

***Field Data Printouts***

Project Number	3648
Client	Big Rivers
Plant	Green
Location	Inlet A
Date	7/27/2011
Meiter ID	M-16
Y <sub>d</sub>	0.9907
Filter C <sub>p</sub>	0.84

Nozzle Diameter (in)	0.275
Filter ID	NA
Train Type	Impingers
Train ID	IB
P <sub>0</sub> (Inches Hg)	29.45
P <sub>2</sub> (Inches H <sub>2</sub> O)	-16.0
Start Time	7:53
Stop Time	10:15

Place an "x" in the appropriate Box

Circular?	
Rectangular?	x
Diameter	
Length	162
Width	198

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	740.4	635.2	105.2
Impinger 2	752.3	719.0	33.3
Impinger 3	530.1	515.2	14.9
Impinger 4		50.0	-50.0
Silica Gel	915.0	887.0	28.0
Weight of Water Collected (g)			103.1
Silica Gel Net Weight (g)			28.0

CEMS	%CO <sub>2</sub>	%CO <sub>2</sub> +%O <sub>2</sub>	%O <sub>2</sub>
Average	11.1	NA	9.17

Run 1

Traverse Point	Min/Pl	Velocity Pressure ΔP (in H <sub>2</sub> O)	Orifice Setting ΔH (in H <sub>2</sub> O)	Gas Sample Volume Initial (ft <sup>3</sup> )	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Suction Port ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Measured (ft <sup>3</sup> )	Isokinetics (%)
	5										
1-1	5	0.44	1.80	728.88	311	101	94	0.663	46.1	3.950	118.9
1-2	10	0.40	1.60	732.37	310	104	94	0.632	44.0	3.226	100.1
1-3	15	0.30	1.20	735.38	307	106	95	0.548	36.0	2.772	99.1
1-4	20	0.29	1.20	738.32	308	106	95	0.539	37.3	2.706	96.5
1-5	25	0.25	1.00	741.12	309	107	96	0.500	34.7	2.573	100.9
1-6	30	0.27	1.10	744.08	308	107	96	0.520	36.1	2.721	102.6
1-7	35	0.24	0.98	746.83	305	108	96	0.490	32.9	2.525	100.6
1-8	40	0.18	0.74	749.16	306	108	97	0.424	29.3	2.126	96.5
1-9	45	0.16	0.66	751.41	303	108	98	0.400	27.7	2.060	100.6
1-10	50	0.21	0.86	752.96	302	110	99	0.456	31.7	2.330	99.2
1-11	55	0.26	1.10	755.81	300	111	100	0.510	35.2	2.688	84.3
1-12	60	0.22	0.90	759.53	301	112	101	0.469	32.4	3.257	140.8
1-13	65	0.15	0.62	762.70	296	107	102	0.387	26.7	2.995	145.3
2-1	70	0.49	2.00	764.40	295	113	102	0.700	46.2	1.549	43.0
2-2	75	0.42	1.70	767.86	299	113	102	0.645	45.7	1.151	34.7
2-3	80	0.39	1.60	771.36	301	113	103	0.622	43.1	1.184	39.3
2-4	85	0.42	1.70	774.92	299	112	102	0.648	44.7	3.246	97.5
2-5	90	0.43	1.80	778.68	299	112	103	0.658	45.2	3.425	101.7
2-6	95	0.38	1.60	782.11	300	111	103	0.616	42.6	3.126	98.5
2-7	100	0.31	1.30	785.33	297	109	102	0.557	35.3	2.940	102.7
2-8	105	0.12	0.49	788.01	296	108	102	0.346	23.9	3.444	137.1
2-9	110	0.13	0.53	789.30	296	108	102	0.361	24.5	1.177	63.3
2-10	115	0.15	0.62	791.58	294	109	102	0.387	26.6	2.076	104.2
2-11	120	0.14	0.57	793.70	295	110	102	0.374	25.7	1.930	100.2
2-12	125	0.15	0.62	795.91	294	111	103	0.387	26.6	2.009	100.7
2-13	130	0.13	0.53	797.96	292	111	103	0.361	24.8	1.963	100.2

Totals and Averages

130	1.11	73.34	301	104	0.508	35.1	67.06	99.0
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Inlet A
Date	7/27/2011
Meter ID	M-16
Y <sub>1</sub>	0.9907
Purity C <sub>2</sub>	0.84

Place an "x" in the appropriate Box

Circular?	
Rectangular?	x
Diameter	
Length	162
Width	198

Impinger	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	812.0	706.6	105.4
Impinger 2	763.0	730.9	32.1
Impinger 3	651.3	637.4	13.9
Impinger 4		50.0	-50.0
Silica Gel	894.6	859.4	35.2
Weight of Water Collected, V <sub>100</sub> (ml)			101.4
Silica Gel Net Weight, V <sub>100</sub> (g)			35.2

Nozzle Diameter (in)	0.275
Filter ID	NA
Train Type	Impingers
Train ID	IB
P <sub>1</sub> (Inches Hg)	29.45
P <sub>2</sub> (Inches H.O)	-16.0
Start Time	11:16
Stop Time	13:35

CEMS	%CO <sub>2</sub>	%CO <sub>2</sub> +%O <sub>2</sub>	%O <sub>2</sub>
Average	11.0	NA	9.31

Run 2

Traverse Point	Min/Pt	Velocity Pressure ΔP (in H <sub>2</sub> O)	Orifice Setting ΔH (in H <sub>2</sub> O)	Gas Sample Volume Initial (ft <sup>3</sup> )	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity ft/sec	Volume Measured V <sub>std</sub> (ft <sup>3</sup> )	Isokinetic (%)
	5										
1-1	5	0.32	1.30	805.09	313	107	103	0.587	39.4	2.242	99.1
1-2	10	0.28	1.10	808.10	317	110	103	0.529	37.0	2.742	102.5
1-3	15	0.26	1.10	811.14	311	112	104	0.510	35.5	2.762	106.7
1-4	20	0.43	1.80	814.17	311	115	104	0.655	45.7	2.751	102.7
1-5	25	0.23	0.94	817.21	310	113	104	0.487	33.4	2.759	113.3
1-6	30	0.24	0.98	819.98	312	113	104	0.490	34.1	2.514	101.2
1-7	35	0.25	1.00	822.80	312	111	103	0.500	34.6	2.566	101.2
1-8	40	0.24	0.98	825.58	312	112	103	0.491	34.1	2.527	101.7
1-9	45	0.21	0.86	828.20	310	111	103	0.458	31.9	2.353	102.4
1-10	50	0.23	0.94	830.91	310	111	103	0.480	33.4	2.486	101.2
1-11	55	0.26	1.10	833.80	308	111	103	0.510	35.4	2.620	101.5
1-12	60	0.19	0.78	836.26	309	112	103	0.436	30.2	2.235	100.0
1-13	65	0.21	0.86	839.20	310	112	103	0.458	31.9	2.672	114.8
2-1	70	0.38	1.60	841.80	301	114	104	0.615	42.8	2.361	75.0
2-2	75	0.39	1.60	845.24	302	115	105	0.624	43.2	3.118	97.8
2-3	80	0.30	1.20	848.32	302	115	105	0.548	37.9	2.789	99.2
2-4	85	0.26	1.10	851.16	300	115	106	0.510	35.2	2.569	96.6
2-5	90	0.25	1.00	854.00	298	114	106	0.500	34.5	2.571	100.6
2-6	95	0.22	0.90	856.65	299	115	106	0.469	32.4	2.496	94.9
2-7	100	0.24	0.98	859.40	301	115	106	0.490	33.9	2.487	99.4
2-8	105	0.20	0.82	861.97	299	115	107	0.447	30.9	2.421	101.5
2-9	110	0.18	0.74	864.37	301	115	107	0.424	29.3	2.167	100.0
2-10	115	0.21	0.86	866.96	300	115	107	0.458	31.7	2.538	99.9
2-11	120	0.25	1.00	869.75	299	115	107	0.500	34.5	2.521	99.6
2-12	125	0.20	0.82	872.31	302	116	108	0.447	31.0	2.308	101.1
2-13	130	0.15	0.62	874.54	301	115	107	0.387	26.8	2.013	101.8

Totals and Averages

130		1.04	72.58	306	109	0.499	34.6	65.80	99.5
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Inlet A
Date	7/27/2011
Meter ID	M-16
Y <sub>d</sub>	0.9907
Ratio C <sub>p</sub>	0.84

Nozzle Diameter (in)	0.275
Filter ID	NA
Train Type	Impingers
Train ID	IB
P <sub>1</sub> (Inches Hg)	29.45
P <sub>2</sub> (Inches H <sub>2</sub> O)	-16.0
Start Time	14:08
Stop Time	13:35

Place an "x" in the appropriate Box

Circular?	
Rectangular?	x
Diameter	
Length	162
Width	198

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	730.5	633.6	97.0
Impinger 2	747.3	721.5	25.8
Impinger 3	534.6	519.4	15.2
Impinger 4		60.0	-60.0
Silica Gel	937.7	915.0	22.7
Weight of Water Collected W <sub>w</sub> (g)			87.9
Silica Gel Net Weight, W <sub>net</sub> (g)			22.7

CEMS	%CO <sub>2</sub>	%CO <sub>2</sub> +%CO	%O <sub>2</sub>
Average	11.1	NA	8.25

Run 3

Traverse Point	Min/Pt	Velocity Pressure ΔP (in H <sub>2</sub> O)	Orifice Setting ΔH (in H <sub>2</sub> O)	Gas Sample Volume Initial (ft <sup>3</sup> )	Stack Temp (°F)	DGH Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity V <sub>s</sub> (ft/sec)	Volume Metered V <sub>m</sub> (ft <sup>3</sup> )	Isokinetic (%)
	5										
1-1	5	0.31	1.30	880.38	309	110	107	0.557	38.6	2.981	100.0
1-2	10	0.30	1.20	883.47	309	111	107	0.546	36.0	2.800	98.5
1-3	15	0.21	0.86	885.95	312	112	107	0.458	31.8	2.246	96.5
1-4	20	0.23	0.94	888.70	314	112	107	0.480	33.4	2.491	101.4
1-5	25	0.28	1.10	891.57	313	114	107	0.529	36.8	2.596	96.7
1-6	30	0.25	1.00	894.40	312	114	107	0.500	34.7	2.559	98.8
1-7	35	0.32	1.30	897.47	313	113	108	0.568	39.3	2.763	96.0
1-8	40	0.21	0.86	900.13	310	112	106	0.458	31.8	2.411	102.4
1-9	45	0.20	0.82	902.69	308	111	105	0.447	31.0	2.324	101.0
1-10	50	0.23	0.94	905.39	303	112	106	0.460	33.1	2.348	98.9
1-11	55	0.25	1.00	908.21	306	112	105	0.500	34.6	2.559	99.4
1-12	60	0.20	0.82	910.77	308	112	105	0.447	31.0	2.322	100.9
1-13	65	0.18	0.74	912.98	307	108	103	0.424	29.4	2.015	92.3
2-1	70	0.31	1.30	916.47	303	109	103	0.557	38.4	2.184	110.8
2-2	75	0.28	1.10	919.38	303	110	103	0.529	36.5	2.651	97.1
2-3	80	0.21	0.86	922.00	302	110	103	0.458	31.6	2.386	100.8
2-4	85	0.23	0.94	924.78	303	109	103	0.480	33.1	2.522	102.4
2-5	90	0.25	1.00	927.51	306	110	103	0.500	34.6	2.486	96.3
2-6	95	0.25	1.00	930.33	305	110	103	0.500	34.6	2.568	96.7
2-7	100	0.23	0.94	933.07	307	109	103	0.480	32.2	2.497	101.2
2-8	105	0.18	0.74	935.47	308	109	103	0.424	29.4	2.186	100.2
2-9	110	0.15	0.62	937.69	306	109	103	0.387	26.8	2.022	101.3
2-10	115	0.18	0.74	940.08	305	109	103	0.424	29.3	2.177	99.6
2-11	120	0.21	0.86	942.67	304	109	103	0.458	31.7	2.360	99.6
2-12	125	0.19	0.78	945.15	305	110	103	0.436	30.1	2.257	100.5
2-13	130	0.14	0.57	947.25	306	110	103	0.372	25.9	1.611	98.1

Totals and Averages

130	0.936	70.02	307	108	0.477	33.0	63.64	99.7
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Inlet A
Date	7/27/11
P <sub>b</sub> (Inches Hg)	29.45

Meiter ID	Rental
Y <sub>d</sub>	1.0072

Start Time	7:53
Stop Time	9:26

Meiter ID	Rental
Y <sub>d</sub>	0.9985

**Run 1**

Min/Pt	Gas Sample	DGM	Volume
5	Volume		
Elapsed	Initial (L)	Temp	Metered
Time	0.00	(°F)	Vmstd
			(L)
5.00	2.11	95	1.989
10.00	4.16	96	1.929
15.00	6.06	99	1.778
20.00	8.10	102	1.899
25.00	10.06	106	1.812
30.00	12.01	110	1.790
35.00	14.12	111	1.934
40.00	16.26	113	1.954
45.00	18.30	114	1.860
50.00	20.40	116	1.908
55.00	22.42	118	1.829
60.00	24.43	119	1.816
65.00	26.36	121	1.738
70.00	28.41	122	1.843
75.00	30.49	123	1.867
80.00	32.70	123	1.983
85.00	34.82	124	1.899
90.00	36.90	124	1.864

**Run 1 Spiked**

Min/Pt	Gas Sample	DGM	Volume
5	Volume		
Elapsed	Initial (L)	Temp	Metered
Time	0.00	(°F)	Vmstd
			(L)
5	2.21	95	2.066
10	4.36	96	2.006
15	6.30	99	1.800
20	8.24	102	1.791
25	10.15	106	1.750
30	12.26	110	1.920
35	14.30	111	1.853
40	16.32	113	1.829
45	18.41	114	1.889
50	20.50	116	1.882
55	22.60	118	1.885
60	24.79	119	1.962
65	26.82	121	1.812
70	28.72	122	1.693
75	30.69	123	1.753
80	32.71	123	1.797
85	34.69	124	1.759
90	36.65	124	1.741

**Totals and Averages**

90	36.90	113	33.69
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**Totals and Averages**

90	36.65	113	33.17
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Inlet A
Date	7/27/11
P <sub>b</sub> (Inches Hg)	29.45

Meter ID	Rental
Y <sub>d</sub>	1.0072

Start Time	11:16
Stop Time	12:48

Meter ID	Rental
Y <sub>d</sub>	0.9985

**Run 2**

Min/Pt	Gas Sample	DGM Temp (°F)	Volume Metered Vmstd (L)
5	Volume Initial (L)		
Elapsed Time	0.00		
5	2.09	100	1 953
10	4.19	100	1 962
15	6.17	104	1 837
20	8.22	105	1 898
25	10.39	106	2 006
30	12.41	107	1 864
35	14.36	108	1 796
40	16.35	109	1 830
45	18.29	112	1 775
50	20.42	115	1 938
55	22.39	117	1 786
60	24.50	118	1 910
65	26.59	120	1 885
70	28.62	122	1 825
75	30.74	123	1 903
80	32.64	124	1 702
85	34.69	125	1 834
90	36.72	126	1 813

**Run 2 Spiked**

Min/Pt	Gas Sample	DGM Temp (°F)	Volume Metered Vmstd (L)
5	Volume Initial (L)		
Elapsed Time	0.00		
5	2.21	100	2 047
10	4.32	102	1 948
15	6.46	104	1 968
20	8.45	105	1 827
25	10.45	106	1 833
30	12.51	107	1 885
35	14.56	108	1 872
40	16.59	109	1 851
45	18.62	112	1 841
50	20.60	115	1 786
55	22.56	117	1 762
60	24.46	118	1 705
65	26.50	120	1 824
70	28.55	122	1 827
75	30.59	123	1 815
80	32.61	124	1 794
85	34.54	125	1 711
90	36.48	126	1 717

**Totals and Averages**

90	36.72	113	33.51
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**Totals and Averages**

90	36.48	114	33.00
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Inlet A
Date	7/27/11
P <sub>b</sub> (Inches Hg)	29.45

Meter ID	Rental
Y <sub>d</sub>	1.0072

Start Time	14:08
Stop Time	15:41

Meter ID	Rental
Y <sub>d</sub>	0.9985

**Run 3**

Min/Pt	Gas Sample Volume Initial (L)	DGM Temp (°F)	Volume Metered Vmstd (L)
5	0.00		
Elapsed Time			
5	2.07	108	1.907
10	4.15	110	1.909
15	6.19	112	1.866
20	8.21	113	1.845
25	10.30	115	1.902
30	12.34	117	1.850
35	14.36	119	1.825
40	16.44	120	1.876
45	18.49	121	1.846
50	20.52	122	1.925
55	22.59	122	1.861
60	24.62	122	1.925
65	26.64	122	1.816
70	28.59	122	1.753
75	30.57	123	1.777
80	32.47	124	1.702
85	34.42	124	1.747
90	36.39	125	1.762

**Run 3 Spiked**

Min/Pt	Gas Sample Volume Initial (L)	DGM Temp (°F)	Volume Metered Vmstd (L)
5	0.00		
Elapsed Time			
5	2.40	108	2.192
10	4.98	110	2.348
15	6.72	112	1.578
20	8.65	113	1.747
25	10.60	115	1.759
30	12.57	117	1.771
35	14.55	119	1.774
40	16.59	120	1.824
45	18.59	121	1.786
50	20.64	122	1.827
55	22.71	122	1.845
60	24.76	122	1.827
65	26.78	122	1.800
70	28.75	122	1.756
75	30.72	123	1.753
80	32.72	124	1.776
85	34.76	124	1.812
90	36.84	125	1.844

**Totals and Averages**

90	36.39	119	32.89
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**Totals and Averages**

90	36.84	119	33.01
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Inlet B
Date	7/27/2011
Meter ID	M-17
Y <sub>s</sub>	1.0141
Frict C <sub>p</sub>	0.84

Nozzle Diameter (in)	0.275
Filter ID	NA
Train Type	Impingers
Train ID	IB-9
P <sub>0</sub> (Inches Hg)	29.45
P <sub>1</sub> (Inches H <sub>2</sub> O)	-12.0
Start Time	7:53
Stop Time	10:08

Place an "x" in the appropriate Box

Circular?	
Rectangular?	x
Diameter	
Length	162
Width	198

Moisture	Final Wt (g)	Tare wt (g)	Net Wt (g)
Impinger 1	744.3	653.8	90.5
Impinger 2	709.7	693.4	16.3
Impinger 3	616.7	605.1	11.6
Impinger 4		50.0	-50.0
Silica Gel	891.0	860.3	30.7
Weight of Water Collected, V <sub>w</sub> (g)			65.4
Silica Gel Net Weight, V <sub>dry</sub> (g)			30.7

CEMS	%CO <sub>2</sub>	%CO + %CO <sub>2</sub>	%O <sub>2</sub>
Average	11.1	NA	8.17

Run 1

Traverse Point	Min/Pl	Velocity Pressure ΔP (in H <sub>2</sub> O)	Griffice Setting ΔH (in H <sub>2</sub> O)	Gas Sample Volume Initial (ft <sup>3</sup> )	Stack Temp (°C)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity (ft/sec)	Volume Measured (ft <sup>3</sup> )	Isochronous (%)
	5										
1-1	5	0.57	2.20	433.89	303	88	86	0.755	51.7	5.607	141.2
1-2	10	0.44	1.70	437.12	303	90	86	0.683	45.4	3.116	89.4
1-3	15	0.33	1.30	439.96	304	92	87	0.574	39.4	2.732	80.5
1-4	20	0.25	0.97	442.68	305	95	88	0.500	34.3	2.605	75.2
1-5	25	0.19	0.74	445.32	305	97	88	0.438	29.9	2.522	71.2
1-6	30	0.21	0.81	447.65	306	98	89	0.458	31.4	2.222	92.4
1-7	35	0.17	0.68	450.09	307	99	89	0.412	26.3	2.524	107.5
1-8	40	0.25	0.97	452.68	304	100	90	0.500	34.3	2.464	93.8
1-9	45	0.30	1.20	455.61	305	101	92	0.548	37.6	2.782	96.7
1-10	50	0.36	1.40	458.73	305	103	93	0.600	41.1	2.956	93.8
1-11	55	0.32	1.20	461.82	304	104	93	0.566	38.9	2.923	98.3
1-12	60	0.29	1.10	464.83	303	104	94	0.539	36.9	2.945	100.5
1-13	65	0.24	0.93	467.63	304	104	94	0.490	32.6	2.645	102.7
2-1	70	0.53	2.10	470.11	302	106	95	0.728	49.8	2.342	81.2
2-2	75	0.44	1.70	473.90	303	107	96	0.663	45.8	3.671	102.4
2-3	80	0.34	1.30	477.55	304	108	97	0.583	40.0	3.430	111.9
2-4	85	0.26	1.00	480.17	305	108	97	0.510	35.0	2.460	91.9
2-5	90	0.19	0.74	482.46	304	108	97	0.436	29.9	2.148	85.8
2-6	95	0.2	0.77	484.85	305	107	97	0.427	30.7	2.245	95.0
2-7	100	0.19	0.74	487.17	303	107	98	0.456	29.8	2.177	95.0
2-8	105	0.26	1.00	489.93	304	107	98	0.510	34.9	2.591	96.7
2-9	110	0.29	1.10	493.01	303	109	99	0.539	36.3	2.885	101.9
2-10	115	0.25	0.97	496.19	305	110	100	0.500	34.3	2.972	115.2
2-11	120	0.26	1.00	499.39	304	110	100	0.510	34.9	2.961	111.6
2-12	125	0.25	0.97	502.70	303	110	101	0.500	34.3	3.091	117.6
2-13	130	0.24	0.93	505.18	303	110	101	0.490	33.5	2.316	89.0

Totals and Averages

130	1.13	77.08	304	98.6	0.534	36.6	72.90	99.9
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Inlet B
Date	7/27/2011
Meter ID	M-17
Y <sub>1</sub>	1.0141
Plot C <sub>p</sub>	0.84

Place an "x" in the appropriate Box

Nozzle Diameter (in)	0.275
Filter ID	NA
Train Type	Impingers
Train ID	IB-9
P <sub>1</sub> (Inches Hg)	29.45
P <sub>2</sub> (Inches H <sub>2</sub> O)	-12.0
Start Time	11:16
Stop Time	13:34

Circular?	
Rectangular?	x
Diameter	
Length	162
Width	198

Impinger	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	750.0	719.6	30.4
Impinger 2	758.4	745.4	13.0
Impinger 3	619.5	616.7	2.8
Impinger 4		60.0	-50.0
Silica Gel	926.2	902.3	23.9
Weight of Water Collected, W <sub>w</sub> (g)			-3.8
Silica Gel Net Weight, W <sub>net</sub> (g)			23.9

CEMS	%CO <sub>2</sub>	%CO <sub>2</sub> +%O <sub>2</sub>	%O <sub>2</sub>
Average	11.0	NA	9.31

Run 2

Traverse Point	Min/Pr	Velocity Pressure ΔP (in. H <sub>2</sub> O)	Orifice Reading ΔH (in. H <sub>2</sub> O)	Gas Sample Volume Initial (ft <sup>3</sup> )	Stack Temp (°F)	OGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity (ft/sec)	Volume Metered (ft <sup>3</sup> )	Isokneacs (%)
	5										
1-1	5	0.54	2.10	513.64	308	102	101	0.735	60.0	3.556	96.2
1-2	10	0.44	1.70	517.29	309	104	101	0.663	45.2	3.433	95.0
1-3	15	0.33	1.30	520.51	307	109	101	0.574	39.1	3.012	96.1
1-4	20	0.28	1.10	523.51	305	110	102	0.629	35.9	2.800	96.8
1-5	25	0.21	0.81	526.03	303	110	102	0.458	31.1	2.360	93.7
1-6	30	0.19	0.73	528.37	304	111	102	0.433	29.6	2.180	91.5
1-7	35	0.22	0.88	530.27	304	111	103	0.469	31.8	1.769	69.0
1-8	40	0.24	0.92	533.36	303	112	104	0.480	33.2	2.873	107.2
1-9	45	0.29	1.10	535.86	305	112	104	0.539	36.6	2.325	79.0
1-10	50	0.35	1.30	538.79	306	113	104	0.592	40.2	2.724	84.3
1-11	55	0.33	1.30	541.71	303	113	105	0.574	39.0	2.712	98.3
1-12	60	0.28	1.10	544.63	303	114	105	0.629	35.9	2.709	93.5
1-13	65	0.25	0.96	547.64	302	114	105	0.600	33.9	2.791	101.9
2-1	70	0.56	2.20	552.43	301	114	105	0.748	50.7	2.462	106.7
2-2	75	0.44	1.70	555.63	300	115	105	0.655	44.9	2.370	81.7
2-3	80	0.31	1.20	558.92	300	115	105	0.557	37.7	3.050	96.9
2-4	85	0.25	0.96	561.89	300	115	105	0.500	35.9	2.752	100.4
2-5	90	0.2	0.77	564.77	299	115	105	0.447	30.3	2.667	108.7
2-6	95	0.21	0.81	567.39	299	115	106	0.458	31.0	2.424	36.4
2-7	100	0.18	0.69	570.19	296	115	106	0.424	26.6	2.590	111.1
2-8	105	0.27	1.00	572.76	296	115	106	0.520	35.1	2.379	93.3
2-9	110	0.24	0.92	575.63	300	116	106	0.490	33.2	2.654	98.8
2-10	115	0.24	0.92	578.43	300	116	106	0.490	33.2	2.589	96.4
2-11	120	0.25	0.96	581.99	300	116	106	0.500	35.9	3.282	120.1
2-12	125	0.25	0.96	585.55	303	117	107	0.500	35.9	3.287	120.1
2-13	130	0.24	0.92	589.04	303	117	107	0.490	35.2	3.222	120.3

Totals and Averages

130	1.13	79.49	302	109	0.634	36.2	73.85	97.2
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Inlet B
Date	7/27/2011
Meter ID	M-17
Y <sub>1</sub>	1.0141
Flow C <sub>1</sub>	0.84

Nozzle Diameter (in)	0.275
Filter ID	NA
Train Type	Impingers
Train ID	IB-9
P <sub>1</sub> (Inches Hg)	29.45
P <sub>2</sub> (Inches H <sub>2</sub> O)	-12.0
Start Time	14:08
Stop Time	16:16

Place an "x" in the appropriate Box

Circular?	
Rectangular?	x
Diameter	
Length	162
Width	198

Misc. wt	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	837.7	659.1	178.6
Impinger 2	721.3	696.8	24.5
Impinger 3	615.7	608.5	7.2
Impinger 4		50.0	-50.0
Silica Gel	899.7	890.6	9.1
Weight of Water Collected V <sub>W</sub> (g)			160.2
Silica Gel Net Weight V <sub>SG</sub> (g)			9.1

CEMS	%CO <sub>2</sub>	%CO <sub>2</sub> +%O <sub>2</sub>	%O <sub>2</sub>
Average	11.1	NA	6.25

Run 3

Transverse Point	Min/Pt	Velocity Pressure ΔP (in. H <sub>2</sub> O)	Orifice Setting ΔH (in. H <sub>2</sub> O)	Gas Sample Volume Initial (ft <sup>3</sup> )	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity (ft/sec)	Volume Metered (ft <sup>3</sup> )	Isokinetics (%)
	5										
1-1	5	0.55	2.20	594.38	296	111	106	0.742	60.9	3.913	103.2
1-2	10	0.46	1.80	598.15	294	114	106	0.678	48.5	3.500	100.5
1-3	15	0.36	1.40	601.52	295	115	107	0.600	41.2	3.120	101.7
1-4	20	0.30	1.20	604.56	296	117	107	0.548	37.6	2.808	100.9
1-5	25	0.24	0.94	607.37	301	117	107	0.490	35.8	2.584	101.0
1-6	30	0.19	0.75	609.80	302	117	107	0.436	30.1	2.242	101.1
1-7	35	0.16	0.63	611.97	297	117	108	0.400	27.5	2.009	97.9
1-8	40	0.25	0.98	614.67	300	119	108	0.500	34.4	2.486	97.6
1-9	45	0.29	1.10	617.44	302	119	109	0.539	37.1	2.549	95.0
1-10	50	0.34	1.30	620.40	303	120	109	0.563	40.2	2.723	91.8
1-11	55	0.33	1.30	623.60	303	120	109	0.574	39.6	2.844	100.8
1-12	60	0.29	1.10	626.77	304	120	109	0.535	37.2	2.815	106.5
1-13	65	0.25	0.98	629.64	303	120	109	0.500	34.5	2.638	105.8
2-1	70	0.54	2.10	635.09	304	120	109	0.735	50.8	5.024	124.5
2-2	75	0.43	1.70	638.52	304	120	110	0.656	45.2	3.155	94.7
2-3	80	0.35	1.40	641.58	305	121	110	0.592	40.9	2.911	93.6
2-4	85	0.26	1.00	644.38	303	121	110	0.510	35.2	2.570	95.1
2-5	90	0.21	0.83	647.52	304	121	110	0.458	31.6	2.480	123.7
2-6	95	0.21	0.83	650.43	303	121	110	0.458	31.6	2.668	113.6
2-7	100	0.19	0.75	653.19	306	121	110	0.435	30.1	2.531	114.4
2-8	105	0.26	1.00	656.70	306	122	110	0.510	35.2	3.219	124.4
2-9	110	0.26	0.98	659.94	304	122	110	0.500	34.5	2.971	116.9
2-10	115	0.23	0.90	663.04	305	122	110	0.480	32.1	2.842	116.7
2-11	120	0.24	0.94	665.12	306	122	110	0.490	32.9	1.907	76.7
2-12	125	0.25	0.98	667.34	303	122	110	0.500	34.5	2.035	90.1
2-13	130	0.24	0.94	669.74	303	122	110	0.490	32.8	2.200	88.2

Totals and Averages											
130		1.16		79.56	302	114		0.536	37.0	73.22	103.2

Project Number	3648
Client	Big Rivers
Plant	Green
Location	Inlet B
Date	7/27/11
P <sub>g</sub> (Inches Hg)	29.45

Meter ID	M-26
Y <sub>g</sub>	0.9958

Start Time	7:53
Stop Time	9:36

Meter ID	M-26
Y <sub>g</sub>	0.9902

**Run 1**

Min/Pt	Gas Sample Volume Initial (L)	DGM Temp (°F)	Volume Metered Vmstd (L)
5	0.00		
Elapsed Time			
5.00	1.938	91	1 820
10.00	4.166	92	2 088
15.00	6.086	93	1 796
20.00	7.957	99	1 731
25.00	10.001	100	1 888
30.00	12.093	103	1 922
35.00	14.004	105	1 750
40.00	15.994	108	1 812
45.00	18.018	111	1 834
50.00	20.051	112	1 839
55.00	21.992	114	1 749
60.00	24.060	116	1 857
65.00	25.974	117	1 716
70.00	28.059	120	1 860
75.00	30.060	118	1 791
80.00	31.947	119	1 686
85.00	34.053	120	1 878
90.00	36.161	120	1 880

**Totals and Averages**

90	36.161	109	32.89
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**Run 1 Spiked**

Min/Pt	Gas Sample Volume Initial (L)	DGM Temp (°F)	Volume Metered Vmstd (L)
5	0.00		
Elapsed Time			
5	1.874	91	1 750
10	4.046	93	2 020
15	6.152	95	1 952
20	7.777	101	1 490
25	10.156	102	2 178
30	12.198	105	1 859
35	14.093	109	1 713
40	15.968	112	1 686
45	17.989	113	1 814
50	20.048	114	1 845
55	22.086	117	1 817
60	23.978	119	1 681
65	26.157	120	1 933
70	27.952	121	1 589
75	30.019	119	1 836
80	31.970	120	1 730
85	34.013	120	1 812
90	36.237	120	1 972

**Totals and Averages**

90	36.237	111	32.67
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Inlet B
Date	7/27/11
P <sub>b</sub> (Inches Hg)	29.45

Meter ID	M-26
Y <sub>d</sub>	0.9958

Start Time	11:16
Stop Time	12:54

Meter ID	M-26
Y <sub>d</sub>	0.9902

**Run 2**

Min/Pt	Gas Sample	DGM Temp (°F)	Volume Metered Vmstd (L)
5	Volume Initial (L)		
Elapsed Time	0.00		
5	2.038	103	1.873
10	4.063	104	1.857
15	5.987	105	1.762
20	8.111	107	1.938
25	10.034	109	1.748
30	12.009	112	1.736
35	14.037	114	1.828
40	16.047	116	1.805
45	18.022	117	1.771
50	20.028	119	1.792
55	22.051	120	1.804
60	24.069	122	1.794
65	26.107	122	1.811
70	28.021	123	1.698
75	29.965	122	1.728
80	32.118	122	1.914
85	33.998	123	1.668
90	36.016	123	1.791

**Run 2 Spiked**

Min/Pt	Gas Sample	DGM Temp (°F)	Volume Metered Vmstd (L)
5	Volume Initial (L)		
Elapsed Time	0.00		
5	1.974	103	1.804
10	3.978	103	1.831
15	6.027	105	1.866
20	8.004	108	1.790
25	9.989	110	1.791
30	12.002	114	1.804
35	14.070	115	1.850
40	16.070	118	1.780
45	18.041	119	1.751
50	20.034	121	1.765
55	22.072	122	1.801
60	24.096	123	1.786
65	26.059	123	1.732
70	27.997	124	1.707
75	29.994	123	1.762
80	32.012	123	1.781
85	34.021	123	1.773
90	36.033	124	1.772

**Totals and Averages**

90	36.016	116	32.36
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**Totals and Averages**

90	36.033	117	32.14
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Inlet B
Date	7/27/11
P <sub>3</sub> (Inches Hg)	29.45

Meter ID	M-26
Y <sub>d</sub>	0.9958

Start Time	14:08
Stop Time	15:49

Meter ID	M-26
Y <sub>d</sub>	0.9902

**Run 3**

Min/Pt	Gas Sample	DGM	Volume
5	Volume	Temp	Metered
Elapsed	Initial (L)	(°F)	Vmstd
Time	0.00		(L)
5	2.073	110	1.881
10	4.066	110	1.809
15	6.011	110	1.765
20	8.009	112	1.807
25	9.997	113	1.795
30	12.075	116	1.866
35	13.991	117	1.718
40	16.186	120	1.958
45	18.021	121	1.634
50	20.071	123	1.819
55	22.031	124	1.736
60	24.036	125	1.773
65	26.087	125	1.814
70	28.106	127	1.779
75	30.040	127	1.704
80	32.005	127	1.732
85	34.096	126	1.846
90	36.111	126	1.779

**Run 3 Spiked**

Min/Pt	Gas Sample	DGM	Volume
5	Volume	Temp	Metered
Elapsed	Initial (L)	(°F)	Vmstd
Time	0.00		(L)
5	2.092	110	1.888
10	4.031	110	1.750
15	5.984	110	1.763
20	7.962	113	1.776
25	10.004	114	1.830
30	12.001	118	1.777
35	14.094	119	1.860
40	16.104	122	1.777
45	18.037	123	1.706
50	20.096	125	1.811
55	22.069	125	1.735
60	24.004	127	1.696
65	26.035	127	1.780
70	28.114	129	1.816
75	30.025	127	1.675
80	32.074	126	1.799
85	34.079	126	1.760
90	36.041	126	1.722

**Totals and Averages**

90	36.111	120	32.21
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**Totals and Averages**

90	36.041	121	31.91
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Stack
Date	7/27/2011
Metel ID	M-27
$V_a$	1.0034
Pratol $C_p$	0.84

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	180
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	803.3	613.6	189.7
Impinger 2	725.4	733.5	-8.1
Impinger 3	631.2	626.4	4.8
Silica Gel	936.8	918.4	18.4
Weight of Water Collected, $V_{w,30}$ (g)			186.4
Silica Gel Net Weight, $V_{w,30}$ (g)			18.4

Nozzle Diameter (in)	0.175
Filter ID	12145
Train Type	Impinger
Train ID	IB-4
$P_0$ (Inches Hg)	28.45
$P_s$ (Inches H <sub>2</sub> O)	-0.2
Start Time	7:53
Stop Time	10:15

CEMS	%CO <sub>2</sub>	%CO <sub>2</sub> +%O <sub>2</sub>	%O <sub>2</sub>
Average	11.7	NA	8.17

Run 1

Traverse Point	Min/Pk	Velocity Pressure $\Delta P$ (in H <sub>2</sub> O)	Orifice Setting $\Delta H$ (in H <sub>2</sub> O)	Gas Sample Volume Initial (ft <sup>3</sup> )	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root $\Delta P$	Stack Gas Velocity $V_s$ (ft/sec)	Volume Metered $V_{mstd}$ (ft <sup>3</sup> )	Isokinetic (%)
	7.5										
1-1	7.5	2.20	1.70	113.70	130	86	85	1.483	89.4	4.960	97.9
1-2	15.0	2.20	1.70	118.90	130	86	87	1.483	89.4	4.972	97.5
1-3	22.5	1.80	1.50	123.88	129	91	87	1.376	83.0	4.746	100.1
2-1	30.0	2.20	1.70	129.10	131	91	88	1.483	89.5	4.973	97.6
2-2	37.5	2.20	1.70	134.25	129	94	90	1.483	86.4	4.884	86.7
2-3	45.0	2.00	1.60	139.37	130	96	90	1.414	85.3	4.946	99.7
3-1	52.5	2.30	1.80	144.79	131	96	92	1.517	91.5	5.123	95.4
3-2	60.0	2.10	1.70	150.18	131	96	92	1.449	87.5	5.092	102.3
3-3	67.5	1.80	1.40	154.99	130	97	92	1.343	80.9	4.536	98.4
4-1	75.0	2.30	1.80	160.60	129	96	93	1.517	91.5	5.297	101.5
4-2	82.5	2.10	1.70	166.80	129	96	92	1.449	87.5	5.858	117.5
4-3	90.0	1.80	1.40	172.06	129	98	94	1.343	80.5	4.949	107.2

Totals and Averages

90	1.64	83.56	130	92.0	1.45	87.1	60.27	101.1
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Project Number:	3648
Client:	Big Rivers
Plant:	Green
Location:	Stack
Date:	7/27/2011
Filter ID:	M-27
Y <sub>d</sub> :	1.0034
Pitot C <sub>d</sub> :	0.84

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter:	180
Length:	
Width:	

Impinger	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	733.7	550.8	182.9
Impinger 2	724.7	737.3	-12.6
Impinger 3	571.4	567.6	3.8
Silica Gel	934.9	913.2	21.7
Weight of Water Collected, V <sub>w</sub> (g)			174.1
Silica Gel Net Weight, V <sub>wt</sub> (g)			21.7

Nozzle Diameter (in)	0.175
Filter ID	12146
Train Type	Impinger
Train ID	IB-23
P <sub>1</sub> (Inches Hg)	29.45
P <sub>2</sub> (Inches H <sub>2</sub> O)	-0.2
Start Time	11:16
Stop Time	14:00

CEMS	%CO <sub>2</sub>	%CO <sub>2</sub> +%O <sub>2</sub>	%C <sub>2</sub>
Average	11.0	N/A	5.31

Run 2

Traverse Point	Min/P:	Velocity Pressure ΔP (in H <sub>2</sub> O)	Orifice Setting ΔH (in H <sub>2</sub> O)	Gas Sample Volume Initial (ft <sup>3</sup> )	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Foot ΔP	Stack Gas Velocity V <sub>s</sub> (ft/sec)	Volume Measured (ft <sup>3</sup> )	Isokineurs (%)
	7.5										
1-1	7.5	2.40	1.90	182.45	130	93	93	1.545	82.3	5.957	100.0
1-2	15.0	2.20	1.80	187.88	129	95	93	1.483	89.3	5.132	100.1
1-3	22.5	1.90	1.50	192.91	129	97	95	1.378	82.0	4.735	99.3
2-1	30.0	2.30	1.80	193.35	129	99	94	1.517	84.3	5.116	97.6
2-2	37.5	2.10	1.70	203.70	130	101	96	1.449	87.3	5.015	100.2
2-3	45.0	2.00	1.60	208.84	130	102	97	1.414	95.2	4.808	95.4
3-1	52.5	2.40	1.80	214.40	130	103	98	1.549	90.3	5.195	97.1
3-2	60.0	2.20	1.80	220.09	129	103	87	1.485	98.5	5.320	103.7
3-3	67.5	2.00	1.60	224.94	131	102	99	1.414	95.3	4.829	92.8
4-1	75.0	2.20	1.80	230.14	129	103	98	1.483	86.3	4.859	94.7
4-2	82.5	2.20	1.80	235.60	130	104	99	1.492	89.3	5.092	96.4
4-3	90.0	1.90	1.50	241.10	130	104	99	1.378	82.0	5.125	107.6

Totals and Averages

90	1.73	64.30	130	98.5	1.47	86.2	60.27	99.2
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Stack
Date	7/27/2011
Meier ID	M-27
$V_d$	1.0034
Pitot $C_p$	0.84

Nozzle Diameter (in)	0.175
Filter ID	12147
Train Type	Impinger
Train ID	IB-4
$P_2$ (Inches Hg)	29.45
$P_3$ (Inches H <sub>2</sub> O)	-0.2
Start Time	14:08
Stop Time	16:20

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	180
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	800.4	615.2	185.2
Impinger 2	723.8	731.4	-7.6
Impinger 3	631.0	628.6	2.4
Silica Gel	952.8	936.8	16.0
Weight of Water Collected $V_{w,2}$ (g)			185.0
Silica Gel Net Weight $V_{w,3}$ (g)			16.0

CEMS	%CO <sub>2</sub>	%CO <sub>2</sub> +%O <sub>2</sub>	%O <sub>2</sub>
Average	11.1	NA	8.25

Run 3

Traverse Point	Min/Pl	Velocity Pressure $\Delta P$ (in. H <sub>2</sub> O)	Orifice Setting $\Delta H$ (in. H <sub>2</sub> O)	Gas Sample Volume Initial (ft <sup>3</sup> )	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root $\Delta P$	Stack Gas Velocity (ft/sec)	Volume Measured (ft <sup>3</sup> )	Isokinetics (%)
	Elapsed Time										
1-1	7.5	2.30	1.90	247.31	128	97	97	1.517	91.2	5.275	100.4
1-2	15.0	2.20	1.80	252.75	128	99	98	1.463	89.2	5.100	99.2
1-3	22.5	1.80	1.40	257.57	128	100	98	1.242	80.6	4.510	97.0
2-1	30.0	2.20	1.80	263.06	129	102	98	1.483	89.2	5.132	100.0
2-2	37.5	2.20	1.80	268.51	128	104	98	1.482	89.2	5.067	99.0
2-3	45.0	1.90	1.50	273.54	129	104	100	1.378	72.9	4.693	96.2
3-1	52.5	2.30	1.90	279.41	128	105	100	1.517	91.2	5.465	104.0
3-2	60.0	2.30	1.90	285.49	129	105	101	1.517	91.2	5.658	107.7
3-3	67.5	2.10	1.70	290.95	128	105	101	1.449	97.1	5.077	101.1
4-1	75.0	2.40	2.00	296.47	129	106	102	1.649	93.2	5.127	98.6
4-2	82.5	2.20	1.80	301.98	128	106	102	1.483	89.2	5.115	98.5
4-3	90.0	2.00	1.60	307.14	128	106	102	1.414	85.0	4.788	97.7

Totals and Averages

90	1.76	65.44	128	102	1.47	88.3	61.02	100.0
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Stack
Date	7/27/2011
Meter ID	M-28
Y <sub>s</sub>	0.9976
Pilot C <sub>p</sub>	0.84

Place an "x" in the appropriate Box

Nozzle Diameter (in)	0.194
Filter ID	NA
Train Type	Impinger
Train ID	IB-25
F <sub>0</sub> (Inches Hg)	29.45
F <sub>2</sub> (Inches H <sub>2</sub> O)	-0.2
Start Time	7:53
Stop Time	10:15

Circular?	x
Rectangular?	
Diameter	180
Length	
Width	

Flowrate	Final Wt (g)	Take Wt (g)	Net Wt (g)
Impinger 1	748.5	659.7	88.8
Impinger 2	735.2	630.0	105.2
Impinger 3	662.5	598.7	63.8
Silica Gel	933.5	882.6	50.9
Weight of Water Collected, V <sub>w</sub> (g)			25.9
Silica Gel Net Weight, V <sub>wg</sub> (g)			50.9

CEMS	%CO <sub>2</sub>	%CO <sub>2</sub> +%O <sub>2</sub>	%O <sub>2</sub>
Average	11.1	NA	8.17

Run 1

Transverse Point	Min/Pt	Velocity Pressure ΔP (in. H <sub>2</sub> O)	Orifice Sealing ΔH (in. H <sub>2</sub> O)	Gas Sample Volume Initial (ft <sup>3</sup> )	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity V <sub>s</sub> (ft/sec)	Volume Measured (ft <sup>3</sup> )	Isokinetics (%)
	Elapsed Time										
	10			628.30							
1-1	10	2.30	2.74	637.63	132	91	87	1.517	81.4	8.898	103.0
1-2	20	2.30	2.70	646.52	131	95	89	1.517	81.3	8.405	97.5
1-3	30	1.60	1.90	655.23	132	100	90	1.265	76.2	6.172	115.9
2-1	40	2.40	2.90	664.59	132	105	92	1.549	83.4	8.748	99.5
2-2	50	2.30	2.70	674.07	133	109	96	1.517	81.5	8.792	102.2
2-3	60	1.70	2.00	682.23	132	108	98	1.304	74.6	7.549	102.0
3-1	70	2.40	2.80	691.56	132	109	99	1.548	83.4	8.732	98.2
3-2	80	2.20	2.60	700.89	131	110	99	1.483	80.3	8.621	102.2
3-3	90	1.50	1.80	708.65	131	110	100	1.225	73.7	7.160	102.7
4-1	100	2.30	2.70	716.92	131	112	101	1.517	81.3	7.817	86.4
4-2	110	2.20	2.60	726.25	131	112	102	1.483	80.3	8.583	101.9
4-3	120	1.60	1.90	735.17	131	112	102	1.265	76.2	8.192	114.0

Totals and Averages

	120		2.45	106.87	132	101	1.43	86.3	99.30	101.7
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Stack
Date	7/27/2011
Filter ID	M-28
V <sub>0</sub>	0.9976
P <sub>0</sub> /C <sub>0</sub>	0.84

Nozzle Diameter (in)	0.194
Filter ID	NA
Train Type	Impinger
Train ID	IB-7
P <sub>1</sub> (Inches Hg)	29.45
P <sub>2</sub> (Inches H <sub>2</sub> O)	-0.2
Start Time	11:16
Stop Time	13:35

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	180
Length	
Width	

Measure	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	697.1	695.7	11.4
Impinger 2	789.1	691.2	77.9
Impinger 3	524.5	463.1	61.4
Silica Gel	989.5	915.2	74.3
Weight of Water Collected, V <sub>w</sub> (g)			150.7
Silica Gel Net Weight, W <sub>avg</sub> (g)			74.3

CEMS	%CO <sub>2</sub>	%CO <sub>2</sub> +%O <sub>2</sub>	%O <sub>2</sub>
Average	11.0	NA	8.31

Run 2

Transverse Point	Min/Pl	Velocity Pressure ΔP (in H <sub>2</sub> O)	Orifice Reading ΔH (in H <sub>2</sub> O)	Gas Sample Volume Initial (ft <sup>3</sup> )	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity vs (ft/sec)	Volume Measured (ft <sup>3</sup> )	Isokinetics (%)
	10 Elapsed Time										
1-1	10	2.40	2.90	744.93	131	101	100	1.549	92.7	9.866	97.8
1-2	20	2.30	2.70	754.34	131	107	100	1.517	90.7	8.713	92.2
1-3	30	1.80	2.10	763.58	131	107	100	1.342	90.3	6.543	106.8
2-1	40	2.40	2.90	773.28	131	106	99	1.549	92.7	9.062	95.3
2-2	50	2.30	2.70	782.58	131	108	100	1.517	90.7	8.605	97.0
2-3	60	1.60	1.90	790.54	131	110	103	1.265	75.7	7.317	98.8
3-1	70	2.50	3.00	799.91	130	110	103	1.551	94.5	8.936	93.3
3-2	80	2.30	2.70	809.59	130	112	106	1.517	90.7	8.376	100.0
3-3	90	1.60	1.90	818.97	130	113	106	1.265	75.6	8.576	115.8
4-1	100	2.40	2.90	827.07	130	113	106	1.549	92.6	7.424	51.8
4-2	110	2.30	2.70	836.25	130	115	107	1.517	90.7	8.388	94.5
4-3	120	1.50	1.80	843.84	130	116	107	1.225	72.2	6.814	96.3

Totals and Averages

120	2.52	109.43	131	106	1.45	86.7	99.83	98.1
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Stack
Date	7/27/2011
Meier ID	M-28
Y <sub>s</sub>	0.9976
Pitot C <sub>p</sub>	0.84

Place an "x" in the appropriate Box

Nozzle Diameter (in)	0.194
Filter ID	NA
Train Type	Impinger
Train ID	IB-25
P <sub>0</sub> (Inches Hg)	29.45
P <sub>1</sub> (Inches H <sub>2</sub> O)	-0.2
Start Time	14:08
Stop Time	16:20

Circular?	x
Rectangular?	
Diameter	180
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	837.4	680.8	175.2
Impinger 2	739.3	635.3	104.0
Impinger 3	632.0	604.1	27.9
Silica Gel	945.3	933.1	12.2
Weight of Water Collected, W <sub>w</sub> (g)			308.5
Silica Gel Net Weight, W <sub>sg</sub> (g)			12.2

CEMS	%CO <sub>2</sub>	%CO <sub>2</sub> +%O <sub>2</sub>	%O <sub>2</sub>
Average	11.1	NA	8.25

Run 3

Traverse Point	Min/Pi	Velocity Pressure ΔP (in H <sub>2</sub> O)	Orifice Setting ΔH (in H <sub>2</sub> O)	Gas Sample Volume Initial (ft <sup>3</sup> )	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔF	Stack Gas Velocity V <sub>s</sub> (ft/sec)	Volume Measured (ft <sup>3</sup> )	Isokinetic (%)
	10										
1-1	10	2.40	2.80	853.38	129	108	104	1.549	93.2	8.648	98.5
1-2	20	2.20	2.60	862.57	130	113	104	1.483	89.5	8.432	100.0
1-3	30	1.90	2.30	871.24	130	117	106	1.378	85.0	7.907	101.3
2-1	40	2.40	2.80	880.74	130	118	106	1.549	95.2	8.667	98.8
2-2	50	2.20	2.60	890.03	130	119	108	1.483	90.3	8.450	100.6
2-3	60	1.90	2.30	898.66	130	119	108	1.378	83.0	7.843	100.5
3-1	70	2.30	2.70	908.07	130	120	109	1.517	91.3	8.546	98.5
3-2	80	2.20	2.60	917.27	129	120	110	1.485	89.2	8.345	98.3
3-3	90	1.90	2.30	926.62	130	120	110	1.376	85.0	8.136	106.6
4-1	100	2.30	2.70	935.33	130	120	110	1.517	91.3	7.305	92.0
4-2	110	2.20	2.60	944.55	130	120	111	1.482	95.3	8.357	99.5
4-3	120	1.80	2.10	952.92	130	121	111	1.342	90.8	7.570	99.7

Totals and Averages

120	2.53	108.92	130	113	1.46	88.0	99.14	99.8
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Stack
Date	7/27/2011
Filter ID	M-20
Y <sub>d</sub>	0.9952
Photo C <sub>p</sub>	0.84

Place an "x" in the appropriate Box

Nozzle Diameter (in)	0.160
Filter ID	NA
Train Type	Impinger
Train ID	IB-14
P <sub>s</sub> (Inches Hg)	29.45
P <sub>w</sub> (Inches H <sub>2</sub> O)	-0.2
Start Time	7:53
Stop Time	10:13

Circular?	x
Rectangular?	
Diameter	180
Length	
Width	

Impinger	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	795.1	618.9	176.2
Impinger 2	793.2	730.6	62.6
Impinger 3	761.0	749.9	11.1
Impinger 4	592.6	590.3	2.3
			0.0
Silica Gel	930.9	912.8	18.1
Weight of Water Collected, V <sub>w</sub> (g)			262.2
Silica Gel Net Weight, W <sub>silica</sub> (g)			15.1

CEMS	%CO <sub>2</sub>	%CO <sub>2</sub> +%O <sub>2</sub>	%O <sub>2</sub>
Average	11.1	NA	5.17

Run 1

Traverse Point	Min/Pt	Velocity Pressure ΔP (in. H <sub>2</sub> O)	Orifice Setting ΔH (in. H <sub>2</sub> O)	Gas Sample Volume Initial (ft <sup>3</sup> )	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔF	Stack Gas Velocity (ft/sec)	Volume Measured (ft <sup>3</sup> )	Isokinetic (%)
	10										
1-1	10	2.30	1.20	893.46	130	91	89	1.517	91.8	6.562	114.8
1-2	20	2.30	1.20	899.34	131	97	90	1.517	91.9	5.509	96.5
1-3	30	2.00	1.00	905.99	131	102	91	1.418	95.7	6.192	118.3
2-1	40	2.30	1.20	911.30	132	103	96	1.517	91.9	4.921	96.5
2-2	50	2.30	1.20	917.62	132	105	94	1.517	91.9	5.765	101.1
2-3	60	2.30	1.20	923.70	132	105	95	1.517	91.9	5.723	100.3
3-1	70	2.50	1.30	930.13	131	106	96	1.581	95.6	5.945	98.2
3-2	80	2.40	1.30	936.56	130	107	97	1.546	93.8	6.934	101.7
3-3	90	2.10	1.10	942.55	130	107	97	1.449	87.7	5.526	101.2
4-1	100	2.50	1.30	948.71	130	107	97	1.581	95.7	5.685	95.4
4-2	110	2.30	1.20	954.94	130	107	98	1.517	91.8	5.742	100.5
4-3	120	2.30	1.20	961.21	130	108	99	1.517	91.8	5.770	101.9

Totals and Averages

120	1.20	74.71	131	99.3	1.52	91.8	69.28	101.1
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Stack
Date	7/27/2011
Filter ID	M-20
$V_d$	0.9952
Filter $C_p$	0.84

Place an "x" in the appropriate Box

Nozzle Diameter (in)	0.160
Filter ID	NA
Filter Type	Impinger
Train ID	1B-New
$P_0$ (Inches Hg)	29.45
$P_1$ (Inches Hg)	-0.2
Start Time	11:16
Stop Time	13:35

Circular?	x
Rectangular?	
Diameter	180
Length	
Width	

Impinger	Final wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	765.0	632.9	132.1
Impinger 2	763.6	689.2	74.4
Impinger 3	693.8	661.7	32.1
Impinger 4	639.8	631.0	8.8
Silica Gel	919.5	900.8	18.7
Weight of Water Collected $V_{H_2O}$ (g)			247.4
Silica Gel Net Weight $V_{SO_2}$ (g)			18.7

CEMS	%CO <sub>2</sub>	%CO <sub>2</sub> +%O <sub>2</sub>	%O <sub>2</sub>
Average	11.0	NA	6.31

Run 2

Traverse Point	Min/Pr	Velocity Pressure $\Delta P$ (in H <sub>2</sub> O)	Orifice Setting $\Delta H$ (in H <sub>2</sub> O)	Gas Sample Volume Initial (ft <sup>3</sup> )	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root $\Delta P$	Stack Gas Velocity Vs (ft/sec)	Volume Metered (ft <sup>3</sup> )	Isokinetics (%)
	10 Elapsed Time										
1-1	10	2.40	1.30	967.93	130	97	97	1.549	93.7	6.053	103.1
1-2	20	2.30	1.20	974.38	130	103	97	1.517	91.7	5.973	104.0
1-3	30	2.10	1.10	980.44	130	106	98	1.448	87.6	5.690	101.6
2-1	40	3.40	1.80	987.89	130	102	98	1.944	111.5	6.309	99.0
2-2	50	3.70	2.00	995.34	130	104	98	1.924	116.0	6.900	94.7
2-3	60	2.30	1.20	1000.80	130	105	98	1.517	91.7	5.682	87.8
3-1	70	2.00	1.00	1006.92	130	106	99	1.414	85.5	5.639	105.3
3-2	80	2.40	1.30	1013.42	130	108	99	1.549	93.7	5.983	102.0
3-3	90	2.30	1.30	1019.90	129	110	100	1.517	91.6	5.949	103.5
4-1	100	2.10	1.10	1026.00	129	110	100	1.448	87.5	5.597	101.9
4-2	110	2.30	1.20	1032.27	128	111	102	1.517	91.5	5.739	99.7
4-3	120	2.30	1.20	1038.49	128	111	102	1.517	91.5	5.694	96.8

Totals and Averages

120	1.31	77.06	130	103	1.56	94.5	71.05	99.9
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Stack
Date	7/27/2011
Meier ID	M-20
Y <sub>2</sub>	0.9952
P <sub>2</sub> C <sub>2</sub>	0.64

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	180
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	790.7	623.3	167.4
Impinger 2	786.5	735.1	51.4
Impinger 3	763.5	755.6	7.9
Impinger 4	599.5	595.3	4.2
Silica Gel	946.3	929.8	16.5
Weight of Water Collected			230.9
Silica Gel Net Weight			16.5

Nozzle Diameter (in)	0.160
Filter ID	NA
Train Type	Impinger
Train ID	IB-14
P <sub>1</sub> (Inches Hg)	29.45
P <sub>2</sub> (Inches H <sub>2</sub> O)	-0.2
Start Time	14:08
Stop Time	16:20

CEMS	%CO <sub>2</sub>	%CO <sub>2</sub> +1/2O <sub>2</sub>	%O <sub>2</sub>
Average	11.1	NA	8.25

Run 3

Transverse Point	Min/Pl	Velocity Pressure ΔP (in H <sub>2</sub> O)	Orifice Setting ΔH (in H <sub>2</sub> O)	Gas Sample Volume Initial (ft <sup>3</sup> )	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity V <sub>s</sub> (ft/sec)	Volume Measured (ft <sup>3</sup> )	Isokinesis (%)
	10										
1-1	10	2.30	1.20	38.70	128	106	102	1.517	91.5	5.710	98.8
1-2	20	2.30	1.20	51.23	129	106	102	1.517	91.5	5.811	100.6
1-3	30	2.00	1.10	57.32	129	110	102	1.411	85.5	5.578	103.6
2-1	40	2.40	1.30	63.80	129	111	103	1.549	85.5	5.928	100.5
2-2	50	2.30	1.20	70.34	129	112	104	1.517	91.5	5.971	102.4
2-3	60	2.00	1.00	76.67	129	112	104	1.414	85.3	5.776	107.2
3-1	70	2.40	1.30	83.22	129	113	105	1.549	93.5	5.971	101.2
3-2	80	2.20	1.20	89.51	129	113	105	1.485	88.5	5.732	101.5
3-3	90	1.90	1.00	95.38	129	113	105	1.379	83.2	5.347	101.9
4-1	100	2.30	1.20	101.72	129	113	105	1.517	91.5	5.778	100.0
4-2	110	2.30	1.20	108.03	129	113	105	1.517	91.5	5.751	99.6
4-3	120	1.90	1.00	113.91	129	114	106	1.379	85.2	5.347	101.9

Totals and Averages

120	1.16	75.21	129	108	1.48	89.2	68.70	101.6
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Stack
Date	7/27/11
P <sub>b</sub> (Inches Hg)	29.45

Meter ID	M-25
Y <sub>d</sub>	0.9994

Start Time	7:53
Stop Time	10:13

Meter ID	M-25
Y <sub>d</sub>	1.0017

**Run 1**

Min/Pt	Gas Sample	DGM Temp (°F)	Volume Metered Vmstd (L)
5	Volume Initial (L)		
Elapsed Time	0.00		
5.00	4.326	86	4.114
10.00	7.148	86	2.683
15.00	9.256	89	1.994
20.00	11.293	93	1.912
25.00	13.456	96	2.020
30.00	16.124	100	2.474
35.00	19.011	101	2.672
40.00	21.988	104	2.740
45.00	24.895	106	2.667
50.00	26.598	108	1.557
55.00	28.247	110	1.502
60.00	29.723	110	1.344
65.00	31.144	113	1.288
70.00	32.647	112	1.364
75.00	34.673	113	1.836
80.00	36.994	114	2.099
85.00	39.106	114	1.910
90.00	40.504	115	1.262

**Totals and Averages**

90	40.504	104	37.29
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**Run 1 Spiked**

Min/Pt	Gas Sample	DGM Temp (°F)	Volume Metered Vmstd (L)
5	Volume Initial (L)		
Elapsed Time	0.00		
5	4.069	86	3.878
10	6.539	86	2.354
15	9.248	90	2.563
20	11.387	94	2.009
25	13.641	97	2.106
30	15.863	101	2.061
35	18.692	104	2.610
40	22.167	105	3.201
45	24.983	107	2.584
50	26.437	109	1.330
55	27.459	111	0.931
60	29.214	113	1.594
65	31.434	114	2.013
70	32.490	114	0.957
75	34.549	115	1.863
80	36.910	115	2.137
85	38.810	116	1.717
90	40.428	116	1.462

**Totals and Averages**

90	40.428	105	37.22
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Stack
Date	7/27/11
P <sub>3</sub> (Inches Hg)	29.45

Meter ID	M-25
Y <sub>d</sub>	0.9994

Start Time	11:16
Stop Time	13:35

Meter ID	M-25
Y <sub>d</sub>	1.0017

**Run 2**

Min/Pt	Gas Sample	DGM Temp (°F)	Volume Metered Vmstd (L)
5	Volume Initial (L)		
Elapsed Time	0.00		
5	2.973	95	2.781
10	5.465	95	2.331
15	7.541	95	1.942
20	9.151	99	1.495
25	10.761	103	1.485
30	13.021	104	2.080
35	15.192	104	1.998
40	17.701	106	2.301
45	20.512	108	2.569
50	23.241	110	2.486
55	26.132	111	2.629
60	29.064	113	2.657
65	31.984	114	2.641
70	35.072	116	2.783
75	38.084	117	2.710
80	40.166	119	1.867
85	40.931	120	0.685
90	41.854	121	0.825

**Run 2 Spiked**

Min/Pt	Gas Sample	DGM Temp (°F)	Volume Metered Vmstd (L)
5	Volume Initial (L)		
Elapsed Time	0.00		
5	1.357	94	1.275
10	3.669	95	2.168
15	7.367	95	3.467
20	9.684	101	2.149
25	10.563	102	0.814
30	11.760	104	1.104
35	14.441	105	2.469
40	17.381	108	2.694
45	21.426	110	3.693
50	23.192	112	1.607
55	25.882	113	2.443
60	28.829	115	2.667
65	32.125	116	2.978
70	35.468	118	3.010
75	38.395	119	2.631
80	39.709	120	1.179
85	41.003	122	1.157
90	42.176	123	1.047

**Totals and Averages**

90	41.854	108	38.23
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**Totals and Averages**

90	42.176	110	38.53
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Project Number	3648
Client	Big Rivers
Plant	Green
Location	Stack
Date	7/27/11
P <sub>b</sub> (Inches Hg)	29.45

Meter ID	M-25
Y <sub>d</sub>	0.9994

Start Time	14:08
Stop Time	15:41

Meter ID	M-25
Y <sub>d</sub>	1.0017

**Run 3**

Min/Pt	Gas Sample	DGM Temp (°F)	Volume Metered Vmstd (L)
5	Volume Initial (L)		
Elapsed Time	0.00		
5	2.518	102	2.326
10	4.942	101	2.243
15	7.134	102	2.025
20	9.887	104	2.534
25	12.609	108	2.488
30	15.441	111	2.575
35	18.575	114	2.835
40	21.498	117	2.630
45	24.639	118	2.821
50	27.635	121	2.677
55	30.516	122	2.570
60	32.786	123	2.022
65	34.502	125	1.523
70	35.789	126	1.140
75	37.169	127	1.221
80	38.791	127	1.435
85	40.143	128	1.194
90	41.656	129	1.334

**Totals and Averages**

90	41.656	117	37.49
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**Run 3 Spiked**

Min/Pt	Gas Sample	DGM Temp (°F)	Volume Metered Vmstd (L)
5	Volume Initial (L)		
Elapsed Time	0.00		
5	2.273	102	2.105
10	4.396	102	1.966
15	7.319	103	2.702
20	9.713	106	2.201
25	13.139	110	3.128
30	16.046	113	2.640
35	17.864	116	1.642
40	19.876	120	1.805
45	23.457	121	3.207
50	27.242	123	3.378
55	30.989	124	3.339
60	32.109	125	0.996
65	32.933	127	0.730
70	33.492	128	0.495
75	35.826	129	2.062
80	38.827	129	2.651
85	41.110	130	2.014
90	41.779	130	0.590

**Totals and Averages**

90	41.779	119	37.56
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