

Field Data Printouts

Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Inlet Unit 1
Date	8/3/2011
Meter ID	M-5
V_d	0.9953
Pitot C_p	0.84

Nozzle Diameter (in)	0.200
Filter ID	12158
Titan Type	Impinger
Titan ID	IB-A
P_0 (Inches Hg)	29.27
P_s (Inches H ₂ O)	-5.5
Start Time	7:01
Stop Time	9:03

Place an "x" in the appropriate Box

Circular?	
Rectangular?	x
Diameter	
Length	186
Width	139

Impinger	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	686.0	568.1	127.9
Impinger 2	726.0	730.0	-4.0
Impinger 3	631.5	627.3	4.2
Silica Gel	847.0	830.1	16.9
Weight of Water Collected V_{wg} (g)			128.1
Silica Gel Net Weight V_{wg} (g)			16.9

CEMS	%CO ₂	3/CO ₂ +%H ₂ O	%O ₂
Average	12.7	NA	6.10

Run 1

Traverse Point	min/Pt	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample Volume Initial (ft ³)	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity V_s (ft/sec)	Volume Measured V_m (ft ³)	Isokinetic (%)
	4										
1-1	4.0	1.30	1.60	721.55	332	98	94	1.140	79.8	2.245	111.1
1-2	8.0	1.30	1.60	724.19	332	99	96	1.140	79.8	2.245	102.6
1-3	12.0	1.40	1.70	726.89	332	99	96	1.183	82.8	2.499	101.1
1-4	16.0	1.10	1.30	729.63	331	99	96	1.049	75.4	2.534	115.0
1-5	20.0	1.10	1.30	732.24	331	100	97	1.049	75.4	2.409	109.9
2-1	24.0	1.10	1.30	734.66	331	100	98	1.049	75.4	2.232	101.8
2-2	28.0	1.10	1.30	737.12	331	100	99	1.049	75.4	2.267	103.4
2-3	32.0	1.10	1.30	739.59	331	100	99	1.049	75.4	2.276	103.9
2-4	36.0	1.00	1.20	742.06	335	101	100	1.000	70.1	2.271	109.0
2-5	40.0	0.83	1.00	744.23	333	102	101	0.911	63.8	1.991	104.7
3-1	44.0	0.83	1.00	746.38	333	103	102	0.911	63.8	1.989	105.6
3-2	48.0	0.85	1.00	748.59	333	103	102	0.922	64.6	2.021	105.2
3-3	52.0	0.80	0.96	750.76	337	104	103	0.894	62.8	1.991	106.5
3-4	56.0	0.75	0.90	752.85	337	105	104	0.866	60.8	1.907	105.8
3-5	60.0	0.60	0.72	754.76	337	106	104	0.775	52.4	1.730	107.9
4-1	64.0	0.70	0.84	756.20	337	107	104	0.837	56.7	1.511	75.2
4-2	68.0	0.70	0.84	758.73	334	108	105	0.837	58.6	2.300	131.8
4-3	72.0	0.75	0.90	760.80	334	109	106	0.866	60.7	1.976	104.0
4-4	76.0	0.85	1.00	762.96	334	110	106	0.922	64.6	1.959	101.9
4-5	80.0	0.85	1.00	765.16	334	111	106	0.922	64.6	1.894	103.7
5-1	84.0	0.92	1.10	767.40	332	111	107	0.959	67.1	2.025	101.3
5-2	88.0	0.92	1.10	769.62	332	111	107	0.959	67.1	2.011	100.4
5-3	92.0	0.85	1.10	771.80	332	111	107	0.975	66.2	1.974	97.3
5-4	96.0	1.20	1.40	774.35	332	111	107	1.095	78.2	2.311	101.0
5-5	100	1.40	1.70	777.12	332	111	107	1.182	82.8	2.512	101.7

Totals and Averages

100	1.17	58.42	333	103	0.982	68.8	53.44	104.3
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Inlet Unit 1
Date	8/3/2011
Meter ID	M-5
V_c	0.9953
Prot. Co.	0.84

Nozzle Diameter (in)	0.200
Filter ID	12159
Train Type	Impinger
Train ID	IB-A
P_b (Inches Hg)	29.27
P_s (Inches H ₂ O)	-5.5
Start Time	10:23
Stop Time	12:10

Place an "x" in the appropriate Box

Circular?	
Rectangular?	x
Diameter	
Length	186
Width	139

Impinger	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	737.5	592.9	144.5
Impinger 2	732.6	735.0	-2.3
Impinger 3	571.6	566.8	4.8
Silica Gel	898.7	882.8	15.9
Weight of Water Collected, $V_{w,lg}$ (g)			147.0
Silica Gel Net Weight, $V_{c,lg}$ (g)			15.9

CEMS	%CO ₂	%CO ₂ +%O ₂	%C _s
Average	13.3	NA	5.31

Run 2

Traverse Point	Min/Pt	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample Volume Initial (ft ³)	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Port ΔF	Stack Gas Velocity vs (ft/sec)	Volume Measured (ft ³)	Isokinetic (%)
	4										
1-1	4.0	1.10	1.30	781.72	336	111	110	1.046	73.8	2.187	101.6
1-2	8.0	1.10	1.30	784.32	336	112	110	1.049	73.8	2.348	109.0
1-3	12.0	1.10	1.30	786.60	336	112	110	1.049	73.8	2.659	95.6
1-4	16.0	1.50	1.80	789.44	336	113	110	1.225	86.7	2.565	102.0
1-5	20.0	1.40	1.70	792.25	336	113	110	1.183	83.2	2.538	104.5
2-1	24.0	1.10	1.30	794.63	337	114	111	1.049	73.8	2.143	99.6
2-2	28.0	1.10	1.30	797.10	336	115	111	1.049	73.8	2.222	103.3
2-3	32.0	1.30	1.60	799.80	339	116	111	1.140	90.3	2.629	104.0
2-4	36.0	1.00	1.20	802.23	340	117	111	1.000	70.5	2.162	106.8
2-5	40.0	1.00	1.20	804.65	340	117	112	1.000	70.5	2.171	106.0
3-1	44.0	0.84	1.00	806.81	342	117	112	0.917	64.7	1.937	103.3
3-2	48.0	0.85	1.00	808.99	346	117	112	0.922	65.2	1.955	102.8
3-3	52.0	0.79	0.95	811.19	348	117	112	0.889	63.0	1.973	108.9
3-4	56.0	0.68	0.82	813.20	348	117	112	0.825	59.4	1.802	107.2
3-5	60.0	0.70	0.84	815.22	348	117	112	0.837	59.5	1.811	108.2
4-1	64.0	0.75	0.90	817.27	340	115	111	0.966	61.1	1.842	103.9
4-2	68.0	0.72	0.86	819.33	338	115	111	0.846	59.7	1.852	106.4
4-3	72.0	0.65	0.78	821.25	338	115	111	0.905	58.8	1.725	104.4
4-4	76.0	0.84	1.00	823.33	339	115	111	0.917	64.6	1.870	98.6
4-5	80.0	0.85	1.00	825.57	338	115	111	0.922	64.9	2.016	106.5
5-1	84.0	1.00	1.20	827.85	334	114	110	1.000	70.2	2.055	99.9
5-2	88.0	0.90	1.10	830.15	334	114	110	0.946	66.6	2.072	106.3
5-3	92.0	1.10	1.30	832.89	334	114	110	1.049	73.7	2.470	114.6
5-4	96.0	1.10	1.30	835.02	334	114	110	1.049	73.7	1.920	89.0
5-5	100	1.00	1.20	837.38	334	114	110	1.000	70.2	2.127	103.5

Totals and Averages											
	100		1.17	68.08	339		113	0.983	69.3	52.26	103.7

Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Inlet Unit 1
Date	8/3/2011
Meier ID	M-5
V_d	0.9953
Pitot C_p	0.84

Nozzle Diameter (in)	0.200
Filter I/C	12160
Train Type	Impinger
Train ID	IB-A
P_s (Inches Hg)	29.27
F_s (Inches H ₂ O)	-5.5
Start Time	13:17
Stop Time	15:05

Place an "x" in the appropriate Box

Circular?	
Rectangular?	x
Diameter	
Length	186
Width	139

Measure	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	621.7	560.0	61.7
Impinger 2	719.3	732.1	-12.8
Impinger 3	640.8	629.4	11.4
Silica Gel	874.3	847.1	27.2
Weight of Water Collected, V_w (g)			50.2
Silica Gel Net Weight, V_{sil} (g)			27.2

CEMS	%CO ₂	%CO ₂ +%O ₂	%O ₂
Average	12.5	NA	8.37

Run 3

Traverse Point	min/Pt	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample Volume Initial (ft ³)	Stack Temp (°F)	DGR1 Inlet (°F)	DGM Outlet (°F)	Square Root ΔF	Stack Gas Velocity V_s (ft/sec)	Volume Metered V_{msl} (ft ³)	Isokinetic (%)
	4										
1-1	4.0	1.20	1.40	840.70	338	102	100	1.095	76.3	2.298	97.0
1-2	8.0	1.10	1.30	843.25	339	102	100	1.048	75.1	2.344	103.4
1-3	12.0	1.30	1.60	845.90	340	103	100	1.140	78.6	2.435	98.9
1-4	16.0	1.40	1.70	848.78	340	104	100	1.183	82.5	2.645	105.6
1-5	20.0	1.00	1.20	851.25	340	105	101	1.000	69.7	2.261	104.7
2-1	24.0	1.10	1.30	853.91	342	106	101	1.049	73.2	2.434	107.6
2-2	28.0	1.10	1.30	856.30	342	106	101	1.049	73.2	2.167	96.7
2-3	32.0	1.10	1.30	858.65	342	106	101	1.048	73.2	2.160	95.0
2-4	36.0	1.30	1.60	861.00	342	106	101	1.140	79.8	2.152	97.5
2-5	40.0	1.10	1.30	863.92	342	107	101	1.049	73.2	2.669	118.0
3-1	44.0	0.85	1.00	866.22	340	108	102	0.922	64.5	2.097	105.3
3-2	48.0	0.84	1.00	868.45	340	109	102	0.917	63.9	2.032	102.6
3-3	52.0	0.80	0.96	870.63	346	109	103	0.894	62.8	1.961	103.1
3-4	56.0	0.74	0.89	872.65	346	109	103	0.860	60.2	1.838	99.3
3-5	60.0	0.74	0.89	874.85	346	109	103	0.860	60.2	2.002	108.2
4-1	64.0	0.75	0.90	878.97	345	109	103	0.866	60.5	1.929	102.5
4-2	68.0	0.75	0.90	879.13	344	109	103	0.866	60.5	1.966	105.4
4-3	72.0	0.70	0.84	881.21	348	109	103	0.837	58.5	1.893	105.3
4-4	76.0	0.91	1.10	883.59	345	109	103	0.951	66.7	2.167	105.5
4-5	80.0	0.9	1.10	885.60	343	109	103	0.949	66.5	2.012	98.8
5-1	84.0	0.99	1.20	888.20	342	109	103	0.995	69.5	2.186	101.8
5-2	88.0	0.95	1.10	890.50	340	109	103	0.975	68.0	2.094	98.5
5-3	92.0	1.00	1.20	893.00	340	109	103	1.000	69.7	2.177	105.4
5-4	96.0	1.00	1.20	895.69	340	109	103	1.000	69.7	2.450	113.4
5-5	100	1.10	1.30	897.77	340	109	103	1.049	73.1	1.896	83.6

Totals and Averages											
	100		1.18	59.57	342		105	0.990	69.1	54.38	101.9

Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Inlet Unit 1
Date	8/3/2011
Meter ID	M-20
Y _d	0.9952
Ptot C _p	0.84

Nozzle Diameter (in)	0.200
Filter ID	NA
Train Type	Impingers
Train ID	IB-25
P ₀ (inches Hg)	29.27
P ₁ (inches H ₂ O)	-5.5
Start Time	7:01
Stop Time	9:10

Place an "x" in the appropriate Box

Circular?	
Rectangular?	x
Diameter	
Length	188
Width	139

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	853.1	713.0	140.1
Impinger 2	743.1	725.2	17.9
Impinger 3	639.1	632.3	6.8
Impinger 4		50.0	-50.0
Silica Gel	893.2	870.5	22.7
Weight of Water Collected, V _{wc} (g)			114.8
Silica Gel Net Weight, V _{wsg} (g)			22.7

CEMS	%CO ₂	%CO ₂ +%O ₂	%O ₂
Average	12.7	NA	6.10

Run 1

Traverse Point	Min/PT	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample volume Initial (ft ³)	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity V _s (ft/sec)	Volume Metered V _{mstd} (ft ³)
	10 Elapsed Time									
Single	10	0.85	0.94	334.24	331	90	90	0.922	64.1	6.078
	20	0.88	0.99	340.65	328	98	90	0.938	65.1	5.960
	30	0.89	0.99	348.72	329	104	92	0.943	65.6	7.450
	40	0.90	1.00	354.48	329	104	94	0.949	65.9	5.308
	50	0.87	0.97	360.17	329	105	95	0.933	64.8	5.234
	60	0.90	1.00	365.93	330	105	96	0.949	66.0	5.284
	70	0.90	1.00	371.70	331	107	98	0.949	66.0	5.284
	80	0.90	1.00	377.51	331	108	98	0.949	66.0	5.216
	90	0.84	0.93	383.11	330	108	99	0.917	63.7	5.118
	100	0.90	1.00	388.91	332	108	100	0.949	66.0	5.287
	110	0.84	0.93	394.66	331	108	100	0.917	65.8	5.251
	120	0.92	1.00	400.45	331	108	101	0.959	66.7	5.284

Totals and Averages

120	0.979	72.70	330	100	0.939	65.3	66.84
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Inlet Unit 1
Date	8/3/2011
Meier ID	M-20
V_s	0.9952
Pilot C.	0.84

Nozzle Diameter (in)	0.200
Filter ID	NA
Train Type	Impingers
Train ID	IB-14
P_h (Inches Hg)	29.27
P_s (Inches H ₂ O)	-5.5
Start Time	10:23
Stop Time	12:30

Place an "x" in the appropriate Box

Circular?	
Rectangular?	x
Diameter	
Length	186
Width	139

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	846.6	715.0	131.5
Impinger 2	596.6	575.2	21.4
Impinger 3	626.1	618.3	7.8
Impinger 4		50.0	-50.0
Silica Gel	909.4	889.3	20.1
Weight of Water Collected, $V_{w,c}$ (g)			110.8
Silica Gel Net Weight, $V_{w,s}$ (g)			20.1

CEMS	%CO ₂	%CO ₂ +%O ₂	%O ₂
Average	13.3	NA	5.31

Run 2

Traverse Point	Min/Pt	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample Volume Initial (ft ³)	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity V_s (ft/sec)	Volume Measured (ft ³)
	10									
Single	10	0.90	1.00	406.78	334	102	101	0.949	66.1	5.275
	20	0.93	1.00	412.97	333	104	101	0.964	67.1	5.669
	30	0.89	0.99	418.24	335	108	102	0.943	65.7	4.900
	40	0.93	1.00	424.08	335	110	102	0.961	67.2	5.315
	50	0.95	1.10	430.05	336	112	105	0.975	68.0	5.411
	60	0.90	1.00	435.90	335	114	105	0.949	66.1	5.292
	70	0.90	1.00	441.70	336	114	106	0.949	66.2	5.242
	80	0.93	1.00	447.44	335	114	106	0.961	67.2	5.185
	90	0.93	1.00	453.24	336	115	107	0.981	67.3	5.235
	100	0.92	1.00	459.02	336	114	107	0.959	66.9	5.218
	110	0.93	1.00	464.80	335	112	107	0.961	67.2	5.226
	120	0.89	0.99	470.53	336	111	105	0.943	65.6	5.197

Totals and Averages

120	1.01	69.50	335	108	0.957	66.7	63.07
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Inlet Unit 1
Date	8/3/2011
Meter ID	M-20
Y _a	0.9952
Pitot C _p	0.84

Place an "x" in the appropriate Box

Nozzle Diameter (in)	0.200
Filter ID	NA
Train Type	Impingers
Train ID	B-25
P ₁ (Inches Hg)	29.27
P ₂ (Inches H ₂ O)	-5.5
Start Time	13:17
Stop Time	15:39

Circular?	
Rectangular?	x
Diameter	
Length	186
Width	139

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	862.9	715.9	147.0
Impinger 2	741.0	724.3	16.7
Impinger 3	639.5	634.6	4.9
Impinger 4		50.0	-50.0
Silica Gel	909.7	892.7	17.0
Weight of Water Collected, W _w (g)			178.6
Silica Gel Net Weight, W _{net} (g)			17.0

CEMS	%CO ₂	%CO ₂ +%O ₂	%O ₂
Average	12.5	NA	8.37

Run 3

Traverse Point	Min/PT	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample Volume Initial (ft ³)	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity V _s (ft/sec)	Volume Measured (ft ³)
	10 Elapsed Time									
Single	10	0.90	1.00	476.81	336	102	102	0.949	66.5	5.326
	20	0.91	1.00	482.58	335	103	102	0.954	66.6	5.284
	30	0.95	1.10	488.58	335	107	104	0.975	68.1	5.167
	40	0.90	1.00	494.49	335	109	103	0.949	66.2	5.379
	50	0.88	0.98	500.16	336	112	105	0.958	65.5	5.196
	60	0.92	1.00	505.92	336	112	105	0.959	67.0	5.219
	70	0.90	1.00	511.71	336	113	106	0.949	66.7	5.237
	80	0.91	1.00	517.50	335	112	106	0.954	66.8	5.242
	90	0.92	1.00	523.20	336	114	107	0.959	67.0	5.187
	100	0.88	0.98	529.03	335	113	107	0.938	65.5	5.268
	110	0.90	1.00	535.42	335	114	108	0.949	66.7	5.765
	120	0.90	1.00	540.64	335	113	107	0.949	66.2	4.718

Totals and Averages

120	1.01	69.64	335	108	0.952	66.5	63.19
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Inlet Unit 1
Date	8/3/2011
Meter ID	M-14
V_d	1.0087
Pitot C_p	0.84

Place an "x" in the appropriate Box

Nozzle Diameter (in)	0.195
Filter IC	NA
Train Type	Impinger
Train ID	IB-10
P_b (Inches Hg)	29.27
P_s (Inches H ₂ O)	-5.5
Start Time	7:01
Stop Time	9:10

Circular?	
Rectangular?	x
Diameter	
Length	186
Width	139

Impinger	Final Wt (g)	Tare wt (g)	Net Wt (g)
Impinger 1	704.0	563.4	140.6
Impinger 2	716.8	691.0	25.8
Impinger 3	754.0	746.0	6.0
Impinger 4	635.8	630.4	5.4
Silica Gel	877.8	856.9	20.9
Weight of Water Collected V_w (g)			174.6
Silica Gel Net Weight W_{imp} (g)			20.9

CEMS	%CO ₂	%CO ₂ -%O ₂	%O ₂
Average	12.7	NA	81.0

Run 1

Traverse Point	Min/Ft	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample Volume Initial (ft ³)	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity (ft/sec)	Volume Metered (ft ³)	Isokinetic (%)
	5										
1-1	5	0.80	0.82	617.52	330	94	91	0.894	62.7	2.385	108.4
1-2	10	0.80	0.82	620.06	330	98	92	0.894	62.7	2.385	108.5
1-3	15	0.77	0.78	622.52	330	101	93	0.877	61.5	2.305	107.0
1-4	20	0.77	0.78	624.99	327	107	95	0.877	61.4	2.285	106.5
1-5	25	1.00	1.02	627.76	326	106	97	1.000	69.9	2.576	104.7
2-1	30	0.97	0.99	630.57	330	106	97	0.985	69.0	2.613	109.1
2-2	35	0.95	0.97	633.35	330	108	98	0.976	68.3	2.579	107.7
2-3	40	1.10	1.12	636.22	330	109	99	1.049	73.5	2.652	103.2
2-4	45	1.60	1.60	639.64	330	110	100	1.265	86.7	3.165	101.9
2-5	50	1.00	1.02	642.51	330	110	101	1.000	70.1	2.650	108.0
3-1	55	1.30	1.30	645.63	330	109	101	1.140	79.9	2.885	103.1
3-2	60	1.20	1.20	648.61	330	110	102	1.095	76.6	2.750	102.3
3-3	65	1.40	1.40	651.98	330	111	102	1.183	82.9	3.109	107.0
3-4	70	1.5	1.50	655.32	334	111	103	1.226	86.1	3.079	102.7
3-5	75	0.93	0.95	658.05	332	111	103	0.964	67.7	2.513	106.3
4-1	80	1.20	1.22	661.06	339	109	103	1.095	77.2	2.779	103.3
4-2	85	1.30	1.30	664.19	340	111	103	1.140	80.4	2.854	103.7
4-3	90	1.20	1.20	667.23	337	111	103	1.095	77.1	2.801	104.6
4-4	95	1.00	1.02	670.36	335	112	103	1.000	70.3	2.880	117.7
4-5	100	0.95	0.97	673.04	335	114	104	0.975	68.5	2.459	103.1
5-1	105	0.85	0.87	675.77	344	113	105	0.922	65.2	2.503	111.6
5-2	110	0.93	0.95	678.43	347	113	105	0.964	65.9	2.441	104.2
5-3	115	0.80	0.81	681.01	345	115	106	0.894	65.3	2.360	109.5
5-4	120	0.77	0.78	683.53	350	115	106	0.877	62.3	2.305	108.4
5-5	125	0.55	0.56	686.61	333	115	106	0.742	52.1	1.902	101.7

Totals and Averages											
	125		1.04	70.61	334	105		1.01	70.7	65.28	106.1

Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Inlet Unit 1
Date	8/3/2011
Meter ID	M-14
Y ₁	1.0087
Prot C ₁	0.84

Nozzle Diameter (in)	0.195
Filter ID	NA
Train Type	Impinger
Train ID	IB-New
P ₁ (Inches Hg)	29.27
P ₂ (Inches H ₂ O)	-5.5
Start Time	10:23
Stop Time	12:30

Place an "x" in the appropriate Box

Circular?	
Rectangular?	x
Diameter	
Length	186
Width	139

Impinger	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	641.0	515.8	125.2
Impinger 2	639.0	606.0	33.0
Impinger 3	721.5	705.0	16.5
Impinger 4	620.5	614.0	6.5
Silica Gel	956.0	931.7	24.3
Weight of Water Collected, V _w (g)			181.2
Silica Gel Net Weight, W _{sg} (g)			24.3

CEMS	%CO ₂	%CO ₂ +%O ₂	%O ₂
Average	13.3	NA	5.21

Run 2

Traveler Point	Min/Pl	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample Volume Initial (ft ³)	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity V _s (ft/sec)	Volume Metered v _m (ft ³)	Isokinetics (%)
	5										
1-1	5	0.75	0.76	689.05	334	110	108	0.866	60.8	2.339	110.6
1-2	10	0.83	0.85	691.65	335	110	108	0.911	64.0	2.385	107.3
1-3	15	0.80	0.82	694.24	333	111	108	0.894	62.8	2.373	108.6
1-4	20	1.00	1.02	697.05	333	113	108	1.000	70.2	2.572	105.2
1-5	25	0.75	0.76	699.59	333	113	108	0.866	60.8	2.323	106.8
2-1	30	1.00	1.02	702.39	333	114	109	1.000	70.2	2.558	104.7
2-2	35	1.20	1.20	705.44	335	114	109	1.095	77.0	2.788	104.3
2-3	40	1.20	1.20	708.50	335	117	109	1.095	77.0	2.790	104.3
2-4	45	1.30	1.30	711.78	335	117	109	1.140	80.7	2.991	107.5
2-5	50	0.90	0.92	714.42	335	117	109	0.949	68.7	2.605	105.9
3-1	55	1.10	1.10	717.45	335	113	110	1.049	75.7	2.769	108.2
3-2	60	1.20	1.20	720.67	335	113	110	1.095	77.0	2.943	110.1
3-3	65	1.30	1.30	723.80	335	113	110	1.140	80.1	2.862	102.8
3-4	70	1.50	1.50	727.10	335	114	108	1.225	96.7	2.921	101.1
3-5	75	0.93	0.95	729.85	335	114	108	0.964	67.8	2.512	106.8
4-1	80	0.99	1.00	732.67	344	111	108	0.995	70.3	2.789	114.7
4-2	85	1.10	1.10	735.60	343	112	108	1.049	74.7	2.500	98.2
4-3	90	1.10	1.10	738.65	343	111	107	1.049	71.1	2.799	109.9
4-4	95	1.40	1.40	741.80	343	109	105	1.183	83.6	2.904	101.1
4-5	100	0.95	0.97	744.59	345	108	104	0.975	68.9	2.574	102.9
5-1	105	0.80	0.82	747.27	345	107	103	0.894	63.0	2.476	114.1
5-2	110	0.93	0.95	749.86	345	106	102	0.964	65.2	2.397	102.5
5-3	115	0.95	0.97	752.64	345	105	101	0.975	68.9	2.578	109.1
5-4	120	1.10	1.10	755.41	343	105	101	1.049	74.7	2.570	100.9
5-5	125	0.83	0.85	758.18	345	105	101	0.911	62.4	2.568	116.2

Totals and Averages

125	1.05	71.68	338	109	1.01	71.4	65.78	106.6
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Inlet Unit 1
Date	8/3/2011
Filter ID	M-14
γ_d	1.0087
Pilot C_p	0.84

Place an "x" in the appropriate Box

Circular?	
Rectangular?	x
Diameter	
Length	186
Width	139

Nozzle Diameter (in)	0.195
Filter ID	NA
Train Type	Impinger
Train ID	IB-10
P_h (Inches H ₂ O)	29.27
P_s (Inches H ₂ O)	-5.5
Start Time	13:17
Stop Time	15:39

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	689.5	566.0	123.5
Impinger 2	721.2	695.3	25.9
Impinger 3	754.0	747.5	6.5
Impinger 4	634.5	633.2	1.3
Silica Gel	888.5	877.1	11.4
Weight of Water Collected, W_{100} (g)			157.2
Silica Gel Net Weight, W_{100} (g)			11.4

CEMS	%CO ₂	%CO ₂ +%O ₂	%O ₂
Average	12.5	NA	6.37

Run 3

Traverse Point	min/Pi	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample Volume Initial (ft ³)	Stack Temp (°F)	DSM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity V_s (ft/sec)	Volume Metered (ft ³)	Isokinetics (%)
	5										
1-1	5	0.80	0.82	761.88	338	100	100	0.895	62.7	2.414	107.9
1-2	10	0.83	0.85	764.46	338	100	100	0.911	63.9	2.405	105.8
1-3	15	0.87	0.89	767.15	335	101	100	0.935	65.2	2.505	107.6
1-4	20	1.00	1.00	769.95	332	102	100	1.000	65.9	2.606	104.2
1-5	25	0.75	0.76	772.42	332	103	100	0.886	60.5	2.285	105.9
2-1	30	1.00	1.00	775.27	335	103	100	1.000	70.0	2.650	106.1
2-2	35	1.10	1.10	778.21	335	103	100	1.049	73.4	2.735	104.4
2-3	40	1.10	1.10	781.15	335	105	101	1.049	73.4	2.727	104.1
2-4	45	1.50	1.50	784.57	335	106	101	1.225	85.8	3.172	103.7
2-5	50	1.10	1.10	787.86	335	108	103	1.049	75.4	3.038	116.0
3-1	55	1.20	1.20	790.89	338	106	102	1.095	78.8	2.806	102.6
3-2	60	1.30	1.30	794.01	339	107	102	1.140	80.0	2.888	101.7
3-3	65	1.40	1.40	797.27	340	108	101	1.183	83.1	3.024	102.7
3-4	70	1.50	1.50	800.67	338	107	101	1.225	85.9	3.151	103.2
3-5	75	1.10	1.10	803.68	338	107	101	1.049	73.6	2.787	106.6
4-1	80	1.10	1.10	806.76	341	105	101	1.049	73.7	2.857	105.5
4-2	85	1.20	1.20	809.82	342	105	101	1.095	77.0	2.838	104.2
4-3	90	1.10	1.10	812.83	342	106	101	1.049	75.8	2.790	107.0
4-4	95	1.00	1.00	815.65	338	107	102	1.000	70.2	2.608	104.7
4-5	100	0.99	1.00	818.47	338	108	101	0.995	69.8	2.608	105.2
5-1	105	0.85	0.87	821.30	338	107	101	0.922	64.7	2.619	114.0
5-2	110	0.87	0.89	824.18	338	107	101	0.935	65.4	2.665	114.7
5-3	115	0.95	0.97	827.05	338	107	101	0.975	68.4	2.657	109.4
5-4	120	1.10	1.10	829.74	338	108	101	1.049	73.6	2.492	95.4
5-5	125	0.93	0.95	832.40	338	105	100	0.964	67.7	2.469	102.7

Totals and Averages											
	125		1.07	73.10	337		103	1.03	72.1	67.81	105.8

Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Inlet Unit 1
Date	8/3/11
P _b (Inches Hg)	29.27

Meter ID	M-26
Y _d	0.9958

Start Time	7:01
Stop Time	9:03

Meter ID	M-26
Y _d	0.9902

Run 1

Min/Pt	Gas Sample	DGM Temp. (°F)	Volume Metered Vmstd (L)
3.6	Volume Initial (L)		
Elapsed Time	0.00		
3.60	1.504	92	1.401
7.20	2.321	94	0.758
10.80	3.087	95	0.710
14.40	3.937	95	0.797
18.00	4.657	99	0.662
21.60	6.398	102	1.593
25.20	8.237	103	1.679
28.80	10.438	104	2.006
32.40	12.956	107	2.283
36.00	14.649	108	1.533
39.60	17.807	109	2.854
43.20	20.826	110	2.723
46.80	23.505	111	2.412
50.40	26.856	111	3.017
54.00	29.771	113	2.616
57.60	33.618	115	3.440
61.20	36.125	115	2.242
64.80	38.157	115	1.817
68.40	39.215	116	0.944
72.00	40.226	116	0.902
75.60	40.937	118	0.632
79.20	41.756	117	0.730
82.80	41.944	117	0.168
86.40	42.379	117	0.388
90.00	42.379	118	0.000

Totals and Averages

90	42.379	109	38.32
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Run 1 Spiked

Min/Pt	Gas Sample	DGM Temp. (°F)	Volume Metered Vmstd (L)
3.6	Volume Initial (L)		
Elapsed Time	0.00		
3.60	0.906	92	0.839
7.20	1.789	95	0.813
10.80	2.109	96	0.294
14.40	3.748	96	1.507
18.00	4.604	100	0.782
21.60	5.959	103	1.230
25.20	7.888	106	1.742
28.80	10.189	107	2.075
32.40	12.873	108	2.416
36.00	14.825	110	1.751
39.60	17.823	110	2.689
43.20	20.973	111	2.820
46.80	23.851	112	2.572
50.40	26.783	112	2.621
54.00	29.673	114	2.574
57.60	32.849	116	2.819
61.20	36.317	116	3.078
64.80	37.249	116	0.827
68.40	39.011	117	1.561
72.00	40.193	117	1.047
75.60	40.989	118	0.704
79.20	41.457	117	0.415
82.80	41.666	118	0.185
86.40	42.024	118	0.317
90.00	42.024	118	0.000

Totals and Averages

90	42.024	110	37.71
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Inlet Unit 1
Date	8/3/11
P _b (Inches Hg)	29.27

Meter ID	M-26
Y _c	0.9958

Start Time	10:23
Stop Time	12:04

Meter ID	M-26
Y _d	0.9902

Run 2

Min/Pt	Gas Sample	DGM	Volume
3.6	Volume	DGM	Metered
Elapsed	Initial (L)	Temp	Vmstrd
Time	0.00	(°F)	(L)
3.60	1.927	111	1.735
7.20	3.249	111	1.190
10.80	4.414	112	1.047
14.40	5.405	112	0.891
18.00	6.378	115	0.870
21.60	7.421	116	0.931
25.20	8.119	117	0.622
28.80	9.143	119	0.909
32.40	10.739	120	1.415
36.00	11.285	122	0.482
39.60	12.893	122	1.421
43.20	14.626	123	1.528
46.80	16.270	124	1.447
50.40	17.970	124	1.497
54.00	19.474	125	1.322
57.60	21.162	125	1.484
61.20	23.484	125	2.041
64.80	25.103	125	1.423
68.40	27.639	125	2.229
72.00	29.993	125	2.069
75.60	33.112	125	2.741
79.20	35.876	126	2.425
82.80	37.950	126	1.820
86.40	40.511	126	2.247
90.00	42.971	126	2.158

Run 2 Spiked

Min/Pt	Gas Sample	DGM	Volume
3.6	Volume	DGM	Metered
Elapsed	Initial (L)	Temp	Vmstrd
Time	0.00	(°F)	(L)
3.60	1.847	111	1.654
7.20	2.976	112	1.009
10.80	3.570	112	0.531
14.40	4.781	113	1.081
18.00	5.927	116	1.017
21.60	6.148	118	0.195
25.20	7.064	119	0.809
28.80	8.506	120	1.271
32.40	10.511	121	1.764
36.00	11.175	122	0.583
39.60	12.761	123	1.391
43.20	14.821	124	1.803
46.80	16.769	125	1.702
50.40	18.615	125	1.613
54.00	19.550	125	0.817
57.60	21.083	125	1.340
61.20	23.383	125	2.010
64.80	25.097	125	1.498
68.40	27.491	126	2.089
72.00	29.783	126	2.000
75.60	32.931	126	2.747
79.20	35.729	127	2.437
82.80	37.963	127	1.946
86.40	40.879	127	2.540
90.00	43.437	126	2.232

Totals and Averages

90	42.971	121	38.02
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Totals and Averages

90	43.437	122	38.17
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Inlet Unit 1
Date	8/3/11
P _v (Inches Hg)	29.27

Meter ID	M-26
Y _d	0.9958

Start Time	13:17
Stop Time	15:02

Meter ID	M-26
Y _d	0.99020

Run 3

Min/Pt	Gas Sample	DGM Temp (°F)	Volume Metered Vmstd (L)
Elapsed Time	Volume Initial (L)		
3.6	0.00		
3.60	2.439	120	2.162
7.20	4.494	120	1.822
10.80	6.235	120	1.543
14.40	8.357	120	1.881
18.00	10.059	120	1.509
21.60	11.529	121	1.301
25.20	12.920	120	1.233
28.80	14.212	120	1.145
32.40	15.474	120	1.119
36.00	16.431	120	0.848
39.60	17.618	120	1.052
43.20	19.086	120	1.301
46.80	20.631	120	1.370
50.40	21.872	120	1.100
54.00	23.301	120	1.267
57.60	25.013	119	1.520
61.20	27.284	119	2.017
64.80	29.931	119	2.351
68.40	31.330	119	1.242
72.00	33.356	118	1.802
75.60	35.819	119	2.187
79.20	38.457	119	2.343
82.80	40.941	120	2.202
86.40	42.741	120	1.596
90.00	43.178	120	0.387

Totals and Averages

90	43.178	120	38.29
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Run 3 Spiked

Min/Pt	Gas Sample	DGM Temp (°F)	Volume Metered Vmstd (L)
Elapsed Time	Volume Initial (L)		
3.6	0.00		
3.60	2.711	120	2.390
7.20	4.783	121	1.823
10.80	6.447	121	1.464
14.40	8.192	121	1.536
18.00	9.645	121	1.279
21.60	11.134	122	1.308
25.20	12.491	120	1.196
28.80	13.704	120	1.069
32.40	15.069	120	1.203
36.00	16.186	120	0.985
39.60	17.067	121	0.775
43.20	18.461	120	1.229
46.80	20.701	120	1.975
50.40	21.624	121	0.812
54.00	23.454	121	1.610
57.60	25.312	120	1.638
61.20	27.630	119	2.047
64.80	29.492	119	1.644
68.40	31.687	119	1.938
72.00	33.579	119	1.671
75.60	35.657	120	1.832
79.20	37.812	120	1.900
82.80	40.067	121	1.984
86.40	41.515	121	1.274
90.00	42.868	122	1.189

Totals and Averages

90	42.868	120	37.76
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Stack Unit 1
Date	8/3/2011
Meter ID	M-17
Y_d	1.0141
Pilot C_p	0.84

Nozzle Diameter (in)	0.230
Filter ID	12155
Train Type	Impinger
Train ID	IB-3
P_0 (Inches Hg)	29.27
P_c (Inches H ₂ O)	-0.4
Start Time	7:01
Stop Time	8:46

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	192
Length	
Width	

Impinger	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	713.1	577.6	135.5
Impinger 2	685.0	675.3	9.7
Impinger 3	598.5	570.0	28.5
Silica Gel	896.0	862.7	33.3
Weight of Water Collected V_{wc} (g)			173.7
Silica Gel Net Weight V_{sg} (g)			33.3

CEMS	%CO ₂	%CO ₂ +%O ₂	%O ₂
Average	13.0	NA	5.33

Run 1

Traverse Point	Min/Ft	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample Volume Inlet (ft ³)	Stack Temp (°F)	Dish Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity (ft/sec)	Volume Measured (ft ³)	Isokinetic (%)
	7.5										
1-1	7.5	0.66	1.50	913.09	129	97	97	0.812	49.1	5.254	112.0
1-2	15.0	0.62	1.40	917.42	129	99	97	0.787	47.6	4.077	89.7
1-3	22.5	0.32	0.72	921.07	129	101	97	0.566	34.2	3.425	104.9
2-1	30.0	0.66	1.50	926.59	130	104	98	0.812	49.2	5.171	110.3
2-2	37.5	0.61	1.40	930.99	130	107	99	0.781	47.3	4.106	91.1
2-3	45.0	0.39	0.87	934.71	130	110	101	0.624	37.3	3.452	95.8
3-1	52.5	0.64	1.40	939.71	130	110	102	0.800	48.4	4.642	100.6
3-2	60.0	0.65	1.50	944.75	130	111	102	0.806	48.9	4.676	100.6
3-3	67.5	0.34	0.76	948.29	130	111	103	0.581	36.3	3.275	97.4
4-1	75.0	0.65	1.50	953.23	130	111	103	0.806	48.9	4.579	98.4
4-2	82.5	0.69	1.60	958.38	130	111	104	0.831	50.3	4.771	99.5
4-3	90.0	0.45	1.00	962.61	130	111	105	0.671	40.8	3.908	101.0

Totals and Averages

90	1.26	55.09	130	104	0.740	44.8	51.33	98.4
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Stack Unit 1
Date	8/3/2011
Meter ID	M-17
V_d	1.0141
Filter C_p	0.84

Nozzle Diameter (in)	0.230
Filter ID	12156
Train Type	Impinger
Train ID	IB-4
P_1 (inches Hg)	29.27
P_2 (inches H ₂ O)	-0.4
Start Time	10:19
Stop Time	12:03

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	192
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	645.4	525.4	120.0
Impinger 2	731.1	704.3	26.8
Impinger 3	635.1	608.5	26.6
Silica Gel	951.2	909.8	41.4
Weight of Water Collected, V_{wc} (g)			173.4
Silica Gel Net Weight, V_{wg} (g)			41.4

CEMS	%CO ₂	%CO ₂ +%O ₂	%O ₂
Average	13.3	NA	5.37

Run 2

Traverse Point	Min/Pt	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample Volume Initial (ft ³)	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔF	Stack Gas Velocity V_g (ft/sec)	Volume Measured (ft ³)	Isokinetic (%)
	Elapsed Time										
1-1	7.5	0.68	1.50	967.80	131	102	102	0.925	49.9	2592	97.8
1-2	15.0	0.63	1.40	972.54	131	104	102	0.794	48.1	2424	97.9
1-3	22.5	0.33	0.73	976.13	130	106	103	0.574	34.8	2356	101.9
2-1	30.0	0.66	1.50	981.11	130	107	103	0.812	49.2	4850	100.1
2-2	37.5	0.61	1.40	984.89	130	107	103	0.781	47.3	3615	79.0
2-3	45.0	0.38	0.84	989.17	130	109	104	0.618	37.3	3964	112.8
3-1	52.5	0.64	1.40	994.26	131	110	104	0.900	45.4	2717	103.5
3-2	60.0	0.66	1.50	998.51	130	110	105	0.912	49.2	3936	95.0
3-3	67.5	0.36	0.80	1002.89	130	110	105	0.600	36.3	2049	118.4
4-1	75.0	0.63	1.40	1007.36	130	111	105	0.794	48.0	2135	91.4
4-2	82.5	0.68	1.50	1011.73	130	111	105	0.825	48.8	2044	95.0
4-3	90.0	0.46	1.60	1016.15	130	111	106	0.675	41.0	2082	105.7

Totals and Averages

90	1.30	53.26	130	106	0.743	44.9	49.43	95.7
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Stack Unit 1
Date	8/3/2011
Meter ID	M-17
Yr	1.0141
Pitot C _p	0.84

Nozzle Diameter (in)	0.220
Filter ID	12157
Train Type	Impinger
Train ID	IB-3
P _b (Inches Hg)	29.27
P _w (Inches H ₂ O)	-0.4
Start Time	13:17
Stop Time	15:04

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	192
Length	
Width	

Impinger	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	602.1	559.3	42.8
Impinger 2	734.5	677.9	56.6
Impinger 3	745.4	573.7	171.7
Silica Gel	910.6	896.1	14.5
Weight of Water Collected, V _w (g)			271.1
Silica Gel Net Weight, V _{w2} (g)			14.5

CEMS	%CO ₂	%CO ₂ +%O ₂	%O ₂
Average	13.9	NA	4.89

Run 3

Traverse Point	Min/Pt	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample Volume Initial (ft ³)	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Squire Root ΔP	Stack Gas Velocity (ft/sec)	Volume Metered V _{std} (ft ³)	Isochneity (%)
	Elapsed Time										
	7.5			16.56							
1-1	7.5	0.69	1.50	22.19	131	105	103	0.537	50.3	5.246	117.3
1-2	15.0	0.64	1.40	26.64	131	107	103	0.800	48.4	6.138	96.1
1-3	22.5	0.32	0.71	34.01	131	109	104	0.566	39.2	6.624	224.0
2-1	30.0	0.66	1.50	34.56	131	110	105	0.812	49.2	0.505	11.6
2-2	37.5	0.63	1.40	38.82	130	111	105	0.794	48.0	3.941	92.1
2-3	45.0	0.35	0.77	42.90	131	112	106	0.582	35.8	3.762	118.1
3-1	52.5	0.63	1.40	47.12	130	112	106	0.794	48.0	3.897	91.1
3-2	60.0	0.65	1.40	52.36	131	112	107	0.906	46.8	4.835	111.5
3-3	67.5	0.33	0.73	54.92	131	112	107	0.574	34.9	2.356	76.2
4-1	75.0	0.61	1.80	59.82	131	112	108	0.781	47.3	4.522	107.5
4-2	82.5	0.67	1.50	64.79	130	112	108	0.919	49.5	4.583	103.9
4-3	90.0	0.47	1.00	69.83	131	112	108	0.686	41.5	4.341	125.7

Totals and Averages

90	1.26	53.27	131	108	0.738	44.7	49.25	96.3
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Unit 1 Stack
Date	8/3/2011
Mezzer ID	M-2
Y _d	0.9904
Pitot C _p	0.84

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	192
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	882.3	713.1	169.2
Impinger 2	687.3	685.1	2.2
Impinger 3	597.0	584.0	13.0
Silica Gel	815.0	777.2	37.8
Weight of Water Collected, V _{wc} (g)			184.4
Silica Gel Net Weight, V _{wsg} (g)			37.8

Nozzle Diameter (in)	0.270
Filter ID	NA
Train Type	Impingers
Train IL	IB
P ₁ (Inches Hg)	29.27
P ₂ (Inches H ₂ O)	-0.4
Start Time	7:01
Stop Time	9:16

CEMS	%CO ₂	%CO ₂ +%O ₂	%O ₂
Average	13.0	NA	5.83

Run 1

Traverse Point	Min/Pt	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample Volume Initial (ft ³)	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity v _g (ft/sec)	Volume Metered Vmstd (ft ³)	Isokinetics (%)
	10 Elapsed Time										
1-1	10	0.62	2.70	219.29	130	100	94	0.787	47.2	8.550	97.3
1-2	20	0.55	2.40	228.53	130	98	95	0.742	44.4	8.542	103.2
1-3	30	0.27	1.20	234.89	130	105	96	0.520	31.1	5.820	100.4
2-1	40	0.57	2.50	243.22	128	110	97	0.755	45.1	7.807	90.1
2-2	50	0.50	2.20	251.54	131	105	100	0.707	42.4	7.605	96.5
2-3	60	0.25	1.10	259.45	130	106	101	0.500	29.9	7.198	129.0
3-1	70	0.56	2.40	267.88	131	107	102	0.748	44.9	7.383	92.1
3-2	80	0.50	2.20	276.13	130	107	102	0.707	42.4	7.515	95.2
3-3	90	0.25	1.10	283.51	130	107	102	0.500	29.9	6.705	120.1
4-1	100	0.55	2.40	291.71	131	107	103	0.742	44.5	7.486	90.3
4-2	110	0.50	2.20	299.82	131	108	103	0.707	42.4	7.374	33.5
4-3	120	0.25	1.10	306.24	130	109	103	0.500	29.3	5.816	104.2

Totals and Averages

120	1.96	96.20	130	103	0.660	39.5	87.84	99.5
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Unit 1 Stack
Date	8/3/2011
Meier ID	M-2/9
Y _d	1.0159
Pitot C _p	0.84

Place an "x" in the appropriate Box

Nozzle Diameter (in)	0.270
Filter ID	NA
Train Type	Impingers
Train ID	IB-9
P ₀ (Inches Hg)	29.27
P _s (Inches H ₂ O)	-0.4
Start Time	10:19
Stop Time	12:51

Circular?	x
Rectangular?	
Diameter	192
Length	
Width	

Morsure	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	904.4	612.9	291.5
Impinger 2	648.2	610.2	38.0
Impinger 3	542.1	526.6	15.5
Silica Gel	914.1	881.0	33.1
Weight of Water Collected, V _w (g)			342.0
Silica Gel Net Weight, V _{wsg} (g)			33.1

CEMS	%CO ₂	%CO ₂ +%O ₂	%O ₂
Average	13.3	NA	5.37

Run 2

Traverse Point	Min/Pi	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample Volume Initial (ft ³)	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity V _s (ft/sec)	Volume Metered V _{mstd} (ft ³)	Isokinetics (%)
	10 Elapsed Time										
1-1	10	0.57	2.50	677.90	131	101	102	0.755	45.8	0.000	0.0
1-2	20	0.59	2.50	692.64	130	91	90	0.768	46.5	14.133	173.9
1-3	30	0.18	0.77	700.10	132	99	92	0.424	25.8	7.058	157.5
2-1	40	0.56	2.40	708.31	133	102	93	0.748	45.5	7.771	98.4
2-2	50	0.51	2.20	716.69	133	105	95	0.714	43.4	7.893	104.7
2-3	60	0.20	0.88	721.23	132	107	99	0.447	27.1	4.238	89.7
3-1	70	0.58	2.50	727.81	132	109	100	0.762	46.2	6.153	76.5
3-2	80	0.50	2.20	735.05	133	111	100	0.707	43.0	6.755	90.5
3-3	90	0.26	1.10	742.28	132	113	101	0.510	31.0	6.707	124.5
4-1	100	0.55	2.40	758.79	132	115	102	0.742	45.6	15.325	195.6
4-2	110	0.56	2.40	769.36	131	116	103	0.748	45.4	9.794	123.8
4-3	120	0.31	1.30	775.48	132	117	104	0.557	33.8	5.845	96.0

Totals and Averages

120	1.93	97.58	132	103	0.657	39.9	91.39	109.7
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Unit 1 Stack
Date	8/3/2011
Meter ID	M-15
Y ₃	1.0159
Pitot C ₂	0.84

Nozzle Diameter (in)	0.270
Filter ID	NA
Train Type	Impingers
Train ID	IB
P ₀ (Inches Hg)	29.27
P _h (Inches H ₂ O)	-0.4
Start Time	13:17
Stop Time	15:35

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	192
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	944.5	720.3	224.2
Impinger 2	727.5	682.4	45.1
Impinger 3	612.8	586.2	26.6
Silica Gel	846.1	815.0	31.1
Weight of Water Collected, W ₁ (g)			295.9
Silica Gel Net Weight, W ₂ (g)			31.1

CEMS	%CO ₂	%CO ₂ +%O ₂	%O ₂
Average	13.8	NA	4.88

Run 3

Traverse Point	min/P	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample Volume Initial (ft ³)	Stack Temp (°F)	DGM Inlet (°F)	DGM Cooled (°F)	Square Root ΔP	Stack Gas Velocity V _s (ft/sec)	Volume Metered Vmstd (ft ³)	Isokinetics (%)
	10										
1-1	10	0.50	2.20	783.77	133	114	107	0.707	42.3	7.356	98.0
1-2	20	0.46	2.00	791.73	133	114	107	0.676	41.1	7.355	100.1
1-3	30	0.22	0.97	798.47	132	114	107	0.489	28.4	6.212	124.0
2-1	40	0.51	2.20	805.21	133	115	108	0.714	43.3	6.220	92.0
2-2	50	0.47	2.10	813.01	133	114	108	0.686	41.5	7.200	98.9
2-3	60	0.21	0.92	818.87	133	113	108	0.458	27.3	5.400	111.0
3-1	70	0.52	2.30	826.87	132	114	108	0.721	43.7	7.391	96.4
3-2	80	0.48	2.10	834.98	133	114	108	0.693	42.0	7.489	101.8
3-3	90	0.25	1.10	841.68	133	114	108	0.500	30.2	6.173	116.2
4-1	100	0.49	2.20	848.38	133	116	108	0.700	42.4	6.178	83.1
4-2	110	0.45	2.00	855.43	132	118	108	0.671	40.6	6.486	91.0
4-3	120	0.28	1.10	866.74	133	118	108	0.510	30.9	10.382	181.7

Totals and Averages

120	1.77	90.93	133	111	0.626	37.9	83.86	105.2
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Stack Unit 1
Date	8/3/2011
Metals ID	M-16
Y _d	0.9907
Pitot C _p	0.84

Place an "x" in the appropriate Box

Circular?	<input checked="" type="checkbox"/>
Rectangular?	<input type="checkbox"/>
Diameter	192
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	805.0	580.5	224.5
Impinger 2	629.4	604.7	24.7
Impinger 3	624.3	606.0	18.3
Impinger 4	553.4	543.4	10.0
Silica Gel	889.1	855.6	33.5
Weight of Water Collected W _w (g)			277.5
Silica Gel Net Weight W _{sg} (g)			33.5

Nozzle Diameter (in)	0.230
Filter ID	NA
Train Type	Impinger
Train ID	IB-24
F ₁ (Inches H ₂ O)	29.27
F ₂ (Inches H ₂ O)	-0.4
Start Time	7:01
Stop Time	9:16

CEMS	%CO ₂	%CO ₂ +%O ₂	%O ₂
Average	13.0	NA	5.83

Run 1

Traverse Point	Min/Pk	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample Volume Initial (ft ³)	Stack Temp (°F)	D/GM Inlet (°F)	D/GM Outlet (°F)	Square Root ΔP	Stack Gas Velocity (ft/sec)	Volume Retrieved (ft ³)	Isokinetic (%)
	10										
3-1	10	0.78	1.80	174.11	130	100	96	0.883	53.5	6.916	105.9
3-3	20	0.62	1.40	180.79	131	105	97	0.787	47.7	6.112	103.1
3-3	30	0.46	1.10	186.54	131	109	98	0.678	41.1	5.234	102.5
4-1	40	0.61	1.40	193.04	131	107	100	0.761	47.3	5.921	100.7
4-2	50	0.67	1.50	199.64	131	112	103	0.819	49.6	5.971	96.9
4-3	60	0.39	0.89	206.23	132	114	104	0.624	37.9	5.097	107.2
2-1	70	0.62	1.40	211.68	130	116	105	0.787	47.7	6.904	97.8
2-2	80	0.67	1.50	218.70	130	117	106	0.819	48.6	6.507	102.2
2-3	90	0.40	0.92	223.98	131	118	106	0.632	36.3	4.737	109.3
1-1	100	0.58	1.30	229.94	130	119	108	0.762	46.1	5.333	92.9
1-2	110	0.63	1.40	236.94	130	119	109	0.794	48.1	6.260	104.6
1-3	120	0.31	0.71	241.96	130	119	109	0.557	33.7	4.442	106.9

Totals and Averages

120	1.28	75.36	131	108	0.744	45.1	68.06	98.8
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Stack Unit 1
Date	8/3/2011
Meter ID	11-16
Yr	0.9907
Pitot Cp	0.84

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	192
Length	
Width	

Nozzle Diameter (in)	0.230
Filter ID	NA
Train Type	Impinger
Train ID	iB
P ₀ (Inches Hg)	29.27
P _s (Inches H ₂ O)	-0.4
Start Time	10:19
Stop Time	12:51

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	839.0	618.1	220.9
Impinger 2	626.0	599.0	27.0
Impinger 3	704.0	691.3	12.7
Impinger 4	648.5	639.2	9.3
Silica Gel	954.5	920.8	33.7
Weight of Water Collected, W ₁₋₂₉ (g)			286.9
Silica Gel Net Weight, W ₁₋₂₉ (g)			33.7

CEMS	%CO ₂	%CO ₂ +%O ₂	%O ₂
Average	13.3	NA	5.37

Run 2

Traverse Point	Min/Pi	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample Volume Initial (ft ³)	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity (ft/sec)	Volume Metered (ft ³)	Isokorrec (%)
	10 Elapsed Time										
3-1	10	0.71	1.60	249.76	133	107	106	0.843	51.1	6.462	102.0
3-3	20	0.64	1.50	255.21	132	113	106	0.800	45.5	4.914	81.4
3-3	30	0.33	0.76	260.67	132	116	107	0.574	34.8	4.896	113.0
4-1	40	0.61	1.40	268.39	132	117	108	0.781	47.4	6.922	117.5
4-2	50	0.64	1.50	275.21	131	118	108	0.800	48.5	6.111	101.2
4-3	60	0.29	0.66	279.79	130	119	109	0.539	32.6	4.088	100.4
2-1	70	0.66	1.50	286.50	131	118	110	0.812	49.2	6.002	97.8
2-2	80	0.69	1.60	283.71	130	119	110	0.831	50.3	2.491	-36.7
2-3	90	0.42	0.96	299.25	130	118	111	0.648	39.2	15.870	283.2
1-1	100	0.61	1.40	306.00	131	118	111	0.721	47.3	6.031	102.3
1-2	110	0.65	1.50	312.90	130	119	111	0.806	48.9	6.161	101.1
1-3	120	0.32	0.73	317.69	129	120	112	0.566	34.2	4.282	99.0

Totals and Averages

120	1.26	75.08	131	113	0.732	44.3	67.24	99.4
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Stack Unit 1
Date	8/3/2011
Analyzer ID	M-16
Y ₂	0.9907
Pitot Co ₂	0.84

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	192
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	817.3	582.6	234.7
Impinger 2	634.5	607.5	27.0
Impinger 3	622.1	610.8	11.3
Impinger 4	550.5	545.8	4.7
Silica Gel	909.8	889.1	20.7
Weight of Water Collected, V _w (g)			277.7
Silica Gel Net Weight, V _{wg} (g)			20.7

Nozzle Diameter (in)	0.230
Filter ID	NA
Train Type	Impinger
Train ID	IB-24
P ₁ (Inches Hg)	29.27
F ₁ (Inches H ₂ O)	-0.4
Start Time	13:17
Stop Time	15:39

CEMS	%CO ₂	%CO ₂ +%O ₂	%O ₂
Average	13.8	NA	3.99

Run 3

Traverse Point	Min/Ft	Velocity Pressure ΔP (in H ₂ O)	Orifice Setting ΔH (in H ₂ O)	Gas Sample Volume Initial (ft ³)	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity ft/s (ft/sec)	Volume Measured (ft ³)	Isokinetic (%)
	10 Elapsed Time										
3-1	10	0.66	1.50	326.71	133	110	108	0.812	49.3	7.499	122.9
3-3	20	0.63	1.40	333.60	132	112	108	0.794	48.1	6.295	104.0
3-3	30	0.34	0.78	338.56	131	113	109	0.583	35.3	4.452	101.5
4-1	40	0.60	1.40	345.18	131	118	109	0.775	46.9	5.925	101.7
4-2	50	0.62	1.40	351.40	132	118	110	0.787	47.7	5.562	94.0
4-3	60	0.26	0.60	355.71	131	119	110	0.510	30.9	3.843	100.2
2-1	70	0.62	1.40	362.24	131	120	111	0.787	47.7	5.924	98.3
2-2	80	0.67	1.50	368.85	130	121	112	0.819	49.5	3.887	85.5
2-3	90	0.40	0.92	374.21	130	120	112	0.632	38.3	4.771	100.2
1-1	100	0.58	1.30	380.39	130	121	113	0.762	46.1	5.497	95.8
1-2	110	0.60	1.40	386.86	130	122	113	0.775	46.9	5.751	95.6
1-3	120	0.30	0.69	391.44	130	122	113	0.548	35.1	4.064	98.5

Totals and Averages

120	1.19	73.04	131	114	0.715	43.3	65.25	98.8
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Stack
Date	8/3/11
P _b (Inches Hg)	29.27

Meter ID	R20078
Y _d	1.0072

Meter ID	R20078
Y _e	0.9985

Start Time	7:01
Stop Time	8:49

Run 1

Min/Pt	Gas Sample	DGM	Volume
5	Volume	Temp	Metered
Elapsed	Initial (L)	Temp	Vmstd
Time	0.00	(°F)	(L)
5.00	1.935	97	1 807
10.00	3.996	97	1 924
15.00	6.176	101	2 021
20.00	7.942	102	1 634
25.00	10.009	104	1 906
30.00	12.056	105	1 884
35.00	14.139	107	1 910
40.00	16.008	109	1 708
45.00	18.169	110	1 972
50.00	20.027	113	1 686
55.00	22.012	113	1 802
60.00	24.026	115	1 821
65.00	26.034	115	1 816
70.00	28.068	116	1 836
75.00	30.082	117	1 815
80.00	32.014	118	1 738
85.00	34.047	119	1 826
90.00	36.032	119	1 783

Run 1 Spiked

Min/Pt	Gas Sample	DGM	Volume
5	Volume	Temp	Metered
Elapsed	Initial (L)	Temp	Vmstd
Time	0.00	(°F)	(L)
5	1.948	96	1 806
10	3.998	98	1 894
15	6.094	100	1 930
20	8.017	103	1 761
25	10.095	105	1 896
30	12.094	106	1 821
35	14.113	108	1 833
40	15.949	110	1 661
45	18.151	112	1 985
50	19.996	115	1 654
55	21.937	116	1 737
60	24.007	116	1 853
65	26.025	117	1 803
70	28.014	118	1 774
75	30.047	118	1 813
80	32.054	119	1 787
85	34.053	120	1 777
90	36.052	120	1 777

Totals and Averages

90	36.032	110	32.88
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Totals and Averages

90	36.052	111	32.55
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Stack
Date	8/3/11
P _b (Inches Hg)	29.27

Meter ID	R20078
Y _d	1.0072

Meter ID	R20078
Y _d	0.9985

Start Time	10:19
Stop Time	12:09

Run 2

Min/Pt	Gas Sample	DGM Temp (°F)	Volume Metered Vmstd (L)
5	Volume Initial (L)		
Elapsed Time	0.00		
5	2.120	103	1.958
10	4.096	104	1.822
15	5.977	107	1.725
20	8.024	107	1.877
25	10.024	107	1.834
30	12.042	109	1.844
35	14.044	111	1.823
40	16.030	112	1.806
45	18.094	114	1.870
50	20.011	116	1.731
55	22.024	117	1.814
60	24.051	119	1.821
65	26.013	120	1.759
70	28.098	121	1.866
75	30.034	122	1.730
80	32.047	122	1.799
85	34.006	123	1.747
90	36.036	123	1.811

Run 2 Spiked

Min/Pt	Gas Sample	DGM Temp (°F)	Volume Metered Vmstd (L)
5	Volume Initial (L)		
Elapsed Time	0.00		
5	2.096	103	1.919
10	4.111	104	1.842
15	5.981	107	1.700
20	8.106	107	1.932
25	10.072	108	1.784
30	12.052	109	1.794
35	14.010	112	1.765
40	16.096	114	1.874
45	18.031	116	1.732
50	20.016	118	1.771
55	22.009	119	1.775
60	24.044	120	1.809
65	26.009	121	1.744
70	28.103	123	1.852
75	30.028	123	1.702
80	32.072	123	1.808
85	34.036	124	1.734
90	36.084	125	1.805

Totals and Averages

90	36.036	114	32.63
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Totals and Averages

90	36.084	115	32.33
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Project Number	3648
Client	Big Rivers
Plant	Henderson
Location	Stack
Date	8/3/11
P _t (Inches Hg)	29.27

Meter ID	R20078
Y _e	1.0072

Start Time	13:17
Stop Time	15:04

Meter ID	R20078
Y _d	0.9985

Run 3

Min/Pt	Gas Sample	DGM	Volume
5	Volume		
Elapsed	Initial (L)	Temp	Metered
Time	0.00	(°F)	Vmstd
5	2.025	109	1.851
10	4.067	109	1.866
15	6.032	109	1.796
20	8.043	110	1.835
25	9.993	112	1.773
30	12.009	113	1.830
35	14.022	115	1.821
40	16.026	117	1.806
45	18.067	118	1.836
50	20.037	119	1.769
55	22.041	120	1.797
60	24.083	120	1.831
65	26.054	121	1.764
70	28.071	121	1.805
75	30.051	121	1.772
80	32.043	122	1.780
85	34.067	122	1.809
90	36.088	122	1.806

Run 3 Spiked

Min/Pt	Gas Sample	DGM	Volume
5	Volume		
Elapsed	Initial (L)	Temp	Metered
Time	0.00	(°F)	Vmstd
5	2.004	109	1.816
10	4.011	109	1.818
15	6.059	109	1.856
20	8.036	111	1.785
25	10.057	113	1.818
30	12.063	114	1.802
35	14.041	117	1.767
40	16.069	118	1.809
45	18.081	120	1.788
50	20.062	121	1.758
55	22.055	121	1.768
60	24.071	121	1.789
65	26.103	122	1.800
70	28.113	122	1.781
75	30.096	123	1.754
80	32.081	123	1.755
85	34.055	123	1.746
90	36.043	123	1.758

Totals and Averages

90	36.088	117	32.54
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Totals and Averages

90	36.043	118	32.16
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