

## ***Parameters***

EPA Methods 1-5B/202 Parameters	Run 4	Run 5	Run 6
Date	7/19/2011	7/19/2011	7/19/2011
Start Time	7:03	10:03	13:01
Stop Time	8:39	11:52	14:48
Dimensions of Sample Location, $D_s$ (in)	162 X 162	162 X 162	162 X 162
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$ )	0.744	0.747	0.742
Barometric Pressure, $P_b$ (Inches Hg)	29.56	29.56	29.56
Static Pressure, $P_s$ (Inches $H_2O$ )	-16.5	-16.5	-16.5
Pitot Coefficient, $C_p$	0.84	0.84	0.84
Sample Location Temperature, $T_s$ ( $^{\circ}F$ )	321	321	326
Volume Metered, $V_m$ ( $ft^3$ )	61.35	61.75	60.22
Meter Temperature, $T_m$ ( $^{\circ}F$ )	111	116	116
Average Sample Pressure, $\Delta H_{avg}$ (in. $H_2O$ )	1.47	1.49	1.46
Gas Meter Correction Factor, $Y_d$	1.0159	1.0159	1.0159
Carbon Dioxide (% dry)	11.8	12.2	11.9
Oxygen (% dry)	7.47	6.93	7.39
Weight of Water Collected, $V_{wc}$ (g)	38.6	66.6	84.2
Silica Gel Net Weight, $V_{wsg}$ (g)	30.9	20.2	21.6
Diameter of Nozzle, $D_n$ (in)	0.250	0.250	0.250
Run Time, $\theta$ (minutes)	91	91	91

**EPA METHODS 1-5B/202 RESULTS**

Area of Sample Location, $A_s$ ( $ft^2$ )	182	182	182
Stack Pressure Absolute (inches Hg)	28.35	28.35	28.35
Volume Metered Standard, $V_{m(std)}$ ( $ft^3$ )	57.09	56.95	55.62
Volume of Water Vapor, $V_{w(std)}$ ( $ft^3$ )	3.28	4.09	4.99
Percent Moisture, $B_{ws}$ (%)	5.43	6.70	8.23
Moisture Saturation Point, $B_{wsat}$ (%)	100	100	100
Dry Molecular Weight, $M_d$ (lbs/lb mole)	30.19	30.23	30.20
Wet Molecular Weight, $M_s$ (lbs/lb mole)	29.53	29.41	29.20
Gas Velocity, $V_s$ (ft/sec)	51.6	51.9	51.9
Average Flowrate, $Q_a$ (acfm)	564,352	567,688	567,869
Standard Flowrate, $Q_{std}$ (scfm)	361,328	363,281	361,283
Dry Standard Flowrate, $Q_{dstd}$ (dscfm)	341,850	339,062	331,678
Area of Nozzle, $A_n$ ( $ft^2$ )	0.000341	0.000341	0.000341
Isokinetics (%)	98.2	98.7	98.6
Front-Half Particulate (g)	0.0434	0.1093	0.0114
Concentration (grains/dscf)	0.0117	0.0296	0.00316
Emission Rate, $F_d$ (lb/mmBtu)	0.0258	0.0626	0.0069
Emission Rate (lb/hr)	34.4	86.1	8.99
Condensable Particulate (g)	0.0250	0.0322	0.0438
Concentration (grains/dscf)	0.00674	0.00871	0.0122
Emission Rate, $F_d$ (lb/mmBtu)	0.0148	0.0184	0.0263
Emission Rate (lb/hr)	19.8	25.3	34.6

EPA Methods 1-4 Parameters	Run 4	Run 5	Run 6
Date	7/20/2011	7/20/2011	7/20/2011
Start Time	8:40	12:05	15:20
Stop Time	10:40	14:05	17:20
Dimensions of Sample Location, $D_s$ (in)	162 X 162	162 X 162	162 X 162
Barometric Pressure, $P_b$ (Inches Hg)	29.50	29.50	29.50
Static Pressure, $P_s$ (Inches $H_2O$ )	-16.5	-16.5	-16.5
Pitot Coefficient, $C_p$	0.84	0.84	0.84
Sample Location Temperature, $T_s$ ( $^{\circ}F$ )	315	331	330
Volume Metered, $V_m$ ( $ft^3$ )	89.86	90.79	90.15
Meter Temperature, $T_m$ ( $^{\circ}F$ )	107	109	111
Average Sample Pressure, $\Delta H_{avg}$ (in. $H_2O$ )	1.80	1.80	1.80
Gas Meter Correction Factor, $Y_d$	0.9952	0.9952	0.9952
Carbon Dioxide (% dry)	12.1	11.8	12.0
Oxygen (% dry)	7.03	7.33	7.09
Weight of Water Collected, $V_{wc}$ (g)	135.9	135.4	138.7
Silica Gel Net Weight, $V_{wsg}$ (g)	29.3	33.7	30.7
Run Time, $\theta$ (minutes)	120	120	120

**EPA METHODS 1-4 RESULTS**

Area of Sample Location, $A_s$ ( $ft^2$ )	182	182	182
Stack Pressure Absolute (inches Hg)	28.29	28.29	28.29
Volume Metered Standard, $V_{m(std)}$ ( $ft^3$ )	82.46	82.95	82.19
Volume of Water Vapor, $V_{w(std)}$ ( $ft^3$ )	7.79	7.97	7.99
Percent Moisture, $B_{ws}$ (%)	8.63	8.77	8.86
Moisture Saturation Point, $B_{wsat}$ (%)	100	100	100
Dry Molecular Weight, $M_d$ (lbs/lb mole)	30.22	30.18	30.20
Wet Molecular Weight, $M_s$ (lbs/lb mole)	29.16	29.11	29.12
Hydrogen Fluoride (mg)	2.74	3.70	7.60
Concentration (lb/dscf)	7.33E-08	9.83E-08	2.04E-07
Concentration (ppmdv)	1.41	1.89	3.93
Emission Rate (lb/mmBtu)	0.00110	0.00151	0.00308
Emission Rate (lb/hr)	1.40	1.98	4.23
Hydrogen Chloride (mg)	4.98	6.97	9.33
Concentration (lb/dscf)	1.33E-07	1.85E-07	2.50E-07
Concentration (ppmdv)	1.41	1.96	2.64
Emission Rate (lb/mmBtu)	0.00201	0.00285	0.00378
Emission Rate (lb/hr)	2.55	3.73	5.19

EPA Methods 1-4 Parameters	Run 4	Run 5	Run 6
Date	7/20/2011	7/20/2011	7/20/2011
Start Time	8:40	12:05	15:20
Stop Time	10:34	14:14	17:30
Dimensions of Sample Location, $D_s$ (in)	162 X 162	162 X 162	162 X 162
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$ )	0.724	0.741	0.732
Barometric Pressure, $P_b$ (Inches Hg)	29.50	29.50	29.50
Static Pressure, $P_s$ (Inches $H_2O$ )	-16.5	-16.5	-16.5
Pitot Coefficient, $C_p$	0.84	0.84	0.84
Sample Location Temperature, $T_s$ ( $^{\circ}F$ )	322	329	321
Volume Metered, $V_m$ ( $ft^3$ )	83.27	86.16	81.48
Meter Temperature, $T_m$ ( $^{\circ}F$ )	114	109	110
Average Sample Pressure, $\Delta H_{avg}$ (in. $H_2O$ )	1.44	1.52	1.48
Gas Meter Correction Factor, $Y_d$	1.0159	1.0159	1.0159
Carbon Dioxide (% dry)	12.1	11.8	12.0
Oxygen (% dry)	7.03	7.33	7.09
Weight of Water Collected, $V_{wc}$ (g)	138.9	93.6	14.4
Silica Gel Net Weight, $V_{wsg}$ (g)	35.6	21.0	15.0
Diameter of Nozzle, $D_n$ (in)	0.250	0.250	0.250
Run Time, $\theta$ (minutes)	126	126	126

**EPA METHODS 1-4 RESULTS**

Area of Sample Location, $A_s$ ( $ft^2$ )	182	182	182
Stack Pressure Absolute (inches Hg)	28.29	28.29	28.29
Volume Metered Standard, $V_{m(std)}$ ( $ft^3$ )	76.97	80.30	75.83
Volume of Water Vapor, $V_{w(std)}$ ( $ft^3$ )	8.23	5.40	1.39
Percent Moisture, $B_{ws}$ (%)	9.66	6.30	1.80
Moisture Saturation Point, $B_{wsat}$ (%)	100	100	100
Dry Molecular Weight, $M_d$ (lbs/lb mole)	30.22	30.18	30.20
Wet Molecular Weight, $M_s$ (lbs/lb mole)	29.04	29.41	29.98
Gas Velocity, $V_s$ (ft/sec)	50.7	51.8	50.5
Average Flowrate, $Q_a$ (acfm)	554,926	566,357	551,950
Standard Flowrate, $Q_{std}$ (scfm)	354,055	358,304	352,478
Dry Standard Flowrate, $Q_{dstd}$ (dscfm)	319,990	335,849	346,289
Area of Nozzle, $A_n$ ( $ft^2$ )	0.000341	0.000341	0.000341
Isokinetics (%)	102.1	101.5	93.0

Metals Lab Data Entry (µg)	Blank	Run 4	Run 5	Run 6
Front Half (ug)	1.13	0.685	1.24	1.64
Back Half (ug)	<0.1	1.42	0.226	0.376
Antimony - Sb		2.11	1.47	2.02
Concentration (ug/dscm)		0.966	0.645	0.939
Emission Rate (lb/mmBtu)		9.08E-07	6.20E-07	8.85E-07
Emission Rate (lb/hr)		0.00116	0.000811	0.00122
Front Half (ug)	<0.1	15.3	4.99	7.07
Back Half (ug)	<0.1	3.91	3.64	0.353
Arsenic - As		19.2	8.63	7.42
Concentration (ug/dscm)		8.81	3.79	3.46
Emission Rate (lb/mmBtu)		8.29E-06	3.65E-06	3.26E-06
Emission Rate (lb/hr)		0.0106	0.00477	0.00448
Front Half (ug)	<0.025	0.127	0.198	0.285
Back Half (ug)	<0.025	<0.025	0.0400	<0.025
Beryllium - Be		0.152	0.238	0.310
Concentration (ug/dscm)		0.0697	0.105	0.144
Emission Rate (lb/mmBtu)		6.56E-08	1.01E-07	1.36E-07
Emission Rate (lb/hr)		0.0000836	0.000132	0.000187
Front Half (ug)	<0.1	0.175	1.96	1.16
Back Half (ug)	<0.1	0.194	0.135	0.223
Cadmium - Cd		0.369	2.10	1.38
Concentration (ug/dscm)		0.169	0.921	0.644
Emission Rate (lb/mmBtu)		1.59E-07	8.86E-07	6.07E-07
Emission Rate (lb/hr)		0.000203	0.00116	0.000835
Front Half (ug)	0.341	6.32	21.2	24.5
Back Half (ug)	2.71	1.93	8.67	1.46
Chromium - Cr		8.25	29.9	26.0
Concentration (ug/dscm)		3.78	13.1	12.1
Emission Rate (lb/mmBtu)		3.56E-06	1.26E-05	1.14E-05
Emission Rate (lb/hr)		0.00454	0.0165	0.0157
Front Half (ug)	<0.1	0.557	1.16	1.14
Back Half (ug)	<0.1	0.204	0.767	<0.1
Cobalt - Co		0.761	1.93	1.24
Concentration (ug/dscm)		0.349	0.847	0.577
Emission Rate (lb/mmBtu)		3.28E-07	8.15E-07	5.44E-07
Emission Rate (lb/hr)		0.000419	0.00107	0.000749

<b>Metals Lab Data Entry (µg)</b>	<b>Blank</b>	<b>Run 4</b>	<b>Run 5</b>	<b>Run 6</b>
Front Half (ug)	0.144	3.01	5.65	5.00
Back Half (ug)	0.287	0.595	1.49	1.15
Lead - Pb		3.61	7.14	6.15
Concentration (ug/dscm)		1.65	3.14	2.86
Emission Rate (lb/mmBtu)		1.56E-06	3.02E-06	2.70E-06
Emission Rate (lb/hr)		0.00198	0.00395	0.00371
Front Half (ug)	0.714	11.0	30.2	61.3
Back Half (ug)	3.37	3.06	99.8	2.02
Manganese - Mn		14.1	130	63.3
Concentration (ug/dscm)		6.45	57.2	29.5
Emission Rate (lb/mmBtu)		6.07E-06	5.50E-05	2.78E-05
Emission Rate (lb/hr)		0.00773	0.0719	0.0382
Front Half (ug)	0.136	8.72	11.1	12.9
Back Half (ug)	1.52	2.51	11.5	3.43
Nickel - Ni		11.2	22.6	16.3
Concentration (ug/dscm)		5.15	9.94	7.60
Emission Rate (lb/mmBtu)		4.85E-06	9.55E-06	7.17E-06
Emission Rate (lb/hr)		0.00618	0.0125	0.00986
Front Half (ug)	<0.1	86.5	8.15	21.2
Back Half (ug)	<0.1	88.3	19.1	2.31
Selenium - Se		175	27.3	23.5
Concentration (ug/dscm)		80.2	12.0	10.9
Emission Rate (lb/mmBtu)		7.54E-05	1.15E-05	1.03E-05
Emission Rate (lb/hr)		0.0961	0.0151	0.0142

Parameters	Run 4	Run 5	Run 6
Date	7/19/2011	7/19/2011	7/19/2011
Start Time	7:03	10:03	13:01
Stop Time	8:33	11:52	14:54
Barometric Pressure, P <sub>b</sub> (Inches Hg)	29.56	29.56	29.56
<b>Un-Spiked</b>			
Volume Metered, V <sub>m</sub> (L)	34.72	35.68	35.97
Meter Temperature, T <sub>m</sub> (°F)	117	118	116
Gas Meter Correction Factor, Y <sub>d</sub>	1.01450	1.01450	1.01450
Run Time, θ (minutes)	90	90	90
<b>Spiked/Paired</b>			
Volume Metered, V <sub>m</sub> (L)	35.03	35.81	35.95
Meter Temperature, T <sub>m</sub> (°F)	118	117	116
Gas Meter Correction Factor, Y <sub>d</sub>	0.99167	0.99167	0.99167
Run Time, θ (minutes)	90	90	90
Oxidized Mercury Collected Un-Spiked, m (ng)	0.417	0.872	0.797
Elemental Mercury Collected Un-Spiked, m (ng)	0.839	2.93	3.94
Total Mercury Collected Un-Spiked, m (ng)	1.26	3.80	4.03
Total Mercury Collected Spiked/Paired, m (ng)	312	268	317
Mass of Mercury Spiked, S (ng)	175.0	175.0	175.0

**RESULTS**

Volume Metered Un-Spiked, V <sub>m(std)</sub> (L)	31.85	32.67	33.04
Oxidized Mercury Concentration Un-spiked Train, (µg/dscm)	0.0131	0.0267	0.0241
Elemental Mercury Concentration Un-spiked Train, (µg/dscm)	0.0263	0.0897	0.119
Total Mercury Concentration Un-spiked Train, (µg/dscm)	0.0396	0.116	0.122
Volume Metered Spiked/Paired, V <sub>m(std)</sub> (L)	31.35	32.09	32.31
Concentration Spiked/Paired Train, (µg/dscm)	9.95	8.35	9.81
Concentration Spiked Train Less Spike, (µg/dscm)	4.37	2.90	4.40
Concentration Recovered Spike, (µg/dscm)	9.91	8.24	9.69
Recovery, R (%)	178	151	179
Relative Deviation, RD (%)	98.2	92.3	94.6
Difference (µg/dscm)	4.33	2.78	4.27
Average Result (ug/dscm)	2.21	1.51	2.26
Average Recovery (%)	169		

EPA Methods 1-5B/202 Parameters	Run 4	Run 5	Run 6
Date	7/19/2011	7/19/2011	7/19/2011
Start Time	7:03	10:03	13:01
Stop Time	8:39	11:57	14:34
Dimensions of Sample Location, $D_s$ (in)	162 X 162	162 X 162	162 X 162
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$ )	0.644	0.691	0.686
Barometric Pressure, $P_b$ (Inches Hg)	29.56	29.56	29.56
Static Pressure, $P_s$ (Inches $H_2O$ )	-24.0	-24.0	-24.0
Pitot Coefficient, $C_p$	0.84	0.84	0.84
Sample Location Temperature, $T_s$ ( $^{\circ}F$ )	316	321	322
Volume Metered, $V_m$ ( $ft^3$ )	52.59	60.49	58.79
Meter Temperature, $T_m$ ( $^{\circ}F$ )	99.8	107	109
Average Sample Pressure, $\Delta H_{avg}$ (in. $H_2O$ )	1.17	1.34	1.33
Gas Meter Correction Factor, $Y_d$	0.9891	0.9891	0.9891
Carbon Dioxide (% dry)	11.8	12.2	11.9
Oxygen (% dry)	7.47	6.93	7.39
Weight of Water Collected, $V_{wc}$ (g)	16.8	122.7	94.6
Silica Gel Net Weight, $V_{wsg}$ (g)	29.1	33.9	22.0
Diameter of Nozzle, $D_n$ (in)	0.250	0.250	0.250
Run Time, $\theta$ (minutes)	91	91	91

**EPA METHODS 1-5B/202 RESULTS**

Area of Sample Location, $A_s$ ( $ft^2$ )	182	182	182
Stack Pressure Absolute (inches Hg)	27.80	27.80	27.80
Volume Metered Standard, $V_{m(Std)}$ ( $ft^3$ )	48.59	55.18	53.50
Volume of Water Vapor, $V_{w(Std)}$ ( $ft^3$ )	2.16	7.38	5.50
Percent Moisture, $B_{ws}$ (%)	4.26	11.8	9.32
Moisture Saturation Point, $B_{wsat}$ (%)	100	100	100
Dry Molecular Weight, $M_d$ (lbs/lb mole)	30.19	30.23	30.20
Wet Molecular Weight, $M_s$ (lbs/lb mole)	29.67	28.79	29.06
Gas Velocity, $V_s$ (ft/sec)	44.8	49.0	48.4
Average Flowrate, $Q_a$ (acfm)	490,419	535,902	529,615
Standard Flowrate, $Q_{Std}$ (scfm)	309,696	336,314	332,095
Dry Standard Flowrate, $Q_{dStd}$ (dscfm)	296,610	296,743	301,271
Area of Nozzle, $A_n$ ( $ft^2$ )	0.000341	0.000341	0.000341
Isokinetics (%)	96.3	109.3	104.4
Front-Half Particulate (g)	0.0068	0.0180	0.0124
Concentration (grains/dscf)	0.00216	0.00503	0.00358
Emission Rate, $F_d$ (lb/mmBtu)	0.00473	0.0106	0.00775
Emission Rate (lb/hr)	5.49	12.8	9.24
Condensable Particulate (g)	0.0165	0.0175	0.0594
Concentration (grains/dscf)	0.00524	0.00488	0.0171
Emission Rate, $F_d$ (lb/mmBtu)	0.0115	0.01032	0.0371
Emission Rate (lb/hr)	13.3	12.4	44.2



EPA Methods 1-4 Parameters	Run 4	Run 5	Run 6
Date	7/20/2011	7/20/2011	7/20/2011
Start Time	8:40	12:05	15:20
Stop Time	10:39	14:05	17:20
Dimensions of Sample Location, $D_s$ (in)	162 X 162	162 X 162	162 X 162
Barometric Pressure, $P_b$ (Inches Hg)	29.50	29.50	29.50
Static Pressure, $P_s$ (Inches H <sub>2</sub> O)	-24.0	-24.0	-24.0
Pitot Coefficient, $C_p$	0.84	0.84	0.84
Sample Location Temperature, $T_s$ (°F)	317	330	322
Volume Metered, $V_m$ (ft <sup>3</sup> )	93.12	93.50	93.58
Meter Temperature, $T_m$ (°F)	108	114	117
Average Sample Pressure, $\Delta H_{avg}$ (in. H <sub>2</sub> O)	2.00	2.00	2.00
Gas Meter Correction Factor, $Y_d$	0.9953	0.9953	0.9953
Carbon Dioxide (% dry)	12.1	11.8	12.0
Oxygen (% dry)	7.03	7.33	7.09
Weight of Water Collected, $V_{wc}$ (g)	178.5	181.8	171.1
Silica Gel Net Weight, $V_{wsg}$ (g)	24.3	25.0	15.5
Diameter of Nozzle, $D_n$ (in)	0.250	0.250	0.250
Run Time, $\theta$ (minutes)	120	120	120

**EPA METHODS 1-4 RESULTS**

Area of Sample Location, $A_s$ (ft <sup>2</sup> )	182	182	182
Stack Pressure Absolute (inches Hg)	27.74	27.74	27.74
Volume Metered Standard, $V_{m(std)}$ (ft <sup>3</sup> )	85.34	84.78	84.35
Volume of Water Vapor, $V_{w(std)}$ (ft <sup>3</sup> )	9.56	9.75	8.80
Percent Moisture, $B_{ws}$ (%)	10.1	10.3	9.44
Moisture Saturation Point, $B_{wsat}$ (%)	100	100	100
Dry Molecular Weight, $M_d$ (lbs/lb mole)	30.22	30.18	30.20
Wet Molecular Weight, $M_s$ (lbs/lb mole)	28.99	28.92	29.05
Hydrogen Fluoride (mg)	2.00	2.95	5.07
Concentration (lb/dscf)	5.17E-08	7.67E-08	1.33E-07
Concentration (ppmdv)	0.995	1.48	2.55
Emission Rate (lb/mmBtu)	0.000779	0.00118	0.00200
Emission Rate (lb/hr)	0.932	1.28	2.29
Hydrogen Chloride (mg)	5.99	8.66	9.94
Concentration (lb/dscf)	1.55E-07	2.25E-07	2.60E-07
Concentration (ppmdv)	1.64	2.38	2.75
Emission Rate (lb/mmBtu)	0.00233	0.00347	0.00392
Emission Rate (lb/hr)	2.79	3.74	4.49

<b>EPA Methods 1-4 Parameters</b>	<b>Run 4</b>	<b>Run 5</b>	<b>Run 6</b>
Date	7/20/2011	7/20/2011	7/20/2011
Start Time	8:40	12:05	15:20
Stop Time	10:55	14:14	17:30
Dimensions of Sample Location, $D_s$ (in)	162 X 162	162 X 162	162 X 162
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$ )	0.659	0.645	0.664
Barometric Pressure, $P_b$ (Inches Hg)	29.50	29.50	29.50
Static Pressure, $P_s$ (Inches $H_2O$ )	-24.0	-24.0	-24.0
Pitot Coefficient, $C_p$	0.84	0.84	0.84
Sample Location Temperature, $T_s$ ( $^{\circ}F$ )	320	325	324
Volume Metered, $V_m$ ( $ft^3$ )	77.29	75.74	79.10
Meter Temperature, $T_m$ ( $^{\circ}F$ )	108	110	108
Average Sample Pressure, $\Delta H_{avg}$ (in. $H_2O$ )	1.21	1.17	1.24
Gas Meter Correction Factor, $Y_d$	0.9891	0.9891	0.9891
Carbon Dioxide (% dry)	12.1	11.8	12.0
Oxygen (% dry)	7.03	7.33	7.09
Weight of Water Collected, $V_{wc}$ (g)	58.1	174.9	162.0
Silica Gel Net Weight, $V_{wsg}$ (g)	17.8	9.0	16.0
Diameter of Nozzle, $D_n$ (in)	0.250	0.250	0.250
Run Time, $\theta$ (minutes)	126	126	126

**EPA METHODS 1-4 RESULTS**

Area of Sample Location, $A_s$ ( $ft^2$ )	182	182	182
Stack Pressure Absolute (inches Hg)	27.74	27.74	27.74
Volume Metered Standard, $V_{m(std)}$ ( $ft^3$ )	70.28	68.55	71.90
Volume of Water Vapor, $V_{w(std)}$ ( $ft^3$ )	3.58	8.67	8.39
Percent Moisture, $B_{ws}$ (%)	4.85	11.2	10.5
Moisture Saturation Point, $B_{wsat}$ (%)	100	100	100
Dry Molecular Weight, $M_d$ (lbs/lb mole)	30.22	30.18	30.20
Wet Molecular Weight, $M_s$ (lbs/lb mole)	29.63	28.81	28.93
Gas Velocity, $V_s$ (ft/sec)	46.1	45.9	47.2
Average Flowrate, $Q_a$ (acfm)	503,895	501,777	515,711
Standard Flowrate, $Q_{std}$ (scfm)	316,080	312,562	321,695
Dry Standard Flowrate, $Q_{dstd}$ (dscfm)	300,886	277,574	288,183
Area of Nozzle, $A_n$ ( $ft^2$ )	0.000341	0.000341	0.000341
Isokinetics (%)	99.2	104.8	105.9

Metals Lab Data Entry (µg)	Blank	Run 4	Run 5	Run 6
Front Half (ug)	1.13	0.611	1.21	3.26
Back Half (ug)	<0.1	0.573	0.802	0.451
Antimony - Sb		1.18	2.01	3.71
Concentration (ug/dscm)		0.595	1.04	1.82
Emission Rate (lb/mmBtu)		5.60E-07	9.96E-07	1.72E-06
Emission Rate (lb/hr)		0.000670	0.00108	0.00197
Front Half (ug)	<0.1	7.99	7.67	9.43
Back Half (ug)	<0.1	0.953	2.56	2.17
Arsenic - As		8.94	10.2	11.6
Concentration (ug/dscm)		4.49	5.27	5.70
Emission Rate (lb/mmBtu)		4.23E-06	5.07E-06	5.37E-06
Emission Rate (lb/hr)		0.00506	0.00548	0.00615
Front Half (ug)	<0.025	0.036	0.105	0.070
Back Half (ug)	<0.025	<0.025	<0.025	<0.025
Beryllium - Be		0.0610	0.130	0.0950
Concentration (ug/dscm)		0.0306	0.0670	0.0467
Emission Rate (lb/mmBtu)		2.88E-08	6.44E-08	4.40E-08
Emission Rate (lb/hr)		0.0000345	0.0000696	0.0000504
Front Half (ug)	<0.1	0.320	0.905	0.623
Back Half (ug)	<0.1	0.516	0.419	0.103
Cadmium - Cd		0.836	1.32	0.726
Concentration (ug/dscm)		0.420	0.682	0.357
Emission Rate (lb/mmBtu)		3.95E-07	6.56E-07	3.36E-07
Emission Rate (lb/hr)		0.000473	0.000709	0.000385
Front Half (ug)	0.341	7.25	28.3	25.4
Back Half (ug)	2.71	1.51	2.33	1.48
Chromium - Cr		8.76	30.6	26.9
Concentration (ug/dscm)		4.40	15.8	13.2
Emission Rate (lb/mmBtu)		4.14E-06	1.52E-05	1.24E-05
Emission Rate (lb/hr)		0.00496	0.0164	0.0143
Front Half (ug)	<0.1	0.404	1.09	0.966
Back Half (ug)	<0.1	0.121	0.124	<0.1
Cobalt - Co		0.525	1.21	1.07
Concentration (ug/dscm)		0.264	0.625	0.524
Emission Rate (lb/mmBtu)		2.48E-07	6.01E-07	4.93E-07
Emission Rate (lb/hr)		0.000297	0.000650	0.000565

<b>Metals Lab Data Entry (µg)</b>	<b>Blank</b>	<b>Run 4</b>	<b>Run 5</b>	<b>Run 6</b>
Front Half (ug)	0.144	4.26	4.22	2.51
Back Half (ug)	0.287	0.698	0.570	0.421
Lead - Pb		4.96	4.79	2.93
Concentration (ug/dscm)		2.49	2.47	1.44
Emission Rate (lb/mmBtu)		2.34E-06	2.37E-06	1.36E-06
Emission Rate (lb/hr)		0.00281	0.00257	0.00155
Front Half (ug)	0.714	5.09	32.7	12.3
Back Half (ug)	3.37	2.49	5.47	2.64
Manganese - Mn		7.58	38.2	14.9
Concentration (ug/dscm)		3.81	19.7	7.34
Emission Rate (lb/mmBtu)		3.58E-06	1.89E-05	6.91E-06
Emission Rate (lb/hr)		0.00429	0.0204	0.00792
Front Half (ug)	0.136	8.22	8.57	15.2
Back Half (ug)	1.52	2.85	3.86	1.69
Nickel - Ni		11.1	12.4	16.9
Concentration (ug/dscm)		5.56	6.40	8.30
Emission Rate (lb/mmBtu)		5.23E-06	6.16E-06	7.82E-06
Emission Rate (lb/hr)		0.00627	0.00666	0.00896
Front Half (ug)	<0.1	30.6	33.0	44.3
Back Half (ug)	<0.1	11.5	45.5	30.9
Selenium - Se		42.1	78.5	75.2
Concentration (ug/dscm)		21.2	40.4	36.9
Emission Rate (lb/mmBtu)		1.99E-05	3.89E-05	3.48E-05
Emission Rate (lb/hr)		0.0238	0.0420	0.0399

Parameters	Run 4	Run 5	Run 6
Date	7/19/2011	7/19/2011	7/19/2011
Start Time	7:03	10:03	13:01
Stop Time	8:39	11:57	14:54
Barometric Pressure, P <sub>b</sub> (Inches Hg)	29.56	29.56	29.56
<b>Un-Spiked</b>			
Volume Metered, V <sub>m</sub> (L)	41.42	40.82	42.30
Meter Temperature, T <sub>m</sub> (°F)	108	119	124
Gas Meter Correction Factor, Y <sub>d</sub>	1.0072	1.0072	1.0072
Run Time, θ (minutes)	90	90	90
<b>Spiked/Paired</b>			
Volume Metered, V <sub>m</sub> (L)	41.69	41.36	42.41
Meter Temperature, T <sub>m</sub> (°F)	108	119	124
Gas Meter Correction Factor, Y <sub>d</sub>	0.9985	0.9985	0.9985
Run Time, θ (minutes)	90	90	90
Oxidized Mercury Collected Un-Spiked, m (ng)	58.4	44.3	47.2
Elemental Mercury Collected Un-Spiked, m (ng)	183	190	214
Total Mercury Collected Un-Spiked, m (ng)	241	235	261
Total Mercury Collected Spiked/Paired, m (ng)	417	410	429
Mass of Mercury Spiked, S (ng)	175	175	175
<b>RESULTS</b>			
Volume Metered Un-Spiked, V <sub>m(std)</sub> (L)	38.28	37.05	38.03
Oxidized Mercury Concentration Un-spiked Train, (µg/dscm)	1.53	1.20	1.24
Elemental Mercury Concentration Un-spiked Train, (µg/dscm)	4.78	5.13	5.63
Total Mercury Concentration Un-spiked Train, (µg/dscm)	6.30	6.34	6.86
Volume Metered Spiked/Paired, V <sub>m(std)</sub> (L)	38.21	37.22	37.80
Concentration Spiked/Paired Train, (µg/dscm)	10.9	11.0	11.3
Concentration Spiked Train Less Spike, (µg/dscm)	6.33	6.31	6.72
Concentration Recovered Spike, (µg/dscm)	4.62	4.67	4.49
Recovery, R (%)	101	99.4	96.9
Relative Deviation, RD (%)	0.301	0.223	1.06
Difference (µg/dscm)	0.0380	0.0283	0.1438
Average Result (ug/dscm)	6.31	6.33	6.79
Average Recovery (%)	99.0		

EPA Methods 1-5B/202 Parameters	Run 4	Run 5	Run 6
Date	7/19/2011	7/19/2011	7/19/2011
Start Time	7:03	10:03	13:01
Stop Time	8:39	11:57	14:54
Dimensions of Sample Location, $D_s$ (in)	162 X 162	162 X 162	162 X 162
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$ )	0.637	0.640	0.641
Barometric Pressure, $P_b$ (Inches Hg)	29.56	29.56	29.56
Static Pressure, $P_s$ (Inches $H_2O$ )	-16.5	-19.5	-19.5
Pitot Coefficient, $C_p$	0.84	0.84	0.84
Sample Location Temperature, $T_s$ ( $^{\circ}F$ )	339	351	355
Volume Metered, $V_m$ ( $ft^3$ )	52.18	52.94	53.36
Meter Temperature, $T_m$ ( $^{\circ}F$ )	101	124	129
Average Sample Pressure, $\Delta H_{avg}$ (in. $H_2O$ )	1.02	1.03	1.06
Gas Meter Correction Factor, $Y_d$	1.0091	1.0091	1.0091
Carbon Dioxide (% dry)	11.8	12.2	11.9
Oxygen (% dry)	7.47	6.93	7.39
Weight of Water Collected, $V_{wc}$ (g)	146.9	117.8	26.2
Silica Gel Net Weight, $V_{wsg}$ (g)	29.2	41.0	25.7
Diameter of Nozzle, $D_n$ (in)	0.250	0.250	0.250
Run Time, $\theta$ (minutes)	91	91	91

**EPA METHODS 1-5B/202 RESULTS**

Area of Sample Location, $A_s$ ( $ft^2$ )	182	182	182
Stack Pressure Absolute (inches Hg)	28.35	28.13	28.13
Volume Metered Standard, $V_{m(std)}$ ( $ft^3$ )	49.10	47.83	47.79
Volume of Water Vapor, $V_{w(std)}$ ( $ft^3$ )	8.30	7.49	2.45
Percent Moisture, $B_{ws}$ (%)	14.5	13.5	4.87
Moisture Saturation Point, $B_{wsat}$ (%)	100	100	100
Dry Molecular Weight, $M_d$ (lbs/lb mole)	30.19	30.23	30.20
Wet Molecular Weight, $M_s$ (lbs/lb mole)	28.42	28.57	29.61
Gas Velocity, $V_s$ (ft/sec)	45.6	46.1	45.5
Average Flowrate, $Q_a$ (acfm)	498,350	504,537	497,805
Standard Flowrate, $Q_{std}$ (scfm)	311,812	308,783	303,141
Dry Standard Flowrate, $Q_{dstd}$ (dscfm)	266,820	267,098	288,490
Area of Nozzle, $A_n$ ( $ft^2$ )	0.000341	0.000341	0.000341
Isokinetics (%)	108.2	105.3	97.4
Front-Half Particulate (g)	0.0142	0.0044	0.0217
Concentration (grains/dscf)	0.00446	0.00142	0.00702
Emission Rate, $F_d$ (lb/mmBtu)	0.00978	0.00300	0.0152
Emission Rate (lb/hr)	10.2	3.25	17.4
Condensable Particulate (g)	0.0416	0.0143	0.0100
Concentration (grains/dscf)	0.0131	0.00461	0.00323
Emission Rate, $F_d$ (lb/mmBtu)	0.0287	0.00975	0.00700
Emission Rate (lb/hr)	29.9	10.6	7.98

EPA Methods 1-4 Parameters	Run 4	Run 5	Run 6
Date	7/20/2011	7/20/2011	7/20/2011
Start Time	8:38	12:05	15:20
Stop Time	10:39	14:05	17:20
Dimensions of Sample Location, $D_s$ (in)	162 X 162	162 X 162	162 X 162
Barometric Pressure, $P_b$ (Inches Hg)	29.50	29.50	29.50
Static Pressure, $P_s$ (Inches $H_2O$ )	-19.5	-19.5	-19.5
Pitot Coefficient, $C_p$	0.84	0.84	0.84
Sample Location Temperature, $T_s$ ( $^{\circ}F$ )	334	341	344
Volume Metered, $V_m$ ( $ft^3$ )	88.04	88.88	91.02
Meter Temperature, $T_m$ ( $^{\circ}F$ )	113	118	125
Average Sample Pressure, $\Delta H_{avg}$ (in. $H_2O$ )	1.80	1.80	1.80
Gas Meter Correction Factor, $Y_d$	1.0087	1.0087	1.0087
Carbon Dioxide (% dry)	12.1	11.8	12.0
Oxygen (% dry)	7.03	7.33	7.09
Weight of Water Collected, $V_{wc}$ (g)	141.7	143.0	107.0
Silica Gel Net Weight, $V_{wsg}$ (g)	39.5	31.0	32.0
Diameter of Nozzle, $D_n$ (in)	0.250	0.250	0.250
Run Time, $\theta$ (minutes)	120	120	120

**EPA METHODS 1-4 RESULTS**

Area of Sample Location, $A_s$ ( $ft^2$ )	182	182	182
Stack Pressure Absolute (inches Hg)	28.07	28.07	28.07
Volume Metered Standard, $V_{m(std)}$ ( $ft^3$ )	80.98	81.08	82.05
Volume of Water Vapor, $V_{w(std)}$ ( $ft^3$ )	8.54	8.20	6.55
Percent Moisture, $B_{ws}$ (%)	9.54	9.19	7.40
Moisture Saturation Point, $B_{wsat}$ (%)	100	100	100
Dry Molecular Weight, $M_d$ (lbs/lb mole)	30.22	30.18	30.20
Wet Molecular Weight, $M_s$ (lbs/lb mole)	29.05	29.06	29.30
Hydrogen Fluoride (mg)	7.51	9.51	9.62
Concentration (lb/dscf)	2.04E-07	2.59E-07	2.58E-07
Concentration (ppmdv)	3.94	4.98	4.98
Emission Rate (lb/mmBtu)	0.00308	0.00398	0.00390
Emission Rate (lb/hr)	3.76	4.53	4.56
Hydrogen Chloride (mg)	10.9	12.7	11.8
Concentration (lb/dscf)	2.97E-07	3.45E-07	3.17E-07
Concentration (ppmdv)	3.14	3.65	3.35
Emission Rate (lb/mmBtu)	0.00447	0.00532	0.00479
Emission Rate (lb/hr)	5.46	6.04	5.59

EPA Methods 1-4 Parameters	Run 4	Run 5	Run 6
Date	7/20/2011	7/20/2011	7/20/2011
Start Time	8:40	12:05	15:20
Stop Time	10:46	14:14	17:30
Dimensions of Sample Location, $D_s$ (in)	162 X 162	162 X 162	162 X 162
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$ )	0.718	0.680	0.686
Barometric Pressure, $P_b$ (Inches Hg)	29.50	29.50	29.50
Static Pressure, $P_s$ (Inches $H_2O$ )	-19.5	-19.5	-19.5
Pitot Coefficient, $C_p$	0.84	0.84	0.84
Sample Location Temperature, $T_s$ ( $^{\circ}F$ )	349	355	357
Volume Metered, $V_m$ ( $ft^3$ )	94.23	89.46	89.98
Meter Temperature, $T_m$ ( $^{\circ}F$ )	117	124	119
Average Sample Pressure, $\Delta H_{avg}$ (in. $H_2O$ )	1.75	1.58	1.61
Gas Meter Correction Factor, $Y_d$	1.0091	1.0091	1.0091
Carbon Dioxide (% dry)	12.1	11.8	12.0
Oxygen (% dry)	7.03	7.33	7.09
Weight of Water Collected, $V_{wc}$ (g)	205.9	182.0	185.0
Silica Gel Net Weight, $V_{wsg}$ (g)	18.4	11.0	11.0
Diameter of Nozzle, $D_n$ (in)	0.270	0.270	0.270
Run Time, $\theta$ (minutes)	126	126	126

**EPA METHODS 1-4 RESULTS**

Area of Sample Location, $A_s$ ( $ft^2$ )	182	182	182
Stack Pressure Absolute (inches Hg)	28.07	28.07	28.07
Volume Metered Standard, $V_{m(std)}$ ( $ft^3$ )	86.15	80.79	82.00
Volume of Water Vapor, $V_{w(std)}$ ( $ft^3$ )	10.58	9.10	9.24
Percent Moisture, $B_{ws}$ (%)	10.9	10.1	10.1
Moisture Saturation Point, $B_{wsat}$ (%)	100	100	100
Dry Molecular Weight, $M_d$ (lbs/lb mole)	30.22	30.18	30.20
Wet Molecular Weight, $M_s$ (lbs/lb mole)	28.88	28.95	28.97
Gas Velocity, $V_s$ (ft/sec)	51.5	48.9	49.4
Average Flowrate, $Q_a$ (acfm)	562,796	535,140	539,827
Standard Flowrate, $Q_{std}$ (scfm)	344,539	325,066	327,183
Dry Standard Flowrate, $Q_{dstd}$ (dscfm)	306,989	292,277	294,162
Area of Nozzle, $A_n$ ( $ft^2$ )	0.000398	0.000398	0.000398
Isokinetics (%)	102.1	100.6	101.5



Metals Lab Data Entry ( $\mu\text{g}$ )	Blank	Run 4	Run 5	Run 6
Front Half ( $\mu\text{g}$ )	1.13	2.33	3.75	1.64
Back Half ( $\mu\text{g}$ )	<0.1	<0.1	<0.1	0.126
Antimony - Sb		2.43	3.85	1.77
Concentration ( $\mu\text{g}/\text{dscm}$ )		0.996	1.68	0.760
Emission Rate ( $\text{lb}/\text{mmBtu}$ )		9.37E-07	1.62E-06	7.17E-07
Emission Rate ( $\text{lb}/\text{hr}$ )		0.00115	0.00184	0.000838
Front Half ( $\mu\text{g}$ )	<0.1	16.7	10.5	13.2
Back Half ( $\mu\text{g}$ )	<0.1	4.06	8.54	10.2
Arsenic - As		20.8	19.0	23.4
Concentration ( $\mu\text{g}/\text{dscm}$ )		8.51	8.32	10.1
Emission Rate ( $\text{lb}/\text{mmBtu}$ )		8.00E-06	8.00E-06	9.50E-06
Emission Rate ( $\text{lb}/\text{hr}$ )		0.00979	0.00911	0.0111
Front Half ( $\mu\text{g}$ )	<0.025	0.064	0.066	0.075
Back Half ( $\mu\text{g}$ )	<0.025	<0.025	<0.025	<0.025
Beryllium - Be		0.0890	0.0910	0.100
Concentration ( $\mu\text{g}/\text{dscm}$ )		0.0365	0.0398	0.0431
Emission Rate ( $\text{lb}/\text{mmBtu}$ )		3.43E-08	3.82E-08	4.06E-08
Emission Rate ( $\text{lb}/\text{hr}$ )		0.0000420	0.0000435	0.0000475
Front Half ( $\mu\text{g}$ )	<0.1	0.927	0.595	0.683
Back Half ( $\mu\text{g}$ )	<0.1	0.180	<0.1	<0.1
Cadmium - Cd		1.11	0.695	0.783
Concentration ( $\mu\text{g}/\text{dscm}$ )		0.454	0.304	0.337
Emission Rate ( $\text{lb}/\text{mmBtu}$ )		4.27E-07	2.92E-07	3.18E-07
Emission Rate ( $\text{lb}/\text{hr}$ )		0.000522	0.000333	0.000372
Front Half ( $\mu\text{g}$ )	0.341	60.9	20.0	21.2
Back Half ( $\mu\text{g}$ )	2.71	3.03	1.69	1.92
Chromium - Cr		63.9	21.7	23.1
Concentration ( $\mu\text{g}/\text{dscm}$ )		26.2	9.48	9.96
Emission Rate ( $\text{lb}/\text{mmBtu}$ )		2.46E-05	9.11E-06	9.38E-06
Emission Rate ( $\text{lb}/\text{hr}$ )		0.0301	0.0104	0.0110
Front Half ( $\mu\text{g}$ )	<0.1	1.64	0.679	0.625
Back Half ( $\mu\text{g}$ )	<0.1	0.163	0.185	0.274
Cobalt - Co		1.80	0.864	0.899
Concentration ( $\mu\text{g}/\text{dscm}$ )		0.739	0.378	0.387
Emission Rate ( $\text{lb}/\text{mmBtu}$ )		6.95E-07	3.63E-07	3.65E-07
Emission Rate ( $\text{lb}/\text{hr}$ )		0.000850	0.000413	0.000427

<b>Metals Lab Data Entry (µg)</b>	<b>Blank</b>	<b>Run 4</b>	<b>Run 5</b>	<b>Run 6</b>
Front Half (ug)	0.144	5.87	4.30	4.08
Back Half (ug)	0.287	1.78	0.685	0.331
Lead - Pb		7.65	4.99	4.41
Concentration (ug/dscm)		3.14	2.18	1.90
Emission Rate (lb/mmBtu)		2.95E-06	2.09E-06	1.79E-06
Emission Rate (lb/hr)		0.00361	0.00239	0.00209
Front Half (ug)	0.714	31.5	30.0	9.20
Back Half (ug)	3.37	2.56	4.21	3.86
Manganese - Mn		34.1	34.2	13.1
Concentration (ug/dscm)		14.0	15.0	5.62
Emission Rate (lb/mmBtu)		1.31E-05	1.44E-05	5.30E-06
Emission Rate (lb/hr)		0.0161	0.0164	0.00620
Front Half (ug)	0.136	55.8	8.85	10.3
Back Half (ug)	1.52	2.25	1.14	1.72
Nickel - Ni		58.1	9.99	12.0
Concentration (ug/dscm)		23.8	4.37	5.18
Emission Rate (lb/mmBtu)		2.24E-05	4.20E-06	4.88E-06
Emission Rate (lb/hr)		0.0274	0.00478	0.00570
Front Half (ug)	<0.1	86.9	40.7	114
Back Half (ug)	<0.1	82.7	114	123
Selenium - Se		170	155	237
Concentration (ug/dscm)		69.5	67.6	102
Emission Rate (lb/mmBtu)		6.54E-05	6.50E-05	9.62E-05
Emission Rate (lb/hr)		0.0799	0.0740	0.112

Parameters	Run 4	Run 5	Run 6
Date	7/19/2011	7/19/2011	7/19/2011
Start Time	7:03	10:03	13:01
Stop Time	8:33	11:33	14:33
Barometric Pressure, P <sub>b</sub> (Inches Hg)	29.56	29.56	29.56
<b>Un-Spiked</b>			
Volume Metered, V <sub>m</sub> (L)	34.31	39.11	36.77
Meter Temperature, T <sub>m</sub> (°F)	114	126	135
Gas Meter Correction Factor, Y <sub>d</sub>	0.9994	0.9994	0.9994
Run Time, θ (minutes)	90	90	90
<b>Spiked/Paired</b>			
Volume Metered, V <sub>m</sub> (L)	32.63	36.92	37.93
Meter Temperature, T <sub>m</sub> (°F)	115	127	132
Gas Meter Correction Factor, Y <sub>d</sub>	1.0017	1.0017	1.0017
Run Time, θ (minutes)	90	90	90
Oxidized Mercury Collected Un-Spiked, m (ng)	39.5	13.4	6.80
Elemental Mercury Collected Un-Spiked, m (ng)	273	285	262
Total Mercury Collected Un-Spiked, m (ng)	313	298	269
Total Mercury Collected Spiked/Paired, m (ng)	405	457	443
Mass of Mercury Spiked, S (ng)	175	175	175

**RESULTS**

Volume Metered Un-Spiked, V <sub>m(std)</sub> (L)	31.16	34.76	32.23
Oxidized Mercury Concentration Un-spiked Train, (µg/dscm)	1.27	0.385	0.211
Elemental Mercury Concentration Un-spiked Train, (µg/dscm)	8.76	8.20	8.13
Total Mercury Concentration Un-spiked Train, (µg/dscm)	10.0	8.57	8.35
Volume Metered Spiked/Paired, V <sub>m(std)</sub> (L)	29.7	32.9	33.5
Concentration Spiked/Paired Train, (µg/dscm)	13.7	13.9	13.2
Concentration Spiked Train Less Spike, (µg/dscm)	7.75	8.58	8.01
Concentration Recovered Spike, (µg/dscm)	3.61	5.33	4.89
Recovery, R (%)	61.2	100	93.5
Relative Deviation, RD (%)	12.9	0.0496	2.07
Difference (µg/dscm)	2.29	0.00851	0.339
Average Result (ug/dscm)	8.90	8.58	8.18
Average Recovery (%)	84.9		

EPA Methods 1-5B/202 Parameters	Run 4	Run 5	Run 6
Date	7/19/2011	7/19/2011	7/19/2011
Start Time	7:03	10:03	13:01
Stop Time	8:34	11:48	14:48
Dimensions of Sample Location, $D_s$ (in)	162 X 162	162 X 162	162 X 162
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$ )	0.731	0.698	0.718
Barometric Pressure, $P_b$ (Inches Hg)	29.56	29.56	29.56
Static Pressure, $P_s$ (Inches $H_2O$ )	-16.0	-16.0	-20.0
Pitot Coefficient, $C_p$	0.84	0.84	0.84
Sample Location Temperature, $T_s$ ( $^{\circ}F$ )	314	318	322
Volume Metered, $V_m$ ( $ft^3$ )	59.30	54.58	58.87
Meter Temperature, $T_m$ ( $^{\circ}F$ )	89.4	97.7	99.5
Average Sample Pressure, $\Delta H_{avg}$ (in. $H_2O$ )	1.41	1.24	1.36
Gas Meter Correction Factor, $Y_d$	1.0141	1.0141	1.0141
Carbon Dioxide (% dry)	11.8	12.2	11.9
Oxygen (% dry)	7.47	6.93	7.39
Weight of Water Collected, $V_{wc}$ (g)	113.7	42.1	60.5
Silica Gel Net Weight, $V_{wsg}$ (g)	33.6	19.2	13.8
Diameter of Nozzle, $D_n$ (in)	0.250	0.250	0.250
Run Time, $\theta$ (minutes)	91	91	91

**EPA METHODS 1-5B/202 RESULTS**

Area of Sample Location, $A_s$ ( $ft^2$ )	182	182	182
Stack Pressure Absolute (inches Hg)	28.38	28.38	28.09
Volume Metered Standard, $V_{m(std)}$ ( $ft^3$ )	57.27	51.91	55.83
Volume of Water Vapor, $V_{w(std)}$ ( $ft^3$ )	6.95	2.89	3.50
Percent Moisture, $B_{ws}$ (%)	10.8	5.27	5.90
Moisture Saturation Point, $B_{wsat}$ (%)	100	100	100
Dry Molecular Weight, $M_d$ (lbs/lb mole)	30.19	30.23	30.20
Wet Molecular Weight, $M_s$ (lbs/lb mole)	28.87	29.58	29.48
Gas Velocity, $V_s$ (ft/sec)	51.0	48.3	50.1
Average Flowrate, $Q_a$ (acfm)	557,604	527,816	547,892
Standard Flowrate, $Q_{std}$ (scfm)	360,687	339,756	347,128
Dry Standard Flowrate, $Q_{dstd}$ (dscfm)	321,807	321,966	326,764
Area of Nozzle, $A_n$ ( $ft^2$ )	0.000341	0.000341	0.000341
Isokinetics (%)	104.6	94.8	100.4
Front-Half Particulate (g)	0.0166	0.0076	0.1623
Concentration (grains/dscf)	0.00447	0.00226	0.04484
Emission Rate, $F_d$ (lb/mmBtu)	0.00981	0.00478	0.0972
Emission Rate (lb/hr)	12.3	6.24	126
Condensable Particulate (g)	0.0473	0.0209	0.0393
Concentration (grains/dscf)	0.0127	0.00621	0.0108
Emission Rate, $F_d$ (lb/mmBtu)	0.0279	0.0131	0.0235
Emission Rate (lb/hr)	35.2	17.1	30.4

EPA Methods 1-4 Parameters	Run 4	Run 5	Run 6
Date	7/20/2011	7/20/2011	7/20/2011
Start Time	8:40	12:05	15:05
Stop Time	10:40	14:05	17:20
Dimensions of Sample Location, $D_s$ (in)	162 X 162	162 X 162	162 X 162
Barometric Pressure, $P_b$ (Inches Hg)	29.50	29.50	29.50
Static Pressure, $P_s$ (Inches H <sub>2</sub> O)	-20.0	-20.0	-20.0
Pitot Coefficient, $C_p$	0.84	0.84	0.84
Sample Location Temperature, $T_s$ (°F)	305	305	305
Volume Metered, $V_m$ (ft <sup>3</sup> )	89.26	91.87	93.18
Meter Temperature, $T_m$ (°F)	95.5	98.2	101
Average Sample Pressure, $\Delta H_{avg}$ (in. H <sub>2</sub> O)	1.80	1.80	1.80
Gas Meter Correction Factor, $Y_d$	1.0076	1.0076	1.0076
Carbon Dioxide (% dry)	12.1	11.8	12.0
Oxygen (% dry)	7.03	7.33	7.09
Weight of Water Collected, $V_{wc}$ (g)	106.8	55.0	110.0
Silica Gel Net Weight, $V_{wsg}$ (g)	32.6	31.0	36.0
Diameter of Nozzle, $D_n$ (in)	0.230	0.230	0.230
Run Time, $\theta$ (minutes)	120	120	120

**EPA METHODS 1-4 RESULTS**

Area of Sample Location, $A_s$ (ft <sup>2</sup> )	182	182	182
Stack Pressure Absolute (inches Hg)	28.03	28.03	28.03
Volume Metered Standard, $V_{m(std)}$ (ft <sup>3</sup> )	84.62	86.68	87.52
Volume of Water Vapor, $V_{w(std)}$ (ft <sup>3</sup> )	6.57	4.05	6.88
Percent Moisture, $B_{ws}$ (%)	7.21	4.47	7.29
Moisture Saturation Point, $B_{wsat}$ (%)	100	100	100
Dry Molecular Weight, $M_d$ (lbs/lb mole)	30.22	30.18	30.20
Wet Molecular Weight, $M_s$ (lbs/lb mole)	29.34	29.64	29.31
Area of Nozzle, $A_n$ (ft <sup>2</sup> )	0.000289	0.000289	0.000289
Hydrogen Fluoride (mg)	2.84	3.52	3.99
Concentration (lb/dscf)	7.40E-08	8.95E-08	1.01E-07
Concentration (ppmdv)	1.42	1.72	1.94
Emission Rate (lb/mmBtu)	0.00111	0.00138	0.00152
Emission Rate (lb/hr)	1.37	1.66	1.84
Hydrogen Chloride (mg)	5.66	7.21	7.45
Concentration (lb/dscf)	1.47E-07	1.83E-07	1.88E-07
Concentration (ppmdv)	1.56	1.94	1.98
Emission Rate (lb/mmBtu)	0.00222	0.00282	0.00283
Emission Rate (lb/hr)	2.72	3.40	3.44

EPA Methods 1-4 Parameters	Run 4	Run 5	Run 6
Date	7/20/2011	7/20/2011	7/20/2011
Start Time	8:40	12:05	15:05
Stop Time	16:48	14:14	17:30
Dimensions of Sample Location, $D_s$ (in)	162 X 162	162 X 162	162 X 162
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$ )	0.696	0.700	0.694
Barometric Pressure, $P_b$ (Inches Hg)	29.50	29.50	29.50
Static Pressure, $P_s$ (Inches $H_2O$ )	-20.0	-20.0	-20.0
Pitot Coefficient, $C_p$	0.84	0.84	0.84
Sample Location Temperature, $T_s$ ( $^{\circ}F$ )	313	316	317
Volume Metered, $V_m$ ( $ft^3$ )	94.56	95.10	94.74
Meter Temperature, $T_m$ ( $^{\circ}F$ )	99.5	103	105
Average Sample Pressure, $\Delta H_{avg}$ (in. $H_2O$ )	1.75	1.76	1.75
Gas Meter Correction Factor, $Y_d$	1.0141	1.0141	1.0141
Carbon Dioxide (% dry)	12.1	11.8	12.0
Oxygen (% dry)	7.03	7.33	7.09
Weight of Water Collected, $V_{wc}$ (g)	180.3	189.0	182.0
Silica Gel Net Weight, $V_{wsg}$ (g)	19.5	17.0	23.0
Diameter of Nozzle, $D_n$ (in)	0.268	0.268	0.268
Run Time, $\theta$ (minutes)	126	126	126

**EPA METHODS 1-4 RESULTS**

Area of Sample Location, $A_s$ ( $ft^2$ )	182	182	182
Stack Pressure Absolute (inches Hg)	28.03	28.03	28.03
Volume Metered Standard, $V_{m(std)}$ ( $ft^3$ )	89.57	89.61	88.85
Volume of Water Vapor, $V_{w(std)}$ ( $ft^3$ )	9.42	9.71	9.67
Percent Moisture, $B_{ws}$ (%)	9.52	9.78	9.81
Moisture Saturation Point, $B_{wsat}$ (%)	100	100	100
Dry Molecular Weight, $M_d$ (lbs/lb mole)	30.22	30.18	30.20
Wet Molecular Weight, $M_s$ (lbs/lb mole)	29.05	28.99	29.01
Gas Velocity, $V_s$ (ft/sec)	48.7	49.1	48.7
Average Flowrate, $Q_a$ (acfm)	532,464	537,332	532,765
Standard Flowrate, $Q_{std}$ (scfm)	340,426	342,494	338,959
Dry Standard Flowrate, $Q_{dstd}$ (dscfm)	308,153	309,124	305,826
Area of Nozzle, $A_n$ ( $ft^2$ )	0.000392	0.000392	0.000392
Isokinetics (%)	107.4	107.1	107.3

Metals Lab Data Entry (µg)	Blank	Run 4	Run 5	Run 6
Front Half (ug)	1.13	0.496	0.856	0.782
Back Half (ug)	<0.1	<0.1	0.337	<0.1
Antimony - Sb		0.596	1.19	0.882
Concentration (ug/dscm)		0.235	0.470	0.351
Emission Rate (lb/mmBtu)		2.21E-07	4.52E-07	3.30E-07
Emission Rate (lb/hr)		0.000271	0.000544	0.000402
Front Half (ug)	<0.1	4.23	11.9	10.5
Back Half (ug)	<0.1	8.14	12.7	47.8
Arsenic - As		12.37	24.6	58.3
Concentration (ug/dscm)		4.88	9.69	23.2
Emission Rate (lb/mmBtu)		4.59E-06	9.32E-06	2.18E-05
Emission Rate (lb/hr)		0.00563	0.0112	0.0265
Front Half (ug)	<0.025	0.037	0.120	0.126
Back Half (ug)	<0.025	<0.025	<0.025	<0.025
Beryllium - Be		0.0620	0.145	0.151
Concentration (ug/dscm)		0.0244	0.0571	0.0600
Emission Rate (lb/mmBtu)		2.30E-08	5.49E-08	5.65E-08
Emission Rate (lb/hr)		0.0000282	0.0000662	0.0000687
Front Half (ug)	<0.1	0.190	0.356	0.850
Back Half (ug)	<0.1	<0.1	0.122	<0.1
Cadmium - Cd		0.290	0.478	0.950
Concentration (ug/dscm)		0.114	0.188	0.378
Emission Rate (lb/mmBtu)		1.08E-07	1.81E-07	3.56E-07
Emission Rate (lb/hr)		0.000132	0.000218	0.000433
Front Half (ug)	0.341	19.1	21.6	22.3
Back Half (ug)	2.71	3.21	3.05	2.52
Chromium - Cr		22.3	24.7	24.8
Concentration (ug/dscm)		8.79	9.71	9.86
Emission Rate (lb/mmBtu)		8.27E-06	9.34E-06	9.30E-06
Emission Rate (lb/hr)		0.0102	0.0112	0.0113
Front Half (ug)	<0.1	0.379	0.973	1.21
Back Half (ug)	<0.1	0.115	0.175	0.124
Cobalt - Co		0.494	1.15	1.33
Concentration (ug/dscm)		0.195	0.452	0.530
Emission Rate (lb/mmBtu)		1.83E-07	4.35E-07	5.00E-07
Emission Rate (lb/hr)		0.000225	0.000524	0.000607

<b>Metals Lab Data Entry (µg)</b>	<b>Blank</b>	<b>Run 4</b>	<b>Run 5</b>	<b>Run 6</b>
Front Half (ug)	0.144	2.88	6.80	5.40
Back Half (ug)	0.287	0.380	0.776	0.395
Lead - Pb		3.26	7.58	5.80
Concentration (ug/dscm)		1.29	2.99	2.30
Emission Rate (lb/mmBtu)		1.21E-06	2.87E-06	2.17E-06
Emission Rate (lb/hr)		0.00148	0.00346	0.00264
Front Half (ug)	0.714	23.8	30.5	66.5
Back Half (ug)	3.37	2.42	4.41	3.20
Manganese - Mn		26.2	34.9	69.7
Concentration (ug/dscm)		10.3	13.8	27.7
Emission Rate (lb/mmBtu)		9.72E-06	1.32E-05	2.61E-05
Emission Rate (lb/hr)		0.0119	0.0159	0.0317
Front Half (ug)	0.136	15.4	19.3	9.20
Back Half (ug)	1.52	2.29	2.29	1.96
Nickel - Ni		17.7	21.6	11.2
Concentration (ug/dscm)		6.97	8.51	4.44
Emission Rate (lb/mmBtu)		6.56E-06	8.18E-06	4.18E-06
Emission Rate (lb/hr)		0.00805	0.00985	0.00508
Front Half (ug)	<0.1	5.15	8.09	11.3
Back Half (ug)	<0.1	72.7	153	211
Selenium - Se		77.9	161	222
Concentration (ug/dscm)		30.7	63.5	88.3
Emission Rate (lb/mmBtu)		2.89E-05	6.10E-05	8.33E-05
Emission Rate (lb/hr)		0.0354	0.0735	0.101



Parameters	Run 4	Run 5	Run 6
Date	7/19/2011	7/19/2011	7/19/2011
Start Time	7:03	10:03	13:01
Stop Time	8:39	11:33	14:33
Barometric Pressure, $P_b$ (Inches Hg)	29.56	29.56	29.56
<b>Un-Spiked</b>			
Volume Metered, $V_m$ (L)	51.69	49.17	62.80
Meter Temperature, $T_m$ (°F)	100	113	120.3
Gas Meter Correction Factor, $Y_d$	0.99580	0.99580	0.99580
Run Time, $\theta$ (minutes)	90	90	90
<b>Spiked/Paired</b>			
Volume Metered, $V_m$ (L)	40.88	52.43	61.28
Meter Temperature, $T_m$ (°F)	100.5	113.4	120.3
Gas Meter Correction Factor, $Y_d$	0.99020	0.99020	0.99020
Run Time, $\theta$ (minutes)	90	90	90
Oxidized Mercury Collected Un-Spiked, m (ng)	87.0	52.6	19.9
Elemental Mercury Collected Un-Spiked, m (ng)	149	243	335
Total Mercury Collected Un-Spiked, m (ng)	236	296	355
Total Mercury Collected Spiked/Paired, m (ng)	469	474	579
Mass of Mercury Spiked, S (ng)	175	175	175
<b>RESULTS</b>			
Volume Metered Un-Spiked, $V_{m(std)}$ (L)	47.96	44.55	56.20
Oxidized Mercury Concentration Un-spiked Train, ( $\mu\text{g/dscm}$ )	1.81	1.18	0.354
Elemental Mercury Concentration Un-spiked Train, ( $\mu\text{g/dscm}$ )	3.11	5.45	5.96
Total Mercury Concentration Un-spiked Train, ( $\mu\text{g/dscm}$ )	4.92	6.64	6.32
Volume Metered Spiked/Paired, $V_{m(std)}$ (L)	37.7	47.2	54.5
Concentration Spiked/Paired Train, ( $\mu\text{g/dscm}$ )	12.5	10.0	10.6
Concentration Spiked Train Less Spike, ( $\mu\text{g/dscm}$ )	7.81	6.33	7.41
Concentration Recovered Spike, ( $\mu\text{g/dscm}$ )	7.53	3.40	4.30
Recovery, R (%)	162	91.6	134
Relative Deviation, RD (%)	22.7	2.40	7.96
Difference ( $\mu\text{g/dscm}$ )	2.89	0.311	1.09
Average Result ( $\mu\text{g/dscm}$ )	6.36	6.49	6.86
Average Recovery (%)	129		

EPA Methods 1-5B/202 Parameters	Run 4	Run 5	Run 6
Date	7/19/2011	7/19/2011	7/19/2011
Start Time	7:03	10:03	13:07
Stop Time	8:43	11:48	14:48
Dimensions of Sample Location, $D_s$ (in)	408	408	408
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$ )	0.502	0.496	0.503
Barometric Pressure, $P_b$ (Inches Hg)	29.56	29.56	29.56
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, $T_s$ ( $^{\circ}F$ )	130	131	130
Volume Metered, $V_m$ ( $ft^3$ )	66.15	67.39	66.98
Meter Temperature, $T_m$ ( $^{\circ}F$ )	104	107	107
Average Sample Pressure, $\Delta H_{avg}$ (in. $H_2O$ )	1.71	1.71	1.72
Gas Meter Correction Factor, $Y_d$	0.9907	0.9907	0.9907
Carbon Dioxide (% dry)	11.9	12.0	13.1
Oxygen (% dry)	7.45	7.17	6.11
Weight of Water Collected, $V_{wc}$ (g)	200.5	175.5	234.5
Silica Gel Net Weight, $V_{wsg}$ (g)	23.5	44.0	21.2
Diameter of Nozzle, $D_n$ (in)	0.312	0.312	0.312
Run Time, $\theta$ (minutes)	90	90	90

**EPA METHODS 1-5B/202 RESULTS**

Area of Sample Location, $A_s$ ( $ft^2$ )	908	908	908
Stack Pressure Absolute (inches Hg)	29.55	29.55	29.55
Volume Metered Standard, $V_{m(std)}$ ( $ft^3$ )	60.85	61.71	61.26
Volume of Water Vapor, $V_{w(std)}$ ( $ft^3$ )	10.56	10.35	12.06
Percent Moisture, $B_{ws}$ (%)	14.8	14.4	16.4
Moisture Saturation Point, $B_{wsat}$ (%)	15.5	15.7	15.1
Dry Molecular Weight, $M_d$ (lbs/lb mole)	30.20	30.21	30.34
Wet Molecular Weight, $M_s$ (lbs/lb mole)	28.40	28.45	28.47
Gas Velocity, $V_s$ (ft/sec)	30.2	29.9	30.2
Average Flowrate, $Q_a$ (acfm)	1,645,795	1,626,420	1,647,749
Standard Flowrate, $Q_{std}$ (scfm)	1,452,794	1,434,678	1,456,574
Dry Standard Flowrate, $Q_{dstd}$ (dscfm)	1,238,429	1,229,127	1,236,462
Area of Nozzle, $A_n$ ( $ft^2$ )	0.000531	0.000531	0.000531
Isokinetics (%)	93.4	95.5	94.2
Front-Half Particulate (g)	0.0146	0.0161	0.0212
Concentration (grains/dscf)	0.00370	0.00404	0.00534
Emission Rate, $F_d$ (lb/mmBtu)	0.00811	0.00869	0.0106
Emission Rate (lb/hr)	39.3	42.5	56.6
Condensable Particulate (g)	0.0225	0.0164	0.0200
Concentration (grains/dscf)	0.00571	0.00410	0.00504
Emission Rate, $F_d$ (lb/mmBtu)	0.0125	0.00882	0.00997
Emission Rate (lb/hr)	60.6	43.2	53.4

EPA Methods 1-4 Parameters	Run 4	Run 5	Run 6
Date	7/20/2011	7/20/2011	7/20/2011
Start Time	8:40	12:04	15:20
Stop Time	10:55	14:14	17:36
Dimensions of Sample Location, $D_s$ (in)	408	408	408
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$ )	0.480	0.472	0.478
Barometric Pressure, $P_b$ (Inches Hg)	29.50	29.50	29.50
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, $T_s$ ( $^{\circ}F$ )	132	132	132
Volume Metered, $V_m$ ( $ft^3$ )	90.91	88.35	90.92
Meter Temperature, $T_m$ ( $^{\circ}F$ )	99.7	103	105
Average Sample Pressure, $\Delta H_{avg}$ (in. $H_2O$ )	1.79	1.73	1.78
Gas Meter Correction Factor, $Y_d$	0.9891	0.9891	0.9891
Carbon Dioxide (% dry)	11.2	12.1	11.4
Oxygen (% dry)	8.03	6.95	7.74
Weight of Water Collected, $V_{wc}$ (g)	136.2	270.0	156.6
Silica Gel Net Weight, $V_{wsg}$ (g)	19.0	30.0	36.1
Diameter of Nozzle, $D_n$ (in)	0.370	0.370	0.370
Run Time, $\theta$ (minutes)	120	120	120

**EPA METHODS 1-4 RESULTS**

Area of Sample Location, $A_s$ ( $ft^2$ )	908	908	908
Stack Pressure Absolute (inches Hg)	29.49	29.49	29.49
Volume Metered Standard, $V_{m(std)}$ ( $ft^3$ )	83.97	81.11	83.24
Volume of Water Vapor, $V_{w(std)}$ ( $ft^3$ )	7.32	14.15	9.09
Percent Moisture, $B_{ws}$ (%)	8.02	14.8	9.84
Moisture Saturation Point, $B_{wsat}$ (%)	16.1	16.2	16.2
Dry Molecular Weight, $M_d$ (lbs/lb mole)	30.11	30.21	30.13
Wet Molecular Weight, $M_s$ (lbs/lb mole)	29.14	28.40	28.94
Gas Velocity, $V_s$ (ft/sec)	28.6	28.5	28.6
Average Flowrate, $Q_a$ (acfm)	1,558,618	1,552,465	1,558,424
Standard Flowrate, $Q_{std}$ (scfm)	1,369,759	1,363,968	1,369,203
Dry Standard Flowrate, $Q_{dstd}$ (dscfm)	1,260,468	1,161,886	1,234,951
Area of Nozzle, $A_n$ ( $ft^2$ )	0.000747	0.000747	0.000747
Isokinetics (%)	67.5	70.8	68.3
Hydrogen Fluoride (mg)	0.110	0.0884	0.0959
Concentration (lb/dscf)	2.89E-09	2.40E-09	2.54E-09
Concentration (ppmdv)	0.0556	0.0463	0.0489
Emission Rate (lb/mmBtu)	0.0000469	0.0000360	0.0000402
Emission Rate (lb/hr)	0.218	0.168	0.188
Hydrogen Chloride (mg)	0.170	0.149	0.211
Concentration (lb/dscf)	4.46E-09	4.05E-09	5.59E-09
Concentration (ppmdv)	0.0472	0.0428	0.0591
Emission Rate (lb/mmBtu)	0.0000725	0.0000607	0.0000885
Emission Rate (lb/hr)	0.338	0.282	0.414

EPA Methods 1-4 Parameters	Run 4	Run 5	Run 6
Date	7/20/2011	7/20/2011	7/20/2011
Start Time	8:40	12:05	15:20
Stop Time	10:55	14:14	17:25
Dimensions of Sample Location, $D_s$ (in)	408	408	408
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$ )	0.479	0.471	0.477
Barometric Pressure, $P_b$ (Inches Hg)	29.50	29.50	29.50
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, $T_s$ ( $^{\circ}F$ )	132	132	132
Volume Metered, $V_m$ ( $ft^3$ )	88.70	84.21	85.22
Meter Temperature, $T_m$ ( $^{\circ}F$ )	112	113	111
Average Sample Pressure, $\Delta H_{avg}$ (in. $H_2O$ )	1.68	1.51	1.55
Gas Meter Correction Factor, $Y_d$	0.9907	0.9907	0.9907
Carbon Dioxide (% dry)	11.2	12.1	11.4
Oxygen (% dry)	8.03	6.95	7.74
Weight of Water Collected, $V_{wc}$ (g)	231.4	283.2	298.1
Silica Gel Net Weight, $V_{wsg}$ (g)	29.0	24.0	13.0
Diameter of Nozzle, $D_n$ (in)	0.312	0.312	0.312
Run Time, $\theta$ (minutes)	120	120	120

**EPA METHODS 1-4 RESULTS**

Area of Sample Location, $A_s$ ( $ft^2$ )	908	908	908
Stack Pressure Absolute (inches Hg)	29.49	29.49	29.49
Volume Metered Standard, $V_{m(std)}$ ( $ft^3$ )	80.24	76.07	77.21
Volume of Water Vapor, $V_{w(std)}$ ( $ft^3$ )	12.28	14.48	14.67
Percent Moisture, $B_{ws}$ (%)	13.3	16.0	16.0
Moisture Saturation Point, $B_{wsat}$ (%)	16.2	16.2	16.3
Dry Molecular Weight, $M_d$ (lbs/lb mole)	30.11	30.21	30.13
Wet Molecular Weight, $M_s$ (lbs/lb mole)	28.51	28.26	28.20
Gas Velocity, $V_s$ (ft/sec)	28.9	28.5	28.9
Average Flowrate, $Q_a$ (acfm)	1,574,092	1,554,081	1,576,305
Standard Flowrate, $Q_{std}$ (scfm)	1,382,969	1,365,388	1,384,523
Dry Standard Flowrate, $Q_{dstd}$ (dscfm)	1,199,916	1,147,455	1,163,941
Area of Nozzle, $A_n$ ( $ft^2$ )	0.000531	0.000531	0.000531
Isokinetics (%)	95.4	94.5	94.6

Metals Lab Data Entry (µg)	Blank	Run 4	Run 5	Run 6
Front Half (ug)	1.13	0.860	0.247	0.576
Back Half (ug)	<0.1	0.100	0.128	0.143
Antimony - Sb		0.960	0.375	0.719
Concentration (ug/dscm)		0.422	0.174	0.329
Emission Rate (lb/mmBtu)		4.28E-07	1.63E-07	3.25E-07
Emission Rate (lb/hr)		0.00190	0.000748	0.00143
Front Half (ug)	<0.1	4.58	3.61	5.26
Back Half (ug)	<0.1	1.26	5.21	2.27
Arsenic - As		5.84	8.82	7.53
Concentration (ug/dscm)		2.57	4.09	3.44
Emission Rate (lb/mmBtu)		2.61E-06	3.83E-06	3.41E-06
Emission Rate (lb/hr)		0.0116	0.0176	0.0150
Front Half (ug)	<0.025	0.026	0.025	<0.025
Back Half (ug)	<0.025	<0.025	<0.025	<0.025
Beryllium - Be		0.0510	0.0500	0.0500
Concentration (ug/dscm)		0.0224	0.0232	0.0229
Emission Rate (lb/mmBtu)		2.28E-08	2.17E-08	2.26E-08
Emission Rate (lb/hr)		0.000101	0.0000998	0.0000997
Front Half (ug)	<0.1	0.192	0.294	0.611
Back Half (ug)	<0.1	1.20	0.110	0.386
Cadmium - Cd		1.39	0.404	0.997
Concentration (ug/dscm)		0.613	0.188	0.456
Emission Rate (lb/mmBtu)		6.21E-07	1.75E-07	4.51E-07
Emission Rate (lb/hr)		0.00275	0.000806	0.00199
Front Half (ug)	0.341	8.35	8.85	7.70
Back Half (ug)	2.71	3.29	3.06	5.46
Chromium - Cr		11.6	11.9	13.2
Concentration (ug/dscm)		5.12	5.53	6.02
Emission Rate (lb/mmBtu)		5.19E-06	5.17E-06	5.95E-06
Emission Rate (lb/hr)		0.0230	0.0238	0.0262
Front Half (ug)	<0.1	0.356	0.318	0.278
Back Half (ug)	<0.1	0.186	0.125	0.104
Cobalt - Co		0.542	0.443	0.382
Concentration (ug/dscm)		0.239	0.206	0.175
Emission Rate (lb/mmBtu)		2.42E-07	1.92E-07	1.73E-07
Emission Rate (lb/hr)		0.00107	0.000884	0.000762

Metals Lab Data Entry ( $\mu\text{g}$ )	Blank	Run 4	Run 5	Run 6
Front Half ( $\mu\text{g}$ )	0.144	44.7	5.74	0.960
Back Half ( $\mu\text{g}$ )	0.287	1.43	1.11	0.912
Lead - Pb		46.1	6.85	1.87
Concentration ( $\mu\text{g}/\text{dscm}$ )		20.3	3.18	0.86
Emission Rate ( $\text{lb}/\text{mmBtu}$ )		2.06E-05	2.97E-06	8.47E-07
Emission Rate ( $\text{lb}/\text{hr}$ )		0.0913	0.0137	0.00373
Front Half ( $\mu\text{g}$ )	0.714	4.62	6.69	4.37
Back Half ( $\mu\text{g}$ )	3.37	4.95	11.0	4.43
Manganese - Mn		9.57	17.7	8.80
Concentration ( $\mu\text{g}/\text{dscm}$ )		4.21	8.21	4.02
Emission Rate ( $\text{lb}/\text{mmBtu}$ )		4.27E-06	7.68E-06	3.98E-06
Emission Rate ( $\text{lb}/\text{hr}$ )		0.0189	0.0353	0.0175
Front Half ( $\mu\text{g}$ )	0.136	5.72	5.77	6.34
Back Half ( $\mu\text{g}$ )	1.52	4.66	4.75	5.00
Nickel - Ni		10.4	10.5	11.3
Concentration ( $\mu\text{g}/\text{dscm}$ )		4.57	4.88	5.19
Emission Rate ( $\text{lb}/\text{mmBtu}$ )		4.63E-06	4.57E-06	5.13E-06
Emission Rate ( $\text{lb}/\text{hr}$ )		0.0205	0.0210	0.0226
Front Half ( $\mu\text{g}$ )	<0.1	15.5	13.6	26.9
Back Half ( $\mu\text{g}$ )	<0.1	25.9	67.8	60.9
Selenium - Se		41.4	81.4	87.8
Concentration ( $\mu\text{g}/\text{dscm}$ )		18.2	37.8	40.2
Emission Rate ( $\text{lb}/\text{mmBtu}$ )		1.85E-05	3.53E-05	3.97E-05
Emission Rate ( $\text{lb}/\text{hr}$ )		0.0819	0.162	0.175

Parameters	Run 4	Run 5	Run 6
Date	7/19/2011	7/19/2011	7/19/2011
Start Time	7:03	10:03	13:03
Stop Time	8:33	11:33	14:33
Barometric Pressure, $P_b$ (Inches Hg)	29.56	29.56	29.56
<b>Un-Spiked</b>			
Volume Metered, $V_m$ (L)	36.03	35.75	36.30
Meter Temperature, $T_m$ (°F)	92.8	94.9	95.6
Gas Meter Correction Factor, $Y_d$	1.00000	1.00000	1.00000
Run Time, $\theta$ (minutes)	90	90	90
<b>Spiked/Paired</b>			
Volume Metered, $V_m$ (L)	35.90	36.03	35.95
Meter Temperature, $T_m$ (°F)	94.2	95.9	96.6
Gas Meter Correction Factor, $Y_d$	1.00000	1.00000	1.00000
Run Time, $\theta$ (minutes)	90	90	90
Oxidized Mercury Collected Un-Spiked, m (ng)	9.72	5.88	8.03
Elemental Mercury Collected Un-Spiked, m (ng)	53.2	57.1	62.3
Total Mercury Collected Un-Spiked, m (ng)	62.9	63.0	70.4
Total Mercury Collected Spiked/Paired, m (ng)	86.7	95.4	89.3
Mass of Mercury Spiked, S (ng)	20.0	20.0	20.0
<b>RESULTS</b>			
Volume Metered Un-Spiked, $V_{m(std)}$ (L)	33.99	33.60	34.07
Oxidized Mercury Concentration Un-spiked Train, ( $\mu\text{g/dscm}$ )	0.286	0.175	0.236
Elemental Mercury Concentration Un-spiked Train, ( $\mu\text{g/dscm}$ )	1.57	1.70	1.83
Total Mercury Concentration Un-spiked Train, ( $\mu\text{g/dscm}$ )	1.85	1.88	2.07
Volume Metered Spiked/Paired, $V_{m(std)}$ (L)	33.8	33.8	33.7
Concentration Spiked/Paired Train, ( $\mu\text{g/dscm}$ )	2.57	2.82	2.65
Concentration Spiked Train Less Spike, ( $\mu\text{g/dscm}$ )	1.97	2.23	2.06
Concentration Recovered Spike, ( $\mu\text{g/dscm}$ )	0.716	0.948	0.585
Recovery, R (%)	121	160	98.5
Relative Deviation, RD (%)	3.23	8.67	0.219
Difference ( $\mu\text{g/dscm}$ )	0.124	0.356	0.00901
Average Result ( $\mu\text{g/dscm}$ )	1.91	2.05	2.06
Average Recovery (%)	127		

Parameters	Run 4	Run 5	Run 6
Date	7/20/2011	7/20/2011	7/20/2011
Start Time	9:28	12:37	14:48
Stop Time	10:58	14:07	16:18
Barometric Pressure, P <sub>b</sub> (Inches Hg)	29.50	29.50	29.50
<b>Un-Spiked</b>			
Volume Metered, V <sub>m</sub> (L)	44.76	41.82	40.96
Meter Temperature, T <sub>m</sub> (°F)	115	117	115
Gas Meter Correction Factor, Y <sub>d</sub>	1.0072	1.0072	1.0072
Run Time, θ (minutes)	90	90	90
<b>Spiked/Paired</b>			
Volume Metered, V <sub>m</sub> (L)	44.36	43.56	42.31
Meter Temperature, T <sub>m</sub> (°F)	115	117	115
Gas Meter Correction Factor, Y <sub>d</sub>	0.9985	0.9985	0.9985
Run Time, θ (minutes)	90	90	90
Oxidized Mercury Collected Un-Spiked, m (ng)	29.7	27.5	26.5
Elemental Mercury Collected Un-Spiked, m (ng)	394	324	319
Total Mercury Collected Un-Spiked, m (ng)	424	352	346
Total Mercury Collected Spiked/Paired, m (ng)	586	553	512
Mass of Mercury Spiked, S (ng)	175	175	175

**RESULTS**

Volume Metered Un-Spiked, V <sub>m(std)</sub> (L)	40.82	38.02	37.31
Oxidized Mercury Concentration Un-spiked Train, (µg/dscm)	0.728	0.723	0.710
Elemental Mercury Concentration Un-spiked Train, (µg/dscm)	9.65	8.52	8.55
Total Mercury Concentration Un-spiked Train, (µg/dscm)	10.4	9.26	9.27
Volume Metered Spiked/Paired, V <sub>m(std)</sub> (L)	40.09	39.26	38.21
Concentration Spiked/Paired Train, (µg/dscm)	14.6	14.1	13.4
Concentration Spiked Train Less Spike, (µg/dscm)	10.3	9.63	8.82
Concentration Recovered Spike, (µg/dscm)	4.23	4.83	4.13
Recovery, R (%)	96.9	108	90.1
Relative Deviation, RD (%)	0.665	1.96	2.50
Difference (µg/dscm)	0.137	0.370	0.453
Average Result (ug/dscm)	10.3	9.44	9.05
Average Recovery (%)	98.4		



Parameters	Run 4	Run 5	Run 6
Date	7/20/2011	7/20/2011	7/20/2011
Start Time	9:28	12:37	14:48
Stop Time	10:58	14:07	16:18
Barometric Pressure, P <sub>b</sub> (Inches Hg)	29.50	29.50	29.50
<b>Un-Spiked</b>			
Volume Metered, V <sub>m</sub> (L)	44.36	43.62	42.11
Meter Temperature, T <sub>m</sub> (°F)	119	117	116
Gas Meter Correction Factor, Y <sub>d</sub>	0.9994	0.9994	0.9994
Run Time, θ (minutes)	90	90	90
<b>Spiked/Paired</b>			
Volume Metered, V <sub>m</sub> (L)	44.71	43.41	42.51
Meter Temperature, T <sub>m</sub> (°F)	119	117	116
Gas Meter Correction Factor, Y <sub>d</sub>	1.0017	1.0017	1.0017
Run Time, θ (minutes)	90	90	90
Oxidized Mercury Collected Un-Spiked, m (ng)	109	71.9	42.1
Elemental Mercury Collected Un-Spiked, m (ng)	240	282	282
Total Mercury Collected Un-Spiked, m (ng)	349	354	324
Total Mercury Collected Spiked/Paired, m (ng)	558	485	521
Mass of Mercury Spiked, S (ng)	175	175	175

**RESULTS**

Volume Metered Un-Spiked, V <sub>m(std)</sub> (L)	39.84	39.29	38.02
Oxidized Mercury Concentration Un-spiked Train, (µg/dscm)	2.74	1.83	1.11
Elemental Mercury Concentration Un-spiked Train, (µg/dscm)	6.02	7.18	7.42
Total Mercury Concentration Un-spiked Train, (µg/dscm)	8.76	9.01	8.52
Volume Metered Spiked/Paired, V <sub>m(std)</sub> (L)	40.25	39.19	38.47
Concentration Spiked/Paired Train, (µg/dscm)	13.9	12.4	13.5
Concentration Spiked Train Less Spike, (µg/dscm)	9.52	7.91	8.99
Concentration Recovered Spike, (µg/dscm)	5.10	3.37	5.02
Recovery, R (%)	117	75.4	110
Relative Deviation, RD (%)	4.14	6.50	2.70
Difference (µg/dscm)	0.756	1.10	0.472
Average Result (ug/dscm)	9.14	8.46	8.76
Average Recovery (%)	101		

Parameters	Run 4	Run 5	Run 6
Date	7/20/2011	7/20/2011	7/20/2011
Start Time	9:28	12:37	14:48
Stop Time	10:58	14:07	16:18
Barometric Pressure, P <sub>b</sub> (Inches Hg)	29.50	29.50	29.50
<b>Un-Spiked</b>			
Volume Metered, V <sub>m</sub> (L)	43.05	35.85	38.33
Meter Temperature, T <sub>m</sub> (°F)	107	112	111
Gas Meter Correction Factor, Y <sub>d</sub>	0.9958	0.9958	0.9958
Run Time, θ (minutes)	90	90	90
<b>Spiked/Paired</b>			
Volume Metered, V <sub>m</sub> (L)	43.25	42.12	39.52
Meter Temperature, T <sub>m</sub> (°F)	108	113	112
Gas Meter Correction Factor, Y <sub>d</sub>	0.9902	0.9902	0.9902
Run Time, θ (minutes)	90	90	90
Oxidized Mercury Collected Un-Spiked, m (ng)	25.8	26.7	21.5
Elemental Mercury Collected Un-Spiked, m (ng)	338	280	306
Total Mercury Collected Un-Spiked, m (ng)	364	307	328
Total Mercury Collected Spiked/Paired, m (ng)	596	576	480
Mass of Mercury Spiked, S (ng)	175	175	175
<b>RESULTS</b>			
Volume Metered Un-Spiked, V <sub>m(std)</sub> (L)	39.33	32.47	34.77
Oxidized Mercury Concentration Un-spiked Train, (µg/dscm)	0.656	0.822	0.618
Elemental Mercury Concentration Un-spiked Train, (µg/dscm)	8.59	8.62	8.80
Total Mercury Concentration Un-spiked Train, (µg/dscm)	9.25	9.45	9.43
Volume Metered Spiked/Paired, V <sub>m(std)</sub> (L)	39.24	37.87	35.62
Concentration Spiked/Paired Train, (µg/dscm)	15.2	15.2	13.5
Concentration Spiked Train Less Spike, (µg/dscm)	10.7	10.6	8.56
Concentration Recovered Spike, (µg/dscm)	5.93	5.76	4.04
Recovery, R (%)	133.0	124.6	82.3
Relative Deviation, RD (%)	7.37	5.66	4.84
Difference (µg/dscm)	1.47	1.13	0.870
Average Result (ug/dscm)	9.99	10.0	9.00
Average Recovery (%)	113		

<b>Parameters</b>	<b>Run 4</b>	<b>Run 5</b>	<b>Run 6</b>
Date	7/20/2011	7/20/2011	7/20/2011
Start Time	9:28	12:37	14:48
Stop Time	10:58	14:07	16:18
Barometric Pressure, P <sub>b</sub> (Inches Hg)	29.50	29.50	29.50
<b>Un-Spiked</b>			
Volume Metered, V <sub>m</sub> (L)	42.78	43.16	39.76
Meter Temperature, T <sub>m</sub> (°F)	90.0	92.5	94.0
Gas Meter Correction Factor, Y <sub>d</sub>	1.0000	1.0000	1.0000
Run Time, θ (minutes)	90	90	90
<b>Spiked/Paired</b>			
Volume Metered, V <sub>m</sub> (L)	43.61	42.00	39.72
Meter Temperature, T <sub>m</sub> (°F)	90.2	93.4	94.9
Gas Meter Correction Factor, Y <sub>d</sub>	1.0000	1.0000	1.0000
Run Time, θ (minutes)	90	90	90
Oxidized Mercury Collected Un-Spiked, m (ng)	33.7	18.2	22.4
Elemental Mercury Collected Un-Spiked, m (ng)	301	348	312
Total Mercury Collected Un-Spiked, m (ng)	334	366	335
Total Mercury Collected Spiked/Paired, m (ng)	559	539	493
Mass of Mercury Spiked, S (ng)	175	175	175
<b>RESULTS</b>			
Volume Metered Un-Spiked, V <sub>m(std)</sub> (L)	40.48	40.65	37.34
Oxidized Mercury Concentration Un-spiked Train, (µg/dscm)	0.833	0.448	0.600
Elemental Mercury Concentration Un-spiked Train, (µg/dscm)	7.44	8.56	8.36
Total Mercury Concentration Un-spiked Train, (µg/dscm)	8.25	9.00	8.97
Volume Metered Spiked/Paired, V <sub>m(std)</sub> (L)	41.24	39.49	37.25
Concentration Spiked/Paired Train, (µg/dscm)	13.6	13.6	13.2
Concentration Spiked Train Less Spike, (µg/dscm)	9.31	9.22	8.54
Concentration Recovered Spike, (µg/dscm)	5.30	4.65	4.26
Recovery, R (%)	125	105	90.8
Relative Deviation, RD (%)	6.03	1.17	2.48
Difference (µg/dscm)	1.06	0.213	0.434
Average Result (ug/dscm)	8.781	9.111	8.754
Average Recovery (%)	107		

<b>Fd Parameters</b>	<b>Sample 1</b>	<b>Sample 2</b>	<b>Sample 3</b>
Hydrogen (%)	4.97	5.07	5.03
Carbon (%)	72.85	72.06	73.34
Sulfur (%)	3.22	3.47	3.49
Nitrogen (%)	1.56	1.55	1.50
Oxygen (%)	6.64	6.91	6.54
Heating Value (Btu/lb)	12,855	12,774	13,004

  

<b>Result</b>	<b>Sample 1</b>	<b>Sample 2</b>	<b>Sample 3</b>
Fd (dscf/mmBtu)	10,000	9,999	9,975
Fc (dscf/mmBtu)	1,819	1,811	1,810
Fo	1.149	1.154	1.152

<b>Fd Parameters</b>	<b>Sample 1</b>	<b>Sample 2</b>	<b>Sample 3</b>
Hydrogen (%)	4.66	4.92	4.63
Carbon (%)	74.90	73.76	73.93
Sulfur (%)	4.14	3.66	3.81
Nitrogen (%)	1.53	1.57	1.51
Oxygen (%)	7.88	8.25	8.56
Heating Value (Btu/lb)	13,234	13,068	13,094

  

<b>Result</b>	<b>Sample 1</b>	<b>Sample 2</b>	<b>Sample 3</b>
Fd (dscf/mmBtu)	9,862	9,892	9,807
Fc (dscf/mmBtu)	1,817	1,812	1,812
Fo	1.134	1.141	1.131

<b>Fd Parameters</b>	<b>Sample 1</b>	<b>Sample 2</b>	<b>Sample 3</b>
Hydrogen (%)	4.71	4.61	4.65
Carbon (%)	75.09	74.78	73.60
Sulfur (%)	3.66	3.98	3.88
Nitrogen (%)	1.55	1.52	1.51
Oxygen (%)	7.92	7.86	8.04
Heating Value (Btu/lb)	13,271	13,197	13,052

  

<b>Result</b>	<b>Sample 1</b>	<b>Sample 2</b>	<b>Sample 3</b>
Fd (dscf/mmBtu)	9,848	9,855	9,827
Fc (dscf/mmBtu)	1,816	1,819	1,810
Fo	1.133	1.132	1.135