Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 1
Date	7/8/2011
Meter ID	M2
Y_d	0.9904
Pitot C_p	0.84

Nozzle Diameter (in)	0.220
Filter ID	12136
Train Type	Impinger
Train ID	IB12
P_b (Inches Hg)	28.90
P_g (Inches H_2O)	-2.0
Start Time	10:08
Stop Time	11:49

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	558.0	483.0	75.0
Impinger 2	657.0	648.0	9.0
Impinger 3	505.0	488.0	17.0
Rinse		50.0	-50.0
Silica Gel	958.0	924.0	34.0
Weight of Water Collected V_{wc} (g)			51.0
Silica Gel Net Weight V_{sg} (g)			34.0

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	12.0	NA	7.28

Run 1

Traverse Point	Min/Pt 7.5 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 976.42	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1	7.5	0.76	1.20	981.31	326	80	79	0.872	30.4	4.590	108.8
2	15.0	0.74	1.20	985.41	326	80	79	0.860	59.6	3.649	90.5
3	22.5	0.75	1.20	989.82	327	80	79	0.866	60.1	4.140	97.0
4	30.0	0.86	1.30	997.88	324	81	79	0.927	64.2	7.561	165.2
5	37.5	0.93	1.50	1002.57	321	81	79	0.964	66.6	4.402	92.2
6	45.0	1.10	1.70	1007.47	323	81	80	1.049	72.8	4.597	88.8
7	52.5	1.10	1.70	1012.06	325	81	80	1.049	72.7	4.306	83.2
8	60.0	1.00	1.60	1016.61	322	81	80	1.000	69.2	4.268	86.4
9	67.5	0.86	1.30	1021.18	326	81	80	0.927	64.2	4.285	93.7
10	75.0	0.48	0.75	1025.49	324	81	80	0.692	48.0	4.024	116.0
11	82.5	0.46	0.72	1029.00	323	82	80	0.678	46.9	3.282	98.0
12	90.0	0.44	0.69	1033.33	325	82	81	0.663	46.0	4.044	123.6

Less Volumes for Between port Leak Checks 2.08

Totals and Averages

90		1.24	54.83	324	80.3	0.879	60.9	51.40	98.7

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 1
Date	7/12/2011
Meter ID	M15
Y_d	1.0159
Pitot C_p	0.84

Nozzle Diameter (in)	0.220
Filter ID	12128
Train Type	Impinger
Train ID	IB14
P_b (Inches Hg)	29.90
P_g (Inches H_2O)	-2.0
Start Time	9:50
Stop Time	11:20

Place an "x" in the appropriate Box

Circular?	x
Reciangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	654.0	503.0	151.0
Impinger 2	694.0	704.0	-10.0
Impinger 3	604.0	589.0	15.0
Rinse		50.0	-50.0
Silica Gel	977.0	949.0	28.0
Weight of Water Collected V_{wc} (g)			106.0
Silica Gel Net Weight V_{wsg} (g)			28.0

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	11.3	NA	7.36

Run 2

Traverse Point	Min/Pt 7.5 Elapsed Time	Velocity Pressure Δ P (in H_2O)	Orifice Setting Δ H (in H_2O)	Gas Sample Volume Initial (ft^3) 502.98	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1	7.5	0.70	1.10	507.32	342	118	118	0.957	56.0	4.038	99.9
2	15.0	0.69	1.10	511.93	345	118	118	0.931	57.7	4.285	107.0
3	22.5	0.74	1.20	516.88	343	118	118	0.860	59.7	4.602	110.8
4	30.0	1.10	1.70	521.99	340	119	118	1.049	72.6	4.753	93.7
5	37.5	1.10	1.70	526.93	342	119	119	1.049	72.7	4.501	90.6
6	45.0	1.00	1.60	531.69	342	120	119	1.000	69.3	4.419	91.4
7	52.5	0.92	1.40	536.13	343	121	120	0.956	66.5	4.112	88.8
8	60.0	0.86	1.30	541.73	345	122	120	0.927	66.4	5.181	115.6
9	67.5	0.68	1.10	546.11	344	122	120	0.825	57.2	4.050	101.6
10	75.0	0.55	0.86	551.55	344	123	120	0.742	51.5	5.023	140.4
11	82.5	0.54	0.84	556.51	341	124	121	0.735	50.9	4.572	126.7
12	90.0	0.52	0.81	562.41	342	125	121	0.721	50.0	5.430	155.9

Totals and Averages

90	1.23	59.43	343	120	0.878	60.9	55.06	108.2

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 1
Date	7/12/2011
Meter ID	M15
Y_d	1.0159
Prior C_p	0.84

Nozzle Diameter (in)	0.220
Filter ID	12129
Train Type	Impinger
Train ID	IB8
P_b (Inches Hg)	29.90
P_g (Inches H_2O)	-2.0
Start Time	12:30
Stop Time	14:00

Place an "x" in the appropriate Box

Circular	x
Rectangular	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	599.0	526.0	73.0
Impinger 2	695.0	694.0	1.0
Impinger 3	658.0	630.0	28.0
Rinse		50.0	-50.0
Silica Gel	910.0	870.0	40.0
Weight of Water Collected, V_{wc} (g)			92.0
Silica Gel Net Weight, V_{wsg} (g)			40.0

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	12.1	NA	7.07

Run 3

Traverse Point	Min/Pt: 7.5 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 564.12	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft³)	Isokinetics (%)
1	7.5	0.71	1.20	568.72	337	108	108	0.843	57.9	4.352	104.1
2	15.0	0.68	1.10	573.12	338	108	108	0.825	56.7	4.162	101.8
3	22.5	0.76	1.30	577.94	336	109	107	0.872	59.8	4.561	105.6
4	30.0	1.10	1.80	582.51	339	109	107	1.049	72.1	4.330	90.3
5	37.5	1.10	1.80	587.11	341	110	106	1.049	72.2	4.359	94.0
6	45.0	1.00	1.60	591.71	337	110	106	1.000	68.7	4.356	87.8
7	52.5	0.95	1.60	596.02	339	109	106	0.975	67.0	4.085	84.6
8	60.0	0.84	1.40	600.93	336	109	106	0.917	62.9	4.852	102.3
9	67.5	0.69	1.10	605.99	338	108	106	0.831	57.1	4.795	116.8
10	75.0	0.57	0.94	610.63	338	108	105	0.755	51.9	4.399	117.5
11	82.5	0.55	0.90	615.78	340	108	105	0.742	51.0	4.882	133.0
12	90.0	0.53	0.87	619.29	338	108	105	0.728	50.0	3.327	92.2

Totals and Averages

90		1.30	55.17	338	107	0.882	60.6	52.26	99.6

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 1
Date	7/7/2011
Meter ID	M15
Y_d	1.0159
Pitot C_p	0.84

Nozzle Diameter (in)	0.220
Filter ID	NA
Train Type	Impinger
Train ID	IB24
P_b (Inches Hg)	29.58
P_g (Inches H_2O)	-2.0
Start Time	8:05
Stop Time	12:05

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	679.0	610.0	69.0
Impinger 2	809.0	727.0	82.0
Impinger 3	743.0	689.0	54.0
Impinger 4	637.0	615.0	22.0
Silica Gel	920.0	873.0	47.0
Weight of Water Collected, V_{wc} (g)			227.0
Silica Gel Net Weight, V_{wsg} (g)			47.0

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	12.0	NA	7.28

Run 1

Traverse Point	Min/Pt 20 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 86.54	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)
Single	20	0.74	0.95	97.16	356	93	94	0.860	60.4	10.195
	40	0.75	1.00	108.17	353	102	95	0.866	60.7	10.476
	60	0.73	0.97	119.25	352	106	98	0.854	59.8	10.476
	80	0.67	0.89	129.95	348	110	103	0.819	57.2	10.034
	100	0.67	0.89	140.00	343	119	110	0.819	57.0	9.294
	120	0.65	0.86	150.43	343	118	110	0.806	56.1	9.853
	140	0.67	0.89	160.89	344	111	104	0.819	57.0	9.792
	160	0.67	0.89	171.34	344	111	104	0.819	57.0	9.783
	180	0.67	0.89	181.80	344	111	104	0.819	57.0	9.792
	200	0.70	0.93	192.48	349	111	104	0.837	58.5	9.998
	220	0.70	0.93	203.80	347	114	105	0.837	58.4	10.561
	240	0.75	1.00	215.20	347	114	105	0.866	60.4	10.637

Totals and Averages

240		0.924	128.66	348	107	0.835	58.3	120.67

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 1
Date	7/8/2011
Meter ID	M15
Y_d	1.0159
Pitot C_p	0.84

Nozzle Diameter (in)	0.225
Filter ID	NA
Train Type	Impinger
Train ID	ESP 1
P_b (Inches Hg)	28.90
P_g (Inches H_2O)	-2.0
Start Time	6:41
Stop Time	10:41

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	683.0	639.0	44.0
Impinger 2	745.0	663.0	82.0
Impinger 3	742.0	694.0	48.0
Impinger 4	630.0	605.0	25.0
Silica Gel	891.0	845.0	46.0
Weight of Water Collected V_{wc} (g)			200.0
Silica Gel Net Weight V_{wsg} (g)			46.0

CEMS	$\%CO_2$	$\%CO_2$-$\%O_2$	$\%O_2$
Average	11.9	NA	7.36

Run 2

Traverse Point	Min/Pt 20 Elapsed Time	Velocity Pressure ΔP ($in\ H_2O$)	Orifice Setting ΔH ($in\ H_2O$)	Gas Sample Volume Initial (ft^3) 216.85	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity vs (ft/sec)	Volume Metered vmstd (ft^3)
Single	20	0.71	1.20	228.40	322	80	77	0.842	56.4	11.142
	40	0.69	1.20	240.75	319	87	78	0.831	57.4	11.826
	60	0.66	1.10	251.97	311	87	78	0.812	55.9	10.781
	80	0.66	1.10	263.40	312	90	80	0.812	55.9	10.892
	100	0.66	1.10	274.73	314	94	81	0.812	56.0	10.747
	120	0.70	1.20	286.79	316	94	81	0.837	57.7	11.445
	140	0.70	1.20	298.73	318	96	82	0.837	57.6	11.295
	160	0.70	1.20	310.70	319	96	84	0.837	57.6	11.306
	180	0.70	1.20	322.65	323	97	86	0.837	58.0	11.256
	200	0.68	1.10	334.00	324	96	86	0.825	57.2	10.899
	220	0.71	1.20	346.16	325	95	86	0.843	58.5	11.476
	240	0.71	1.20	358.31	325	96	87	0.843	58.5	11.445

Totals and Averages

240		1.17	141.46	319	87.3	0.831	57.4	134.27

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 1
Date	7/8/2011
Meter ID	M15
Y_d	1.0159
Pitot C_p	0.84

Nozzle Diameter (in)	0.220
Filter ID	NA
Train Type	Impinger
Train ID	IB25
P_b (Inches Hg)	28.90
P_g (Inches H_2O)	-2.0
Start Time	13:48
Stop Time	17:48

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	661.0	615.0	46.0
Impinger 2	820.0	731.0	89.0
Impinger 3	778.0	694.0	84.0
Impinger 4	665.0	620.0	45.0
Silica Gel	919.0	860.0	59.0
Weight of Water Collected, V_{wc} (g)			264.0
Silica Gel Net Weight, V_{wsg} (g)			59.0

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	12.1	NA	7.07

Run 3

Traverse Point	Min/Pt 20 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 360.20	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)
Single	20	0.71	1.20	372.30	324	93	87	0.842	56.7	11.429
	40	0.71	1.20	384.53	329	100	90	0.842	56.9	11.447
	60	0.71	1.20	396.70	334	110	99	0.842	59.1	11.199
	80	0.66	1.10	408.13	331	114	102	0.812	56.9	10.451
	100	0.65	1.10	419.63	335	115	104	0.806	56.6	10.487
	120	0.71	1.20	431.80	331	113	103	0.842	59.0	11.130
	140	0.66	1.10	443.26	332	109	101	0.812	56.9	10.531
	160	0.66	1.10	454.63	332	109	101	0.812	56.9	10.451
	180	0.66	1.10	466.43	332	108	99	0.812	56.9	10.675
	200	0.66	1.10	477.94	334	109	100	0.812	57.0	10.589
	220	0.66	1.10	489.39	334	108	99	0.812	57.0	10.553
	240	0.66	1.10	500.91	334	108	99	0.812	57.0	10.617

Totals and Averages

240		1.13	140.71	332	103	0.822	57.6	129.74

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 1
Date	7/7/2011
Meter ID	M2
Y_d	0.9904
Pitot C_p	0.84

Nozzle Diameter (in)	0.220
Filter ID	NA
Train Type	Impinger
Train ID	IB25
P_b (Inches Hg)	29.58
P_g (Inches H_2O)	-2.0
Start Time	8:05
Stop Time	10:06

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	687.0	645.0	42.0
Impinger 2	773.0	735.0	38.0
Impinger 3	699.0	677.0	22.0
Impinger 4	592.0	585.0	7.0
Rinse		50.0	-50.0
Silica Gel	896.0	880.0	16.0
Weight of Water Collected, V_{lc} (g)			59.0
Silica Gel Net Weight, V_{wsg} (g)			16.0

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	12.0	NA	7.20

Run 1

Traverse Point	Min/Pt 10 Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft³) 753.73	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft³)	Isokinetics (%)
1	10	0.76	0.97	759.71	355	87	82	0.872	60.6	5.689	95.2
2	20	0.77	0.99	765.13	349	90	86	0.877	60.8	5.124	97.6
3	30	0.76	0.97	771.06	346	94	89	0.872	60.2	5.570	95.7
4	40	0.85	1.10	776.73	353	98	92	0.922	63.9	5.294	86.3
5	50	1.00	1.30	783.40	349	101	95	1.000	69.2	6.197	95.0
6	60	1.10	1.40	789.81	350	103	99	1.049	72.7	5.325	84.8
7	70	1.10	1.40	796.64	347	106	100	1.049	72.5	6.291	99.9
8	80	0.85	1.10	802.96	345	109	105	0.922	63.7	5.776	93.7
9	90	0.83	1.10	809.17	342	110	106	0.911	62.8	5.665	92.9
10	100	0.41	0.53	813.63	348	111	108	0.640	44.3	4.052	94.9
11	110	0.42	0.54	818.16	350	111	108	0.648	44.9	4.116	95.3
12	120	0.45	0.58	822.81	347	111	110	0.671	46.4	4.218	94.2

Totals and Averages

120	0.998	69.08	348	100	0.869	60.2	63.85	91.8

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 1
Date	7/7/2011
Meter ID	M2
Y_d	0.9904
Pitot C_p	0.84

Nozzle Diameter (in)	0.220
Filter ID	NA
Train Type	Impinger
Train ID	IB7
P_b (Inches Hg)	29.58
P_g (Inches H_2O)	-2.0
Start Time	11:00
Stop Time	13:02

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	723.0	621.0	102.0
Impinger 2	665.0	610.0	55.0
Impinger 3	716.0	693.0	23.0
Impinger 4	638.0	628.0	10.0
Rinse		50.0	-50.0
Silica Gel	965.0	945.0	20.0
Weight of Water Collected, V_{wc} (g)			140.0
Silica Gel Net Weight, V_{sg} (g)			20.0

CEMS	%CO_2	%CO_2/%O_2	%O_2
Average	11.9	NA	7.38

Run 2

Traverse Point	Min/Pt 10 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft³) 823.35	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft³)	Isokinetics (%)
1	10	0.74	1.10	829.58	346	102	100	0.860	60.1	5.755	104.6
2	20	0.75	1.20	835.93	349	108	103	0.866	60.6	5.831	105.4
3	30	0.74	1.20	842.26	350	109	105	0.860	60.2	5.787	105.4
4	40	0.82	1.30	848.62	348	110	106	0.906	63.3	5.805	100.3
5	50	0.81	1.30	855.53	349	111	107	0.900	63.0	6.296	109.5
6	60	1.00	1.60	862.45	346	111	108	1.000	69.9	6.301	98.5
7	70	1.10	1.80	870.36	351	113	108	1.049	73.5	7.197	107.6
8	80	0.89	1.40	877.40	348	114	110	0.943	66.0	6.382	105.9
9	90	0.46	0.73	882.34	345	116	111	0.676	47.5	4.460	102.7
10	100	0.44	0.70	887.39	346	117	113	0.663	46.3	4.547	107.1
11	110	0.45	0.72	892.41	348	118	114	0.671	46.9	4.512	105.5
12	120	0.41	0.65	896.50	350	119	116	0.640	44.8	3.666	89.7

Totals and Averages

120		1.14	73.15	348	110	0.836	58.5	66.47	103.6

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 1
Date	7/8/2011
Meter ID	M2
Y_d	0.9904
Prior C_p	0.84

Nozzle Diameter (in)	0.220
Filter ID	NA
Train Type	Impinger
Train ID	IB14
P_b (Inches Hg)	28.90
P_g (Inches H_2O)	-2.0
Start Time	8:41
Stop Time	8:41

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	793.0	650.0	143.0
Impinger 2	783.0	740.0	43.0
Impinger 3	710.0	692.0	18.0
Impinger 4	593.0	588.0	5.0
Rinse		50.0	-50.0
Silica Gel	917.0	896.0	21.0
Weight of Water Collected, V_{wc} (g)			158.0
Silica Gel Net Weight, V_{sg} (g)			21.0

CEMS	$\%CO_2$	$\%CO_2$ - $\%O_2$	$\%O_2$
Average	12.1	NA	7.07

Run 3

Traverse Point	Min/Pt 10 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 900.30	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1	10	0.79	1.20	906.43	324	76	76	0.889	62.0	5.792	102.2
2	20	0.74	1.10	913.52	323	79	77	0.860	60.0	6.372	121.5
3	30	0.75	1.10	918.63	319	83	78	0.866	60.2	4.787	80.4
4	40	0.78	1.20	924.47	317	84	78	0.883	61.3	5.467	96.6
5	50	0.86	1.30	931.04	311	86	79	0.927	64.1	6.135	102.8
6	60	1.10	1.70	937.30	310	85	79	1.049	72.5	5.857	86.9
7	70	1.10	1.70	944.54	311	84	80	1.049	72.5	6.774	100.8
8	80	1.00	1.50	951.69	313	85	80	1.000	69.5	6.680	104.0
9	90	0.87	1.30	958.36	315	86	80	0.932	64.7	6.223	108.0
10	100	0.46	0.70	963.82	314	86	81	0.678	47.0	5.081	116.7
11	110	0.44	0.66	970.00	317	87	81	0.663	46.1	5.745	135.2
12	120	0.44	0.66	975.86	313	87	81	0.663	45.9	5.448	127.8

Totals and Averages

120		1.18	75.56	316	81.6	0.872	60.5	70.65	105.3

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 1
Date	7/12/11
P_b (Inches Hg)	29.90

Meter ID	DB30B-0711
Y_d	1.00720

Start Time	16:00
Stop Time	17:30

Meter ID	DB30B-0711
Y_d	0.99850

Run 1

Min/Pt 7.5 Elapsed Time	Gas Sample Volume Initial (L) 0.00	DGM Temp (°F)	Volume Metered Vmstd (L)
7.5	2.44	91	2.352
15.0	5.96	95	3.369
22.5	7.74	99	1.692
30.0	10.38	99	2.509
37.5	12.60	101	2.102
45.0	15.94	101	3.163
52.5	18.12	102	2.061
60.0	20.72	102	2.458
67.5	24.74	103	3.793
75.0	26.17	105	1.345
82.5	29.87	106	3.473
90.0	31.50	107	1.527

Totals and Averages

90	31.50	101	29.83

Run 1 Spiked

Min/Pt 7.5 Elapsed Time	Gas Sample Volume Initial (L) 0.00	DGM Temp (°F)	Volume Metered Vmstd (L)
7.5	2.91	94	2.766
15.0	4.82	96	1.809
22.5	7.25	99	2.289
30.0	9.63	99	2.242
37.5	12.56	101	2.751
45.0	15.03	103	2.311
52.5	17.43	103	2.245
60.0	22.71	104	4.930
67.5	23.30	105	0.550
75.0	25.49	105	2.041
82.5	28.42	107	2.721
90.0	32.59	107	3.873

Totals and Averages

90	32.59	102	30.54

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 1
Date	7/13/11
P_b (Inches Hg)	29.65

Meter ID	DB30B-0711
Y_d	1.00720

Meter ID	DB30B-0711
Y_d	0.99850

Start Time	6:47
Stop Time	8:17

Run 2

Min/Pt 7.5 Elapsed Time	Gas Sample Volume Initial (L) 0.00	DGM Temp (°F)	Volume Metered Vmstd (L)
7.5	2.67	84	2.586
15.0	5.19	86	2.431
22.5	7.68	90	2.385
30.0	10.35	95	2.534
37.5	13.02	95	2.530
45.0	15.41	99	2.257
52.5	17.97	101	2.404
60.0	20.52	106	2.373
67.5	22.45	110	1.784
75.0	26.34	111	3.589
82.5	27.91	112	1.446
90.0	30.12	113	2.032

Totals and Averages

90	30.12	100	28.33

Run 2 Spiked

Min/Pt 7.5 Elapsed Time	Gas Sample Volume Initial (L) 0.00	DGM Temp (°F)	Volume Metered Vmstd (L)
7.5	2.51	84	2.410
15.0	5.47	86	2.831
22.5	7.77	91	2.180
30.0	10.26	97	2.335
37.5	12.46	99	2.055
45.0	14.95	100	2.322
52.5	17.91	103	2.746
60.0	20.00	109	1.918
67.5	22.80	111	2.561
75.0	23.43	112	0.575
82.5	27.49	113	3.700
90.0	31.12	115	3.297

Totals and Averages

90	31.12	102	28.94

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 1
Date	7/13/11
P_b (Inches Hg)	29.65

Meter ID	DB30B-0711
Y_d	1.00720

Start Time	8:50
Stop Time	10:20

Meter ID	DB30B-0711
Y_d	0.99850

Run 3

Min/Pt 7.5 Elapsed Time	Gas Sample Volume Initial (L) 0.00	DGM Temp (°F)	Volume Metered Vmstd (L)
7.5	2.41	101	2.263
15.0	4.95	105	2.368
22.5	7.65	110	2.495
30.0	9.71	113	1.894
37.5	12.12	115	2.208
45.0	15.10	119	2.711
52.5	17.69	120	2.352
60.0	20.00	120	2.098
67.5	22.94	123	2.657
75.0	24.74	124	1.824
82.5	27.31	125	2.314
90.0	30.99	127	3.303

Totals and Averages

90	30.99	117	28.30

Run 3 Spiked

Min/Pt 7.5 Elapsed Time	Gas Sample Volume Initial (L) 0.00	DGM Temp (°F)	Volume Metered Vmstd (L)
7.5	2.64	101	2.458
15.0	5.21	101	2.392
22.5	7.76	109	2.340
30.0	10.28	115	2.289
37.5	12.83	117	2.308
45.0	15.01	120	1.963
52.5	17.84	122	2.539
60.0	20.39	124	2.280
67.5	23.33	125	2.625
75.0	25.50	127	1.931
82.5	28.14	128	2.345
90.0	31.07	130	2.594

Totals and Averages

90	31.07	118	28.06

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 1
Date	7/12/2011
Meter ID	M15
Y_d	1.0159
Pitot C_p	0.84

Volume of Water Collected V_{lc} (g)	25.0
Silica Gel Net Weight V_{sg} (g)	5.0

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	12.0	NA	7.28

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

P_b (inches Hg)	29.90
P_g (inches H_2O)	-2.0
Start Time	16:00
Stop Time	17:30

Run 1

Traverse Point	Min/Ft 7.5 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 619.43	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)
1	7.5	0.75	1.50	624.35	324	77	77	0.866	58.1	4.927
2	15.0	0.73	1.50	629.27	326	77	77	0.854	57.6	4.927
3	22.5	0.69	1.50	634.12	322	78	77	0.831	55.9	4.852
4	30.0	1.10	1.50	639.01	323	78	77	1.049	70.6	4.893
5	37.5	1.10	1.50	643.89	324	79	77	1.048	70.7	4.978
6	45.0	1.00	1.50	648.78	327	80	78	1.000	67.5	4.979
7	52.5	0.92	1.50	653.67	319	80	78	0.959	64.4	4.979
8	60.0	0.87	1.50	658.49	322	81	78	0.932	62.8	4.805
9	67.5	0.73	1.50	663.44	320	81	78	0.854	57.4	4.934
10	75.0	0.58	1.50	668.29	315	81	78	0.762	51.0	4.855
11	82.5	0.55	1.50	673.18	306	81	79	0.742	49.8	4.870
12	90.0	0.53	1.50	678.07	300	81	79	0.725	48.3	4.870

Totals and Averages

90		1.50	58.64	319	78.6	0.886	59.5	58.55

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 1
Date	7/13/2011
Meter ID	M15
Y_d	1.0159
Pitot C_p	0.84

Volume of Water Collected, V_{wc} (g)	26.0
Silica Gel Net Weight, V_{sg} (g)	6.0

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	11.9	NA	7.38

P_b (Inches Hg)	29.65
P_g (Inches H_2O)	-2.0
Start Time	6:47
Stop Time	8:17

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Run 2

Traverse Point	Min/Pt 7.5 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Inual (ft^3) 678.46	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)
1	7.5	0.77	1.50	683.32	326	84	84	0.877	58.5	4.765
2	15.0	0.74	1.50	688.39	322	84	84	0.860	58.2	4.970
3	22.5	0.68	1.50	693.03	324	85	84	0.825	55.8	4.545
4	30.0	1.10	1.50	697.63	318	85	85	1.049	70.7	4.501
5	37.5	1.10	1.50	702.78	320	86	85	1.049	70.5	5.035
6	45.0	1.00	1.50	707.51	321	86	85	1.000	67.6	4.624
7	52.5	0.94	1.50	712.51	323	86	85	0.970	65.8	4.888
8	60.0	0.83	1.50	717.30	322	87	85	0.911	61.8	4.678
9	67.5	0.70	1.50	722.13	319	87	86	0.837	56.5	4.716
10	75.0	0.59	1.50	727.43	315	88	86	0.768	51.7	5.167
11	82.5	0.56	1.50	731.74	309	88	86	0.748	50.2	4.202
12	90.0	0.55	1.50	736.83	301	88	86	0.742	49.5	4.963

Totals and Averages

90		1.50	58.37	318	85.6	0.886	59.8	57.05

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 1
Date	7/13/2011
Meter ID	M15
Y_d	1.0159
Pitot C_p	0.84

P_b (Inches Hg)	29.65
P_g (Inches H_2O)	-2.0
Start Time	8:30
Stop Time	10:20

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Volume of Water Collected, V_{lc} (g)	30.0
Silica Gel Net Weight, V_{sg} (g)	5.0

CEMS	$\%CO_2$	$\%CO_2$ or $\%O_2$	$\%O_2$
Average	12.1	NA	7.07

Run 3

Traverse Point	MinPt 7.5 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 737.14	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)
1	7.5	0.76	1.50	742.21	324	87	86	0.872	39.0	4.915
2	15.0	0.72	1.50	746.81	321	88	86	0.849	57.4	4.485
3	22.5	0.69	1.50	751.83	320	89	86	0.831	56.1	4.890
4	30.0	1.10	1.50	756.54	322	90	86	1.049	70.9	4.584
5	37.5	1.10	1.50	761.84	323	90	87	1.049	71.0	5.153
6	45.0	0.99	1.50	746.22	326	90	87	0.995	67.5	-15.186
7	52.5	0.90	1.50	771.63	326	91	87	0.949	64.3	24.864
8	60.0	0.86	1.50	776.08	323	91	87	0.927	62.8	4.323
9	67.5	0.75	1.50	781.53	319	91	87	0.866	58.5	5.294
10	75.0	0.59	1.50	786.36	311	91	87	0.768	51.6	4.692
11	82.5	0.56	1.50	791.14	306	92	88	0.748	50.1	4.635
12	90.0	0.54	1.50	795.93	300	92	88	0.735	49.0	4.645

Totals and Averages

90		1.50	58.79	318	88.5	0.886	59.8	57.16

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 2
Date	7/8/2011
Meter ID	M9
Y_d	0.9891
Pitot C_p	0.84

Nozzle Diameter (in)	0.220
Filter ID	12138
Train Type	Impinger
Train ID	IB3
P_b (Inches Hg)	28.90
P_s (Inches H_2O)	-0.8
Start Time	10:08
Stop Time	11:40

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	654.3	528.6	125.7
Impinger 2	614.7	613.1	1.6
Impinger 3	528.1	513.0	15.1
Rinse		50.0	-50.0
Silica Gel	897.6	873.2	24.4
Weight of Water Collected, V_{wc} (g)			92.4
Silica Gel Net Weight, V_{wsg} (g)			24.4

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	11.4	N/A	5.00

Run 1

Traverse Point	Min/Pt 7.5 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Inital (ft^3) 346.00	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmsid (ft^3)	Isokinetics (%)
1-1	7.5	0.78	1.21	350.68	297	76	76	0.883	60.4	4.316	101.5
1-2	15.0	0.76	1.18	354.95	293	76	75	0.873	59.8	4.033	92.6
1-3	22.5	0.80	1.25	359.48	297	77	75	0.894	61.1	4.275	97.0
1-4	30.0	0.82	1.28	364.14	296	78	74	0.906	61.9	4.388	98.5
1-5	37.5	0.80	1.25	368.73	296	77	73	0.894	61.1	4.340	98.4
1-6	45.0	0.80	1.25	373.33	297	79	74	0.894	61.1	4.337	98.3
1-7	52.5	0.81	1.26	377.90	295	80	75	0.900	61.4	4.301	98.3
1-8	60.0	0.83	1.29	382.60	297	81	76	0.911	62.5	4.415	98.4
1-9	67.5	0.80	1.25	387.22	297	81	76	0.894	61.1	4.240	98.5
1-10	75.0	0.77	1.20	391.75	298	84	78	0.877	60.0	4.235	98.0
1-11	82.5	0.76	1.18	396.22	297	85	80	0.872	59.6	4.167	97.0
1-12	90.0	0.72	1.12	400.61	297	87	82	0.849	58.0	4.073	97.5

Totals and Averages

90		1.23	54.61	296	78.1	0.887	60.6	51.33	97.8

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 2
Date	7/12/2011
Meter ID	M14
Y_1	1.0087
Pitot C_p	0.84

Nozzle Diameter (in)	0.220
Filter ID	12134
Train Type	Impinger
Train ID	IB23
P_b (Inches Hg)	29.90
P_g (Inches H_2O)	-0.8
Start Time	9:50
Stop Time	11:20

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	606.1	458.7	147.4
Impinger 2	577.7	585.5	-7.8
Impinger 3	634.6	624.7	9.9
Rinse		50.0	-50.0
Silica Gel	962.8	940.4	22.4
Weight of Water Collected V_{wc} (g)			99.5
Silica Gel Net Weight V_{wsg} (g)			22.4

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	11.4	NA	7.99

Run 2

Traverse Point	Min/Pt: 7.5 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 751.30	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1-1	7.5	0.72	1.20	755.83	316	103	105	0.949	57.7	4.286	101.9
1-2	15.0	0.75	1.25	760.53	316	101	106	0.866	58.9	4.451	103.7
1-3	22.5	0.75	1.25	765.97	316	104	104	0.866	58.9	5.147	119.9
1-4	30.0	0.82	1.37	769.85	316	103	104	0.906	61.6	3.676	81.9
1-5	37.5	0.86	1.44	774.70	318	105	104	0.927	63.2	4.587	99.9
1-6	45.0	0.84	1.40	779.61	320	107	106	0.917	62.5	4.627	102.1
1-7	52.5	0.85	1.42	784.52	321	107	105	0.922	62.8	4.631	101.7
1-8	60.0	0.88	1.47	789.55	321	107	105	0.938	63.9	4.745	102.4
1-9	67.5	0.88	1.47	794.57	319	106	105	0.938	63.9	4.740	102.2
1-10	75.0	0.85	1.42	799.53	319	105	105	0.922	62.8	4.687	102.8
1-11	82.5	0.75	1.25	804.14	320	105	105	0.866	59.1	4.351	101.7
1-12	90.0	0.71	1.19	808.72	317	104	104	0.843	57.4	4.333	103.6

Totals and Averages

90		1.34	57.42	318	105	0.897	61.1	54.27	101.9

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 2
Date	7/12/2011
Meter ID	M14
Y_d	1.0087
Pitot C_p	0.84

Nozzle Diameter (in)	0.220
Filter ID	12135
Train Type	Impinger
Train ID	IB
P_b (Inches Hg)	29.90
P_g (Inches H_2O)	-0.8
Start Time	12:30
Stop Time	14:00

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	623.8	468.1	155.7
Impinger 2	740.1	745.2	-5.1
Impinger 3	615.8	612.7	3.1
Rinse		50.0	-50.0
Silica Gel	944.1	925.7	18.4
Weight of Water Collected, V_{wc} (g)			103.7
Silica Gel Net Weight, V_{sg} (g)			18.4

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	11.2	NA	8.20

Run 3

Traverse Point	Min/Pt 7.5 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 809.20	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1-1	7.5	0.74	1.21	813.66	320	104	105	0.960	58.7	4.216	98.1
1-2	15.0	0.75	1.22	818.32	318	102	103	0.866	59.0	4.421	103.1
1-3	22.5	0.78	1.27	822.97	318	102	101	0.883	60.2	4.420	101.1
1-4	30.0	0.85	1.39	827.85	317	103	101	0.922	62.8	4.636	101.5
1-5	37.5	0.86	1.40	832.60	317	102	101	0.927	63.1	4.512	96.3
1-6	45.0	0.85	1.39	837.55	317	102	100	0.922	62.6	4.710	103.1
1-7	52.5	0.88	1.43	842.70	317	102	99	0.938	63.9	4.806	105.6
1-8	60.0	0.86	1.39	847.65	317	102	99	0.927	63.1	4.715	102.6
1-9	67.5	0.86	1.39	852.60	317	103	99	0.927	63.1	4.710	102.5
1-10	75.0	0.83	1.35	855.82	318	103	99	0.911	62.1	3.064	67.9
1-11	82.5	0.75	1.22	861.83	318	103	100	0.866	59.0	5.712	133.2
1-12	90.0	0.72	1.17	866.33	316	102	99	0.849	57.7	4.264	101.8

Totals and Averages

90	1.32	57.13	318	102	0.900	61.3	54.31	101.5

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 2
Date	7/7/2011
Meter ID	M14
Y_d	1.0087
Pitot C_p	0.84

Nozzle Diameter (in)	0.220
Filter ID	NA
Train Type	Impinger
Train ID	IB
P_b (Inches Hg)	29.58
P_g (Inches H_2O)	-0.8
Start Time	8:05
Stop Time	12:05

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	871.0	606.1	264.9
Impinger 2	744.8	729.7	15.1
Impinger 3	640.9	681.1	-40.2
Impinger 4	630.4	624.0	6.4
Silica Gel	872.2	833.4	38.8
Weight of Water Collected, V_{wc} (g)			246.2
Silica Gel Net Weight, V_{sg} (g)			38.8

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	11.4	NA	8.00

Run 1

Traverse Point	Min/Pt 20 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 289.46	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)
Single	20	0.90	1.40	301.84	304	96	94	0.949	64.2	11.781
	40	0.93	1.40	314.12	307	101	96	0.964	65.4	11.613
	60	0.91	1.40	325.40	309	105	99	0.954	64.8	10.601
	80	0.92	1.40	338.73	310	108	103	0.959	65.2	12.450
	100	0.90	1.40	351.15	310	111	104	0.949	64.5	11.559
	120	0.91	1.40	364.27	309	113	107	0.954	64.8	12.157
	140	0.92	1.40	377.39	309	110	106	0.959	65.2	12.200
	160	0.91	1.40	390.42	311	107	103	0.954	64.9	12.180
	180	0.90	1.40	403.34	311	105	102	0.949	64.5	12.110
	200	0.90	1.40	416.46	310	105	100	0.949	64.5	12.319
	220	0.91	1.40	429.15	312	108	102	0.954	64.9	11.863
	240	0.92	1.40	442.11	312	110	103	0.959	65.3	12.083

Totals and Averages

240		1.40	152.65	310	104	0.954	64.9	142.93

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 2
Date	7/8/2011
Meter ID	M14
Y_d	1.0087
Pitot C_p	0.84

Nozzle Diameter (in)	0.220
Filter ID	NA
Train Type	Impinger
Train ID	IB18
P_b (Inches Hg)	28.90
P_g (Inches H_2O)	-0.8
Start Time	6:41
Stop Time	10:41

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	760.1	567.8	192.3
Impinger 2	838.7	734.9	103.8
Impinger 3	597.2	637.7	-40.5
Impinger 4	581.4	575.6	5.8
Silica Gel	897.3	873.2	24.1
Weight of Water Collected V_{wc} (g)			261.4
Silica Gel Net Weight V_{wg} (g)			24.1

CEMS	$\%CO_2$	$\%CO_2$=$\%O_2$	$\%O_2$
Average	11.8	NA	7.99

Run 2

Traverse Point	Min/Pt 20 Elapsed Time	Velocity Pressure ΔP ($in\ H_2O$)	Orifice Setting ΔH ($in\ H_2O$)	Gas Sample Volume Initial (ft^3) 442.35	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)
Single	20	0.90	1.40	455.37	293	79	77	0.949	64.5	12.486
	40	0.92	1.40	468.15	295	88	78	0.959	65.2	12.148
	60	0.91	1.40	480.89	297	87	80	0.954	65.0	12.097
	80	0.90	1.40	493.70	296	87	80	0.949	64.8	12.163
	100	0.90	1.40	506.43	295	86	79	0.949	64.6	12.110
	120	0.91	1.40	519.18	295	88	78	0.954	65.0	12.117
	140	0.92	1.40	531.86	296	90	81	0.959	65.4	11.998
	160	0.91	1.40	543.54	296	93	82	0.954	65.0	11.009
	180	0.91	1.40	556.99	295	95	85	0.954	65.0	12.620
	200	0.90	1.40	569.77	297	93	85	0.949	64.7	12.013
	220	0.92	1.40	582.40	295	92	83	0.959	65.3	11.905
	240	0.90	1.40	595.39	296	92	83	0.949	64.6	12.244

Totals and Averages

240	1.40	153.04	296	85.0	0.953	64.9	144.90

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 2
Date	7/8/2011
Meter ID	M14
Y_d	1.0087
Pitot C_p	0.84

Nozzle Diameter (in)	0.220
Filter ID	NA
Train Type	Impinger
Train ID	IB18
P_b (Inches Hg)	28.90
P_g (Inches H_2O)	-0.8
Start Time	13:48
Stop Time	17:48

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	729.9	638.2	91.7
Impinger 2	807.9	704.3	103.6
Impinger 3	623.1	588.4	34.7
Impinger 4	643.0	624.5	18.5
Silica Gel	914.1	864.0	50.1
Weight of Water Collected, V_{wc} (g)			248.5
Silica Gel Net Weight, V_{wsg} (g)			50.1

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	11.2	NA	8.20

Run 3

Traverse Point	Min/Pt 20 Elapsed Time	Velocity Pressure Δ P (in H_2O)	Orifice Setting Δ H (in H_2O)	Gas Sample Volume Initial (ft^3) 595.95	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)
Single	20	0.90	1.40	608.67	300	93	93	0.949	64.9	11.870
	40	0.91	1.40	621.01	301	98	94	0.954	65.3	11.454
	60	0.91	1.40	633.43	305	104	96	0.954	65.5	11.446
	80	0.92	1.40	646.38	307	109	101	0.959	65.6	11.828
	100	0.90	1.40	659.41	303	112	107	0.949	65.0	11.807
	120	0.90	1.40	672.41	304	111	104	0.949	65.1	11.922
	140	0.92	1.40	685.35	298	107	102	0.959	66.5	11.930
	160	0.91	1.40	698.49	307	106	100	0.954	65.6	12.045
	180	0.90	1.40	711.64	305	110	102	0.949	65.1	11.990
	200	0.92	1.40	724.85	305	113	105	0.959	65.9	11.981
	220	0.90	1.40	737.96	306	110	104	0.949	65.2	11.932
	240	0.90	1.40	751.02	307	109	104	0.949	65.2	11.897

Totals and Averages

240		1.40	155.07	304	104	0.953	65.4	141.91

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 2
Date	7/7/2011
Meter ID	M9
Y_d	0.9891
Pitot C_p	0.84

Nozzle Diameter (in)	0.230
Filter ID	NA
Train Type	Impinger
Train ID	IB9
P_b (Inches Hg)	29.58
P_g (Inches H_2O)	-0.8
Start Time	8:05
Stop Time	10:05

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	722.5	627.4	95.1
Impinger 2	758.8	686.2	72.6
Impinger 3	714.3	724.3	-10.0
Impinger 4	546.8	540.8	6.0
Rinse		50.0	-50.0
Silica Gel	871.0	848.2	22.8
Weight of Water Collected, V_{wc} (g)			113.7
Silica Gel Net Weight, V_{wsg} (g)			22.8

CEMS	$\%CO_2$	$\%CO_2$+$\%O_2$	$\%O_2$
Average	11.4	NA	8.00

Run 1

Traverse Point	Min/Pt 10 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 95.75	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity V_s (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1-1	10	0.73	1.42	102.32	325	94	93	0.854	56.6	6.748	99.2
1-2	20	0.76	1.48	109.02	325	96	93	0.872	58.5	6.259	99.0
1-3	30	0.80	1.56	116.01	325	100	95	0.894	61.3	6.496	100.1
1-4	40	0.85	1.65	122.94	323	102	96	0.922	63.1	6.424	98.0
1-5	50	0.81	1.58	129.85	322	103	97	0.900	61.6	6.393	97.8
1-6	60	0.80	1.56	136.74	323	104	98	0.894	61.2	6.365	98.0
1-7	70	0.80	1.56	143.63	324	103	99	0.894	61.5	6.365	98.0
1-8	80	0.82	1.60	150.63	324	103	99	0.906	62.0	6.465	98.4
1-9	90	0.78	1.52	157.45	324	104	99	0.883	60.5	6.292	98.2
1-10	100	0.76	1.48	164.19	323	104	100	0.872	59.7	6.212	98.1
1-11	110	0.75	1.46	170.88	324	105	100	0.866	59.3	6.160	98.0
1-12	120	0.72	1.40	177.44	325	105	100	0.849	58.2	6.040	98.1

Totals and Averages

120		1.52	81.69	324	99.7	0.884	60.5	75.62	98.2

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 2
Date	7/7/2011
Meter ID	M9
Y_d	0.9891
Pitot C_p	0.84

Nozzle Diameter (in)	0.230
Filter ID	NA
Train Type	Impinger
Train ID	IB4
P_b (Inches Hg)	29.58
P_g (Inches H_2O)	-0.8
Start Time	11:00
Stop Time	13:00

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	748.5	622.3	126.2
Impinger 2	784.3	734.1	50.2
Impinger 3	647.9	623.9	24.0
Impinger 4	182.5	478.1	4.4
Rinse		50.0	-50.0
Silica Gel	951.3	933.5	17.8
Weight of Water Collected, V_{wc} (g)			154.8
Silica Gel Net Weight, V_{wsg} (g)			17.8

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	11.8	NA	7.95

Run 2

Traverse Point	Min/Pt 10 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 178.15	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1-1	10	0.75	1.47	184.77	327	94	94	0.866	58.7	6.190	100.2
1-2	20	0.75	1.47	191.31	329	95	94	0.866	58.7	6.109	98.1
1-3	30	0.81	1.62	198.35	330	98	95	0.900	62.1	6.356	102.4
1-4	40	0.78	1.56	205.24	327	103	98	0.883	60.6	6.369	101.2
1-5	50	0.81	1.62	212.22	327	104	99	0.900	62.0	6.442	100.4
1-6	60	0.82	1.64	219.26	327	104	99	0.906	62.4	6.497	100.7
1-7	70	0.80	1.60	226.23	327	105	100	0.894	61.6	6.421	100.7
1-8	80	0.80	1.60	233.20	326	105	100	0.894	61.6	6.421	100.7
1-9	90	0.79	1.58	240.18	326	105	101	0.889	61.2	6.424	101.3
1-10	100	0.76	1.52	247.03	326	105	101	0.872	60.0	6.303	101.4
1-11	110	0.76	1.52	253.85	326	106	101	0.872	60.0	6.270	100.6
1-12	120	0.74	1.48	260.50	326	105	101	0.860	59.2	6.119	99.7

Totals and Averages

120		1.56	82.35	327	101	0.884	60.9	76.12	100.7

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 2
Date	7/8/2011
Meter ID	M9
Y_d	0.9891
Pitot C_p	0.84

Nozzle Diameter (in)	0.230
Filter ID	NA
Train Type	Impinger
Train ID	IB9
P_b (Inches Hg)	28.90
P_g (Inches H_2O)	-0.8
Start Time	6:41
Stop Time	8:41

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	773.1	633.5	139.6
Impinger 2	774.0	718.1	55.9
Impinger 3	721.7	695.0	26.7
Impinger 4	541.0	533.5	7.5
Rinse		50.0	-50.0
Silica Gel	883.0	870.8	12.2
Weight of Water Collected, V_{wc} (g)			179.7
Silica Gel Net Weight, V_{wg} (g)			12.2

CEMS	$\%CO_2$	$\%CO_2$ - $\%O_2$	$\%O_2$
Average	11.2	NA	8.20

Run 3

Traverse Point	Min/Pt 10 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft³) 261.15	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft³)	Isokinetics (%)
1-1	10	0.76	1.52	268.11	296	77	76	0.872	59.7	6.567	105.5
1-2	20	0.78	1.56	274.98	296	80	76	0.883	60.5	6.464	102.6
1-3	30	0.80	1.60	281.93	297	83	77	0.894	61.3	6.516	102.1
1-4	40	0.84	1.68	289.06	295	82	77	0.917	62.7	6.692	102.2
1-5	50	0.80	1.60	296.05	286	85	80	0.894	60.8	6.523	101.5
1-6	60	0.80	1.60	303.02	290	87	83	0.894	61.0	6.975	101.0
1-7	70	0.80	1.60	309.95	298	86	83	0.894	61.3	5.444	101.1
1-8	80	0.82	1.64	317.02	299	86	82	0.906	62.1	6.581	102.0
1-9	90	0.78	1.56	323.74	302	85	82	0.883	60.7	6.259	99.7
1-10	100	0.76	1.52	330.50	302	85	81	0.872	59.9	6.302	101.7
1-11	110	0.76	1.52	337.14	301	85	81	0.872	59.9	6.190	99.8
1-12	120	0.75	1.50	343.85	303	84	81	0.866	59.6	6.261	101.5

Totals and Averages

120		1.58	82.70	297	81.8	0.887	60.8	77.27	101.8

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 2
Date	7/12/11
P_b (Inches Hg)	29.90

Meter ID	M26-1
Y_d	0.9958

Meter ID	M26-2
Y_d	0.9902

Start Time	16:00
Stop Time	17:30

Run 1

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	2.169	85	2.090
10.0	4.419	87	2.160
15.0	6.710	88	2.196
20.0	9.060	88	2.252
25.0	11.260	88	2.109
30.0	13.280	89	1.933
35.0	15.312	90	1.940
40.0	17.556	91	2.139
45.0	19.770	93	2.103
50.0	22.023	93	2.140
55.0	24.288	94	2.147
60.0	26.453	94	2.053
65.0	28.829	95	2.249
70.0	31.175	95	2.220
75.0	33.425	95	2.129
80.0	35.821	96	2.263
85.0	38.421	98	2.447
90.0	40.659	97	2.110

Totals and Averages

90	40.66	92.0	38.69

Run 1 Spiked

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	2.324	85	2.227
10.0	4.514	86	2.095
15.0	6.782	86	2.169
20.0	9.032	88	2.144
25.0	11.378	88	2.236
30.0	13.724	89	2.232
35.0	15.889	91	2.052
40.0	18.139	92	2.129
45.0	20.302	94	2.039
50.0	22.498	94	2.070
55.0	24.634	95	2.010
60.0	26.897	95	2.130
65.0	29.193	96	2.157
70.0	31.449	96	2.119
75.0	33.814	96	2.222
80.0	36.105	97	2.148
85.0	38.567	98	2.304
90.0	40.916	98	2.199

Totals and Averages

90	40.92	92.4	38.68

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 2
Date	7/13/11
P_b (Inches Hg)	29.65

Meter ID	M26-1
Y_d	0.9958

Meter ID	M26-2
Y_d	0.9902

Start Time	6:47
Stop Time	8:17

Run 2

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	2.116	84	2.026
10.0	4.124	86	1.915
15.0	6.297	87	2.069
20.0	8.332	90	1.927
25.0	10.434	93	1.980
30.0	12.546	94	1.986
35.0	14.708	96	2.025
40.0	16.808	97	1.964
45.0	18.931	99	1.978
50.0	21.056	101	1.973
55.0	23.188	102	1.976
60.0	25.299	104	1.949
65.0	27.423	105	1.958
70.0	29.537	105	1.949
75.0	31.632	105	1.931
80.0	33.740	106	1.940
85.0	35.890	106	1.978
90.0	38.053	106	1.990

Totals and Averages

90	38.05	98.1	35.51

Run 2 Spiked

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	2.037	84	1.939
10.0	4.089	86	1.946
15.0	6.181	88	1.977
20.0	8.352	92	2.037
25.0	10.358	95	1.872
30.0	12.423	96	1.923
35.0	14.488	98	1.917
40.0	16.529	100	1.888
45.0	18.664	101	1.971
50.0	20.759	103	1.927
55.0	22.481	104	1.581
60.0	24.964	105	2.276
65.0	26.997	105	1.864
70.0	29.012	106	1.844
75.0	31.097	106	1.908
80.0	33.131	106	1.861
85.0	35.159	107	1.852
90.0	37.193	107	1.858

Totals and Averages

90	37.19	99.4	34.43

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 2
Date	7/13/11
P_b (Inches Hg)	29.65

Meter ID	M26-1
Y_d	0.9958

Meter ID	M26-2
Y_d	0.9902

Start Time	8:50
Stop Time	10:20

Run 3

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	2.054	103	1.900
10.0	4.104	105	1.890
15.0	6.267	105	1.994
20.0	8.349	107	1.912
25.0	10.475	108	1.949
30.0	12.570	110	1.914
35.0	14.678	111	1.923
40.0	16.734	112	1.872
45.0	18.903	112	1.975
50.0	21.049	114	1.947
55.0	23.141	114	1.898
60.0	25.246	115	1.907
65.0	27.337	115	1.894
70.0	29.420	116	1.883
75.0	31.470	116	1.954
80.0	33.542	115	1.877
85.0	35.565	115	1.832
90.0	37.590	115	1.834

Totals and Averages

90	37.59	112	34.25

Run 3 Spiked

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	2.164	103	1.991
10.0	4.328	105	1.984
15.0	6.454	107	1.942
20.0	8.643	108	1.996
25.0	10.893	110	2.044
30.0	12.995	111	1.907
35.0	15.264	111	2.058
40.0	17.511	112	2.034
45.0	19.797	113	2.066
50.0	22.109	113	2.090
55.0	24.376	114	2.045
60.0	26.608	114	2.014
65.0	28.819	115	1.991
70.0	31.001	115	1.965
75.0	33.157	115	1.942
80.0	35.278	114	1.914
85.0	37.328	114	1.850
90.0	39.458	115	1.918

Totals and Averages

90	39.46	112	35.75

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 2
Date	7/12/2011
Meter ID	M14
Y_d	1.0087
Pitot C_p	0.84

F_b (Inches Hg)	29.90
F_s (Inches H_2O)	-0.8
Start Time	16:00
Stop Time	17:30

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Volume of Water Collected V_{wc} (g)	24.0
Silica Gel Net Weight V_{wsg} (g)	5.0

CEMS	%CO_2	%CO_2 or %O_2	%O_2
Average	11.3	NA	9.00

Run 1

Traverse Point	Min/Pt 7.5 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Inital (ft^3) 866.75	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)
1	7.5	0.75	1.50	872.03	312	77	75	0.866	57.9	5.260
2	15.0	0.76	1.50	877.13	312	79	76	0.872	58.3	5.067
3	22.5	0.76	1.50	882.14	312	78	75	0.872	58.3	4.987
4	30.0	0.79	1.50	887.16	311	78	76	0.889	59.4	4.992
5	37.5	0.80	1.50	892.21	311	81	76	0.894	59.7	5.008
6	45.0	0.80	1.50	897.18	311	83	77	0.894	59.7	4.915
7	52.5	0.84	1.50	902.25	313	80	76	0.917	61.3	5.032
8	60.0	0.88	1.50	907.29	313	80	76	0.938	62.7	5.002
9	67.5	0.88	1.50	912.35	312	80	76	0.938	62.7	5.022
10	75.0	0.76	1.50	917.38	312	82	76	0.872	58.3	4.982
11	82.5	0.74	1.50	922.38	312	82	76	0.860	57.5	4.953
12	90.0	0.71	1.50	927.52	310	82	76	0.843	56.2	5.092

Totals and Averages

90		1.50	60.77	312	78.0	0.888	59.3	60.31

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 2
Date	7/13/2011
Meter ID	M14
Y_d	1.0087
Pitot C_p	0.84

Volume of Water Collected, V_{wc} (g)	25.0
Silica Gel Net Weight, V_{sg} (g)	5.0

CEMS	%CO	%CO_2+%O_2	%O_2
Average	11.2	NA	7.99

P_r (Inches Hg)	29.65
P_g (Inches H_2O)	-0.8
Start Time	6:47
Stop Time	8:17

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Run 2

Traverse Point	Min/Pt 7.5 Elapsed Time	Velocity Pressure Δ P (in H_2O)	Orifice Setting Δ H (in H_2O)	Gas Sample Volume Initial (ft^3) 937.50	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)
1	7.5	0.72	1.50	942.58	310	87	78	0.849	56.9	4.959
2	15.0	0.75	1.50	947.63	310	91	81	0.866	58.1	4.898
3	22.5	0.75	1.50	952.68	310	93	82	0.866	58.1	4.884
4	30.0	0.80	1.50	957.76	310	95	86	0.894	60.0	4.887
5	37.5	0.80	1.50	962.83	310	97	87	0.894	60.0	4.864
6	45.0	0.79	1.50	967.92	310	97	89	0.889	59.6	4.874
7	52.5	0.81	1.50	973.02	310	101	91	0.900	60.3	4.857
8	60.0	0.82	1.50	978.14	310	103	92	0.906	60.7	4.863
9	67.5	0.86	1.50	983.25	310	100	93	0.927	62.2	4.862
10	75.0	0.79	1.50	988.37	310	100	94	0.889	59.6	4.868
11	82.5	0.78	1.50	993.48	310	99	94	0.883	59.2	4.862
12	90.0	0.73	1.50	998.60	310	100	94	0.854	57.3	4.868

Totals and Averages

90		1.50	61.10	310	92.7	0.885	59.3	58.54

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 2
Date	7/13/2011
Meter ID	M14
Y_d	1.0087
Pitot C_p	0.84

P_b (Inchee Hg)	29.65
P_g (Inches H_2O)	-0.8
Start Time	8:50
Stop Time	10:20

Place an "x" in the appropriate Box

Circular?	x
Reciangular?	
Diameter	132
Length	
Width	

Volume of Water Collected, V_{wc} (g)	23.0
Silica Gel Net Weight, V_{wsg} (g)	5.0

CEMS	$\%CO_2$	$\%CO_2$ or $\%O_2$	$\%O_2$
Average	11.2	NA	8.20

Run 3

Traverse Point	Min/Pt 7.5 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 999.36	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)
1	7.5	0.71	1.50	1005.40	310	103	100	0.842	56.5	5.896
2	15.0	0.76	1.50	1009.46	310	115	102	0.872	58.5	3.782
3	22.5	0.78	1.50	1014.51	311	110	103	0.883	59.3	4.721
4	30.0	0.78	1.50	1019.57	311	112	104	0.882	59.2	4.717
5	37.5	0.82	1.50	1024.76	311	113	106	0.906	60.8	4.828
6	45.0	0.81	1.50	1029.92	311	114	110	0.900	60.4	4.777
7	52.5	0.82	1.50	1035.08	310	116	109	0.906	60.7	4.773
8	60.0	0.85	1.50	1040.24	310	116	109	0.922	61.8	4.773
9	67.5	0.86	1.50	1045.38	310	116	110	0.927	62.2	4.750
10	75.0	0.80	1.50	1050.54	310	117	111	0.894	60.0	4.760
11	82.5	0.81	1.50	1055.62	310	117	112	0.900	60.3	4.682
12	90.0	0.73	1.50	1060.88	310	118	112	0.854	57.3	4.844

Totals and Averages

90		1.50	61.52	310	111	0.891	59.7	57.09

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 3
Date	7/8/2011
Meter ID	M20
Y_d	0.9952
Pitot C_p	0.84

Nozzle Diameter (in)	0.200
Filter ID	12139
Train Type	Impinger
Train ID	IBA
P_b (Inches Hg)	28.90
P_g (Inches H_2O)	-1.6
Start Time	10:08
Stop Time	11:38

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	697.4	571.2	126.2
Impinger 2	637.6	639.0	-1.4
Impinger 3	645.2	632.6	12.6
Rinse		50.0	-50.0
Silica Gel	901.8	883.6	18.2
Weight of Water Collected V_{wc} (g)			87.4
Silica Gel Net Weight, V_{wg} (g)			18.2

CEMS	$\%CO_2$	$\%O_2$ - $\%C_2$	$\%O_2$
Average	11.4	NA	8.00

Run 1

Traverse Point	Min/Pt 7.5 Elapsed Time	Velocity Pressure Δ P (in H_2O)	Orifice Setting Δ H (in H_2O)	Gas Sample Volume Initial (ft^3) 19.51	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1	7.5	0.81	0.88	23.48	309	78	78	0.900	32.1	3.752	103.2
2	15.0	0.86	0.94	27.55	308	80	76	0.927	63.9	3.847	102.6
3	22.5	0.77	0.84	31.48	308	82	77	0.877	60.5	3.704	104.4
4	30.0	0.82	0.89	35.49	306	83	77	0.906	62.3	3.776	103.0
5	37.5	0.81	0.88	39.52	306	84	77	0.900	61.9	3.791	104.1
6	45.0	0.91	0.99	43.64	308	85	78	0.954	65.7	3.820	100.4
7	52.5	0.89	0.97	47.76	307	85	77	0.943	65.0	3.873	101.5
8	60.0	0.89	0.97	51.95	307	86	78	0.943	65.0	3.932	103.0
9	67.5	0.87	0.95	56.05	306	86	79	0.933	64.2	3.843	101.6
10	75.0	0.91	0.99	60.10	308	89	80	0.954	65.7	3.783	98.1
11	82.5	0.84	0.92	63.97	310	93	84	0.917	63.2	3.588	97.0
12	90.0	0.84	0.92	69.41	306	95	85	0.917	63.1	5.030	135.3

Totals and Averages

90	0.928	49.90	307	82.2	0.923	63.6	46.81	104.6

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 3
Date	7/12/2011
Meter ID	M20
Y_d	0.9952
Pitot C_p	0.84

Nozzle Diameter (in)	0.210
Filter ID	12132
Train Type	Impinger
Train ID	IB3
P_b (Inches Hg)	29.90
P_g (Inches H_2O)	-1.6
Start Time	9:50
Stop Time	11:20

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	733.2	563.0	170.2
Impinger 2	737.6	744.1	-6.5
Impinger 3	637.7	631.7	6.0
Rinse		50.0	-50.0
Silica Gel	949.2	931.2	18.0
Weight of Water Collected V_{wc} (g)			119.7
Silica Gel Net Weight, V_{sg} (g)			18.0

CEMS	%CO_2	%CO_2-%O_2	%O_2
Average	11.6	NA	7.76

Run 2

Traverse Point	Min/Pt 7.5 Elapsed Time	Velocity Pressure Δ P (in H_2O)	Orifice Setting Δ H (in H_2O)	Gas Sample Volume Initial (ft^3) 73.84	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1	7.5	0.94	1.40	79.00	325	102	100	0.970	66.5	4.945	112.4
2	15.0	0.90	1.30	83.88	321	106	106	0.949	64.9	4.540	107.8
3	22.5	0.94	1.40	88.83	318	108	101	0.970	66.2	4.619	106.8
4	30.0	0.95	1.40	93.99	317	108	101	0.975	66.5	4.815	110.5
5	37.5	0.95	1.40	99.01	317	110	102	0.975	66.5	4.672	107.2
6	45.0	0.95	1.40	103.77	316	109	103	0.975	66.5	4.430	101.6
7	52.5	0.97	1.40	108.66	315	112	104	0.985	67.1	4.535	102.9
8	60.0	0.97	1.40	113.55	315	111	104	0.985	67.1	4.539	103.0
9	67.5	0.97	1.40	118.48	317	111	104	0.985	67.2	4.576	103.9
10	75.0	1.00	1.40	123.39	318	112	105	1.000	68.3	4.549	101.6
11	82.5	1.10	1.60	128.31	317	111	105	1.049	71.6	4.565	97.3
12	90.0	1.10	1.60	133.43	318	111	105	1.049	71.6	4.750	101.4

Totals and Averages

90		1.43	59.59	318	106	0.989	67.5	55.43	104.6

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 3
Date	7/12/2011
Meter ID	M20
Y_d	0.9952
Pitot C_p	0.84

Nozzle Diameter (in)	0.210
Filter ID	12133
Train Type	Impinger
Train ID	IB2
P_b (Inches Hg)	29.90
P_g (Inches H_2O)	-1.6
Start Time	12:30
Stop Time	14:00

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	837.2	500.5	136.7
Impinger 2	724.0	731.3	-7.3
Impinger 3	836.1	832.7	3.4
Rinse		50.0	-50.0
Silica Gel	859.1	841.0	18.1
Weight of Water Collected, V_{wc} (g)			82.8
Silica Gel Net Weight, V_{wsg} (g)			18.1

CEMS	$\%CO_2$	$\%CO+\%O_2$	$\%O_2$
Average	11.5	NA	7.79

Run 3

Traverse Point	Min/Pt 7.5 Elapsed Time	Velocity Pressure ΔP ($in. H_2O$)	Orifice Setting ΔH ($in. H_2O$)	Gas Sample Volume Initial (ft^3) 134.18	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1	7.5	0.90	1.20	139.05	312	109	104	0.949	64.5	4.526	104.6
2	15.0	0.88	1.10	143.85	312	107	103	0.938	63.6	4.371	104.5
3	22.5	0.87	1.10	148.56	311	107	102	0.933	63.2	4.391	103.2
4	30.0	0.86	1.10	153.23	312	108	102	0.927	62.9	4.360	102.8
5	37.5	0.85	1.10	157.86	310	106	101	0.922	62.4	4.325	102.7
6	45.0	0.83	1.00	162.45	309	106	101	0.911	61.6	4.286	102.9
7	52.5	0.81	1.00	166.91	309	107	101	0.900	60.9	4.161	101.2
8	60.0	0.83	1.00	171.29	309	108	102	0.911	61.6	4.079	98.0
9	67.5	0.79	1.00	175.67	308	107	100	0.889	60.1	4.090	100.6
10	75.0	0.82	1.00	180.00	308	106	101	0.906	61.2	4.043	97.6
11	82.5	0.83	1.00	184.29	308	106	101	0.911	61.6	4.006	96.1
12	90.0	0.85	1.10	188.37	308	107	101	0.922	62.3	3.807	90.3

Totals and Averages

90		1.06	54.19	310	104	0.918	62.1	50.54	100.4

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 3
Date	7/7/2011
Meter ID	M17
Y_d	1.0141
Pitot C_p	0.84

Nozzle Diameter (in)	0.200
Filter ID	NA
Train Type	Impinger
Train ID	IB15
P_b (Inches Hg)	29.58
P_g (Inches H_2O)	-1.6
Start Time	8:05
Stop Time	12:05

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	740.2	480.4	259.8
Impinger 2	591.9	502.9	89.0
Impinger 3	704.7	688.4	16.3
Impinger 4	637.9	633.7	4.2
Silica Gel	818.8	789.1	29.7
Weight of Water Collected, V_{wc} (g)			369.3
Silica Gel Net Weight, V_{wsg} (g)			29.7

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	11.4	NA	9.00

Run 1

Traverse Point	Min/Pt 20 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 138.55	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)
Single	20	0.87	0.92	149.40	332	94	93	0.933	64.9	10.396
	40	0.88	0.90	160.36	323	99	93	0.938	64.9	10.954
	60	0.91	0.97	171.52	323	102	94	0.954	66.0	10.608
	80	0.97	1.00	183.00	326	105	96	0.985	68.3	10.865
	100	1.00	1.10	194.74	326	107	98	1.000	69.3	11.078
	120	1.00	1.10	206.58	326	111	100	1.000	69.3	11.109
	140	1.00	1.10	218.30	326	110	103	1.000	69.3	10.977
	160	0.97	1.00	229.82	327	108	103	0.985	68.3	10.906
	180	0.95	1.00	241.32	326	106	101	0.975	67.6	10.926
	200	0.99	1.10	253.10	326	105	100	0.995	69.0	11.112
	220	0.93	1.00	264.65	327	109	101	0.964	66.9	10.844
	240	0.93	1.00	276.07	326	112	104	0.964	66.9	10.665

Totals and Averages

240		1.02	137.52	326	102	0.974	67.6	129.75

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 3
Date	7/8/2011
Meter ID	M17
Y_d	1.0141
Pitot C_p	0.84

Nozzle Diameter (in)	0.200
Filter ID	NA
Train Type	Impinger
Train ID	IB15
P_b (Inches Hg)	28.90
P_g (Inches H_2O)	-1.6
Start Time	6:41
Stop Time	10:41

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	688.7	589.8	98.9
Impinger 2	657.4	642.0	15.4
Impinger 3	633.6	620.0	13.6
Impinger 4	549.1	537.6	11.5
Silica Gel	924.9	896.1	28.8
Weight of Water Collected, V_{wc} (g)			139.4
Silica Gel Net Weight, V_{wsg} (g)			28.8

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	11.8	NA	7.76

Run 2

Traverse Point	Min/Pt 20 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 276.30	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)
Single	20	0.60	0.64	285.05	302	75	75	0.775	52.8	8.489
	40	0.52	0.56	292.10	298	81	75	0.721	49.0	7.747
	60	0.58	0.62	301.59	300	82	75	0.762	51.9	8.164
	80	0.60	0.64	310.39	300	82	75	0.775	52.7	8.362
	100	0.65	0.70	319.65	302	83	76	0.806	55.0	8.889
	120	0.63	0.82	329.66	305	84	76	0.794	54.2	9.603
	140	0.60	0.78	339.44	300	87	79	0.775	52.7	9.330
	160	0.68	0.88	350.03	300	87	79	0.825	56.1	10.105
	180	0.70	0.91	360.77	300	89	81	0.837	57.0	10.211
	200	0.70	0.91	371.50	301	87	81	0.837	57.0	10.221
	220	0.72	0.94	382.02	300	89	80	0.849	57.8	10.012
	240	0.75	0.98	394.60	300	89	80	0.866	59.0	11.974

Totals and Averages

240	0.782	118.30	301	81.1	0.802	54.6	113.25

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 3
Date	7/8/2011
Meter ID	M17
Y_d	1.0141
Pitot C_p	0.84

Nozzle Diameter (in)	0.200
Filter ID	NA
Train Type	Impinger
Train ID	IB15
P_b (Inches Hg)	28.90
P_s (Inches H_2O)	-1.6
Start Time	13:48
Stop Time	17:48

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	731.6	630.0	101.6
Impinger 2	751.7	735.5	16.2
Impinger 3	696.8	687.8	9.0
Impinger 4	489.1	481.6	7.5
Silica Gel	898.0	867.4	30.6
Weight of Water Collected, V_{wc} (g)			134.3
Silica Gel Net Weight, V_{wsg} (g)			30.6

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	11.5	NA	7.79

Run 3

Traverse Point	Min/Pt 20 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft³) 395.00	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft³)
Single	20	0.65	0.91	405.75	308	92	92	0.806	55.1	10.051
	40	0.68	0.95	416.72	305	99	94	0.825	56.3	10.216
	60	0.70	0.98	427.85	305	102	95	0.837	57.1	10.328
	80	0.70	0.98	438.61	305	105	97	0.837	57.1	9.540
	100	0.62	0.87	449.89	306	105	97	0.787	53.8	10.418
	120	0.68	0.95	461.09	305	106	97	0.825	56.3	10.337
	140	0.65	0.91	471.86	307	106	99	0.806	55.1	9.921
	160	0.65	0.91	482.80	307	104	97	0.806	55.1	9.929
	180	0.63	0.88	493.15	305	106	98	0.794	54.2	9.727
	200	0.63	0.88	503.75	305	107	100	0.794	54.2	9.747
	220	0.65	0.91	514.43	305	104	98	0.806	55.0	9.865
	240	0.60	0.84	524.62	305	104	98	0.775	52.9	9.411

Totals and Averages

240		0.914	129.62	306	**100**	0.808	55.2	119.92

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 3
Date	7/7/2011
Meter ID	M20
Y_d	0.9952
Pitot C_p	0.84

Nozzle Diameter (in)	0.200
Filter ID	NA
Train Type	Impinger
Train ID	IB23
P_b (Inches Hg)	29.58
P_g (Inches H_2O)	-1.6
Start Time	8:05
Stop Time	10:05

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	693.2	573.5	119.7
Impinger 2	725.0	711.1	13.9
Impinger 3	737.3	688.1	49.2
Impinger 4	564.0	526.0	38.0
Rinse		50.0	-50.0
Silica Gel	867.9	843.2	24.7
Weight of Water Collected, V_{wc} (g)			170.6
Silica Gel Net Weight, V_{sg} (g)			24.7

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	11.4	NA	8.00

Run 1

Traverse Point	Min/Pt 10 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 814.20	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1	10	0.86	0.94	819.87	321	95	94	0.927	64.1	5.322	108.8
2	20	0.88	0.96	826.07	324	94	94	0.938	64.9	5.525	118.0
3	30	0.91	0.99	831.27	323	93	93	0.954	66.0	4.895	97.4
4	40	0.91	0.99	836.98	324	98	91	0.954	66.0	5.361	106.8
5	50	0.91	0.99	842.88	324	99	92	0.954	66.0	5.525	110.1
6	60	0.85	0.93	848.22	324	100	92	0.922	63.8	4.999	103.0
7	70	0.98	1.07	854.07	326	102	93	0.990	68.6	5.464	105.0
8	80	0.99	1.08	860.05	326	105	95	0.995	69.0	5.560	106.3
9	90	1.10	1.20	866.22	326	105	96	1.049	72.7	5.732	104.0
10	100	1.10	1.20	872.49	326	107	98	1.049	72.7	5.506	105.3
11	110	1.00	1.09	878.48	326	110	100	1.000	69.3	5.520	105.0
12	120	0.94	1.02	884.30	326	112	101	0.970	67.2	5.348	105.0

Totals and Averages

120		1.04	70.10	325	98.3	0.975	67.5	65.37	106.2

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 3
Date	7/7/2011
Meter ID	M20
Y_d	0.9952
Pitot C_p	0.84

Nozzle Diameter (in)	0.200
Filter ID	NA
Train Type	Impinger
Train ID	IB18
P_b (Inches Hg)	29.58
P_g (Inches H_2O)	-1.6
Start Time	11:00
Stop Time	13:00

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	637.8	552.0	85.8
Impinger 2	773.0	728.8	44.2
Impinger 3	736.8	714.4	22.4
Impinger 4	617.9	608.8	9.1
Rinse		50.0	-50.0
Silica Gel	947.9	922.7	25.2
Weight of Water Collected, V_{wc} (g)			111.5
Silica Gel Net Weight, V_{wsg} (g)			25.2

GEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	11.6	NA	7.76

Run 2

Traverse Point	Min/Pt 10 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 885.80	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1	10	0.92	1.00	891.73	326	102	98	0.959	66.0	5.515	106.2
2	20	0.87	0.95	897.26	326	103	98	0.933	64.2	5.135	101.7
3	30	0.87	0.95	902.73	326	106	101	0.933	64.2	5.052	100.1
4	40	0.90	0.98	908.44	326	109	101	0.949	65.3	5.261	102.5
5	50	0.99	1.08	914.61	329	111	103	0.995	68.6	5.366	105.4
6	60	1.00	1.09	920.30	330	113	105	1.000	69.0	5.207	98.5
7	70	0.99	1.08	926.18	330	112	105	0.995	68.6	5.385	100.3
8	80	0.99	1.08	932.05	330	113	106	0.995	68.6	5.367	99.9
9	90	0.96	1.05	937.92	330	113	107	0.980	67.6	5.362	101.4
10	100	0.99	1.08	943.96	329	111	107	0.995	68.6	5.527	102.9
11	110	0.96	1.05	949.68	328	103	103	0.980	67.5	5.290	99.9
12	120	0.99	1.08	955.61	329	104	103	0.995	68.6	5.479	102.0

Totals and Averages

120		1.04	69.81	328	106	0.976	67.2	64.25	101.5

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 3
Date	7/8/2011
Meter ID	M20
Y_d	0.9952
Pitot C_p	0.84

Nozzle Diameter (in)	0.200
Filter ID	NA
Train Type	Impinger
Train ID	IB23
P_b (Inches Hg)	28.90
P_g (Inches H_2O)	-1.6
Start Time	6:41
Stop Time	8:41

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	703.3	578.1	125.2
Impinger 2	725.5	690.0	35.5
Impinger 3	738.7	729.1	9.6
Impinger 4	567.4	564.4	3.0
Rinse		50.0	-50.0
Silica Gel	881.2	867.9	13.3
Weight of Water Collected V_{lc} (g)			129.6
Silica Gel Net Weight V_{sg} (g)			13.3

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	11.5	NA	7.75

Run 3

Traverse Point	Min/Pt 10 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 956.70	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1	10	0.66	0.69	961.43	302	76	75	0.812	55.8	4.488	102.6
2	20	0.66	0.69	966.24	300	78	75	0.812	55.7	4.557	104.0
3	30	0.52	0.55	970.45	298	81	76	0.721	49.4	3.972	102.0
4	40	0.75	0.82	975.63	296	83	76	0.866	59.3	4.981	106.6
5	50	0.78	0.85	980.79	300	84	77	0.883	60.6	4.954	101.9
6	60	0.74	0.81	985.93	299	84	77	0.860	59.0	4.835	104.2
7	70	0.83	0.91	991.32	300	84	77	0.911	62.5	5.071	103.2
8	80	0.81	0.88	996.67	304	84	77	0.900	61.2	5.033	104.0
9	90	0.71	0.77	1001.72	304	84	77	0.843	56.0	4.750	104.8
10	100	0.75	0.82	1006.85	305	84	77	0.866	58.6	4.925	103.7
11	110	0.73	0.80	1012.04	304	85	77	0.854	58.9	4.877	106.1
12	120	0.79	0.86	1017.38	305	86	78	0.889	61.2	5.010	103.9

Totals and Averages

120		0.788	60.68	302	79.7	0.852	58.5	57.16	103.9

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 3
Date	7/12/11
P_b (Inches Hg)	29.90

Meter ID	R19075-1
Y_d	1.0000

Meter ID	R19075-2
Y_d	1.0000

Start Time	16:00
Stop Time	17:30

Run 1

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	1.764	74	1.742
10.0	6.416	74	4.595
15.0	5.374	74	-1.029
20.0	7.138	75	1.739
25.0	8.890	75	1.727
30.0	10.556	75	1.642
35.0	12.249	75	1.669
40.0	13.999	75	1.725
45.0	15.790	76	1.762
50.0	17.500	76	1.683
55.0	19.257	76	1.729
60.0	21.017	76	1.732
65.0	22.781	76	1.736
70.0	24.530	76	1.721
75.0	26.259	76	1.701
80.0	28.012	76	1.725
85.0	29.500	76	1.464
90.0	31.555	76	2.022

Totals and Averages

90	31.56	75.4	31.09

Run 1 Spiked

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	1.744	75	1.719
10.0	3.592	76	1.818
15.0	5.200	76	1.582
20.0	7.240	76	2.007
25.0	9.022	77	1.750
30.0	10.344	76	1.301
35.0	12.093	77	1.718
40.0	14.107	77	1.978
45.0	15.750	78	1.611
50.0	18.006	78	2.212
55.0	19.309	78	1.277
60.0	20.549	78	1.216
65.0	22.384	77	1.802
70.0	24.640	77	2.216
75.0	26.172	77	1.505
80.0	27.880	77	1.678
85.0	29.580	77	1.670
90.0	31.410	77	1.797

Totals and Averages

90	31.41	76.9	30.86

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 3
Date	7/13/11
P_b (Inches Hg)	29.65

Meter ID	R19075-1
Y_d	1.0000

Meter ID	R19075-2
Y_d	1.0000

Start Time	6:47
Stop Time	8:17

Run 2

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	1.513	72	1.487
10.0	3.240	72	1.698
15.0	5.230	72	1.956
20.0	7.101	74	1.832
25.0	8.818	74	1.682
30.0	10.518	74	1.665
35.0	12.142	77	1.582
40.0	14.090	77	1.897
45.0	15.602	77	1.473
50.0	17.602	80	1.937
55.0	19.168	80	1.517
60.0	20.758	80	1.540
65.0	22.803	81	1.977
70.0	26.725	82	3.765
75.0	26.182	84	-0.522
80.0	27.852	85	1.603
85.0	29.892	85	1.958
90.0	31.407	85	1.454

Totals and Averages

90	31.41	78.4	30.51

Run 2 Spiked

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	1.811	73	1.777
10.0	3.212	73	1.375
15.0	5.012	73	1.766
20.0	7.019	75	1.962
25.0	8.775	75	1.717
30.0	10.185	75	1.378
35.0	12.108	78	1.869
40.0	14.309	78	2.140
45.0	16.496	78	2.126
50.0	17.642	79	1.112
55.0	19.001	80	1.316
60.0	21.147	81	2.075
65.0	22.672	82	1.472
70.0	24.478	84	1.736
75.0	26.326	85	1.773
80.0	27.934	85	1.543
85.0	29.523	85	1.525
90.0	31.397	85	1.798

Totals and Averages

90	31.40	79.1	30.46

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 3
Date	7/13/11
P_b (Inches Hg)	29.65

Meter ID	R19075-1
Y_d	1.0000

Meter ID	R19075-2
Y_d	1.0000

Start Time	8:50
Stop Time	10:20

Run 3

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	1.950	90	1.854
10.0	3.427	91	1.402
15.0	4.952	92	1.445
20.0	6.925	93	1.866
25.0	8.730	93	1.707
30.0	10.653	93	1.819
35.0	12.420	94	1.668
40.0	14.113	95	1.595
45.0	15.813	96	1.599
50.0	17.317	97	1.412
55.0	19.190	98	1.756
60.0	20.580	98	1.303
65.0	22.537	98	1.834
70.0	24.500	98	1.840
75.0	27.112	99	2.444
80.0	28.011	99	0.841
85.0	29.500	99	1.393
90.0	31.424	100	1.797

Totals and Averages

90	31.42	95.7	29.58

Run 3 Spiked

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	2.120	92	2.009
10.0	3.392	92	1.205
15.0	4.725	93	1.261
20.0	6.899	93	2.056
25.0	8.781	93	1.780
30.0	10.280	93	1.418
35.0	12.194	93	1.810
40.0	14.362	94	2.047
45.0	15.692	95	1.253
50.0	17.239	96	1.455
55.0	19.111	97	1.758
60.0	20.400	97	1.210
65.0	22.500	98	1.968
70.0	24.399	99	1.777
75.0	27.059	99	2.489
80.0	28.215	99	1.082
85.0	29.706	99	1.395
90.0	31.510	99	1.688

Totals and Averages

90	31.51	95.6	29.66

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 3
Date	7/12/2011
Meter ID	M20
Y_d	0.9952
Pitot C_p	0.84

P_b (Inches Hg)	29.90
P_g (Inches H_2O)	-1.6
Start Time	16:00
Stop Time	17:30

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Volume of Water Collected, V_{wc} (g)	38.0
Silica Gel Net Weight, V_{sg} (g)	4.0

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	11.4	NA	8.00

Run 1

Traverse Point	Min/Pt: 5 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 189.26	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)
1	5.0	0.92	1.60	193.00	317	81	79	0.958	34.5	3.650
2	10.0	0.88	1.60	196.22	315	81	79	0.938	63.0	3.142
3	15.0	0.91	1.60	199.65	315	82	80	0.954	64.0	3.361
4	20.0	0.91	1.60	203.15	315	82	79	0.954	64.0	3.412
5	25.0	0.91	1.60	206.65	317	84	79	0.954	64.1	3.406
6	30.0	0.88	1.60	209.89	320	84	79	0.938	65.2	3.153
7	35.0	0.88	1.60	213.74	317	85	80	0.938	63.1	3.750
8	40.0	0.75	1.60	217.29	317	87	80	0.866	56.2	3.442
9	45.0	0.78	1.60	220.83	316	87	80	0.883	59.2	3.432
10	50.0	0.86	1.60	224.38	290	86	79	0.927	61.3	3.448
11	55.0	0.89	1.60	227.93	278	86	80	0.943	61.8	3.445
12	60.0	0.87	1.60	231.47	280	85	79	0.935	61.2	3.442
	65.0		1.60	235.02		86	79	0.000	0.0	3.448
	70.0		1.60	238.56		85	80			3.436
	75.0		1.60	242.11		87	80			3.442
	80.0		1.60	245.76		87	80			3.535
	85.0		1.60	249.19		86	80			3.329
	90.0		1.60	252.75		85	80			3.458

Totals and Averages

90		1.60	63.49	308	82.2	0.861	57.5	61.71

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 3
Date	7/13/2011
Meter ID	M20
Y_d	0.9952
Pitot C_p	0.84

P_b (Inches Hg)	29.65
P_g (Inches H_2O)	-1.6
Start Time	6:47
Stop Time	8:17

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Volume of Water Collected, V_{wc} (g)	40.0
Silica Gel Net Weight, V_{sg} (g)	3.5

CEMS	%CO_2	%CO_2+%O_2	%O_2
Average	11.6	NA	7.76

Run 2

Traverse Point	Min/Pt: 5 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 253.87	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)
1	5.0	0.85	1.60	257.51	312	75	74	0.922	62.0	3.568
2	10.0	0.83	1.60	261.06	312	76	74	0.911	61.3	3.488
3	15.0	0.80	1.60	264.58	312	78	75	0.894	60.2	3.429
4	20.0	0.76	1.60	268.09	313	82	76	0.872	58.7	3.403
5	25.0	0.73	1.60	271.65	312	83	76	0.854	57.5	3.446
6	30.0	0.71	1.60	275.52	311	86	78	0.843	56.7	3.731
7	35.0	0.68	1.60	278.90	311	88	79	0.825	55.4	3.250
8	40.0	0.68	1.60	282.52	311	89	81	0.825	55.4	3.471
9	45.0	0.66	1.60	286.14	310	91	81	0.812	54.6	3.485
10	50.0	0.61	1.60	289.81	311	91	82	0.781	52.5	3.508
11	55.0	0.60	1.60	293.38	311	92	82	0.775	52.1	3.411
12	60.0	0.75	1.60	297.01	311	93	84	0.866	58.2	3.458
	65.0		1.60	300.63		95	84			3.443
	70.0		1.60	304.26		95	85			3.448
	75.0		1.60	307.89		96	86			3.460
	80.0		1.60	311.52		98	87			3.453
	85.0		1.60	315.16		98	87			3.443
	90.0		1.60	318.78		98	87			3.424

Totals and Averages

90	1.60	64.91	311	85.1	0.848	57.1	62.23

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	ESP 3
Date	7/13/2011
Meter ID	M20
Y_d	0.9952
Pitot C_p	0.84

P_r (Inches Hg)	29.65
P_g (Inches H_2O)	-1.6
Start Time	8:50
Stop Time	10:20

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	132
Length	
Width	

Volume of Water Collected, V_{wc} (g)	32.0
Silica Gel Net Weight V_{wsg} (g)	4.0

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	11.5	NA	7.79

Run 3

Traverse Point	Min/Pt 5 Elapsed Time	Velocity Pressure Δ P (in H_2O)	Orifice Setting Δ H (in H_2O)	Gas Sample Volume Inital (ft^3) 319.00	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)
1	5.0	0.83	1.60	322.58	319	93	92	0.911	61.5	3.386
2	10.0	0.85	1.60	326.17	319	93	92	0.922	62.3	3.396
3	15.0	0.84	1.60	329.75	319	101	93	0.917	61.9	3.359
4	20.0	0.82	1.60	333.39	319	101	93	0.906	61.2	3.615
5	25.0	0.75	1.60	336.99	318	103	94	0.868	58.5	3.389
6	30.0	0.75	1.60	340.66	318	105	95	0.866	58.5	3.425
7	35.0	0.69	1.60	344.20	317	105	95	0.931	56.0	3.303
8	40.0	0.69	1.60	347.82	317	107	96	0.831	56.0	3.369
9	45.0	0.66	1.60	351.43	317	107	97	0.812	54.6	3.357
10	50.0	0.67	1.60	355.06	317	108	98	0.819	55.1	3.368
11	55.0	0.69	1.60	358.69	317	108	99	0.831	56.0	3.366
12	60.0	0.75	1.60	362.45	317	110	100	0.866	58.4	3.478
			1.60	366.25		109	100			3.518
			1.60	369.59		110	101			3.087
			1.60	373.23		110	101			3.364
			1.60	376.88		111	102			3.367
			1.60	380.52		111	102			3.358
			1.60	384.18		111	102			3.375

Totals and Averages

60	1.60	65.18	318	102	0.865	58.4	60.66

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	Stack
Date	7/8/2011
Meter ID	M3
Y_d	0.9891
Pitot C_p	0.84

Nozzle Diameter (in)	0.248
Filter ID	12137
Train Type	Impinger
Train ID	IB17
P_r (Inches Hg)	28.90
P_s (Inches H_2O)	0.2
Start Time	10:08
Stop Time	11:53

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	358
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	530.0	415.0	115.0
Impinger 2	747.0	707.0	40.0
Impinger 3	648.0	615.0	33.0
Silica Gel	910.0	878.0	32.0
Weight of Water Collected, V_{wc} (g)			188.0
Silica Gel Net Weight, V_{wg} (g)			32.0

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	10.3	NA	9.17

Run 1

Traverse Point	Min/Pt 7.5 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft³) 199.75	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft³)	Isokinetics (%)
4-1	7.5	0.50	1.40	204.75	135	80	80	0.707	43.5	4.686	99.1
4-2	15.0	0.52	1.50	209.75	135	82	80	0.721	44.3	4.678	97.1
4-3	22.5	0.47	1.30	214.62	135	84	81	0.685	42.1	4.542	98.1
3-1	30.0	0.49	1.40	219.46	134	86	81	0.700	43.0	4.506	96.2
3-2	37.5	0.52	1.50	224.58	134	87	81	0.721	44.3	4.766	98.6
3-3	45.0	0.50	1.40	229.74	134	89	82	0.707	43.5	4.757	101.2
2-1	52.5	0.54	1.50	234.82	134	86	84	0.735	45.1	4.718	96.0
2-2	60.0	0.52	1.50	239.98	134	87	84	0.721	44.3	4.788	99.5
2-3	67.5	0.48	1.30	244.97	134	90	85	0.693	42.5	4.611	99.5
1-1	75.0	0.42	1.10	249.51	133	92	86	0.648	39.8	4.182	96.4
1-2	82.5	0.45	1.30	254.13	133	93	86	0.671	41.2	4.265	94.7
1-3	90.0	0.42	1.10	258.69	133	94	87	0.648	39.8	4.188	96.5

Totals and Averages

90		1.36	58.94	134	85.3	0.696	42.8	54.69	97.8

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	Stack
Date	7/12/2011
Meter ID	M17
Y_d	0.9799
Pitot C_p	0.84

Nozzle Diameter (in)	0.235
Filter ID	12130
Train Type	Impinger
Train ID	IB
P_b (Inches Hg)	29.90
P_g (Inches H_2O)	0.2
Start Time	9:50
Stop Time	11:42

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	358
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	703.0	486.0	217.0
Impinger 2	572.0	584.0	-12.0
Impinger 3	603.0	597.0	6.0
Silica Gel	1010.0	980.0	30.0
Weight of Water Collected, V_w (g)			211.0
Silica Gel Net Weight, V_{sg} (g)			30.0

CEMS	%CO_2	%CO_2+%O_2	%O_2
Average	10.8	NA	8.82

Run 2

Traverse Point	Min/Pt 7.5 Elapsed Time	Velocity Pressure Δ P (in H_2O)	Orifice Setting Δ H (in H_2O)	Gas Sample Volume Initial (ft^3) 85.30	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1-1	7.5	0.48	1.20	90.19	136	98	98	0.693	42.0	4.523	109.5
1-2	15.0	0.54	1.30	95.07	137	101	98	0.735	44.6	4.522	102.9
1-3	22.5	0.50	1.20	99.71	137	103	99	0.707	42.9	4.287	101.3
2-1	30.0	0.50	1.20	104.35	136	101	100	0.707	42.9	4.291	101.3
2-2	37.5	0.52	1.30	108.99	137	104	100	0.721	43.8	4.281	98.2
2-3	45.0	0.47	1.20	113.96	137	105	100	0.686	41.6	4.560	111.7
3-1	52.5	0.52	1.30	118.72	137	103	101	0.721	43.8	4.391	101.9
3-2	60.0	0.50	1.20	123.50	137	106	101	0.707	42.9	4.397	103.9
3-3	67.5	0.49	1.20	128.01	137	109	102	0.700	42.5	4.134	98.7
4-1	75.0	0.53	1.30	132.81	137	107	102	0.728	44.2	4.409	101.2
4-2	82.5	0.53	1.30	137.63	137	108	102	0.728	44.2	4.423	101.6
4-3	90.0	0.48	1.20	142.44	137	110	103	0.693	42.1	4.401	106.2

Totals and Averages

90	1.24	57.14	137	103	0.710	43.1	52.66	103.2

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	Stack
Date	7/12/2011
Meter ID	M7
Y_d	0.9799
Pitot C_p	0.84

Nozzle Diameter (in)	0.235
Filter ID	12131
Train Type	Impinger
Train ID	IB
P_b (Inches Hg)	29.90
P_g (Inches H_2O)	0.2
Start Time	12:30
Stop Time	14:15

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	358
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	751.0	572.0	179.0
Impinger 2	728.0	718.0	10.0
Impinger 3	646.0	614.0	32.0
Silica Gel	963.0	929.0	34.0
Weight of Water Collected, V_{wc} (g)			221.0
Silica Gel Net Weight, V_{wsg} (g)			34.0

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	10.4	NA	9.07

Run 3

Traverse Point	Min/Pt 7.5 Elapsed Time	Velocity Pressure ΔP ($in.H_2O$)	Orifice Setting ΔH ($in.H_2O$)	Gas Sample Volume Initial (ft^3) 142.85	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
4-1	7.5	0.51	1.30	147.95	136	99	99	0.714	43.4	4.730	111.4
4-2	15.0	0.51	1.30	152.90	137	101	99	0.714	43.4	4.583	105.0
4-3	22.5	0.47	1.20	157.72	137	103	100	0.686	41.7	4.450	109.2
3-1	30.0	0.54	1.30	162.68	137	101	101	0.735	44.7	4.584	105.0
3-2	37.5	0.52	1.30	167.51	137	104	101	0.721	43.8	4.452	103.9
3-3	45.0	0.47	1.20	172.19	137	105	101	0.686	41.7	4.309	105.7
2-1	52.5	0.54	1.30	177.05	137	103	101	0.735	44.7	4.584	102.7
2-2	60.0	0.52	1.30	181.88	137	104	101	0.721	43.8	4.452	103.9
2-3	67.5	0.50	1.20	186.54	136	105	101	0.707	43.0	4.291	102.0
1-1	75.0	0.48	1.20	191.42	137	103	102	0.693	42.1	4.497	109.2
1-2	82.5	0.50	1.20	196.07	137	103	102	0.707	43.0	4.285	102.0
1-3	90.0	0.45	1.10	200.72	137	103	102	0.671	40.8	4.284	107.4

Totals and Averages

90	1.24	57.87	137	102	0.707	43.0	53.40	105.5

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	Stack
Date	7/7/2011
Meter ID	M7
Y_d	0.9799
Pitot C_p	0.84

Nozzle Diameter (in)	0.249
Filter ID	NA
Train Type	Impinger
Train ID	IB10
P_b (Inches Hg)	29.58
P_g (Inches H_2O)	0.2
Start Time	8:05
Stop Time	12:32

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	358
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	848.0	481.0	367.0
Impinger 2	877.0	713.0	164.0
Impinger 3	765.0	749.0	16.0
Impinger 4	639.0	633.0	6.0
Silica Gel	913.0	881.0	32.0
Weight of Water Collected, V_{lc} (g)			555.0
Silica Gel Net Weight, V_{sg} (g)			32.0

CEMS	$\%CO_2$	$\%CO_2+\%C_3$	$\%O_2$
Average	10.3	NA	9.17

Run 1

Traverse Point	Min/Pt 20 Elapsed Time	Velocity Pressure ΔP ($in\ H_2O$)	Orifice Setting ΔH ($in\ H_2O$)	Gas Sample Volume Initial (ft^3) 615.39	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1-1	20	0.53	1.60	629.39	138	92	91	0.728	43.3	13.031	98.8
1-2	40	0.50	1.50	643.11	136	97	93	0.707	43.0	12.687	96.9
1-3	60	0.48	1.50	656.99	136	101	95	0.693	42.1	12.766	101.6
2-1	80	0.45	1.40	670.36	135	101	98	0.671	40.8	12.261	100.7
2-2	100	0.45	1.40	683.70	134	105	99	0.671	40.7	12.179	99.9
2-3	120	0.45	1.40	697.18	134	103	98	0.671	40.7	12.340	101.2
3-1	140	0.43	1.30	710.19	136	102	97	0.656	39.9	11.926	100.3
3-2	160	0.43	1.30	723.05	134	102	97	0.656	39.8	11.790	98.9
3-3	180	0.44	1.30	735.93	134	103	97	0.663	40.2	11.799	97.9
4-1	200	0.43	1.30	748.77	135	100	97	0.656	39.8	11.793	99.0
4-2	220	0.43	1.30	761.65	134	103	97	0.656	39.8	11.796	99.0
4-3	240	0.38	1.20	772.65	134	102	98	0.616	37.3	10.075	99.9

Totals and Averages

240		1.38	157.26	135	98.7	0.670	40.7	144.42	98.9

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	Stack
Date	7/8/2011
Meter ID	M7
Y_d	0.9799
Pitot C_p	0.84

Nozzle Diameter (in)	0.249
Filter ID	NA
Train Type	Impinger
Train ID	IB10
P_b (Inches Hg)	28.90
P_g (Inches H_2O)	0.2
Start Time	6:41
Stop Time	11:31

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	358
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	976.0	622.0	354.0
Impinger 2	876.0	715.0	161.0
Impinger 3	755.0	711.0	44.0
Impinger 4	643.0	632.0	11.0
Silica Gel	912.0	880.0	32.0
Weight of Water Collected, V_{wc} (g)			570.0
Silica Gel Net Weight, V_{wsg} (g)			32.0

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	10.8	NA	8.82

Run 2

Traverse Point	Min/Pt 20 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 773.31	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
4-1	20	0.45	1.40	786.30	134	83	82	0.671	41.2	12.005	100.3
4-2	40	0.45	1.40	799.35	133	89	84	0.671	41.2	11.971	99.9
4-3	60	0.43	1.30	812.13	123	89	84	0.656	39.8	11.731	99.2
3-1	80	0.42	1.30	825.65	130	86	83	0.648	39.7	12.445	107.2
3-2	100	0.44	1.30	838.40	132	86	81	0.663	40.7	11.758	98.2
3-3	120	0.42	1.30	851.12	133	87	82	0.648	39.8	11.709	101.1
2-1	140	0.44	1.30	863.61	133	84	81	0.663	40.7	11.538	97.4
2-2	160	0.45	1.40	876.62	134	89	82	0.671	41.2	11.957	99.9
2-3	180	0.45	1.40	888.83	134	89	82	0.671	41.2	11.221	93.7
1-1	200	0.43	1.30	901.17	144	77	76	0.656	40.6	11.528	99.3
1-2	220	0.43	1.30	914.65	137	82	76	0.656	40.4	12.535	107.4
1-3	240	0.43	1.30	927.62	134	85	80	0.656	40.3	11.982	102.4
	Less volume for leak check			0.38							
Totals and Averages											
	240		1.33	153.93	133	83.3		0.661	40.6	142.02	100.3

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	Stack
Date	7/8/2011
Meter ID	M7
Y_d	0.9799
Pitot C_p	0.84

Nozzle Diameter (in)	0.249
Filter ID	NA
Train Type	Impinger
Train ID	IB14
P_b (Inches Hg)	28.90
P_g (Inches H_2O)	0.2
Start Time	13:48
Stop Time	18:20

Place an "x" In the appropriate Box

Circular?	x
Rectangular?	
Diameter	358
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	839.0	487.0	352.0
Impinger 2	927.0	750.0	177.0
Impinger 3	765.0	721.0	44.0
Impinger 4	656.0	638.0	18.0
Silica Gel	917.0	879.0	38.0
Weight of Water Collected V_{wc} (g)			591.0
Silica Gel Net Weight V_{wsg} (g)			38.0

CEMS	$\%CO_2$	$\%CO_2$=$\%O_2$	$\%O_2$
Average	10.4	NA	9.07

Run 3

Traverse Point	Min/Pt 20 Elapsed Time	Velocity Pressure Δ P (in H_2O)	Orifice Setting Δ H (in H_2O)	Gas Sample Volume Initial (ft³) 928.11	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft³)	Isokinetics (%)
1-1	20	0.45	1.40	941.08	136	89	86	0.671	41.9	11.876	99.9
1-2	40	0.45	1.40	954.12	135	93	88	0.671	41.3	11.875	99.8
1-3	60	0.44	1.30	967.10	134	96	90	0.663	40.8	11.764	98.9
2-1	80	0.47	1.40	980.33	134	96	91	0.686	42.2	11.983	98.5
2-2	100	0.45	1.40	993.67	134	96	91	0.671	41.3	12.083	101.5
2-3	120	0.44	1.30	1006.59	134	98	91	0.663	40.8	11.978	99.2
3-1	140	0.45	1.40	1019.72	134	93	90	0.671	41.3	11.936	100.2
3-2	160	0.44	1.30	1032.63	135	98	91	0.663	40.9	11.669	99.2
3-3	180	0.44	1.30	1045.63	135	100	94	0.663	40.9	11.998	99.4
4-1	200	0.44	1.30	1058.74	135	93	91	0.663	40.9	11.904	101.2
4-2	220	0.45	1.40	1072.25	134	94	90	0.671	41.3	12.270	103.0
4-3	240	0.44	1.30	1085.10	135	92	89	0.663	40.9	11.998	99.4

Totals and Averages

240	1.35	156.99	135	92.5	0.668	41.2	142.43	100.1

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	Stack
Date	7/7/2011
Meter ID	M3
Y_d	0.9891
Pitot C_p	0.84

Nozzle Diameter (in)	0.248
Filter ID	NA
Train Type	Impinger
Train ID	IB14
P_b (Inches Hg)	29.58
P_g (Inches H_2O)	0.2
Start Time	8:05
Stop Time	10:23

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	358
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	897.0	644.0	253.0
Impinger 2	771.0	715.0	56.0
Impinger 3	690.0	682.0	8.0
Impinger 4	594.0	593.0	1.0
Silica Gel	860.0	845.0	15.0
Weight of Water Collected, V_{wc} (g)			318.0
Silica Gel Net Weight, V_{sg} (g)			15.0

CEMS	$\%CO_2$	$\%CO_2=\%O_2$	$\%O_2$
Average	10.3	NA	9.17

Run 1

Traverse Point	Min/Pt 10 Elapsed Time	Velocity Pressure Δ P (in H_2O)	Orifice Setting Δ H (in H_2O)	Gas Sample Volume Initial (ft^3) 956.20	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
4-1	10	0.49	1.50	963.04	135	88	88	0.700	42.6	6.466	103.8
4-2	20	0.52	1.60	970.02	135	93	90	0.721	43.9	6.558	104.0
4-3	30	0.48	1.40	976.71	135	96	92	0.693	42.2	6.254	101.2
3-1	40	0.52	1.60	983.75	136	95	93	0.721	43.9	6.585	102.5
3-2	50	0.52	1.60	991.01	136	100	94	0.721	43.9	6.754	105.1
3-3	60	0.52	1.60	997.82	136	102	96	0.721	43.9	6.312	98.2
2-1	70	0.50	1.50	1004.75	135	101	98	0.707	43.1	6.416	101.8
2-2	80	0.46	1.40	1011.60	136	104	98	0.678	41.3	6.325	104.6
2-3	90	0.46	1.40	1018.16	135	104	99	0.678	41.3	6.051	100.0
1-1	100	0.51	1.50	1024.91	134	100	99	0.714	43.4	6.250	98.0
1-2	110	0.49	1.50	1031.74	134	101	99	0.700	42.6	6.316	101.1
1-3	120	0.47	1.40	1038.39	134	103	99	0.686	41.7	6.139	100.3

Totals and Averages

120		1.50	82.19	135	97.2	0.703	42.8	76.42	101.5

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	Stack
Date	7/7/2011
Meter ID	M3
Y_d	0.9891
Pitot C_p	0.84

Nozzle Diameter (in)	0.248
Filter ID	NA
Train Type	Impinger
Train ID	IB25
P_b (Inches Hg)	29.58
E_s (Inches H_2O)	0.2
Start Time	11:00
Stop Time	13:16

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	358
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	829.0	620.0	209.0
Impinger 2	777.0	706.0	71.0
Impinger 3	632.0	616.0	16.0
Impinger 4	630.0	625.0	5.0
Silica Gel	974.0	958.0	16.0
Weight of Water Collected, V_{wc} (g)			301.0
Silica Gel Net Weight, V_{wsg} (g)			16.0

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	10.6	NA	9.82

Run 2

Traverse Point	Min/Pt 10 Elapsed Time	Velocity Pressure ΔP ($in\ H_2O$)	Orifice Setting ΔH ($in\ H_2O$)	Gas Sample Volume Initial (ft^3) 38.75	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1-1	10	0.53	1.60	45.92	134	93	93	0.728	44.0	6.316	103.5
1-1	20	0.53	1.60	53.03	135	95	94	0.728	44.0	6.644	102.4
1-2	30	0.49	1.50	59.69	135	99	94	0.700	42.6	6.396	102.4
2-1	40	0.47	1.40	66.47	135	98	96	0.686	41.7	6.118	100.1
2-2	50	0.50	1.50	73.42	134	101	97	0.707	43.0	6.481	102.1
2-3	60	0.53	1.60	80.52	135	102	97	0.728	44.3	6.575	101.3
3-1	70	0.38	1.10	86.45	133	100	98	0.616	37.5	5.490	99.8
3-2	80	0.36	1.10	92.39	133	102	98	0.600	36.5	5.489	102.5
3-3	90	0.42	1.30	98.69	134	103	99	0.648	39.4	5.615	100.6
4-1	100	0.38	1.10	104.63	134	103	99	0.616	37.5	5.480	99.7
4-2	110	0.41	1.20	111.03	134	104	99	0.640	38.9	5.900	103.3
4-3	120	0.35	1.10	117.14	134	104	100	0.592	36.0	5.626	106.6

Totals and Averages

120	1.34	78.39	134	98.7	0.666	40.5	72.66	102.0

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	Stack
Date	7/8/2011
Meter ID	M3
Y_d	0.9891
Pitot C_p	0.84

Nozzle Diameter (in)	0.248
Filter ID	NA
Train Type	Impinger
Train ID	IB25
P_b (Inches Hg)	28.90
P_g (Inches H_2O)	0.2
Start Time	6:41
Stop Time	8:58

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	358
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	877.0	650.0	227.0
Impinger 2	780.0	721.0	59.0
Impinger 3	698.0	688.0	10.0
Impinger 4	600.0	598.0	2.0
Silica Gel	875.0	861.0	14.0
Weight of Water Collected V_{wc} (g)			298.0
Silica Gel Net Weight V_{wsg} (g)			14.0

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	10.4	NA	9.07

Run 3

Traverse Point	Min/Pt 10 Elapsed Time	Velocity Pressure ΔP ($in.\ H_2O$)	Orifice Setting ΔH ($in.\ H_2O$)	Gas Sample Volume Initial (ft^3) 118.00	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmetd (ft^3)	Isokinetics (%)
4-1	10	0.45	1.40	124.46	134	73	73	0.671	41.2	6.133	103.0
4-2	20	0.52	1.60	131.31	134	76	74	0.721	44.3	6.162	101.3
4-3	30	0.44	1.30	137.71	133	80	76	0.663	40.7	6.019	102.1
3-1	40	0.42	1.30	144.10	134	82	77	0.648	39.8	5.992	104.1
3-2	50	0.46	1.40	150.61	134	84	77	0.678	41.7	6.095	101.2
3-3	60	0.54	1.60	157.60	133	85	77	0.735	45.1	6.542	100.2
2-1	70	0.54	1.60	164.76	132	85	83	0.735	45.1	6.664	102.0
2-2	80	0.52	1.60	171.81	132	88	83	0.721	44.2	6.513	102.9
2-3	90	0.44	1.30	178.21	132	91	84	0.663	40.7	5.914	100.3
1-1	100	0.52	1.60	185.22	132	92	85	0.721	44.2	6.471	100.9
1-2	110	0.52	1.60	192.25	132	93	86	0.721	44.2	6.477	101.0
1-3	120	0.41	1.20	198.47	132	94	87	0.640	39.3	5.715	100.4

Totals and Averages

120	1.46	80.47	133	82.7	0.893	42.6	75.04	101.5

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	Stack
Date	7/12/11
P_b (Inches Hg)	29.90

Meter ID	25A
Y_d	0.99940

Meter ID	25B
Y_d	1.00170

Start Time	16:00
Stop Time	17:30

Run 1

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	2.400	86	2.317
10.0	5.070	86	2.578
15.0	7.560	87	2.400
20.0	10.020	87	2.371
25.0	12.560	88	2.443
30.0	15.090	88	2.434
35.0	17.620	89	2.429
40.0	20.240	92	2.502
45.0	22.750	93	2.393
50.0	25.200	97	2.319
55.0	27.680	101	2.330
60.0	30.190	103	2.350
65.0	32.790	105	2.426
70.0	35.220	107	2.259
75.0	37.740	109	2.335
80.0	40.250	110	2.321
85.0	42.760	110	2.321
90.0	45.270	111	2.317

Totals and Averages

90	45.27	97.2	42.83

Run 1 Spiked

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	2.650	86	2.564
10.0	5.160	86	2.429
15.0	7.360	87	2.125
20.0	10.060	87	2.608
25.0	12.590	88	2.439
30.0	15.190	88	2.507
35.0	17.720	89	2.435
40.0	20.320	92	2.489
45.0	22.610	95	2.180
50.0	25.160	97	2.419
55.0	27.520	101	2.223
60.0	29.790	103	2.130
65.0	32.470	105	2.506
70.0	35.020	107	2.376
75.0	37.540	109	2.340
80.0	40.090	110	2.364
85.0	42.590	110	2.317
90.0	45.110	111	2.332

Totals and Averages

90	45.11	97.3	42.77

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	Stack
Date	7/13/11
P_b (Inches Hg)	29.65

Meter ID	25A
Y_d	0.99940

Meter ID	25B
Y_d	1.00170

Start Time	6:49
Stop Time	8:17

Run 2

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.00	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	2.39	85	2.292
10.0	4.89	87	2.389
15.0	7.52	88	2.509
20.0	10.07	90	2.423
25.0	12.54	91	2.343
30.0	15.06	93	2.382
35.0	17.56	95	2.355
40.0	20.08	97	2.365
45.0	22.58	99	2.338
50.0	25.08	101	2.329
55.0	27.59	103	2.330
60.0	30.09	104	2.317
65.0	32.59	104	2.317
70.0	35.11	105	2.331
75.0	37.63	107	2.323
80.0	40.16	107	2.332
85.0	42.66	108	2.301
90.0	45.19	108	2.328

Totals and Averages

90	45.19	98.4	42.30

Run 2 Spiked

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.00	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	2.62	85	2.519
10.0	5.19	87	2.462
15.0	7.72	88	2.419
20.0	10.31	90	2.467
25.0	12.86	91	2.425
30.0	15.42	93	2.425
35.0	17.76	95	2.209
40.0	20.24	97	2.333
45.0	22.79	99	2.390
50.0	25.16	101	2.213
55.0	27.62	103	2.289
60.0	30.10	104	2.304
65.0	32.60	104	2.322
70.0	35.11	105	2.327
75.0	37.56	107	2.264
80.0	40.01	107	2.264
85.0	42.47	108	2.269
90.0	45.06	108	2.389

Totals and Averages

90	45.06	98.4	42.27

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	Stack
Date	7/13/11
P_b (Inches Hg)	29.65

Meter ID	25A
Y_d	0.99940

Meter ID	25B
Y_d	1.00170

Start Time	8:50
Stop Time	10:20

Run 3

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.00	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	2.46	96	2.313
10.0	5.03	98	2.407
15.0	7.54	98	2.351
20.0	10.07	100	2.362
25.0	12.59	101	2.348
30.0	15.09	102	2.325
35.0	17.57	103	2.303
40.0	20.08	105	2.322
45.0	22.59	106	2.318
50.0	25.22	108	2.420
55.0	27.56	109	2.150
60.0	30.04	110	2.274
65.0	32.54	110	2.293
70.0	35.24	111	2.472
75.0	37.79	111	2.334
80.0	40.29	112	2.285
85.0	42.82	112	2.312
90.0	45.37	112	2.330

Totals and Averages

90	45.37	106	41.92

Run 3 Spiked

Min/Pt 5 Elapsed Time	Gas Sample Volume Initial (L) 0.00	DGM Temp (°F)	Volume Metered Vmstd (L)
5.0	2.64	96	2.488
10.0	5.19	98	2.394
15.0	7.69	98	2.347
20.0	10.16	100	2.311
25.0	12.62	101	2.297
30.0	15.15	102	2.359
35.0	17.05	103	1.768
40.0	20.16	104	2.889
45.0	22.66	106	2.314
50.0	25.12	108	2.269
55.0	27.62	109	2.302
60.0	30.19	110	2.362
65.0	32.69	110	2.298
70.0	35.15	111	2.257
75.0	37.69	111	2.331
80.0	40.24	112	2.336
85.0	42.79	112	2.336
90.0	45.15	112	2.162

Totals and Averages

90	45.15	106	41.81

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	Stack
Date	7/12/2011
Meter ID	M7
Y_d	0.9799
Pitot C_p	0.84

P_b (Inches Hg)	29.90
E_s (Inches H_2O)	0.2
Start Time	16:00
Stop Time	17:30

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	358
Length	
Width	

Volume of Water Collected, V_{wc} (g)	247.0
Silica Gel Net Weight, W_{sg} (g)	23.0

CEMS	$\%CO_2$	$\%CO_2$ or $\%O_2$	$\%O_2$
Average	10.3	NA	9.17

Run 1

Traverse Point	Min/Pt 5 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 200.85	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity V_s (ft/sec)	Volume Metered Vmstd (ft^3)
1-1	5.0	0.50	1.50	204.29	134	82	82	0.707	42.6	3.292
1-2	10.0	0.53	1.50	207.73	134	84	82	0.728	44.0	3.286
1-3	15.0	0.47	1.50	211.61	134	86	82	0.686	41.5	3.700
2-1	20.0	0.51	1.50	214.10	134	87	82	0.714	43.2	2.372
2-2	25.0	0.52	1.50	218.05	134	87	83	0.721	43.6	3.760
2-3	30.0	0.50	1.50	221.49	134	87	83	0.707	42.8	3.274
3-1	35.0	0.54	1.50	224.96	134	88	83	0.735	44.4	3.300
3-2	40.0	0.53	1.50	228.17	134	89	84	0.728	44.0	3.332
3-3	45.0	0.46	1.50	231.76	134	91	84	0.678	41.0	3.117
4-1	50.0	0.52	1.50	235.23	134	92	84	0.721	43.6	3.285
4-2	55.0	0.52	1.50	238.69	134	92	84	0.721	43.6	3.275
4-3	60.0	0.48	1.50	242.19	134	92	84	0.693	41.9	3.312
	65.0		1.50	245.66		93	85			3.279
	70.0		1.50	248.14		94	85			2.341
	75.0		1.50	250.14		94	85			1.888
	80.0		1.50	253.10		95	85			2.782
	85.0		1.50	255.58		95	85			2.339
	90.0		1.50	258.06		96	85			2.337

Totals and Averages

90		1.50	57.21	134	87.0	0.712	43.0	54.26

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	Stack
Date	7/13/2011
Meter ID	M7
Y_d	0.9799
Pitot C_p	0.84

Volume of Water Collected, V_{wc} (g)	250.0
Silica Gel Net Weight, V_{wsg} (g)	25.0

CEMS	$\%CO_2$	$\%O_2$ or $\%O_c$	$\%O_c$
Average	10.8	NA	8.82

Place an "x" in the appropriate Box

P_b (Inches Hg)	29.65
P_g (Inches H_2O)	0.2
Start Time	6:47
Stop Time	8:17

Circular?	x
Rectangular?	
Diameter	358
Length	
Width	

Run 2

Traverse Point	Min/Pt 5 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft^3) 265.90	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)
1-1	5.0	0.52	1.50	269.33	135	75	75	0.721	43.9	3.298
1-2	10.0	0.50	1.50	272.77	135	76	75	0.707	43.0	3.305
1-3	15.0	0.42	1.50	276.21	135	77	75	0.648	39.4	3.301
2-1	20.0	0.50	1.50	279.65	135	77	75	0.707	43.0	3.301
2-2	25.0	0.46	1.50	283.09	135	78	75	0.678	41.3	3.298
2-3	30.0	0.42	1.50	286.53	135	80	76	0.648	39.4	3.289
3-1	35.0	0.50	1.50	289.97	135	83	77	0.707	43.0	3.277
3-2	40.0	0.51	1.50	293.41	135	85	77	0.714	43.4	3.271
3-3	45.0	0.44	1.50	296.85	135	86	78	0.663	40.3	3.265
4-1	50.0	0.52	1.50	300.29	135	87	78	0.721	43.9	3.262
4-2	55.0	0.54	1.50	303.79	135	87	78	0.735	44.7	3.318
4-3	60.0	0.48	1.50	307.17	135	88	78	0.693	42.1	3.202
	65.0		1.50	310.61		90	79			3.250
	70.0		1.50	314.05		91	79			3.247
	75.0		1.50	317.49		91	80			3.244
	80.0		1.50	320.93		92	80			3.241
	85.0		1.50	324.37		93	80			3.236
	90.0		1.50	327.81		93	80			3.238

Totals and Averages

90		1.50	61.91	135	81.2	0.695	42.3	58.84

Project Number	3648
Client	Big Rivers
Plant	Coleman
Location	Stack
Date	7/13/2011
Meter ID	M7
Y_d	0.9799
Pitot C_p	0.84

Volume of Water Collected, V_{lc} (g)	248.0
Silica Gel Net Weight, V_{sg} (g)	30.0

CEMS	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	10.4	NA	9.07

P_b (Inches Hg)	29.65
P_g (Inches H_2O)	0.2
Start Time	8:50
Stop Time	10:20

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	358
Length	
Width	

Run 3

Traverse Point	Min/Pt: 5 Elapsed Time	Velocity Pressure ΔP (in H_2O)	Orifice Setting ΔH (in H_2O)	Gas Sample Volume Initial (ft³) 329.15	Stack Temp (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root ΔP	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft³)
1-1	5.0	0.51	1.50	332.67	134	93	92	0.714	42.4	3.277
1-2	10.0	0.47	1.50	336.08	134	93	92	0.686	41.6	3.175
1-3	15.0	0.45	1.50	339.42	134	95	92	0.671	40.7	3.168
2-1	20.0	0.53	1.50	342.90	134	97	93	0.728	44.2	3.226
2-2	25.0	0.49	1.50	341.39	134	99	93	0.700	42.5	-1.387
2-3	30.0	0.44	1.50	349.88	134	100	94	0.663	40.3	7.941
3-1	35.0	0.50	1.50	353.37	134	102	95	0.707	43.0	3.215
3-2	40.0	0.48	1.50	356.80	134	102	95	0.693	42.1	3.159
3-3	45.0	0.42	1.50	360.35	134	103	95	0.648	39.4	3.267
4-1	50.0	0.49	1.50	363.84	134	103	96	0.700	42.5	3.209
4-2	55.0	0.52	1.50	367.33	134	104	95	0.721	43.8	3.209
4-3	60.0	0.45	1.50	370.88	134	104	96	0.671	40.7	3.261
	65.0		1.50	374.32		104	96			3.160
	70.0		1.50	377.75		104	97			3.146
	75.0		1.50	381.18		105	97			3.146
	80.0		1.50	384.61		105	97			3.145
	85.0		1.50	388.04		107	98			3.137
	90.0		1.50	391.47		107	98			3.137

Totals and Averages

90		1.50	62.32	134	98.3	0.692	42.0	57.42