	31.51
Meter Temperature, T_m (°F)	76.9	79.1	95.6
Gas Meter Correction Factor, Y_d	1.0000	1.0000	1.0000
Run Time, θ (minutes)	90	90	90
Oxidized Mercury Collected Un-Spiked, m (ng)	11.2	13.8	12.4
Elemental Mercury Collected Un-Spiked, m (ng)	181	210	201
Total Mercury Collected Un-Spiked, m (ng)	192	224	213
Total Mercury Collected Spiked/Paired, m (ng)	372	406	390
Mass of Mercury Spiked, S (ng)	175	175	175
RESULTS			
Volume Metered Un-Spiked, $V_{m(std)}$ (L)	31.09	30.51	29.58
Oxidized Mercury Concentration Un-spiked Train, (µg/dscm)	0.360	0.452	0.419
Elemental Mercury Concentration Un-spiked Train, (µg/dscm)	5.82	6.88	6.80
Total Mercury Concentration Un-spiked Train, (µg/dscm)	6.18	7.34	7.20
Volume Metered Spiked/Paired, $V_{m(std)}$ (L)	30.86	30.46	29.66
Concentration Spiked/Paired Train, (µg/dscm)	12.1	13.3	13.1
Concentration Spiked Train Less Spike, (µg/dscm)	6.38	7.58	7.25
Concentration Recovered Spike, (µg/dscm)	5.88	5.99	5.95
Recovery, R (%)	104	104	101
Relative Deviation, RD (%)	1.66	1.62	0.321
Difference (µg/dscm)	0.2079	0.2420	0.0463
Average Result (ug/dscm)	6.28	7.46	7.23
Average Recovery (%)	103		

Big Rivers Electric | **Methods 1-4 Parameters** | **Project No. 3648**

Coleman ESP 3

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	7/12/2011	7/13/2011	7/13/2011
Start Time	16:00	6:47	8:50
Stop Time	17:30	8:17	10:20
Dimensions of Sample Location, D_s (in)	132	132	132
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.861	0.848	0.865
Barometric Pressure, P_b (Inches Hg)	29.90	29.65	29.65
Static Pressure, P_s (Inches H_2O)	-1.6	-1.6	-1.6
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	308	311	318
Volume Metered, V_m (ft^3)	63.49	64.91	65.18
Meter Temperature, T_m (°F)	82.2	85.1	102
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.60	1.60	1.60
Gas Meter Correction Factor, Y_d	0.9952	0.9952	0.9952
Carbon Dioxide (% dry)	11.4	11.6	11.5
Oxygen (% dry)	8.00	7.76	7.79
Volume of Water Collected, V_{wc} (g)	38.0	40.0	32.0
Silica Gel Net Weight, V_{wsg} (g)	4.0	3.5	4.0
Run Time, θ (minutes)	90	90	60
EPA METHODS 1-4 RESULTS			
Area of Sample Location, A_s (ft^2)	95.0	95.0	95.0
Stack Pressure Absolute (inches Hg)	29.78	29.53	29.53
Volume Metered Standard, $V_{m(std)}$ (ft^3)	61.71	62.23	60.66
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	1.98	2.05	1.69
Percent Moisture, B_{ws} (%)	3.10	3.19	2.72
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.14	30.17	30.15
Wet Molecular Weight, M_s (lbs/lb mole)	29.77	29.78	29.82
Gas Velocity, V_s (ft/sec)	57.5	57.1	58.4
Average Flowrate, Q_a (acfm)	328,008	325,318	332,738
Standard Flowrate, Q_{std} (scfm)	224,354	219,693	222,850
Dry Standard Flowrate, Q_{dstd} (dscfm)	217,477	212,780	216,881

Big Rivers Electric | **Method 5B/202 Parameters** | **Project No. 3648**

Coleman Stack

EPA Methods 1-5B/202 Parameters	Run 1	Run 2	Run 3
Date	7/8/2011	7/12/2011	7/12/2011
Start Time	10:08	9:50	12:30
Stop Time	11:53	11:42	14:15
Dimensions of Sample Location, D_s (in)	358	358	358
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.696	0.710	0.707
Barometric Pressure, P_b (Inches Hg)	28.90	29.90	29.90
Static Pressure, P_s (Inches H_2O)	0.2	0.2	0.2
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	134	137	137
Volume Metered, V_m (ft^3)	58.94	57.14	57.87
Meter Temperature, T_m (°F)	85.3	103	102
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.36	1.24	1.24
Gas Meter Correction Factor, Y_d	0.9891	0.9799	0.9799
Carbon Dioxide (% dry)	10.3	10.6	10.4
Oxygen (% dry)	9.17	8.82	9.07
Weight of Water Collected, V_{wc} (g)	188.0	211.0	221.0
Silica Gel Net Weight, V_{wsg} (g)	32.0	30.0	34.0
Diameter of Nozzle, D_n (in)	0.248	0.235	0.235
Run Time, θ (minutes)	90	90	90
EPA METHODS 1-5B/202 RESULTS			
Area of Sample Location, A_s (ft^2)	699	699	699
Stack Pressure Absolute (inches Hg)	28.91	29.91	29.91
Volume Metered Standard, $V_{m(std)}$ (ft^3)	54.69	52.66	53.40
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	10.37	11.36	12.02
Percent Moisture, B_{ws} (%)	15.9	17.7	18.4
Moisture Saturation Point, B_{wsat} (%)	17.4	18.1	18.1
Dry Molecular Weight, M_d (lbs/lb mole)	30.01	30.05	30.03
Wet Molecular Weight, M_s (lbs/lb mole)	28.10	27.91	27.85
Gas Velocity, V_s (ft/sec)	42.8	43.1	43.0
Average Flowrate, Q_a (acfm)	1,793,631	1,809,198	1,803,486
Standard Flowrate, Q_{std} (scfm)	1,540,154	1,599,619	1,594,568
Dry Standard Flowrate, Q_{dstd} (dscfm)	1,295,129	1,316,226	1,306,190
Area of Nozzle, A_n (ft^2)	0.000335	0.000301	0.000301
Isokinetics (%)	97.8	103.2	105.5
Front-Half Particulate (g)	0.0641	0.0153	0.0139
Concentration (grains/dscf)	0.0181	0.00450	0.00402
Emission Rate, Fd (lb/mmBtu)	0.0450	0.01111	0.00996
Emission Rate (lb/hr)	201	50.8	45.0
Condensible Particulate (g)	0.0167	0.0327	0.0252
Concentration (grains/dscf)	0.00470	0.00957	0.00727
Emission Rate, Fd (lb/mmBtu)	0.01169	0.0236	0.0180
Emission Rate (lb/hr)	52.2	108	81.4

Big Rivers Electric | **Method 26A Parameters** | **Project No. 3648**

Coleman Stack

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	7/7/2011	7/8/2011	7/8/2011
Start Time	8:05	6:41	13:48
Stop Time	12:32	11:31	18:20
Dimensions of Sample Location, D_s (in)	358	358	358
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.670	0.661	0.668
Barometric Pressure, P_b (Inches Hg)	29.58	28.90	28.90
Static Pressure, P_s (Inches H_2O)	0.2	0.2	0.2
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (^oF)	135	133	135
Volume Metered, V_m (ft^3)	157.26	153.93	156.99
Meter Temperature, T_m (^oF)	98.7	83.3	92.5
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.38	1.33	1.35
Gas Meter Correction Factor, Y_d	0.9799	0.9799	0.9799
Carbon Dioxide (% dry)	10.3	10.6	10.4
Oxygen (% dry)	9.17	8.82	9.07
Weight of Water Collected, V_{wc} (g)	553.0	570.0	591.0
Silica Gel Net Weight, V_{wsg} (g)	32.0	32.0	38.0
Diameter of Nozzle, D_n (in)	0.249	0.249	0.249
Run Time, θ (minutes)	240	240	240
EPA METHODS 1-4 RESULTS			
Area of Sample Location, A_s (ft^2)	699	699	699
Stack Pressure Absolute (inches Hg)	29.59	28.91	28.91
Volume Metered Standard, $V_{m(std)}$ (ft^3)	144.42	142.02	142.43
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	27.58	28.38	29.66
Percent Moisture, B_{ws} (%)	16.0	16.7	17.2
Moisture Saturation Point, B_{wsat} (%)	17.5	17.1	17.7
Dry Molecular Weight, M_d (lbs/lb mole)	30.01	30.05	30.03
Wet Molecular Weight, M_s (lbs/lb mole)	28.09	28.04	27.95
Gas Velocity, V_s (ft/sec)	40.7	40.6	41.2
Average Flowrate, Q_a (acfm)	1,707,946	1,702,539	1,726,377
Standard Flowrate, Q_{std} (scfm)	1,498,545	1,463,372	1,480,950
Dry Standard Flowrate, Q_{dstd} (dscfm)	1,258,738	1,220,101	1,226,217
Area of Nozzle, A_n (ft^2)	0.000338	0.000338	0.000338
Isokinetics (%)	98.9	100.3	100.1
Hydrogen Chloride (mg)	1.03	0.925	0.696
Concentration (lb/dscf)	1.57E-08	1.44E-08	1.08E-08
Concentration (ppmdv)	0.166	0.152	0.114
Emission Rate (lb/mmBtu)	0.000275	0.000246	0.000187
Emission Rate (lb/hr)	1.19	1.05	0.793
Hydrogen Fluoride (mg)	0.678	0.717	0.671
Concentration (lb/dscf)	1.03E-08	1.11E-08	1.04E-08
Concentration (ppmdv)	0.199	0.214	0.200
Emission Rate (lb/mmBtu)	0.000181	0.000191	0.000180
Emission Rate (lb/hr)	0.782	0.815	0.764

Big Rivers Electric | **Method 29 Parameters Coleman Stack** | **Project No. 3648**

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	7/7/2011	7/7/2011	7/8/2011
Start Time	8:05	11:00	6:41
Stop Time	10:23	13:16	8:58
Dimensions of Sample Location, D_s (in)	358	358	358
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.703	0.666	0.693
Barometric Pressure, P_b (Inches Hg)	29.58	29.58	28.90
Static Pressure, P_s (Inches H_2O)	0.2	0.2	0.2
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	135	134	133
Volume Metered, V_m (ft^3)	82.19	78.39	80.47
Meter Temperature, T_m (°F)	97.2	98.7	82.7
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.50	1.34	1.46
Gas Meter Correction Factor, Y_d	0.9891	0.9891	0.9891
Carbon Dioxide (% dry)	10.3	10.6	10.4
Oxygen (% dry)	9.17	8.82	9.07
Weight of Water Collected, V_{wc} (g)	318.0	301.0	298.0
Silica Gel Net Weight, V_{wsg} (g)	15.0	16.0	14.0
Diameter of Nozzle, D_n (in)	0.248	0.248	0.248
Run Time, θ (minutes)	120	120	120

EPA METHODS 1-4 RESULTS			
Area of Sample Location, A_s (ft^2)	699	699	699
Stack Pressure Absolute (inches Hg)	29.59	29.59	28.91
Volume Metered Standard, $V_{m(std)}$ (ft^3)	76.42	72.66	75.04
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	15.70	14.95	14.71
Percent Moisture, B_{ws} (%)	17.0	17.1	16.4
Moisture Saturation Point, B_{wsat} (%)	17.5	17.1	16.9
Dry Molecular Weight, M_d (lbs/lb mole)	30.01	30.05	30.03
Wet Molecular Weight, M_s (lbs/lb mole)	27.97	27.99	28.06
Gas Velocity, V_s (ft/sec)	42.8	40.5	42.6
Average Flowrate, Q_a (acfm)	1,796,337	1,698,257	1,784,785
Standard Flowrate, Q_{std} (scfm)	1,575,878	1,492,134	1,535,574
Dry Standard Flowrate, Q_{dstd} (dscfm)	1,307,801	1,238,054	1,284,405
Area of Nozzle, A_n (ft^2)	0.000335	0.000335	0.000335
Isokinetics (%)	101.5	102.0	101.5

Metals Lab Data Entry (µg)	Blank	Run 1	Run 2	Run 3
Front Half (ug)	0.556	3.75	1.88	2.86
Back Half (ug)	<0.1	0.144	0.233	<0.1
Antimony - Sb		3.89	2.11	2.96
Concentration (ug/dscm)		1.80	1.03	1.39
Emission Rate (lb/mmBtu)		1.96E-06	1.09E-06	1.51E-06
Emission Rate (lb/hr)		0.00882	0.00476	0.00670
Front Half (ug)	<0.05	9.17	7.76	7.61
Back Half (ug)	<0.1	1.76	1.87	1.26
Arsenic - As		10.9	9.62	8.87
Concentration (ug/dscm)		5.05	4.68	4.17
Emission Rate (lb/mmBtu)		5.51E-06	4.96E-06	4.52E-06
Emission Rate (lb/hr)		0.0247	0.0217	0.0201
Front Half (ug)	<0.013	0.318	0.281	0.328
Back Half (ug)	<0.025	<0.025	<0.025	<0.025
Berylium - Be		0.343	0.306	0.353
Concentration (ug/dscm)		0.158	0.149	0.166
Emission Rate (lb/mmBtu)		1.73E-07	1.58E-07	1.80E-07
Emission Rate (lb/hr)		0.000776	0.000690	0.000799
Front Half (ug)	<0.05	0.898	0.832	0.723
Back Half (ug)	<0.1	<0.1	0.729	<0.1
Cadmium - Cd		0.998	1.56	0.823
Concentration (ug/dscm)		0.461	0.758	0.387
Emission Rate (lb/mmBtu)		5.03E-07	8.04E-07	4.20E-07
Emission Rate (lb/hr)		0.00226	0.00352	0.00186
Front Half (ug)	0.190	8.25	6.98	7.54
Back Half (ug)	2.68	1.40	4.04	2.34
Chromium - Cr		9.65	11.0	9.88
Concentration (ug/dscm)		4.46	5.36	4.65
Emission Rate (lb/mmBtu)		4.86E-06	5.68E-06	5.04E-06
Emission Rate (lb/hr)		0.0218	0.0248	0.0224
Front Half (ug)	<0.05	0.922	0.759	0.874
Back Half (ug)	<0.1	0.129	0.158	<0.1
Cobalt - Co		1.05	0.917	0.974
Concentration (ug/dscm)		0.486	0.445	0.458
Emission Rate (lb/mmBtu)		5.30E-07	4.72E-07	4.97E-07
Emission Rate (lb/hr)		0.00238	0.00207	0.00221

Big Rivers Electric | **Method 29 Parameters** | **Project No. 3648**
Coleman Stack

Metals Lab Data Entry (µg)	Blank	Run 1	Run 2	Run 3
Front Half (ug)	0.062	2.99	3.02	3.06
Back Half (ug)	0.286	0.825	1.63	0.535
Lead - Pb		3.82	4.64	3.60
Concentration (ug/dscm)		1.76	2.25	1.69
Emission Rate (lb/mmBtu)		1.92E-06	2.39E-06	1.83E-06
Emission Rate (lb/hr)		0.00864	0.0105	0.00814
Front Half (ug)	0.275	8.03	7.86	8.22
Back Half (ug)	2.93	3.41	4.44	4.63
Manganese - Mn		11.4	12.3	12.9
Concentration (ug/dscm)		5.29	5.98	6.05
Emission Rate (lb/mmBtu)		5.77E-06	6.34E-06	6.55E-06
Emission Rate (lb/hr)		0.0259	0.0277	0.0291
Front Half (ug)	0.061	11.9	12.7	8.54
Back Half (ug)	1.87	1.34	2.29	2.84
Nickel - Ni		13.2	14.9	11.4
Concentration (ug/dscm)		6.12	7.26	5.35
Emission Rate (lb/mmBtu)		6.67E-06	7.70E-06	5.80E-06
Emission Rate (lb/hr)		0.0300	0.0337	0.0258
Front Half (ug)	<0.05	102	53.7	59.1
Back Half (ug)	<0.1	59.5	57.5	39.8
Selenium - Se		162	111	98.9
Concentration (ug/dscm)		74.6	54.0	46.5
Emission Rate (lb/mmBtu)		8.14E-05	5.73E-05	5.04E-05
Emission Rate (lb/hr)		0.366	0.251	0.224

Big Rivers Electric | **Method 30B Data Entry** | **Project No. 3648**
Coleman Stack

Parameters	Run 1	Run 2	Run 3
Date	7/12/11	7/13/11	7/13/11
Start Time	16:00	6:49	8:50
Stop Time	17:30	8:17	10:20
Barometric Pressure, P_b (Inches Hg)	29.90	29.65	29.65
Un-Spiked			
Volume Metered, V_m (L)	45.27	45.19	45.37
Meter Temperature, T_m (°F)	97.2	98.4	106
Gas Meter Correction Factor, Y_d	0.9994	0.9994	0.9994
Run Time, θ (minutes)	90	90	90
Spiked/Paired			
Volume Metered, V_m (L)	45.11	45.06	45.15
Meter Temperature, T_m (°F)	97.3	98.4	106
Gas Meter Correction Factor, Y_d	1.0017	1.0017	1.0017
Run Time, θ (minutes)	90	90	90
Oxidized Mercury Collected Un-Spiked, m (ng)	10.5	43.1	46.5
Elemental Mercury Collected Un-Spiked, m (ng)	89.9	111	114
Total Mercury Collected Un-Spiked, m (ng)	100	154	161
Total Mercury Collected Spiked/Paired, m (ng)	211	174	179
Mass of Mercury Spiked, S (ng)	50.0	50.0	50.0
RESULTS			
Volume Metered Un-Spiked, $V_{m(std)}$ (L)	42.83	42.30	41.92
Oxidized Mercury Concentration Un-spiked Train, (µg/dscm)	0.245	1.02	1.11
Elemental Mercury Concentration Un-spiked Train, (µg/dscm)	2.10	2.62	2.72
Total Mercury Concentration Un-spiked Train, (µg/dscm)	2.33	3.64	3.84
Volume Metered Spiked/Paired, $V_{m(std)}$ (L)	42.77	42.27	41.81
Concentration Spiked/Paired Train, (µg/dscm)	4.93	4.12	4.28
Concentration Spiked Train Less Spike, (µg/dscm)	3.76	2.93	3.09
Concentration Recovered Spike, (µg/dscm)	2.60	0.475	0.440
Recovery, R (%)	222	40.2	36.8
Relative Deviation, RD (%)	23.4	10.8	10.9
Difference (µg/dscm)	1.43	0.708	0.756
Average Result (ug/dscm)	3.05	3.29	3.46
Average Recovery (%)	99.8		

Big Rivers Electric | **Methods 1-4 Parameters** | **Project No. 3648**

Coleman Stack

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	7/12/2011	7/13/2011	7/13/2011
Start Time	16:00	6:47	8:50
Stop Time	17:30	8:17	10:20
Dimensions of Sample Location, D_s (in)	358	358	358
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.712	0.695	0.692
Barometric Pressure, P_b (Inches Hg)	29.90	29.65	29.65
Static Pressure, P_s (Inches H_2O)	0.2	0.2	0.2
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (^oF)	134	135	134
Volume Metered, V_m (ft^3)	57.21	61.91	62.32
Meter Temperature, T_m (^oF)	87.0	81.2	98.3
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.50	1.50	1.50
Gas Meter Correction Factor, Y_d	0.9799	0.9799	0.9799
Carbon Dioxide (% dry)	10.3	10.6	10.4
Oxygen (% dry)	9.17	8.82	9.07
Volume of Water Collected, V_{wc} (g)	247.0	250.0	248.0
Silica Gel Net Weight, V_{wsg} (g)	23.0	25.0	30.0
Run Time, θ (minutes)	90	90	90

EPA METHODS 1-4 RESULTS			
Area of Sample Location, A_s (ft^2)	699	699	699
Stack Pressure Absolute (inches Hg)	29.91	29.66	29.66
Volume Metered Standard, $V_{m(std)}$ (ft^3)	54.26	58.84	57.42
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	12.71	12.94	13.09
Percent Moisture, B_{ws} (%)	19.0	18.0	18.6
Moisture Saturation Point, B_{wsat} (%)	16.8	17.4	17.0
Dry Molecular Weight, M_d (lbs/lb mole)	30.01	30.05	30.03
Wet Molecular Weight, M_s (lbs/lb mole)	27.99	27.95	27.99
Gas Velocity, V_s (ft/sec)	43.0	42.3	42.0
Average Flowrate, Q_a (acfm)	1,805,072	1,773,892	1,762,495
Standard Flowrate, Q_{std} (scfm)	1,603,583	1,560,087	1,552,673
Dry Standard Flowrate, Q_{dstd} (dscfm)	1,334,369	1,288,910	1,289,804

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Fd Parameters
HCl and HF Analysis

Project No. 3648

Fd Parameters	Sample 1	Sample 2	Sample 3
Hydrogen (%)	5.02	5.12	5.10
Carbon (%)	73.90	73.85	73.65
Sulfur (%)	3.03	3.07	2.98
Nitrogen (%)	1.59	1.59	1.58
Oxygen (%)	9.24	6.96	9.02
Heating Value (Btu/lb)	13,156	13,153	13,142

Result	Sample 1	Sample 2	Sample 3
Fd (dscf/mmBtu)	9,808	9,914	9,817
Fc (dscf/mmBtu)	1,803	1,802	1,799
Fo	1.137	1.150	1.141

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Fd Parameters
Method 29 Analysis

Project No. 3648

Fd Parameters	Sample 1	Sample 2	Sample 3
Hydrogen (%)	5.02	5.10	5.01
Carbon (%)	73.90	73.65	73.04
Sulfur (%)	3.03	2.98	2.91
Nitrogen (%)	1.59	1.58	1.56
Oxygen (%)	9.24	9.02	8.70
Heating Value (Btu/lb)	13,156	13,142	13,010

Result	Sample 1	Sample 2	Sample 3
Fd (dscf/mmBtu)	9,808	9,817	9,828

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Fd Parameters
Hg Analysis

Project No. 3648

Fd Parameters	Sample 1	Sample 2	Sample 3
Hydrogen (%)	4.83	4.84	4.93
Carbon (%)	71.62	72.25	72.49
Sulfur (%)	2.93	3.15	3.01
Nitrogen (%)	1.53	1.56	1.53
Oxygen (%)	8.72	8.98	8.64
Heating Value (Btu/lb)	12,724	12,856	12,900

Result	Sample 1	Sample 2	Sample 3
Fd (dscf/mmBtu)	9,827	9,804	9,830
Fc (dscf/mmBtu)	1,807	1,804	1,804
Fo	1.137	1.136	1.139