Field Data

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: _____

RUN NO. 1 METHOD NO. 5B/26 Page 1 of 1

Client	Big Rivers					Barometric (inHg)	28.9	Water [ml] [g]	
Plant	Henderson, KY					Ambient Temp (°F)	78	Silica gel (g)	
Location	Unit 1 Exit					Static (inH_2O)	-2	Total Vlc	
Date	7/6/11	Project No.	3645			Probe ID	AE5-10-5	Liner Type	TFE
Meter Operator	MR					Nozzle ID	.220	Nozzle Dia (in)	.220
Probe Operator	MH					Filter ID	12136		
Meter ID	M-7	Yd	.9904	Pitot Cp	.84	Train ID	IB12	Train Type	SMM
ΔH@	1.940	K'	1.56	Leak check	✓	Duct Dim. (in)		Port Length (in)	18.25
Pre Leak Check	.000	[cfm] [lpm] @	15	(inHg)					
Post Leak Check	.000	[cfm] [lpm] @	15	(inHg)		Start Time	10:48	Stop Time	11:49

[N] [Up]

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point 7.5 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft³] [l] 9861.42	Stack Temp (°F)	Probe Temp (°F) 320	Filter Temp (°F) 320	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1	7.5	.76	1.2	9861.31	326	320	319	57	80	79	10	76		
2	15	.74	1.2	9865.41	326	320	318	57	80	79	10	76		
3	22.5	.75	1.2	9869.42	327	323	320	59	80	79	10	76		
4	30	.86	1.3	9874.86	324	320	320	59	81	79	10	77		start @ 10:50 9870.06
5	37.5	.93	1.5	1002.57	321	321	317	59	81	77	11	77		start @ 10:41 9861.9
6	45	1.1	1.7	1007.47	323	321	319	60	81	80	13	77		
7	52.5	1.1	1.7	1012.06	325	320	322	60	81	80	13	77		208
8	60	1.0	1.6	1016.61	322	320	320	61	81	80	12	78		
9	67.5	.96	1.3	1021.14	326	320	320	61	81	80	10	78		
10	75	.48	.75	1025.49	324	320	321	61	81	80	7	78		
11	82.5	.46	.72	1029.00	323	320	319	62	82	80	6	78		1033.33
12	90	.44	.69	1032.34	325	321	320	63	82	81	6	78		
Total		10.349	14.860	54.93	3242				971	956				
Average		.671	1.238		324.333				80.292					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

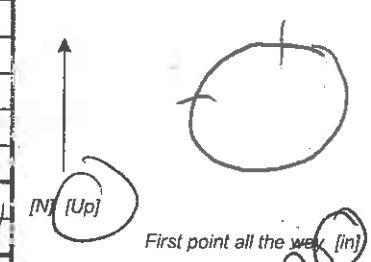
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: _____

RUN NO. 2 **METHOD NO.** 5B/202 **Page** 1 **of** 1

Client	Big Rivers						
Plant	Hawesville KY						
Location	unit 1 ESP						
Date	7/12/14	Project No.	3642				
Meter Operator	MK						
Probe Operator	MH						
Meter ID	M-15	Yd	1.0159	Pitot Cp	.84		
ΔH@	1.823	Kf	1.58	Leak check	✓		
Pre Leak Check	.000	[cfm] [lpm] @	15	(inHg)			
Post Leak Check	.000	[cfm] [lpm] @	15	(inHg)			



Cross Section of Duct

Barometric (inHg)	29.9	Water [ml] [g]	
Ambient Temp (°F)	120	Silica gel (g)	
Static (inH_2O)	-2.0	Total Vlc	
Probe ID	NES-10-4	Liner Type	TFE
Nozzle ID	.220	Nozzle Dia (in)	.220
Filter ID	12178		
Train ID	Big4	Train Type	SMP
Duct Dim. (in)		Port Length (in)	14.25
Start Time	9:50	Stop Time	11:50

Traverse Point	Min/Point 7.5 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft^3] [l] 506.76	Stack Temp (°F)	Probe Temp (°F) 320	Filter Temp (°F) 320	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1	7.5	.80	1.1	507.32	342	324	320	60	118	118	9	92		
2	15	.69	1.1	511.93	345	323	320	60	118	118	9	70		
3	22.5	.74	1.2	516.84	343	320	321	61	118	118	9	70		
4	30	1.1	1.7	521.99	340	321	323	62	119	118	12	71		
5	37.5	1.1	1.7	526.93	342	322	324	62	119	119	12	72		
6	45	1.0	1.6	531.69	342	320	320	63	120	119	11	73		
7	52.5	.92	1.4	536.17	343	320	320	63	121	120	10	73		
8	60	.86	1.3	541.73	346	323	319	64	122	120	9	73		
9	67.5	.68	1.1	546.11	344	324	323	64	122	120	9	74		
10	75	.56	.86	551.55	344	320	323	65	123	120	7	74		
11	82.5	.59	.84	556.51	341	320	320	67	124	121	7	74		
12	90	.52	.81	559.43	342	321	323	67	125	121	7	75		
Total		10.539	14.71	559.43	4113				1457	1432				
Average		.8779	1.226	562.4 NL	342.75				120.642					

1449 NL

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: _____

RUN NO. 3 **METHOD NO.** 5B/202 **Page** 1 **of** 1

Client	Big Rivers					Barometric (inHg)	29.90	Water [ml] [g]	
Plant	Hawesville, KY					Ambient Temp (°F)	110	Silica gel (g)	
Location	Unit 1 ESP					Static (inH_2O)	-2.0	Total Vlc	
Date	7/12/11	Project No.	3648			Probe ID	AES-405	Liner Type	JFE
Meter Operator	MR					Nozzle ID	RR0	Nozzle Dia (in)	.220
Probe Operator	MH					Filter ID	1219		
Meter ID	N-15	Yd	1.0159	Pitot Cp	.84	Train ID	IBS	Train Type	IMP
ΔH@	1.683	Kf	1.64	Leak check	✓	Duct Dim. (in)		Port Lngth (in)	18.25
Pre Leak Check	.000	[cfm] [lpm] @	15	(inHg)					
Post Leak Check	.000	[cfm] [lpm] @	15	(inHg)		Start Time	12:30	Stop Time	14:00

[N] (Up)

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point 7.5 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft^3] [l] 564.17	Stack Temp (°F)	Probe Temp (°F) 320	Filter Temp (°F) 320	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1	7.5	.71	1.2	566.72	337	320	320	61	106	106	9	71		
2	15	.60	1.1	573.12	338	323	320	61	104	105	9	71		
3	22.5	.26	1.3	577.94	336	321	320	61	109	107	10	71		
4	30	1.1	1.8	582.51	339	320	321	62	109	107	12	72		
5	37.5	1.5	1.4	588.11	341	322	322	62	110	106	12	72		
6	45	1.0	1.6	591.71	338	322	322	62	110	106	12	72		
7	52.5	.95	1.6	596.02	339	323	322	63	109	106	12	73		
8	60	.84	1.4	600.93	336	321	320	64	109	106	11	73		
9	67.5	.69	1.1	605.99	339	320	321	64	106	106	9	73		
10	75	.57	.94	610.63	339	321	321	65	109	105	8	74		
11	82.5	.53	.90	615.78	340	320	320	65	106	105	9	74		
12	90	.53	.91	619.29	339	320	321	65	106	105	6	74		
Total		10.583	15.60	55.17	4057				3047	1275				
Average		.8819	1.301		338.08				107.458					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

Impinger Weights Data Sheet

PROJECT NO. 3648

Page 1 of 2

Client	BIOLOGICS
Plant	HAWESVILLE, KY
Location	ESP 1
Date	7/8/11
Operator	BC

Run No.	1				
Method No.	SB/202	Train ID		Filter No.	12136
	Contents	Pre-test Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	EMPTY	483.0	558.0	-50	
Impinger No. 2	100ml DI	648.0	657.0		
Impinger No. 3	EMPTY	488.0	505.0		
Impinger No. 4	Silica	924.0	962.0		
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	2				
Method No.	SB/202	Train ID		Filter No.	12126
	Contents	Pre-test Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	EMPTY	445.0			
Impinger No. 2	100ml DI	602.0			
Impinger No. 3	EMPTY	680.0			
Impinger No. 4	Silica	844.0			
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	3				
Method No.	SB/202	Train ID		Filter No.	
	Contents	Pre-test Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	EMPTY	503.0	664.0	-50	
Impinger No. 2	100 ml DI	704.0	694.0		
Impinger No. 3	EMPTY	569.0	604.0		
Impinger No. 4	Silica	949.0	977.0		
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

AIRTECH ENVIRONMENTAL SERVICES INC.

Impinger Weights Data Sheet

PROJECT NO. 3C48

Page 9 of 2

Client	
Plant	
Location	ESP #1
Date	Run #
Operator	

Run No.	3				
Method No.	5B208	Train ID		Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	526.0	599.0	-50	
Impinger No. 2	DI	694.0	695.0		
Impinger No. 3	Empty	630.0	656.0		
Impinger No. 4	Silica	870.0	910.0		
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.					
Method No.		Train ID		Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1					
Impinger No. 2					
Impinger No. 3					
Impinger No. 4					
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

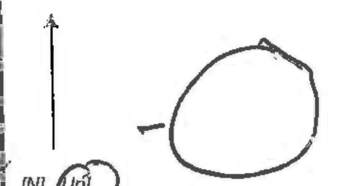
Run No.					
Method No.		Train ID		Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1					
Impinger No. 2					
Impinger No. 3					
Impinger No. 4					
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

AIRTECH ENVIRONMENTAL SERVICES INC.
General Testing Data Sheet

TESTING TYPE: HCL

RUN NO. 1 METHOD NO. 26A Page 1 of 1

Client	Big Rivers		
Plant	Hawesville, KY		
Location	ESP-1		
Date	7/7/11	Project No.	3648
Meter Operator	MH		
Probe Operator	MH		
Meter ID	15	Yd	1.0159
ΔH@	1.843	Kf	1.28
Pitot Cp	.84	Leak check	✓
Pre Leak Check	0.00	[cfm] [lpm] @	17 (inHg)
Post Leak Check	0.00	[cfm] [lpm] @	15 (inHg)



[N] (Up)
First point all the way (in) [out]
Gas flow (in) [out] of page
Cross Section of Duct

Barometric (inHg)	29.58	Water [ml] [g]	
Ambient Temp (°F)	90	Silica gel (g)	
Static (inH$_2$O)	-2	Total Vlc	
Probe ID	AE	Liner Type	Glass
Nozzle ID	[illegible] .22	Nozzle Dia (in)	[illegible] .22
Filter ID	NA		
Train ID	ESP-1	Train Type	IMP
Duct Dim. (in)	11'	Port Length (in)	18
Start Time	8:05	Stop Time	12:05

Traverse Point	Min/Point 20 Elapsed Time	Velocity Pressure ΔP (inH$_2$O)	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume initial [ft^3] [l] 86.54	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1	20	.74	.95	97.16	356	254	251	84	93	94	3			
	40	.75	1.0	108.17	353	250	250	61	102	95	3			New K 1.33
	60	.73	.97	119.25	352	250	252	61	106	98	3			
	80	.67	.89	129.95	348	251	252	57	110	103	3			
	100	~~.67~~	.89	140.00	343	251	253	58	119	110	3			.67
	120	.65	.86	150.43	343	250	251	59	115	110	3			
	140	.67	.89	160.89	344	250	253	60	111	104	3			
	160	.67	.89	171.34	344	250	251	60	111	104	3			
	180	.67	.89	181.80	344	251	251	60	111	104	3			
	200	.70	.93	192.48	349	250	254	58	111	104	3			
	220	.70	.93	203.80	347	250	252	57	114	105	4			
	240	~~.67~~	~~.89~~	215.20	347	250	251	59	114	105	4			.75ΔP 1.0ΔH
Total	240	~~9.919~~	~~10.98~~	128.66	4170				1320	1236				
Average		~~[illegible]~~	~~[illegible]~~		347.5				106.5					

10.0?? 8.349 (11.09 9.7) 55.19

103

Circle correct brackets [ ] units
Train Type denotes impingers, knockouts, etc.

8435 .940
~~8378~~ ~~.9267~~ 204.02

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: HCL

RUN NO. 2 METHOD NO. 26A Page 1 of 1

Client	Big Rivers			Barometric (inHg)	28.90	Water [ml] [g]	
Plant	Hawesville, KY			Ambient Temp (°F)	80	Silica gel (g)	
Location	ESP - 1			Static (mH_2O)	-2.0	Total Vlc	
Date	7-8-11	Project No.	3468	Probe ID	AES-47	Liner Type	Glass
Meter Operator	MH			Nozzle ID	.220	Nozzle Dia (in)	.228
Probe Operator	MH			Filter ID	NA		
Meter ID	15	Yd	1.0159	Pitot Cp	.84	Train ID	ESP-1 26A
ΔH@	1.843	Kf	1.68	Leak Check	✓	Train Type	IMP
Pre Leak Check	0.00	[cfm] [lpm] @	15 (inHg)			Duct Dim. (in)	11'
Post Leak Check	0.00	[cfm] [lpm] @	15 (inHg)			Port Length (in)	18"

[N] (Up)

First point all the way (in) [out]

Gas flow (in) (out) of page

Cross Section of Duct

Start Time ~~7:41~~ 6:41 Stop Time 10:41

Traverse Point	Min/Point 20 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft³] [l]	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1	20	.71	1.2	226.40	322	268	252	60	80	77	4	NA		216.85 - initial Vol
	40	.69	1.2	240.75	319	250	251	60	87	78	4			
	60	.66	1.1	251.97	311	250	250	60	87	78	4			
	80	.66	1.1	263.40	312	250	255	61	90	80	4			
	100	.66	1.1	274.73	314	251	254	52	94	81	4			
	120	.70	1.2	286.79	316	250	251	55	94	81	4			
	140	.70	1.2	298.73	318	250	252	50	96	82	4			
	160	.70	1.2	310.70	319	250	253	59	96	84	4			
	180	.70	1.2	322.65	323	251	251	60	97	86	4			
	200	.66	1.1	334.00	324	250	253	61	96	86	4			
	220	.71	1.2	346.16	325	250	251	60	95	86	5			
	240	.71	1.2	358.31	325	251	249	62	96	87	5			
Total	240	9.9670	~~12.8~~ 14 1.166	141.46	3826				1108	986				
Average		.6306	1.06		319				87.25					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

8245 1.15 69.94 315

89

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: HCL

RUN NO. 3 METHOD NO. 26A Page 1 of 1

Client	Big Rivers					Barometric (in Hg)	28.90	Water [ml] [g]	
Plant	Hawesville, KY					Ambient Temp (°F)	60	Silica gel (g)	
Location	ESP-1					Static (inH_2O)	-2	Total Vl:	
Date	7-8-16	Project No.	3468			Probe ID	AES-6-7	Liner Type	Glass
Meter Operator	MH					Nozzle ID	.22	Nozzle Dia (in)	.220
Probe Operator	MH					Filter ID	NA		
Meter ID	M-15	Yd	1.0159	Pitot Cp	.84	Train ID	ESP-1 26a	Train Type	IMP
ΔH@	1.843	Kf	1.68	Leak check	✓	Duct Dim. (in)	11	Port Length (in)	18.25"
Pre Leak Check	0.00	[cfm] [lpm] @	15	(inHg)					
Post Leak Check	0.00	[cfm] [lpm] @	10	(inHg)		Start Time	13:48	Stop Time	17:48

[N] (Up)

First point all the way (in) [out]

Gas flow (in) [out] of page

Cross Section of Duct

Traverse Point	Min/Point 20 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft^3] [l]	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
				364.70		250	250							
1	20	.71	1.2	372.30	324	268	254	54	93	87	4	NA		360, 20-Initial HCL
	40	.71	1.2	384.53	329	252	261	59	100	90	5			
	60	.71	1.2	396.70	334	254	259	65	110	99	5			
	80	.66	1.1	408.13	331	250	254	60	114	102	5			
	100	.65	1.1	419.63	335	249	250	60	115	104	5			
	120	.71	1.2	431.80	331	251	251	60	113	103	5			
	140	.66	1.1	443.26	332	249	251	60	109	101	5			
	160	.66	1.1	454.63	332	250	253	61	109	101	6			
	180	.66	1.1	466.43	332	250	252	63	108	99	6			
	200	.66	1.1	477.94	334	249	251	63	109	100	6			
	220	.66	1.1	489.39	334	250	253	63	105	99	6			
	240	.60	1.1	500.91	334	251	252	63	108	99	7			
Total	240	9.8635	13.6	140.71	3482				1296	1184				500.84
Average		.6220	1.13		331.6				103.33					10.64

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

Impinger Weights Data Sheet

PROJECT NO: 3648

Page 1 of

Client	Big Rivers
Plant	Hawesville, KY
Location	ESP 1
Date	
Operator	BC

Run No.	1				
Method No.	2C	Tare ID	IB-24	Filter No.	
	Contents	Tare Weight Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	610.0	679.0		
Impinger No. 2	H2SO4	727.0	809.0		
Impinger No. 3	H2SO4	689.0	743.0		
Impinger No. 4	Empty	615.0	637.0		
Impinger No. 5	Silica	873.0	920.0		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	2				
Method No.	2C				
	Contents			Total (g)	Notes
Impinger No. 1	Empty	639.0	683.0		
Impinger No. 2	H2SO4	665.0	745.0		
Impinger No. 3	H2SO4	674.0	743.0		
Impinger No. 4	Empty	665.0	630.0		
Impinger No. 5	Silica	876.0	891.1		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	3				
Method No.	2C	Tare ID	IB-25	Filter No.	
	Contents	Tare Weight Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	615.0	661.0		
Impinger No. 2	H2SO4	731.0	820.0		
Impinger No. 3	H2SO4	694.0	778.0		
Impinger No. 4	Empty	620.0	665.0		
Impinger No. 5	Silica	860.0	919.0		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

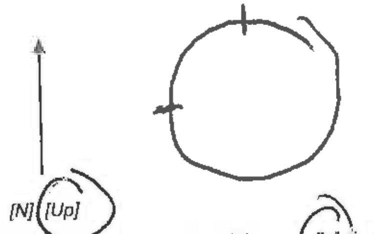
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Metals

RUN NO. 1 METHOD NO. 29 Page 1 of 1

Client	Big Rivers		
Plant	Hawesville, KY		
Location	unit 1 inlet		
Date	7/7/11	Project No.	3648
Meter Operator	WR		
Probe Operator	MH		
Meter ID	M-2	Yd	~~1.005~~ .9904
ΔH@	1.810	Kf	1.24
Pitot Cp	.84	Leak check	✓
Pre Leak Check	.000	[cfm] [lpm] @	15 (inHg)
Post Leak Check	.000	[cfm] [lpm] @	15 (inHg)



[N] [Up]

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.58	Water [ml] [g]	
Ambient Temp (°F)	90	Silica gel (g)	
Static (inH₂O)	-2.0	Total Vlc	
Probe ID	AES-10-5	Liner Type	GPE
Nozzle ID	220	Nozzle Dia (in)	.220
Filter ID			
Train ID	IB14	Train Type	IMP
Duct Dim. (in)		Port Length (in)	18.25
Start Time	8:05	Stop Time	10:06

Traverse Point	Min/Point 10 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [ft³] [l] 753.73	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1	10	.76	.91	759.71	355	~~245~~	250	59	87	82	7			23.5% MC
2	20	.77	.99	765.13	349	256	251	59	93	86	7			
3	30	.76	.97	771.06	346	249	250	60	94	89	7			
4	40	.89	1.1	776.73	353	253	246	60	98	92	7			
5	50	1.0	1.3	783.4	349	249	249	61	101	95	8			
6	60	1.1	1.4	789.81	350	250	250	61	103	99	8			
7	70	1.1	1.9	796.64	347	250	250	62	106	100	9			
8	80	.85	1.1	802.96	345	250	250	62	109	105	9			
9	90	.43	1.1	809.17	342	250	249	63	110	106	9			
10	100	.41	.53	813.63	344	250	265	63	111	108	5			
11	110	.42	.54	818.16	350	250	249	64	111	108	5			
12	120	.45	.58	822.41	347	250	250	64	111	110	6			
Total		10.43	11.98	69.68	4181				1231	1180				
Average		.869	.9983		348.417				100.458					

.9463 .9975 1.0344

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

5.570

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: _____

RUN NO. 2 METHOD NO. 29 Page 1 of 1

Client	Big Rivers					Barometric (inHg)	29.56	Water [ml] [g]	
Plant	Hawesville Ky					Ambient Temp (°F)	90	Silica gel (g)	
Location	Unit 1 inlet					Static (inH_2O)	-2.0	Total Vlc	
Date	7/7/11	Project No.				Probe ID	AES-10-5	Liner Type	TFE
Meter Operator	MR					Nozzle ID	.220	Nozzle Dia (in)	.220
Probe Operator	MH					Filter ID			
Meter ID	M-2	Yd	.9904	Pitot Cp	.84	Train ID	IB7	Train Type	IMP
ΔH@	1.810	Kf	1.650	Leak check	✓	Duct Dim (in)		Port Length (in)	18.25
Pre Leak Check	.000	[cfm] [lpm] @	15	(inHg)		Start Time	11:00	Stop Time	13:02
Post Leak Check	.000	[cfm] [lpm] @	15	(inHg)					

[N] (Up)

First point all the way [in] [out]

Gas flow: [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point 10 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft³] [l]	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
				823.35		250	250							
1	10	.74	.85	829.54	346	252	249	58	102	100	9			Unit 1 MR
2	20	.75	1.2	835.93	349	250	252	59	106	103	9			
3	30	.74	1.2	842.26	350	250	250	59	109	105	9			
4	40	.82	1.3	848.62	348	253	249	60	110	106	10			
5	50	.81	1.3	855.53	349	252	250	60	111	107	10			
6	60	1.0	1.6	862.45	346	250	250	61	111	108	11			
7	70	1.1	1.8	870.36	351	249	251	61	113	109	13			
8	80	.89	1.4	877.40	348	250	250	62	114	110	9			
9	90	.86	1.3	882.34	345	250	250	62	116	111	7			
10	100	.84	1.2	887.39	346	251	250	63	117	113	6			
11	110	.45	.72	891.41	348	250	250	64	118	114	7			
12	120	.41	.65	896.50	350	249	250	65	119	116	7			
Total		10.0364	13.700	73.150	4176				1346	1301				
Avg		.8364	1.142		348				112.17	108.42				

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

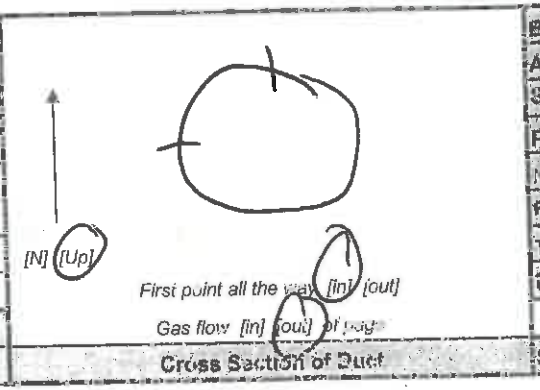
AIRTECH ENVIRONMENTAL SERVICES INC.

General Data Sheet

TESTING TYPE: _____

RUN NO. 3 METHOD NO. 29 Page 1 of 1

Client	Big Rivers					Barometric (inHg)	28.9	Water [ml] [g]	
Plant	Hawesville, Ky					Ambient Temp (°F)	78	Silica gel (g)	
Location	Unit 1 inlet					Static (inH_2O)	-2	Total Vlc	
Date	7/6/11	Project No.				Probe ID	BES-105	Liner Type	TFE
Meter Operator	MF					Nozzle ID	.220	Nozzle Dia (in)	.220
Probe Operator	MH					Filter ID			
Meter ID	M-2	Yd	.9901	Pitot Cp	.84	Train ID	IB14	Train Type	BMP
ΔH@	1.610	Kf	1.5	Leak check	✓	Duct Dim (in)		Port Length (in)	18.25
Pre Leak Check	.000	[cfm] [lpm] @	15	(inHg)					
Post Leak Check	.000	[cmi] [lpm] @	16	(inHg)		Start Time	6:41	Stop Time	8:11



Traverse Point	Min/Point 10 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft^3] [l]	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1	10	.79	1.2	906.43	324	253	248	55	76	76	6			
2	20	.74	1.1	912.52	323	252	246	56	79	77	7			
3	30	.75	1.1	918.63	319	248	252	56	82	78	7			
4	40	.78	1.2	924.47	317	253	250	57	84	76	8			
5	50	.85	1.3	931.04	311	250	250	57	86	79	8			
6	60	1.1	1.7	937.30	310	250	249	58	85	79	11			
7	70	1.1	1.7	944.54	311	249	249	60	84	80	11			
8	80	1.0	1.5	951.69	313	254	251	60	85	80	10			
9	90	.85	1.3	958.76	315	252	250	60	86	80	9			
10	100	.46	.70	963.42	314	250	249	61	86	81	6			
11	110	.44	.66	970.01	317	249	250	62	87	81	6			
12	120	.44	.66	975.86	313	249	247	62	87	81	6			
Total		10.46	14.12	75.56	3787				1021	950				
Average		.871	1.177		316.41				85.08					

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

Impinger Weights Data Sheet

5:SCRUBBER

PROJECT NO. 3648

Page ___ of ___

Client	BIG RIVERS
Plant	HAWESVILLE, KY
Location	ESP 1
Date	Unit
Operator	BC

Run No.	1				
Method No.	29	Train ID	IB-25	Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	EMPTY	645.0	687.0	.50	
Impinger No. 2	5%10%	735.0	773.0		
Impinger No. 3	5%10%	677.0	699.0		
Impinger No. 4	EMPTY	585.0	592.0		
Impinger No. 5	SILICA	880.0	896.0		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	2				
Method No.	29	Train ID	5B-2	Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	EMPTY	621.0	723.0	.50	
Impinger No. 2	5%10%	610.0	665.0		
Impinger No. 3	5%10%	693.0	716.0		
Impinger No. 4	EMPTY	628.0	639.0		
Impinger No. 5	SILICA	945.0	965.0		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	3				
Method No.	29	Train ID	IB-14	Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	EMPTY	650.0	793.0	.50	
Impinger No. 2	5%10%	740.0	783.6		
Impinger No. 3	5%10%	692.6	710.0		
Impinger No. 4	EMPTY	588.0	593.0		
Impinger No. 5	SILICA	896.0	917.0		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

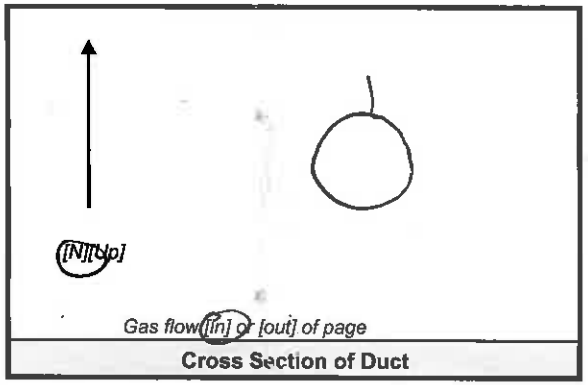
AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 1

Page	1	of	1

Client	Big Rivers
Plant	Hawesville, KY
Location	ESP-1
Date	7-12-11
Project No.	3642
Meter Reader	MH



Cross Section of Duct

Barometric (in. Hg)	29.9
Static (inH_2O)	-2
Ambient Temp. (^{0}F)	95
Start Time	16:00
Stop Time	17:30

DB30B-0711-2019

Sample Train A Unspiked Trap

Trap ID	94468	Meter ID	[illegible]	Yd	1.0077
Pre Leak Check	0.00	lpm @	10	(in. Hg)	
Post Leak Check	0.00	lpm @	8	(in. Hg)	

DB30B-0711-2019

Sample Train B Spiked Trap

Trap ID	94421	Meter ID	[illegible]	Yd	.9985
Pre Leak Check	0.00	lpm @	10	(in. Hg)	
Post Leak Check	0.00	lpm @	10	(in. Hg)	

Min/Point 7.5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.00	Stack Temp (^{0}F)	DGM Temp (^{0}F)	Pump Vaccum (in Hg)	Notes
7.5	.3	2.44		91	1	
15	.3	5.96		95	3	
22.5	.3	7.74		99	3	
30	.3	10.38		99	3	
37.5	.3	12.60		101	3	
45	.3	15.94		101	4	
52.5	.3	18.12		102	4	
60	.3	20.75		102	4	
67.5	.3	24.71		103	4	
75	.3	26.17		105	4	
82.5	.3	29.87		106	4	
90	.3	31.50		107	4	
Total		31.50				
Average						

Min/Point 7.5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.00	Stack Temp (^{0}F)	DGM Temp (^{0}F)	Pump Vaccum (in Hg)	Notes
7.5	.3	2.91		94	1	
15	.3	4.82		96	1	
22.5	.3	7.25		99	1	
30	.3	9.63		99	1	
37.5	.3	12.56		101	1	
45	.3	15.03		103	1	
52.5	.3	17.43		103	1	
60	.3	27.71		104	1	
67.5	.3	7330		105	1	
75	.3	25.49		105	1	
82.5	.3	28.42		107	1	
90	.3	32.59		107	1	
Total		32.59				
Average						

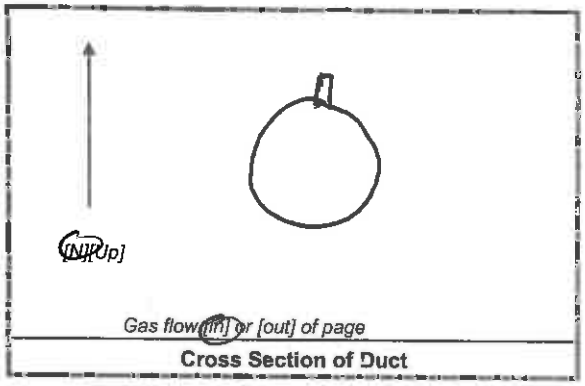
AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 2

Page	1	of	1

Client	Big Rivers
Plant	Hawesville, Ky
Location	ESP-1
Date	7-13-11
Project No.	3642
Meter Reader	MH



Barometric (in. Hg)	29.65
Static (inH_2O)	-2.0
Ambient Temp. (°F)	90
Start Time	6:47
Stop Time	8:17

Sample Train A DB30B-0711-2019

Trap ID	94194	Meter ID	R-20078	Yd	1.0072
Pre Leak Check	0.00	lpm @	15	(in. Hg)	
Post Leak Check	0.00	lpm @	15	(in. Hg)	

Min/Point 7.5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.00	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes
7.5	.3	2.67	310	84	4	
15	.3	5.19	315	86	4	
22.5	.3	7.68	309	90	4	
30	.3	10.35	309	95	4	
37.5	.3	13.05	310	95	4	
45	.3	15.41	307	99	4	
52.5	.3	17.97	308	101	4	
60	.3	20.52	310	106	4	
67.5	.3	~~26.11~~	307	110	4	22.45
75	.3	26.34	305	111	4	
82.5	.3	27.91	309	112	4	
90	.3	30.12	309	113	4	
Total		30.12	309	1202		
Average				100.16		

Sample Train B Spiked DB30B-0711-2019

Trap ID	94388	Meter ID	R-20078	Yd	.9945
Pre Leak Check	0.00	lpm @	10	(in. Hg)	
Post Leak Check	0.00	lpm @	10	(in. Hg)	

Min/Point 7.5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.00	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes
7.5	.3	2.51	310	84	1	
15	.3	5.47	315	86	1	
22.5	.3	7.77	309	91	1	
30	.3	10.26	309	97	1	
37.5	.3	12.46	310	99	1	
45	.3	14.95	307	100	1	
52.5	.3	17.91	308	103	1	
60	.3	20.40	310	109	1	
67.5	.3	22.80	307	111	1	
75	.3	23.43	305	112	1	
82.5	.3	27.49	309	113	1	
90	.3	31.12	309	115	1	
Total		31.12	309	1270		
Average				101.66		

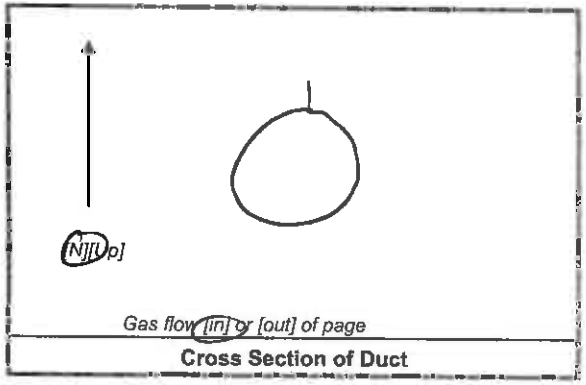
AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 3

Page	1	of	1

Client	Big Rivers
Plant	Hawesville, KY
Location	ESP-1
Date	7-13-11
Project No.	3C442
Meter Reader	MH



Barometric (in. Hg)	29.65
Static (inH_2O)	-2.0
Ambient Temp. (°F)	90
Start Time	850
Stop Time	10:20

Sample Train A DB30B-0711-2019

Trap ID	94345	Meter ID	K-20098	Yd	1.0072
Pre Leak Check	0.00	lpm @	15	(in. Hg)	
Post Leak Check	0.00	lpm @	10	(in. Hg)	

Min/Point 7.5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.00	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes
7.5	.3	2.41	306	101	4	
15	.3	4.95	307	105	4	
22.5	.3	7.65	306	110	4	
30	.3	9.71	309	113	4	
37.5	.3	12.12	309	115	4	
45	.3	15.10	307	119	4	
52.5	.3	17.69	306	120	4	
60	.3	20.00	309	120	4	
67.5	.3	22.94	310	123	4	
75	.3	24.74	311	124	4	
82.5	.3	27.31	309	125	4	
90	.3	30.99	309	127	4	
Total		30.99				
Average						

Sample Train B Spiked DB30B-0711-2019

Trap ID	94232	Meter ID	K-20098	Yd	.9985
Pre Leak Check	0.00	lpm @	17	(in. Hg)	
Post Leak Check	0.00	lpm @	9	(in. Hg)	

Min/Point 7.5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.00	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes
7.5	.3	2.64	306	101	1	
15	.3	5.21	307	101	1	
22.5	.3	7.76	306	109	1	
30	.3	10.28	309	115	1	
37.5	.3	12.83	309	117	1	
45	.3	15.01	307	120	1	
52.5	.3	17.84	306	122	1	
60	.3	20.39	309	124	1	
67.5	.3	23.33	310	125	1	
75	.3	25.50	311	127	1	
82.5	3	28.14	309	128	1	
90	.3	31.07	309	[illegible]	1	
Total		31.07				
Average						

AIRTECH ENVIRONMENTAL SERVICES INC.

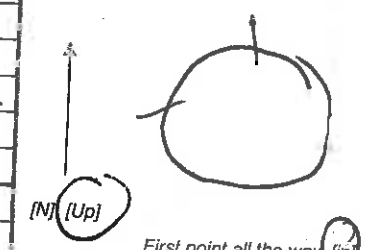
General Testing Data Sheet

TESTING TYPE: _____

RUN NO. 1 METHOD NO. 4

Page 1 of 1

Client	Big Rivers						
Plant	Hawesville, KY						
Location	Unit 1 ESP						
Date	7/12/11	Project No.	3C42				
Meter Operator	DR						
Probe Operator	MH						
Meter ID	M-15	Yd	1.0167	Pitot Cp	.84		
ΔH@	1.443	Kf		Leak check	✓		
Pre Leak Check	.000	[cfm] [lpm] @	15	(inHg)			
Post Leak Check	.000	[cfm] [lpm] @	15	(inHg)			



Barometric (inHg)	29.90	Water [ml] [g]	85
Ambient Temp (°F)	76	Silica gel (g)	5
Static (inH_2O)	-2.0	Total Vlc	
Probe ID		Liner Type	
Nozzle ID	—	Nozzle Dia (in)	—
Filter ID	—		
Train ID	KO	Train Type	KO
Duct Dim. (in)		Port Length (in)	14.75
Start Time	16:00	Stop Time	17:30

Traverse Point	Min/Point 7.5 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft^3] [l]	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
				619.43										
1	7.5	.75	1.5	624.35	324			56	77	77	2			
2	15	.73		629.27	326			56	77	77	2			
3	22.5	.69		634.12	322			57	78	77	2			
4	30	1.1		639.01	323			58	78	77	2			
5	37.5	1.1		643.89	324			58	79	77	2			
6	45	1.0		648.78	324			58	80	78	2			
7	52.5	.92		653.67	319			59	80	78	2			
8	60	.87		658.49	322			59	81	78	2			
9	67.5	.73		663.44	320			60	81	78	2			
10	75	.58		668.29	315			60	81	78	2			
11	82.5	.45		673.16	306			60	81	79	2			
12	90	.43		678.07	310			60	81	79	2			
Total		10.616	18	58.64	3828				954	933				
Average		.8855	1.5		319				79.625					

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

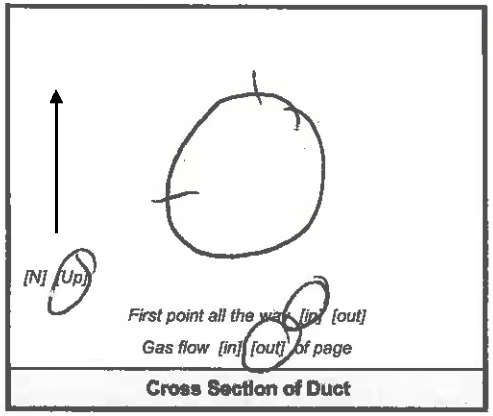
AIRTECH ENVIRONMENTAL SERVICES INC.

Velocity and Moisture Data Sheet

RUN NO. 2

Page 1 of 1

Client	Big Rivers		
Plant	Hawesville, Ky		
Location	Unit 1 ESP		
Date	7/13/11	Project No.	3648
Meter Operator	NR		
Probe Operator	MH		



Cross Section of Duct

Method 4

Meter ID	M-15	Yd	1.059	Pitot Cp	.84
Pre-Test Leak Check	.000	CFM @	15	(In. Hg)	
Post-Test Leak Check	.000	CFM @	15	(In. Hg)	
Start Time	6:47	Stop Time	7:17	Water [ml]	20
Silica gel (g)	6				

Min/Point 7.5	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [I] 678.46	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (In Hg)	Notes
Elapsed Time							
7.5	1.5	683.32	55	84	84	2	
15		688.39	55	84	84	2	
22.5		693.03	55	45	84	2	
30		697.63	56	45	85	2	
37.5		702.78	56	86	85	2	
45		708.51	57	86	85	2	
52.5		712.51	58	86	85	2	
60		717.30	58	87	85	2	
67.5		722.13	56	87	86	2	
75		727.43	59	88	86	2	
82.5		731.74	60	86	86	2	
90		736.83	60	48	86	2	
Total	18	58.37		1034	1021		
Average	1.5			85.625			

Method 2

Barometric (inHg)	29.65	Probe ID	EE
Ambient Temp (°F)	83	Duct Dim. (in)	6
Static (inH_2O)	-2.0	Port Lgth (in.)	18.25

Run Number	1
Start Time	
Stop Time	
Pre Leak Check	✓
Post Leak Check	✓

Points	Pressure ΔP ($in H_2O$)	Stack Temp (°F)
1	.77	326
2	.74	322
3	.68	324
4	1.1	318
5	1.1	320
6	1.0	321
7	.94	323
8	.83	322
9	.70	319
10	.59	315
11	.56	309
12	.55	301
Total	10.637	3820
Average	.8863	318.333

Run Number	
Start Time	
Stop Time	
Pre Leak Check	
Post Leak Check	

Points	Pressure ΔP ($in H_2O$)	Stack Temp (°F)
Total		
Average		

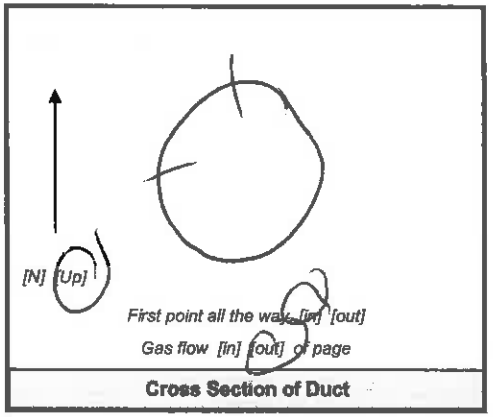
AIRTECH ENVIRONMENTAL SERVICES INC.

Velocity and Moisture Data Sheet

RUN NO. 3

Page	1	of	1

Client	Big Rivers		
Plant	Hawesville, Ky		
Location	Unit 1 ESP		
Date	7/13/11	Project No.	3C48
Meter Operator	NK		
Probe Operator	MH		



Cross Section of Duct

Method 2

Barometric (inHg)	29.65	Probe ID	30
Ambient Temp (°F)	86	Duct Dim. (in)	5
Static (inH_2O)	-2.0	Port Lgth (in.)	16.75

Method 4

Meter ID	M15	Yd	1.0159	Pitot Cp	.84
Pre-Test Leak Check		.000	CFM @	15	(In. Hg)
Post-Test Leak Check		.000	CFM @	15	(In. Hg)
Start Time	8:30	Stop Time	10:20		

Water [ml]	30	Silica gel (g)	5

Min/Point 7.5 Elapsed Time	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [I] 737.14	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)	Notes
7.5	1.5	742.21	54	88	86	2	
15		746.81	58	88	86	2	
22.5		751.83	60	89	86	2	
30		756.64	60	96	86	2	
37.5		761.84	60	90	88	2	
45		766.22	61	90	87	2	
52.5		771.63	61	91	87	2	
60		776.08	62	91	87	2	
67.5		781.53	63	91	87	2	
75		786.36	65	91	87	2	
82.5	↓	791.14	65	92	88	2	
90		795.93	66	92	88	2	
Total	18	58.79		1087	1042		
Average	1.5			88.500			

Run Number	1
Start Time	
Stop Time	
Pre Leak Check	✓
Post Leak Check	✓

Points	Pressure ΔP ($In H_2O$)	Stack Temp (°F)
1	.76	324
2	.72	321
3	.69	320
4	1.1	322
5	1.1	323
6	.99	326
7	.90	320
8	.86	323
9	.75	319
10	.59	311
11	.56	306
12	.54	300
Total	10.6369	3809
Average	.8864	317.417

Run Number	
Start Time	
Stop Time	
Pre Leak Check	
Post Leak Check	

Points	Pressure ΔP ($In H_2O$)	Stack Temp (°F)
Total		
Average		

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: PARTICULATE

RUN NO. 1 **METHOD NO.** 5B/202 Page 1 of 1

Client	BIG RIVERS					Barometric (inHg)	28.90	Water [ml] [g]	
Plant	HAWESVILLE, KY - COLEMAN					Ambient Temp (°F)	80	Silica gel (g)	
Location	ESP EXHAUST #2					Static (inH_2O)	-.18	Total Vlc	
Date	7-8-11	Project No.	3648			Probe ID	AE 5-10-4	Liner Type	
Meter Operator	TG					Nozzle ID	.220	Nozzle Dia (in)	.220
Probe Operator	BRK					Filter ID	12390		
Meter ID	M-9	Yd	.9891	Pitot Cp	.84	Train ID	IB-3	Train Type	Imp
ΔH@	1.856	Kf	1.560	Leak check	✓	Duct Dim (in)	132	Port Lngth (in)	19
Pre Leak Check	.000	[cfm] [lpm] @		18	(inHg)				
Post Leak Check	.000	[cfm] [lpm] @		20	(inHg)	Start Time	10:08	Stop Time	11:49

[N] [Up]

1

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point 7:30 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft³] [l] 346.00	Stack Temp (°F)	Probe Temp (°F) 320	Filter Temp (°F) 320	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Aux Temp (°F)	CFM FILTER	Notes
1-1	7.5	.78	1.21	350.68	297	321	320	55	76	76	7	72		346.00 INITIAL
2	15	.76	1.18	354.95	293	321	320	56	76	75	7	70		
3	22.5	.80	1.25	359.48	297	319	323	56	77	75	7	72		
4	30	.82	1.28	364.14	296	320	319	56	78	74	7	74		
5	37.5	.80	1.25	368.73	296	321	320	57	77	73	7	75		
6	45	.80	1.25	373.33	297	321	319	57	79	74	7	74		
7	52.5	.81	1.26	377.90	295	319	320	57	80	75	7	76		
8	60	.83	1.29	382.60	297	321	320	57	81	76	7	78		
9	67.5	.80	1.25	387.22	297	322	320	58	81	76	7	77		
10	75	.77	1.20	391.75	298	320	321	58	84	78	7	76		298
11	82.5	.76	1.18	396.22	297	320	320	59	85	80	7	76		
12	90	.72	1.12	400.61	297	319	320	60	87	82	7	77		
Total	90				3557				961	914				
Average					296.4166				78.125					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

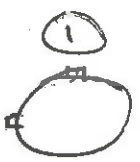
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: PARTICULATE

RUN NO. 2 **METHOD NO.** 5B/202 Page 1 of 1

Client	3M RIVERS						
Plant	HAWESVILLE, KY - COLEMAN						
Location	ESP OUT #2						
Date	7-12-11	Project No.	5648				
Meter Operator	TL						
Probe Operator	SH						
Meter ID	M-14	Yd	1.0067	Pitot Cp	.84		
ΔH@	1.802	Kf	1.67	Leak check	✓		
Pre Leak Check	.000	[cfm] [lpm] @	20	(inHg)			
Post Leak Check	.000	[cfm] [lpm] @	10	(inHg)			



First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.90	Water [ml] [g]	
Ambient Temp (°F)	100	Silica gel (g)	
Static (inH_2O)	-.8	Total Vlc	
Probe ID	S-10-4	Liner Type	TFE
Nozzle ID	.220	Nozzle Dia (in)	.220
Filter ID	12134	—	—
Train ID	IB-23	Train Type	Imp.
Duct Dim. (in)	132	Port Lngth (in)	.9
Start Time	950	Stop Time	1120

Traverse Point	Min/Point 7:30 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft³] [l]	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
				751.30		325	320							
1-1	7.5	.72	1.20	755.83	316	321	322	56	103	105	5	66		
2	15	.75	1.25	760.53	316	321	320	56	101	100	5	67		
3	22.5	.75	1.25	765.97	316	322	323	54	104	104	5	67		
4	30	.82	1.37	769.85	316	320	322	54	103	104	5	69		
5	37.5	.86	1.44	774.70	318	320	320	55	105	104	5	72		
6	45	.84	1.40	779.61	320	321	324	56	107	106	5	74		
7	52.5	.85	1.42	784.52	321	320	322	57	107	105	5	74		
8	60	.88	1.47	789.55	321	319	320	57	107	105	5	75		
9	67.5	.86	1.47	794.57	319	320	322	58	106	105	5	75		
10	75	.85	1.42	799.53	319	321	321	59	105	105	5	76		
11	82.5	.75	1.25	804.14	320	320	319	60	105	105	5	76		
12	90	.71	1.19	808.72	317	320	323	62	104	104	5	78		
Total	90	10.7587	16.1300	57.42	3819				1257	1258				
Average		.89666	1.3442		318.25				104.7917					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

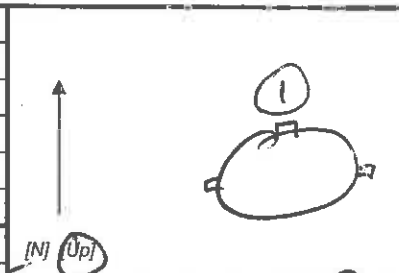
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: PARTICULATE

RUN NO. 3 METHOD NO. 5B/202 Page 1 of 1

Client	BIG RIVERS						
Plant	HAWESVILLE, KY - COLEMAN						
Location	ESP OUT #2						
Date	7-12-11	Project No	3048				
Meter Operator	TG						
Probe Operator	SH						
Meter ID	M-4	Yd	1.0087	Pitot Cp	.84		
ΔH@	1.802	Kf	1.63	Leak check	✓		
Pre Leak Check	.000	[cfm] [lpm] @	18	(inHg)			
Post Leak Check	.000	[cfm] [lpm] @	15	(inHg)			



Barometric (inHg)	29.90	Water [ml] [g]	
Ambient Temp (°F)	100	Silica gel (g)	
Static (inH_2O)	-.8	Total Vlc	
Probe ID	S-10-4	Liner Type	TFE
Nozzle ID	.220	Nozzle Dia (in)	.220
Filter ID	12135	—	—
Train ID	IB-	Train Type	Imp
Duct Dim. (in)	132	Port Lngth (in)	19
Start Time	12:30	Stop Time	14:00

Traverse Point	Min/Point 7:30 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft³] [l]	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
				809.20		320	320							
1-1	7.5	.74	1.21	813.66	320	320	324	100	104	105	5	80		
2	15	.75	1.22	818.32	318	321	322	60	102	103	5	78		
3	22.5	.78	1.27	822.97	318	320	322	58	102	101	5	76		
4	30	.85	1.39	827.85	317	321	322	57	103	103	5	76		IN 103 / OUT 101 TG
5	37.5	.86	1.40	832.60	317	320	321	57	102	101	5	77		
6	45	.85	1.39	837.55	317	319	322	57	102	100	5	76		
7	52.5	.88	1.43	842.70	317	319	321	56	102	99	5	77		
8	60	.86	1.39	847.65	317	320	321	56	102	99	5	78		
9	67.5	.86	1.39	852.60	317	320	321	57	103	99	5	78		
10	75	.83	1.35	857.82	318	321	321	57	103	99	5	79		
11	82.5	.75	1.22	861.85	318	320	322	58	103	100	5	79		
12	90	.72	1.17	866.33	316	321	322	58	102	99	5	79		866.33
Total	90	10.7991	15.83	57.13	3210				1230	1206				
Average		.8999	1.3192		317.5				101.50					

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

Impinger Weights Data Sheet

PROJECT NO. 3448

Page 1 of 2

Client	Big Rivers Energy - coleman Station
Plant	Hawesville, KY
Location	ESP Exhaust
Date	7-8-11 Unit 2
Operator	AL

Run No. 1
Method No. SB/202
Train ID
Filter No.

	Contents	Pre-test Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	528.6	654.3 -50		
Impinger No. 2	100 ml DI	613.1	614.7		
Impinger No. 3	Empty	513.0	528.1		
Impinger No. 4	Silica	873.2	897.6		
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No. 1 ML
Method No. SB/202
Train ID
Filter No.

	Contents	Pre-test Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	539.6	-50		
Impinger No. 2	100 ml DI	648.4	VOID		
Impinger No. 3	Empty	575.1			
Impinger No. 4	Silica	892.5			
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No. 2
Method No. SB/202
Train ID
Filter No.

	Contents	Pre-test Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	458.7	606.1 - 50		
Impinger No. 2	100 ml DI	585.5	577.7		
Impinger No. 3	Empty	624.7	634.6		
Impinger No. 4	Silica	940.4	962.8		
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

AIRTECH ENVIRONMENTAL SERVICES INC.

Impinger Weights Data Sheet

PROJECT NO. 3648

Client	Big Rivers Energy - Coleman Station
Plant	Hawesville, KY
Location	ESP Exhaust
Date	7-12-11 Unit 2
Operator	MM

Run No.	3				
Method No.	SB/202	Train ID		Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	468.1	623.6		
Impinger No. 2	100 ml DI	745.2	740.1		
Impinger No. 3	Empty	612.7	615.6		
Impinger No. 4	Silica	925.7	944.1		
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.					
Method No.		Train ID		Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1					
Impinger No. 2					
Impinger No. 3					
Impinger No. 4					
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.					
Method No.		Train ID		Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1					
Impinger No. 2					
Impinger No. 3					
Impinger No. 4					
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

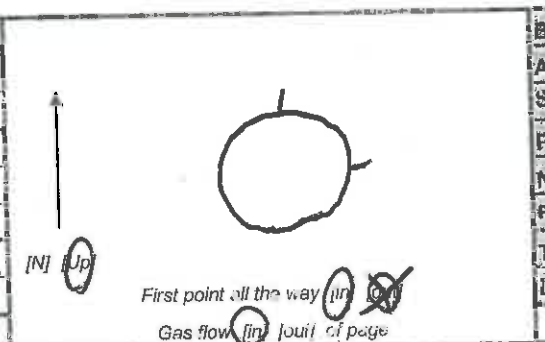
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: HCl

RUN NO. 1 METHOD NO. 26

Client	Big Rivers - Coleman				
Plant	Hawesville KY				
Location	ESP Outlet #2				
Date	7-7-11	Project No.	3548		
Meter Operator	BK				
Probe Operator	TG				
Meter ID	M-14	Yd	1.0087	Pitot Cp	.84
ΔH@	1.802	Kf	1.60	Leak check	✓
Pre Leak Check	.000	[cfm] [lpm] @	15	(inHg)	
Post Leak Check	.000	[cfm] [lpm] @	10	(inHg)	



Cross Section of Duct

Barometric (inHg)	29.68	Water [ml] [g]	
Ambient Temp (°F)	90	Silica gel (g)	
Static (inH_2O)	-.8	Total Vic	
Probe ID	AE-SS-1	Liner Type	glass
Nozzle ID	.22	Nozzle Dia (in)	.22
Filter ID			
Train ID	TB16	Train Type	IMP
Duct Dim. (in)	132	Port Length (in)	22
Start Time	8:05	Stop Time	12:05

Traverse Point	Min/Point 20 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft³] [l] 289.46	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
N/A	20	.40	1.4	301.84	304	249	253	51	96	94	4	N/A		
	40	.43	1.4	314.12	307	249	250	50	101	96	4			
	60	.91	1.4	326.40	309	250	250	50	105	99	4			
	80	.92	1.4	338.73	310	251	251	52	108	103	4			
	100	.90	1.4	351.15	310	250	250	52	111	104	4			
	120	.91	1.4	364.27	309	250	249	54	113	107	4			
	140	.92	1.4	377.39	309	250	248	53	110	106	4			
	160	.91	1.4	390.42	311	255	250	51	107	103	5			
	180	.90	1.4	403.34	311	248	249	54	105	102	5			
	200	.90	1.4	416.46	310	250	249	56	105	100	5			
	220	.91	1.4	429.15	312	248	250	55	107	102	5			
↓	240	.72	1.4	442.11	312	249	249	57	110	103	5	↓		
Total		11.45	16.8	(152.65)	3714				1279	1231				
Average		(.9544)	(1.4)		(309.5)				(106.17)					

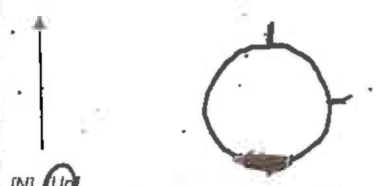
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: HCL

RUN NO. 2 | METHOD NO. 26 | Page 1 of 1

Client	Big Rivers - Coleman				
Plant	Hawesville, KY				
Location	ESP Outlet #2				
Date	7-8-11	Project No.	3548		
Meter Operator	BK				
Probe Operator	TG				
Meter ID	M-14	Yd	1.0087	Pitot Cp	.84
ΔH@	1.802	Kf	1.8	Leak check	✓
Pre Leak Check	.000	[cfm] [lpm] @	15	(inHg)	
Post Leak Check		[cfm] [lpm] @		(inHg)	



[N] (Up)

First point all the way (in) [out]

Gas flow (in) [out] of page

Cross Section of Duct

Barometric (in Hg)	28.96	Water [ml] [g]	
Ambient Temp (°F)	80	Silica gel (g)	
Static (inH₂O)	-.8	Total Vlc	
Probe ID	AE-5-6-1	Liner Type	glass
Nozzle ID	.22	Nozzle Dia (in)	.22
Filter ID	N/A	——	——
Train ID	IB16	Train Type	glass
Duct Dim. (in)	132	Port Length (in)	22
Start Time	6:41	Stop Time	10:41

Traverse Point	Min/Point 20 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [f³] [l] 442.35	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)	Notes
N/A	20	.90	1.4	455.37	293	251	250	61	79	77	5	N/A	
	40	.92	1.4	468.15	295	249	248	59	88	78	5		
	60	.91	1.4	480.89	297	251	246	57	87	80	5		
	80	.90	1.4	493.70	296	251	250	55	87	80	5		
	100	.90	1.4	506.43	295	250	248	53	86	79	5		
	120	.91	1.4	519.16	295	251	247	50	88	78	5		
	140	.92	1.4	531.86	296	250	251	57	90	81	5		
	160	.91	1.4	543.84	296	250	251	58	93	82	5		
	180	.91	1.4	556.99	295	250	252	57	95	85	5		
	200	.90	1.4	569.77	297	250	248	57	93	85	5		
	220	.92	1.4	582.40	295	251	250	60	92	83	5		
	240	.90	1.4	595.39	296	250	250	61	92	83	5		
Total			16.8	153.04	3546				1,070	971			
Average			1.4		295.5				85.04				

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: HCL

RUN NO. 3 **METHOD NO.** 26 Page 1 of 1

Client	Big Rivers - Coleman			Barometric (inHg)	28.90	Water [ml] [g]	
Plant	Hawesville, KY			Ambient Temp (°F)	80	Silica gel (g)	
Location	ESP outlet #2			Static (inH_2O)	-.8	Total Vlc	
Date	7-8-11	Project No.	3648	Probe ID	AE-S-6-1	Liner Type	Eglass
Meter Operator	BK			Nozzle ID	.22	Nozzle Dia (in)	.22
Probe Operator	TG			Filter ID	N/A		
Meter ID	M-14	Yd	1.0087	Pitot Cp	.84	Train ID	IB16
ΔH@	1.902	Kf	1.6	Leak check	✓	Train Type	Imp
Pre Leak Check	.000	[cfm] [lpm] @	15	(inHg)		Duct Dim. (in)	132
Post Leak Check	.000	[cfm] [lpm] @	10	(inHg)		Port Lngth (in)	22
Cross Section of Duct						Start Time	13:48
						Stop Time	17:48

Traverse Point	Min/Point 20 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft³] [l]	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
				595.05		250	250							
N/A	20	.90	1.4	605.67	300	249	248	50	93	93	8	N/A		
	40	.91	1.4	621.91	301	250	250	50	98	94	8			
	60	.91	1.4	633.43	305	249	250	51	104	96	8			
	80	.92	1.4	646.38	307	251	249	55	109	101	8			
	100	.90	1.4	659.41	303	248	250	58	112	107	9			
	120	.90	1.4	672.41	304	250	250	63	111	104	9			
	140	.92	1.4	685.35	218	249	247	59	107	102	9			
	160	.91	1.4	698.49	307	251	251	57	106	100	9			
	180	.90	1.4	711.64	305	250	249	58	116	102	9			
	200	.92	1.4	724.85	305	251	249	59	113	105	9			
	220	.90	1.4	737.96	306	250	251	61	110	104	9			
	240	.90	1.4	750.92	307	250	250	62	109	104	9			
Total														
Average														

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.
Impinger Weights Data Sheet

Page 1 of 1

PROJECT NO. 3648

Client	Big Rivers Energy - Coleman Station
Plant	Hawesville, KY
Location	ESP Exhaust
Date	2-6-11 Unit 2
Operator	MW

Run No.	1				
Method No.	26	Train ID	1B-16	Filter No.	NA
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	606.1	871.0		
Impinger No. 2	100 ml	729.7	744.8		
Impinger No. 3	100 ml	681.1	640.9		
Impinger No. 4	Empty	624.0	638.4		
Impinger No. 5	Silica	853.4	873.2		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	2				
Method No.	26	Train ID	1B-16	Filter No.	NA
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	567.8	760.1		
Impinger No. 2	100 ml	734.9	838.7		
Impinger No. 3	100 ml	637.7	597.2		
Impinger No. 4	Empty	575.6	581.4		
Impinger No. 5	Silica	873.2	897.3		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	3				
Method No.	26	Train ID	1B-16	Filter No.	NA
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	638.2	729.9		
Impinger No. 2	100 ml	704.3	807.9		
Impinger No. 3	100 ml	568.4	623.1		
Impinger No. 4	Empty	624.5	643.0		
Impinger No. 5	Silica	864.0	914.1		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: METALS

RUN NO. 1 **METHOD NO.** 29 Page 1 of 1

Client	Big Rivers - Coleman					Barometric (inHg)	29.58	Water (ml): [g]	
Plant	Hawesville, KY					Ambient Temp (°F)	80	Silica gel (g)	
Location	ESP ~~Outlet~~ #2 Exhaust					Static (inH2O)	-.8	Total Vlc	
Date	7-7-11	Project No.	36048			Probe ID	AE 5-10-4	Liner Type	TFE
Meter Operator	TG					Nozzle ID	.230	Nozzle Dia (in)	.230
Probe Operator	BZK					Filter ID			
Meter ID	M-9	Yd	~~.9891~~	Pitot Cp	.84	Train ID	IB-9	Train Type	Imp
ΔH@	1.856	Kf	1.95	Leak check	✓	Duct Dim (in)	132	Port Length (in)	19
Pre Leak Check	.000	[cfm] [lpm] @		20	(inHg)				
Post Leak Check	.000	[cfm] [lpm] @		20	(inHg)	Start Time	805	Stop Time	1005

[N] [Up]

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point 10:00 Elapsed Time	Velocity Pressure ΔP (inH2O)	Orifice Setting ΔH (inH2O)	Gas Sample Volume Initial [ft³] [l] 95.75	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1-1	10	.73	1.42	102.32	325	248	252	51	94	93	4	NA		
2	20	.76	1.48	109.02	325	250	250	52	96	93	5			.76 / 1.48 TG
3	30	.80	1.56	116.01	325	251	252	54	100	95	5			
4	40	.85	1.65	122.94	323	249	250	55	102	96	5			
5	50	.81	1.58	129.85	322	249	250	56	103	97	5			
6	60	.80	1.56	136.74	323	249	252	56	104	98	5			
7	70	.80	1.56	143.63	324	250	249	56	103	99	5			
8	80	.82	1.60	150.63	324	250	251	55	103	99	5			150.63 TG
9	90	.78	1.52	157.45	324	250	251	54	104	99	5			
10	100	.76	1.48	164.19	323	248	250	54	104	100	5			164.19 TG
11	110	.75	1.46	170.88	324	248	250	54	105	100	5			
12	120	.72	1.40	177.44	325	249	252	56	105	100	5			.72 ΔP TG
Total	120	10.1005	18.27	81.69	3887.0				1223	1169				
Average		.8829	1.5225		323.9167				99.1666					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

97.9%

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: METALS

RUN NO. 2 METHOD NO. 29 Page 1 of 1

Client	Big Rivers - Coleman			Barometric (inHg)	29.58	Water (ml) [g]	
Plant	Hawesville, KY			Ambient Temp (°F)	80	Silica gel (g)	
Location	ESP Exhaust #2			Static (inH_2O)	-.8	Total Vlc	
Date	7-7-11	Project No	3648	Probe ID	AE S-10-4	Liner Type	TFE
Meter Operator	TG			Nozzle ID	.230	Nozzle Dia (in)	.230
Probe Operator	BrK			Filter ID			
Meter ID	M-9	Yd	.9891	Pitot Cp	.84	Train ID	IR-4
ΔH@	1.856	Kf	1.960	Leak check	✓	Train Type	Imp
Pre Leak Check	.000	[cfm] [lpm] @	22	(inHg)		Duct Dim (in)	132"
Post Leak Check	.000	[cfm] [lpm] @	20	(inHg)		Port Length (in)	19"
						Start Time	1100
						Stop Time	1300

[N] [Up]

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point 10:00 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft³] [l]	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
				178.15		250	250							
1-1	10	.75	1.47	184.77	327	250	249	51	94	94	5	NA		
2	20	.75	1.47	191.31	329	250	250	51	95	94	5			
3	30	.81	1.62	198.35	330	251	250	52	98	95	5			CHANGED K FACTOR TO 2.0
4	40	.78	1.56	205.24	327	251	251	53	103	98	6			
5	50	.81	1.62	212.22	327	250	250	54	104	99	6			
6	60	.82	1.64	219.26	327	250	252	54	104	99	6			
7	70	.80	1.60	226.23	327	251	250	55	105	100	6			
8	80	.80	1.60	233.20	326	249	250	56	105	100	6			
9	90	.79	1.58	240.18	326	251	250	56	105	101	6			
10	100	.76	1.52	247.03	326	251	252	57	105	101	6			
11	110	.76	1.52	253.85	326	250	251	57	106	101	6			
12	120	.74	1.48	260.50	326	248	252	59	105	101	10	X		
Total	120	10.0022	18.0800	82.35	3924				1229	1185				
Average		.8335	1.55667		327.00				100.50					

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

97.7%

AIRTECH ENVIRONMENTAL SERVICES INC.

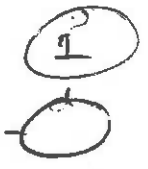
General Testing Data Sheet

TESTING TYPE: METALS

RUN NO. 3 METHOD NO. 29 Page 1 of 1

Client	BIG RIVERS - COLEMAN					Barometric (inHg)	29.58	Water [ml] [g]	28.90 (TG)
Plant	HAWESVILLE, KY					Ambient Temp (°F)	80	Silica gel (g)	
Location	ESP EXHAUST #2					Static (inH2O)	-.8	Total Vlc	
Date	7-8-11	Project No.	38048			Probe ID	AE S-10-4	Liner Type	TFE
Meter Operator	TG					Nozzle ID	.230	Nozzle Dia (in)	.230
Probe Operator	BRK					Filter ID			
Meter ID	M-9	Yd	.9891	Pitot Cp	.84	Train ID	IR-9	Train Type	Imp
ΔH@	1.856	Kf	2.00	Leak check	✓	Duct Dim. (in)	132"	Port Lngth (in)	19"
Pre Leak Check	.000	[cfm] [lpm] @	21	(inHg)					
Post Leak Check	.000	[cfm] [lpm] @	18	(inHg)		Start Time	0641	Stop Time	0845

[N] [Up]



First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point 10:00 Elapsed Time	Velocity Pressure ΔP (inH2O)	Orifice Setting ΔH (inH2O)	Gas Sample Volume Initial [f] [l]	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
				261.15		250	250							
1-1	10	.76	1.52	268.11	296	252	249	50	77	76	5	NA		
2	20	.78	1.56	274.98	296	252	250	50	80	76	5			
3	30	.80	1.60	281.93	297	249	250	51	83	77	5			
4	40	.84	1.68	289.06	295	249	254	52	82	77	5			
5	50	.80	1.60	296.05	286	250	251	52	85	80	5			
6	60	.80	1.60	303.02	290	250	252	52	87	83	5			290°F
7	70	.80	1.60	309.95	298	251	252	52	86	83	5			
8	80	.82	1.64	317.02	299	252	252	52	86	82	5			
9	90	.78	1.56	323.74	302	253	250	53	85	82	5			
10	100	.76	1.52	330.50	302	250	251	53	85	81	5			
11	110	.76	1.52	337.14	301	250	251	53	85	81	5			
12	120	.75	1.50	343.85	303	251	253	54	84	81	5			
Total	120	9.45	18.9	82.70	3565				1005	959				
Average			1.575		297.0833				81.8333					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

9879

AIRTECH ENVIRONMENTAL SERVICES INC.

Impinger Weights Data Sheet

PROJECT NO. 3648

Page 1 of 1

Client	Big Rivers Energy - Coleman Station
Plant	Hawesville, KY
Location	ESP Exhaust
Date	7-6-11 Unit 2
Operator	MM

Run No.	1				
Method No.	29	Train ID	IB-9	Filter No.	NA
	Contents	Tare Weight or Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	627.4	722.5	-50	
Impinger No. 2	5%/10%	686.2	756.6		
Impinger No. 3	5%/10%	724.3	714.3		
Impinger No. 4	Empty	540.8	546.8		
Impinger No. 5	Silica	848.2	671.0		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	2				
Method No.	29	Train ID	IB 4	Filter No.	NA
	Contents	Tare Weight or Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	622.3	748.5	-50	
Impinger No. 2	5%/10%	734.1	784.3		
Impinger No. 3	5%/10%	623.9	647.9		
Impinger No. 4	Empty	478.1	482.5		
Impinger No. 5	Silica	933.5	951.3		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	3				
Method No.	29	Train ID	IB-9	Filter No.	NA
	Contents	Tare Weight or Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	633.5	773.1	-50	
Impinger No. 2	5%/10%	718.1	774.0		
Impinger No. 3	5%/10%	685.0	721.7		
Impinger No. 4	Empty	533.5	541.1		
Impinger No. 5	Silica	870.8	883.0		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

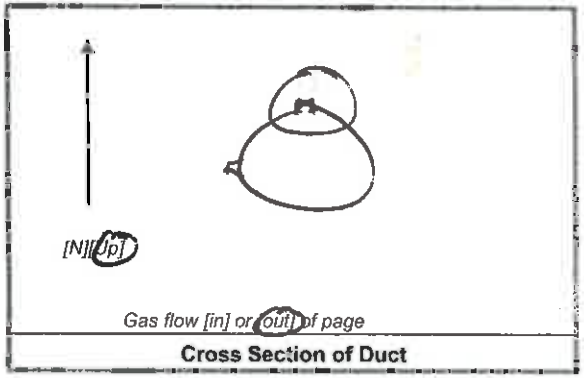
AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 1

Page 1 of 2

Client	Big Rivers
Plant	Hawesville, KY - Coleman
Location	ESP Outlet #2 (Exhaust)
Date	7-12-11
Project No.	3648
Meter Reader	TG



Cross Section of Duct

Barometric (in. Hg)	29.90
Static (inH_2O)	-.8
Ambient Temp. (°F)	80
Start Time	16:00
Stop Time	17:30

Sample Train A — Pump #1

Trap ID	94275	Meter ID	M-26	Yd	.9958
Pre Leak Check	.006	lpm @	10	(in. Hg)	
Post Leak Check	.005	lpm @	10	(in. Hg)	

Min/Point 5:00 Elapsed Time	Flow Meter Setting LPM	Gas Sample Initial [l] ϕ	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes	°F Temp Probe
5	0.5	2.169	307	85	4		244
10		4.419	307	87	6		246
15		6.710	307	88	6		247
20		9.060	305	88	7		247
25		11.260	307	88	7		248
30		13.280	304	89	8		250
35		15.312	306	90	7		251
40		17.556	306	91	7		251
45		19.770	304	93	7		250
50		22.023	306	93	7		250
55		24.288	306	94	7		251
60		26.453	307	94	7		251
Total		40.1659	5507	1656			
Average			305.9444	92.0			

Sample Train B — Spiked — Pump #2

Trap ID	94379	Meter ID	M-26	Yd	.9902
Pre Leak Check	.005	lpm @	9	(in. Hg)	
Post Leak Check	.005	lpm @	10	(in. Hg)	

Min/Point 5:00 Elapsed Time	Flow Meter Setting LPM	Gas Sample Initial [l] ϕ	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes
5	0.5	2.324	307	85	3	
10		4.514	307	86	3	
15		6.782	307	86	4	
20		9.052	306	88	4	
25		11.378	307	88	4	
30		13.724	307	89	4	
35		15.884	306	91	4	
40		18.134	306	92	5	
45		20.302	304	94	5	
50		22.448	306	94	5	
55		24.634	306	95	5	
60		26.897	307	95	5	
Total		40.9110	5507	1654		
Average			305.9444	92.4444		

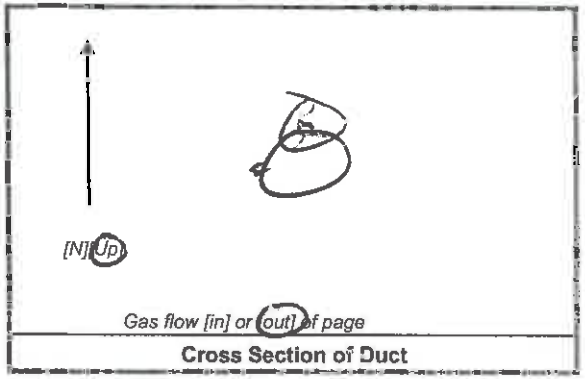
AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 1

Page	2	of	2

Client	Big Rivers
Plant	Hawesville, KY - Coleman
Location	ESP Exhaust #2
Date	7-12-11
Project No.	3648
Meter Reader	TG



Cross Section of Duct

Barometric (in. Hg)	29.90
Static ($in H_2O$)	-.8
Ambient Temp. (°F)	80
Start Time	16:00
Stop Time	17:30

Sample Train A — Pump #1

Trap ID	94275	Meter ID	M-26	Yd	.9958
Pre Leak Check	.000		lpm @	10	(in. Hg)
Post Leak Check			lpm @		(in. Hg)

Sample Train B — Spiked — Pump #2

Trap ID	94379	Meter ID	M-26	Yd	.9902
Pre Leak Check	.005		lpm @	9	(in. Hg)
Post Leak Check			lpm @		(in. Hg)

Min/Point Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] ϕ	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes	of PROBE TEMP
65	0.5	28.629	306	95	7		251
70	↓	31.175	305	95	7		251
75		33.425	305	95	7		251
80		35.821	306	96	7		250
85		38.421	305	98	7		252
90	↓	40.659	305	97	7		252
Total		40.659	5507	1650			
Average		—	305.944	92.0			

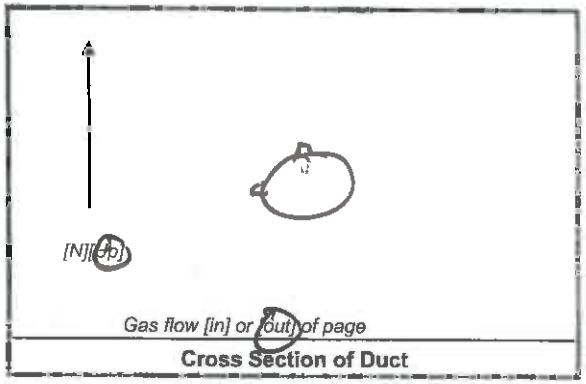
Min/Point Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] ϕ	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes
65	0.5	29.193	306	96	6	
70	↓	31.449	305	96	6	
75		33.814	305	96	6	
80		36.105	306	97	7	
85		38.567	305	98	6	
90	↓	40.916	305	98	7	
Total		42.916	5507	1606		
Average		—	305.944	92.444		

AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 2

Client	Big Rivers
Plant	Hawesville, KY-Coleman
Location	ESP Exhaust #2
Date	7-13-11
Project No.	3048
Meter Reader	TG



Barometric (in. Hg)	29.65
Static (inH_2O)	-.8
Ambient Temp. (°F)	85
Start Time	6:47
Stop Time	8:17

Sample Train A — Pump #1

Trap ID	94348	Meter ID	M-26	Yd	.9958
Pre Leak Check	.004	lpm @	14	(in. Hg)	
Post Leak Check	.002	lpm @	12	(in. Hg)	

Sample Train B — Spiked — Pump #2

Trap ID	94374	Meter ID	M-26	Yd	.9902
Pre Leak Check	.003	lpm @	18	(in. Hg)	
Post Leak Check	.003	lpm @	16	(in. Hg)	

Min/Point 5:00 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] Ø	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes °F Probe Temp
5	0.5	2.116	298	84	4	251
10		4.124	300	86	4	252
15		6.297	301	87	5	252
20		8.332	303	90	5	251
25		10.434	300	93	5	250
30		12.546	302	94	5	251
35		14.708	302	96	6	251
40		16.808	304	97	6	251
45		19.131	304	99	6	250
50		21.256	305	101	6	250
55		23.188	305	102	6	248
60		25.299	306	104	6	248
Total		38.053	54601	17660		
Average			303.3389	98.1111		

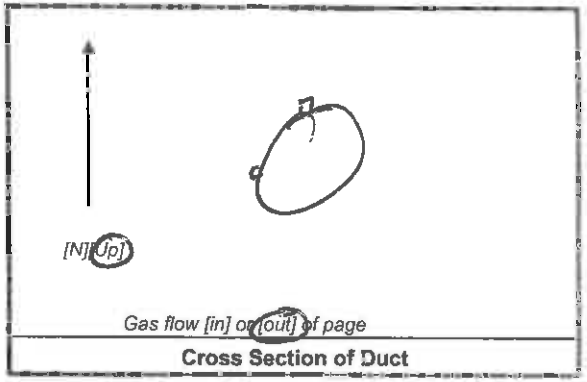
Min/Point 5:00 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] Ø	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes
5	0.5	2.037	298	84	3	
10		4.089	300	86	3	
15		6.181	301	88	4	
20		8.332	303	92	4	
25		10.358	300	95	4	
30		12.423	302	96	4	
35		14.488	302	98	4	
40		16.529	304	100	4	
45		18.604	304	101	4	
50		20.759	305	103	4	
55		22.481	305	104	4	
60		24.464	2010	105	4	
Total		37.193	54601	1789		
Average			303.3389	99.3833		

AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 2

Client	Big Rivers
Plant	Hawesville, KY - Gleman
Location	ESP Exhaust #2
Date	7-13-11
Project No.	3648
Meter Reader	TG



Cross Section of Duct

Barometric (in. Hg)	29.65
Static (in H_2O)	-.8
Ambient Temp. (°F)	85
Start Time	647
Stop Time	817

Sample Train A — Pump #2

Trap ID	94348	Meter ID	M-26	Yd	.9958
Pre Leak Check	.004		lpm @	14	(in. Hg)
Post Leak Check	.008		lpm @	12	(in. Hg)

Min/Point 5:00 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] ø	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes of PROBE TEMP
65	0.5	27.423	305	105	6	251
70	↓	29.537	305	105	6	251
75		31.632	305	105	6	251
80		33.740	306	106	6	250
85		35.89	305	106	6	250
90	↓	38.053	305	100	6	251
Total		38.053	5461	1706		
Average			303.3889	98.1111		

Avg .4229 LPM

Sample Train B — Spiked — Pump #2

Trap ID	94374	Meter ID	M-26	Yd	.9902
Pre Leak Check	.003		lpm @	18	(in. Hg)
Post Leak Check	.003		lpm @	18	(in. Hg)

Min/Point 5:00 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] ø	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes
65	0.5	20.997	305	105	4	
70	↓	29.012	305	106	4	
75		31.097	305	106	4	
80		33.131	306	106	4	
85		35.159	305	107	4	35.159
90	↓	37.193	305	107	4	
Total		37.193	5461	1789		
Average			303.3889	99.3889		

Avg .4139 LPM

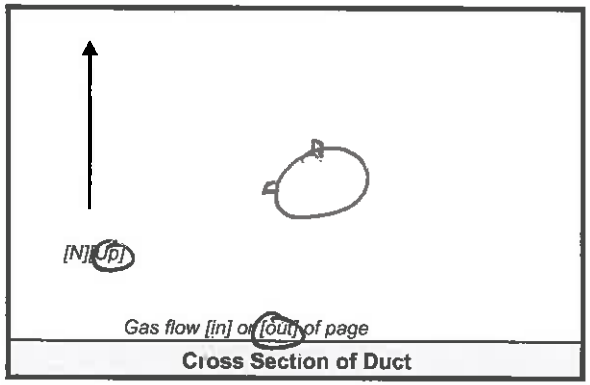
AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 3

Page	1	of	2

Client	Big Rivers
Plant	Hawesville, KY
Location	ESP Exhaust #2
Date	7-13-11
Project No.	3648
Meter Reader	TG



Cross Section of Duct

Barometric (in. Hg)	29.65
Static (inH_2O)	-.8
Ambient Temp. (^0F)	85
Start Time	8:50
Stop Time	10:20

Sample Train A Unspiked Trap — Pump #1

Trap ID	94340	Meter ID	M-26a	Yd	.9958
Pre Leak Check	.003		lpm @	16	(in. Hg)
Post Leak Check	.002		lpm @	12	(in. Hg)

Sample Train B Spiked Trap — Pump #2

Trap ID	94377	Meter ID	M-26a	Yd	.9902
Pre Leak Check	.000		lpm @	18	(in. Hg)
Post Leak Check	.002		lpm @	12	(in. Hg)

Min/Point 5:00 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] Ø	Stack Temp (^0F)	DGM Temp (^0F)	Pump Vaccum (in Hg)	Notes ° F PROBE TEMP
5	0.5	2.054	306	103	5	251
10		4.104	310	105	5	251
15		6.267	311	105	5	251
20		8.349	312	107	6	250
25		10.475	311	108	6	250
30		12.570	311	110	6	250
35		14.678	311	111	6	250
40		16.734	310	112	6	251
45		18.903	310	112	6	250
50		21.049	310	114	6	251
55		23.141	311	114	6	251
100		25.246	311	115	7	251
Total		37.590	5587	2008		
Average			310.3889	111.55556		

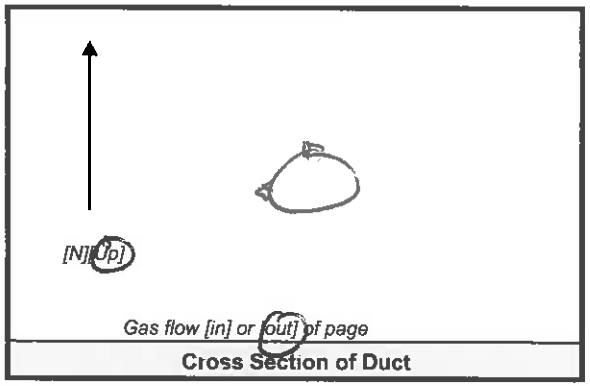
Min/Point 5:00 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] Ø	Stack Temp (^0F)	DGM Temp (^0F)	Pump Vaccum (in Hg)	Notes
5	0.5	2.164	306	103	3	
10		4.328	310	105	3	
15		6.454	311	107	3	
20		8.643	312	108	3	
25		10.893	311	110	4	
30		12.995	311	111	4	
35		15.264	311	111	4	
40		17.511	310	112	4	
45		19.797	310	113	4	
50		22.109	310	113	4	
55		24.376	311	114	4	
60		26.608	311	114	4	
Total		39.458	5587	2009		
Average			310.3889	111.6111		

AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 3

Client	Big Rivers
Plant	Hawesville, KY
Location	ESP Exhaust #2
Date	7-13-11
Project No.	3648
Meter Reader	TG



Cross Section of Duct

Barometric (in. Hg)	29.65
Static (inH_2O)	-.8
Ambient Temp. (^{0}F)	85
Start Time	
Stop Time	

Sample Train A Unspiked Trap — Pump #1

Trap ID	94340	Meter ID	M-26	Yd	.9958
Pre Leak Check	.003	lpm @	16	(in. Hg)	
Post Leak Check	.002	lpm @	12	(in. Hg)	

Sample Train B Spiked Trap — Pump #2

Trap ID	94377	Meter ID	M-26	Yd	.9902
Pre Leak Check	.006	lpm @	18	(in. Hg)	
Post Leak Check	.002	lpm @	12	(in. Hg)	

Min/Point 5:00 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] ø	Stack Temp (^{0}F)	DGM Temp (^{0}F)	Pump Vaccum (in Hg)	Notes # PROBE TEMP.
65	0.5	27.337	310	115	7	251
70	↓	29.420	310	116	7	252
75		31.470	310	116	7	252
80		33.542	311	115	7	252
85		35.565	311	115	7	252
90	↓	37.590	311	115	7	252
Total		37.590	5587	2008		
Average			310.3889	111.5556		

Avg .4177 lpm

Min/Point 5:00 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] ø	Stack Temp (^{0}F)	DGM Temp (^{0}F)	Pump Vaccum (in Hg)	Notes
65	0.5	28.819	310	115	4	
70	↓	31.001	310	115	4	
75		33.157	310	115	4	
80		35.278	311	114	5	
85		37.328	311	114	5	
90	↓	39.458	311	115	5	
Total		39.458	5587	2009		
Average			310.3889	111.6111		

Avg .4384 lpm

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Moisture

RUN NO. 1 METHOD NO. 4 Page 1 of 1

Client	Big Rivers					Barometric (inHg)	29.9	Water [ml] [g]	24
Plant	Hawesville Ky					Ambient Temp (°F)	80	Silica gel (g)	5
Location	ESP Exhaust Num 1					Static (inH_2O)	-.8	Total Vlc	29
Date	7/12/4	Project No.				Probe ID	N/A	Liner Type	NA
Meter Operator	SH					Nozzle ID	N/A	Nozzle Dia (in)	NA
Probe Operator	NA					Filter ID	N/A		
Meter ID	M-14	Yd	1.0087	Pitot Cp	NA	Train ID	KO	Train Type	KO
ΔH@	1.802	Kf	NA	Leak check	NA	Duct Dim (in)	132	Port Length (in)	19
Pre Leak Check	000	[cfm] [lpm] @	20	(inHg)					
Post Leak Check	0.02	[cfm] [lpm] @	15	(inHg)		Start Time	16:00	Stop Time	

[N] [Up]

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point 7.5 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft^3] [l] 866.75	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
	7.5		1.5	872.03				76	77	75	1			
	15			877.13				72	79	76	1			
	22.5			882.14				67	78	75	1			
	30			887.16				64	78	76	1			
	37.5			892.21				64	81	76	1			
	45			897.18				66	83	77	1			
	52.5			902.25				67	80	76	1			
	60			907.29				68	80	76	1			
	67.5			912.35				68	80	76	1			
	75			917.38				68	82	76	1			
	82.5			922				68	82	76				922.38
	90								82	76				927.53
Total														
Average														

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Moisture

RUN NO. 2 **METHOD NO.** 4 Page 1 of 1

Client	Big Rivers					Barometric (inHg)	29.65	Water [ml] [g]	25
Plant	Hawesville KY					Ambient Temp (°F)	85	Silica gel (g)	5
Location	ESP Exhaust Num 2					Static (inH_2O)	-.8	Total Vlc	30
Date 7/13/11	Shift 2nd	Project No	3648			Probe ID	N/A	Liner Type	N/A
Meter Operator	SH					Nozzle ID	N/A	Nozzle Dia (in)	N/A
Probe Operator	N/A					Filter ID	N/A		
Meter ID	M-14	Yd	1.0087	Pitot Cp	N/A	Train ID	KO	Train Type	KO
ΔH@	1.802	Kf	N/A	Leak check	✓	Duct Dim. (in)	132	Port Lngth (in)	19
Pre Leak Check	.000	[cfm] [lpm] @	15	(inHg)					
Post Leak Check	.000	[cfm] [lpm] @	15	(inHg)		Start Time	6:47	Stop Time	8:17

[N] [Up]

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point 2.5 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft^3] [l] 937.50	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
	7.5		1.5	942.58				67	87	78	1			
	15			947.63				66	91	81	1			
	22.5			952.68				66	93	82	1			
	30			957.76				64	95	86	1			
	37.5			962.83				64	97	87	1			
	45			967.92				63	97	89	1			
	52.5			973.02				63	101	91	1			
	60			978.14				64	103	92	1			
	67.5			983.25				64	100	93	1			
	75			988.37				65	100	94	1			
	82.5		✓	993.48				66	99	94	1			
	90			998.60				67	100	94	1			
Total			15	61.10					1163	1061				
Average			(1.5)						(92.67)					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Moisture

RUN NO. 3 METHOD NO. 4 Page 1 of 1

Client	Big Rivers						Barometric (inHg)	29.65	Water [ml] [g]	23
Plant	Hawesville KY						Ambient Temp (°F)	85	Silica gel (g)	5
Location	ESP Exhaust Num 2						Static (inH_2O)	-.8	Total Vlc	28
Date	7/13/11	Project No.	3648				Probe ID	N/A	Liner Type	N/A
Meter Operator	SH						Nozzle ID	N/A	Nozzle Dia (in)	N/A
Probe Operator	N/A						Filter ID	N/A		
Meter ID	M-14	Yd	1.0087	Pitot Cp	N/A		Train ID	KO	Train Type	KO
ΔH@	1.802	Kf	N/A	Leak check	✓		Duct Dim (in)	132	Port Lngth (in)	19
Pre Leak Check	000	[cfm] [lpm] @	18	(inHg)						
Post Leak Check	000	[cfm] [lpm] @	15	(inHg)			Start Time	8:50	Stop Time	10:20

[N] [Up]

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point 2.5 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft^3] [l]	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
				799.36										
	7.5		1.5	~~4.46~~				57	103	100	1			~~1005.05~~ 1005.40
	15			1009.46				60	115	102	1			gas sample in
	22.5			~~1014.51~~				61	110	103	1			
	30			1019.57				60	112	104	1			
	37.5			1024.76				58	113	106	1			
	45			1029.92				59	114	110	1			
	52.5			1035.08				62	116	109	1			
	60			1040.24				63	116	109	1			
	67.5			1045.38				64	116	110	1			
	75			1050.54				64	117	111	1			
	82.5			1055.62				65	113	112	1			
	90			1060.88				66	118	112	1			
Total				61.52					1367	1288				
Average									110.625					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

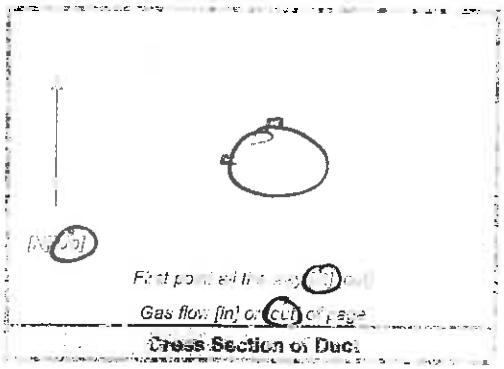
AIRTECH ENVIRONMENTAL SERVICES INC.

Velocity Traverse Data Sheet

Project No. 3648

Page 1 of 1

Client	BIG RIVERS		
Plant	HAWESVILLE, KY - COLEMAN		
Location	ESP EXHAUST #2		
Meter/Pyrometer	M-14	Duct size (in)	132
Date	7-12-11	Port Length (in)	19
Probe ID	AE 2-10-2	Pitot Cp	.84



	7-12-11	7-13-11	7-13-11
Run Number	1	2	3
Start Time	16:30	7:10	9:20
Stop Time	16:45	7:20	9:30
Barometric (inHg)	29.90	29.65	29.65
Static ($in H_2O$)	-0.8	-0.8	-0.8
Probe Operator	SH	SH	SH
Data Recorder	TG	TG	TG
Pre Leak Check	✓	✓	✓
Post Leak Check	✓	✓	✓

Traverse Point	Pressure ΔP ($in H_2O$)	Stack Temp (°F)	Notes	Traverse Point	Pressure ΔP ($in H_2O$)	Stack Temp (°F)	Notes	Traverse Point	Pressure ΔP ($in H_2O$)	Stack Temp (°F)	Notes
1-1	.75	312		1-1	.72	310		1-1	.71	310	
2	.76	312		2	.75	310		2	.76	310	
3	.76	312		3	.75	310		3	.78	311	
4	.79	311		4	.80	310		4	.78	311	
5	.80	311		5	.80	310		5	.82	311	
6	.80	311		6	.79	310		6	.81	311	
7	.84	313		7	.81	310		7	.82	310	
8	.88	313		8	.82	310		8	.85	310	
9	.88	312		9	.80	310		9	.86	310	
10	.76	312		10	.79	310		10	.80	310	
11	.74	312		11	.78	310		11	.81	310	
12	.71	310		12	.73	310		12	.73	310	
Total	10.0546	3741		Total	10.0175	3720		Total	10.0610	3724	
Average	.8379	311.75		Average	.8348	310.0		Average	.8408	310.33	

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Particulate

RUN NO. 1 **METHOD NO.** 5b / 202 **Page** 1 **of** 1

Client	Big Rivers					Barometric (inHg)	28.90	Water [ml] [g]	
Plant	Hawesville Ky Coleman Station					Ambient Temp (°F)	85	Silica gel (g)	
Location	Unit #3 Inlet					Static (inH_2O)	-1.6	Total Vlc	
Date	7/18/11	Project No	3648			Probe ID	AES-10-3	Liner Type	
Meter Operator	RL					Nozzle ID	.200	Nozzle Dia (in)	.200
Probe Operator	EA					Filter ID	12139		
Meter ID	M-20	Yd	.9952	Pitot Cp	.84	Train ID	IB-A	Train Type	Imp
ΔH@	1.75	Kf	1.89	Leak check	✓	Duct Dim. (in)	132	Port Lngth (in)	19
Pre Leak Check	.001	cfm [lpm] @	17	(inHg)			10:08		
Post Leak Check	.000	cfm [lpm] @	12	(inHg)		Start Time	~~10:08~~	Stop Time	11:38

[N] (Up)

First point all the way [in] [out]

Gas flow [in] (out) of page

Cross Section of Duct

Traverse Point	Min/Point 7.5 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial (ft^3) [l] 19.51	Stack Temp (°F)	Probe Temp (°F) 320	Filter Temp (°F) 320	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	CPM Filter Auxiliary Temp (°F)		Notes
1	7.5	.81	.88	23.48	309	321	318	59	78	78	5	77		
2	15	.86	.94	27.55	308	322	321	55	80	76	7	75		
3	22.5	.77	.84	31.48	308	320	321	57	82	77	6	75		
4	30	.82	.89	35.49	306	320	320	56	83	77	6	78		
5	37.5	.81	.88	39.52	306	320	319	55	84	77	6	77		
6	~~42.5~~ 45	.91	.99	43.64	308	320	319	57	85	78	6	78		
7	52.5	.89	.97	47.76	307	320	321	59	85	77	6	76		
8	60	.89	.97	51.95	307	320	320	59	86	78	7	77		
9	67.5	.87	.95	56.05	306	320	320	60	86	79	7	76		
10	75	.91	.99	60.10	308	319	319	54	89	80	7	80		
11	82.5	.84	.92	63.97	310	320	320	56	93	84	7	76		
12	90	.84	.92	68.41	306	320	321	57	95	85	7	77		
Total	90		11.14	49.90	3689				1026	946				
Average		.9226	.93		307.4				82.2					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Particulate

RUN NO. 2 METHOD NO. 5/202 Page 1 of 1

Client	Big Rivers					Barometric (inHg)	29.9	Water [ml] [g]	
Plant	Coleman plant					Ambient Temp (°F)	100	Silica gel (g)	
Location	ESP outlet 3					Static (inH2O)	-1.6	Total Vlc	
Date	7-12-11	Project No.	364e			Probe ID	AE 5-10	Liner Type	
Meter Operator	DG					Nozzle ID	.21	Nozzle Dia (in)	.210
Probe Operator	EA					Filter ID	12132		
Meter ID	M20	Yd	9952	Pitot Cp	.84	Train ID	IB 3	Train Type	IMP
ΔH@	1.785	Kf	1.45	Leak check	✓	Duct Dim. (in)	132"	Port Length (in)	19"
Pre Leak Check	.000	[cfm] [lpm] @	15	(inHg)					
Post Leak Check	.000	[cfm] [lpm] @	20	(inHg)		Start Time	9:50	Stop Time	11:20

[N] [Up]

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point 7.5 Elapsed Time	Velocity Pressure ΔP (inH2O)	Orifice Setting ΔH (inH2O)	Gas Sample Volume Initial [ft³] [l] 73.84	Stack Temp (°F)	Probe Temp (°F) 320	Filter Temp (°F) 320	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1	7.5	.94	1.4	79.00	325	331	330	60	102	100	11	85		
2	15	.90	1.3	83.88	321	318	330	60	106	106	10	85		
3	22.5	.94	1.4	88.83	318	319	321	60	108	101	13	85		
4	30	.95	1.4	93.77	317	321	320	60	108	101	13	85		
5	37.5	.95	1.4	99.01	317	319	321	60	110	102	14	85		
6	45	.95	1.4	103.77	316	319	322	60	109	103	14	85		
7	52.5	.97	1.4	108.66	315	321	322	60	112	104	14	85		
8	60	.97	1.4	113.55	315	317	305	60	111	104	12	85		
9	67.5	.97	1.4	118.48	317	322	301	60	111	104	12	85		
10	75	1.0	1.4	123.39	318	319	311	60	112	105	13	85		
11	82.5	1.1	1.6	128.31	317	316	306	60	111	105	12	85		
12	90	1.1	1.6	133.43	318	321	318	60	111	105	15	85		
Total		11.8641	17.1	59.59	3814				IBLP 1240					
Average		.9887	1.43		317.83									

last 12

9 - 106.3

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Particulate

RUN NO. 3 METHOD NO. Page 1 of 1

Client	Big Rivers					Barometric (inHg)	29.4	Water (mL) [g]	
Plant	Coleman					Ambient Temp (°F)	100	Silica gel (g)	
Location						Static (inH_2O)	-1.6	Total Vic	
Date	7-12-11	Project No.	3645			Probe ID	AE-5 to 2	Liner Type	Teflon
Meter Operator	DG					Nozzle ID	.21	Nozzle Dia (in)	.210
Probe Operator	EA					Filter ID	12133		
Meter ID	M-20	Yd	.9952	Pitot Cp		Train ID	IB2	Train Type	Imp
ΔH@	1.785	Kf	1.3	Leak check	✓	Duct Dim. (in)	132"	Port Length (in)	19"
Pre Leak Check	000	[cfm] [lpm] @	15	(inHg)					
Post Leak Check	000	[cfm] [lpm] @	20	(inHg)		Start Time	12:50	Stop Time	

Traverse Point	Min/Point 7.5 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft^3] [l]	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1	7.5	.9	1.2	139.05	312	317	303	61	109	104	8			
2	15	.88	1.1	143.85	312	317	307	61	107	103	7			
3	22.5	.87	1.1	148.56	311	320	328	10	107	102	7			
4	30	.86	1.1	153.23	312	320	318	60	108	102	7			
5	37.5	.85	1.1	157.86	310	319	317	61	106	101	7			
6	45	.83	1.0	162.45	309	322	323	60	106	101	7			
7	52.5	.81	1.0	166.91	309	320	320	60	107	101	7			
8	60	.83	1.0	171.29	309	325	320	60	108	102	7			
9	67.5	.79	1.0	175.67	308	305	307	60	107	100	6			
10	75	.82	1.0	180.00	308	313	319	61	106	101	7			
11	82.5	.83	1.0	184.29	308	319	318	60	106	101	7			
12	90	.85	1.1	188.37	308	321	322	60	107	101	7			
		1.084	12.7		3916				1284	1219				
		.9182	1	54.19	309				101.1	96.0				

.9182

total

[ ] bracketed [ ] units

denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

Impinger Weights Data Sheet

PROJECT NO. 3648

Page 1 of 2

Client	Big Rivers Energy - Coleman Station
Plant	Hawesville, KY
Location	ESP Exhaust
Date	7-8-11 Unit 3
Operator	ME

Run No.	1				
Method No.	5B/202	Train ID		Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	571.2	697.4 -50		
Impinger No. 2	100ml DI	639.1	637.6		
Impinger No. 3	Empty	632.6	645.2		
Impinger No. 4	Silica	883.6	901.8		
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	1 NR				
Method No.	5B/202	Train ID		Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	491.6	-50		
Impinger No. 2	100ml DI	664.8			
Impinger No. 3	Empty	589.0	VOID		
Impinger No. 4	Silica	934.7			
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	2				
Method No.	5B/202	Train ID		Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	563.0	733.2 -50		
Impinger No. 2	100ml DI	744.1	737.6		
Impinger No. 3	Empty	631.7	637.7		
Impinger No. 4	Silica	931.2	949.2		
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

AIRTECH ENVIRONMENTAL SERVICES INC.
Impinger Weights Data Sheet

PROJECT NO. 3646

Page ___ of ___

Client	Big Rivers Energy - Coleman Station
Plant	Hawesville, KY
Location	ESP Exhaust
Date	7-12-11 Unit 3
Operator	ME

Run No.	1				
Method No.	5B/202	Train ID		Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	500.5	697.2	196.70	
Impinger No. 2	100 ml DI	731.3	724.0	-7.30	
Impinger No. 3	Empty	632.7	630.1	-2.60	
Impinger No. 4	Silica	841.0	859.7	18.70	
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.					
Method No.		Train ID		Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1					
Impinger No. 2					
Impinger No. 3					
Impinger No. 4					
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.					
Method No.		Train ID		Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1					
Impinger No. 2					
Impinger No. 3					
Impinger No. 4					
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: HCL

RUN NO. 1

METHOD NO. 26A

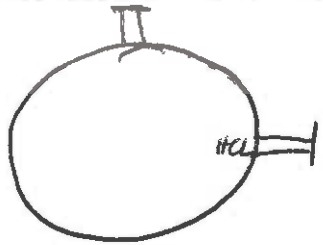
29.58 CD

Page 1 of 1

Client	Big Rivers			Barometric (inHg)	29.49	Water [ml] [g]	
Plant	Coleman			Ambient Temp (°F)	95	Silica gel (g)	
Location	ESP Outlet 3			Static (inH2O)	-1.6	Total Vlc	
Date	7/7/11	Project No	3648	Probe ID		Liner Type	Glass
Meter Operator	EA			Nozzle ID	.219	Nozzle Dia (in)	.200
Probe Operator	EA			Filter ID	N/A		
Meter ID	M-17	Yd	1.0141	Train ID	FB 15	Train Type	Fmp
ΔH@	1.772	Kf	1.07	Duct Dim. (in)	132	Port Length (in)	1
Pre Leak Check	.000	[cfm] [lpm] @	20 (inHg)				
Post Leak Check	.000	[cfm] [lpm] @	15 (inHg)	Start Time	805	Stop Time	1205

Pitot Cp .84 Leak check ✓

[N] (up) [S]



First point all the way (in) [out]

Gas flow [in] (out) of page

Cross Section of Duct

Traverse Point	Min/Point 20 Elapsed Time	Velocity Pressure ΔP (inH2O)	Orifice Setting ΔH (inH2O)	Gas Sample Volume Initial (ft³) [l] 138.55	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
	20	.87	.92	149.40	232	260	248	64	94	93	6.5	N/A		
	40	.88	.94	160.36	323	260	249	64	99	93	6.5			
	60	.91	.97	171.52	323	260	251	62	102	94	7			
	80	.97	1.0	183.00	325	257	252	62	105	96	7			
	100	1.0	1.1	194.74	326	254	250	63	107	98	7.5			
	120	1.0	1.1	206.58	326	250	250	64	111	100	7.5			
	140	1.0	1.1	218.30	326	259	250	65	110	103	7.5			
	160	.97	1.0	229.82	327	255	248	65	108	103	7			dP
	180	.95	1.0	~~235.51~~	326	259	249	65	106	101	7			~~11.32~~
	200	.99	1.1	253.10	326	260	251	65	105	100	7.5			
	220	.93	1.0	264.65	327	260	251	64	109	101	7			
	240	.93	1.0	276.01	326	260	249	65	112	104	7			
Total	240	11.6929	12.23	137.52	3914				268	1186				
Average		.9744	1.019		326.2				102.3					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: HCL

RUN NO. 2 METHOD NO. 26A

EA 28.90

Page 1 of 1

Client	Big Rivers				
Plant	Coleman				
Location	ESP Outlet #3				
Date	7/8/11	Project No	3648		
Meter Operator	EA				
Probe Operator	EA				

Meter ID	M-17	Yd	1.0141	Pitot Cp	.84		
ΔH@	1.772	Kf	1.07	Leak check	✓		
Pre Leak Check	.000	[cfm] [lpm] @	20	(inHg)			
Post Leak Check	.000	[cfm] [lpm] @	10	(inHg)			

[N] [up]

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	~~29.49~~	Water [ml] [g]	
Ambient Temp (°F)	~~95~~ 75	Silica gel (g)	
Static (inH₂O)	-1.6	Total Vlc	
Probe ID	5-6-11	Liner Type	
Nozzle ID	~~EA.19~~	Nozzle Dia (in)	.200
Filter ID	N/A		
Train ID	I6	Train Type	IMP
Duct Dim (in)	132	Port Length (in)	
Start Time	641	Stop Time	1041

Traverse Point	Min/Point 20 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [f] [l]	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
				~~276.21~~		260	260							I.V. = 276.30
1	20	.60	.64	285.05	302	262	259	60	75	75	4	N/A		
	40	.52	.56	293.10	298	260	257	60	81	75	4			
	60	.58	.62	301.59	300	260	259	60	82	75	4			
	80	.60	.64	310.39	300	260	260	60	83	75	4			
	100	.65	.70	319.65	302	261	261	61	83	76	4			
	120	.63	.82	329.66	305	260	263	62	84	76	5			K factor = 1.3
	140	.60	.78	339.44	300	260	262	62	87	79	5			
	160	.68	.88	350.03	300	260	262	62	87	79	5			
	180	.70	.91	360.77	300	260	260	63	89	81	5			
	200	.70	.91	371.50	301	260	259	63	87	81	5			
	220	.72	.94	382.82	300	260	260	64	89	80	6			
	240	.75	.98	394.60	300	260	260	64	89	80	6			
Total		9.64	9.35	118.30	3602				1015	932				
Average		.8016	.7816		300.7				84.1					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: HCL

RUN NO. 3 **METHOD NO.** 26A

Page 1 of 1

Client	Big Rivers					Barometric (inHg)	28.90	Water [ml] [g]	
Plant	Coleman					Ambient Temp (°F)	80	Silica gel (g)	
Location	ESP outlet 3					Static (inH_2O)	-1.6	Total Vlc	
Date	7/8/11	Project No.	3648			Probe ID	S-6-11	Liner Type	Glass
Meter Operator	EA					Nozzle ID	.19	Nozzle Dia (in)	.200
Probe Operator	EA					Filter ID	N/A		
Meter ID	M-17	Yd	1.0141	Pitot Cp	.84	Train ID	IB	Train Type	IMP
ΔH@	1.772	Kf	1.4	Leak check	✓	Duct Dim. (in)	132	Port Length (in)	
Pre Leak Check	.000	[cfm] [lpm] @	21	(inHg)					
Post Leak Check	.000	[cfm] [lpm] @	10	(inHg)		Start Time	1348	Stop Time	1748

[N] [Up]

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point 20 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft³] [l] 395.00	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1	20	.65	.91	405.75	308	260	259	61	92	92	5	N/A		
	40	.68	.95	416.72	305	260	260	61	99	94	5			
	60	.70	.98	427.95	305	261	261	61	102	95	5			
	80	.70	.98	438.61	305	261	262	60	105	97	5			
	100	.62	.87	449.89	306	260	259	60	105	97	5			
	120	.68	.95	461.09	305	260	260	60	106	97	5			
	140	.65	.91	471.86	307	260	260	60	106	99	5			
	160	.63	.91	482.60	307	260	260	59	104	97	5			
	180	.63	.88	493.15	305	260	260	59	106	98	5			
	200	.63	.88	503.75	305	260	260	60	107	100	5			
	220	.65	.91	514.43	305	260	260	60	104	98	5			
	240	.60	.84	524.52	305	260	260	60	104	98				
Total		9.6969	10.97	(129.62)	3668				1034	1162				
Average		.8081	.9142		(305.7)				(100.1)					

240

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

Impinger Weights Data Sheet

PROJECT NO. 3648

Page ____ of ____

Client	Big Rivers Energy - Coleman Station
Plant	Hawesville, KY
Location	ESP Exhaust
Date	7-6-11 Unit 3
Operator	MC

Run No.	1				
Method No.	2C	Train ID	1B-15	Filter No.	NA
	Contents	Tare Weight (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	490.1	740.2		
Impinger No. 2	.1N H_2SO_4	562.9	591.9		
Impinger No. 3	.1N H_2SO_4	678.1	704.7		
Impinger No. 4	Empty	633.7	637.9		
Impinger No. 5	Silica	789.1	818.8		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	2				
Method No.	2C	Train ID	1B-15	Filter No.	NA
	Contents	Tare Weight (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	587.2	688.7		
Impinger No. 2	.1N H_2SO_4	642.0	657.4		
Impinger No. 3	.1N H_2SO_4	620.0	633.6		
Impinger No. 4	Empty	537.4	549.1		
Impinger No. 5	Silica	896.1	924.9		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	3				
Method No.	2C	Train ID	1B-15	Filter No.	NA
	Contents	Tare Weight (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	630.0	731.6		
Impinger No. 2	.1N H_2SO_4	735.5	751.7		
Impinger No. 3	.1N H_2SO_4	667.8	696.6		
Impinger No. 4	Empty	481.6	489.1		
Impinger No. 5	Silica	867.4	898.0		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

l

TESTING TYPE: Metals

29.58 OD

RUN NO. 1

METHOD NO. 29

Page 1 of 2

Client	Big Rivers						
Plant	Hawesville Ky Coleman Station						
Location	Unit #3						
Date	7-7-11	Project No	3648				
Meter Operator	RG						
Probe Operator	EA						
Meter ID	M-20	Yd	.9952	Pitot Cp	.84		
ΔH@	1.785	Kf	307 LO	Leak check	✓		
Pre Leak Check	.002	[cfm] [lpm] @		19	(inHg)		
Post Leak Check	.001	[cfm] [lpm] @		6	(inHg)		

[N] [Up]

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.49	Water (ml) [g]	
Ambient Temp (°F)	90	Silica gel (g)	
Static (inH2O)	-1.6	Total Vlc	
Probe ID	AES-10-3	Liner Type	Teflon
Nozzle ID	.200	Nozzle Dia (in)	.200
Filter ID	—	—	—
Train ID	IB-23	Train Type	Imp
Duct Dim. (in)	132	Port Lngth (in)	19
Start Time	08:05	Stop Time	10:05

Traverse Point	Min/Point 2 hr 5/10 / Elapsed Time	Velocity Pressure ΔP (inH2O)	Orifice Setting ΔH (inH2O)	Gas Sample Volume Initial [ft³] [l]	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
				814.20		250	250							
1	10 5 Pg	.86	.94	819.87	321	254	250	61	95	94	4	N/A		
2	2010	.88	.96	826.07	324	254	251	59	94	94	4			
3	3015	.91	.99	831.27	323	254	251	58	93	93	4			
4	4020	.91	.99	836.98	324	254	252	57	98	91	4			
5	5025	.91	.99	842.88	324	254	251	56	99	92	4			
6	6030	.85	.93	848.22	324	254	251	56	100	92	4			
7	7035	.98	1.07	854.07	326	254	251	55	102	93	4			
8	8040	.99	1.08	860.05	326	254	250	55	105	95	4			
9	9045	1.1	1.2	866.22	326	253	250	56	105	96	4			
10	10050	1.1	1.2	872.49	326	254	252	55	107	98	4			
11	11055	1.0	1.09	878.48	326	254	252	56	110	100	4			
12	12060	.94	1.02	884.30	326	254	251	57	112	101	4			
Total	120	11.7013	12.46	70.10					1220	1139				
Average		.9751	1.04		324.7				98.3					

[ ] bracketed [ ] units

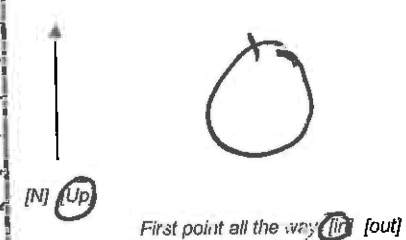
...ingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.
General Testing Data Sheet

TESTING TYPE: Metals

RUN NO. 2 METHOD NO. 29 Page 1 of 1

Client	Big Rivers		
Plant	Coleman station Hawesville KY		
Location	#3 Inlet		
Date	7/7/11	Project No	3648
Meter Operator	RG		
Probe Operator	EA		
Meter ID	M-20	Yd	.9952
ΔH@	1.785	Kf	1.09
Pitot Cp	.84	Leak check	✓
Pre Leak Check	.003	(cfm) [lpm] @	17 (inHg)
Post Leak Check	.002	(cfm) [lpm] @	7 (inHg)



First point all the way (in) [out]

Gas flow [in] (out) of page

Cross Section of Duct

Barometric (inHg)	~~29.49~~ 29.58 EB	Water [ml] [g]	
Ambient Temp (°F)	91	Silica gel (g)	
Static (inH$_2$O)	-1.6	Total Vlc	
Probe ID	AE5-10-3	Liner Type	Teflon
Nozzle ID	.200	Nozzle Dia (in)	.200
Filter ID	—	—	—
Train ID	IB 18	Train Type	Imp
Duct Dim (in)	132	Port Length (in)	19
Start Time	11:00	Stop Time	13:00

Traverse Point	Min/Point 10 Elapsed Time	Velocity Pressure ΔP (inH$_2$O)	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [ft^3] [l] 885.80	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1	10	.92	1.00	891.73	326	254	251	66	102	98	5	N/A		
2	20	.87	.95	897.26	326	253	252	61	103	98	5	↓		
3	30	.87	.95	902.73	326	254	256	58	106	101	5			
4	40	.90	.98	908.44	326	254	252	57	109	101	5			
5	50	.99	1.08	914.61	329	254	249	56	111	103	5			
6	60	1.0	1.09	920.30	330	254	252	57	113	105	5			
7	70	.99	1.08	926.18	330	254	252	57	112	105	5			
8	80	.99	1.08	932.05	330	254	251	59	113	106	5			
9	90	.96	1.05	937.92	330	254	251	60	113	107	5			
10	100	.99	1.08	943.96	329	254	251	62	111	107	5			
11	110	.96	1.05	949.68	328	254	251	63	103	103	5			
12	120	.99	1.08	955.61	329	255	251	65	104	103	5	↓		
Total	120		12.47	69.81	3939				1300	1237				
Average		.9757	1.04		328.3				105.7					

Circle correct bracketed [ ] units

... type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Metals

RUN NO. 3 METHOD NO. 29

Page 1 of 1

Client	Big Rivers					Barometric (mHg)	28.90 RG 29.29	Water (ml) (g)	
Plant	Hawesville Ky Coleman Station					Ambient Temp (°F)	85	Silica gel (g)	
Location	Unit #3 Inlet					Static (mH2O)	-1.6	Total Vlc	
Date	7-8-11	Project No.	3648			Probe ID	AE 5-10-3	Liner Type	Teflon
Meter Operator	RG					Nozzle ID	.200	Nozzle Dia (in)	.200
Probe Operator	EA					Filter ID	—	—	—
Meter ID	M-20	Yd	.9952	Pitot Cp	.84	Train ID	IB-23	Train Type	Imp
ΔH@	1.785	Kf	1.05	Leak check	✓	Duct Dim (in)	132	Port Length (in)	19
Pre Leak Check	.002	(cfm) [lpm] @	18	(inHg)					
Post Leak Check	.001	(cfm) [lpm] @	9	(inHg)		Start Time	06:41	Stop Time	08:41

[N] (Up)

First point all the way (in) [out]

Gas flow [in] (out) of page

Cross Section of Duct

Traverse Point	Min/Point 10 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft^3] [l] 956.70	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1	10	.66	.69	961.43	302	255	250	64	76	75	3	N/A		
2	20	.66	.69	966.24	300	253	251	57	78	75	3			
3	30	.52	.55	970.45	298	257	250	59	81	76	3			Chng K = 1.09
4	40	.75	.82	975.63	298	253	249	60	83	76	3			
5	50	.78	.85	980.79	300	255	248	60	84	77	3			
6	60	.74	.81	985.93	299	254	250	61	84	77	3			
7	70	.83	.91	991.32	300	255	251	56	84	77	3			
8	80	.81	.88	996.67	304	251	253	59	84	77	3			
9	90	.71	.77	1001.72	304	254	252	57	84	77	3			
10	100	.75	.82	1006.85	305	254	253	56	84	77	3			
11	116	.73	.80	1012.04	304	254	253	57	85	77	3			
12	120	.79	.86	1017.38	305	254	250	57	86	78	3			
Total	120		9.45	60.68	3619				993	919				
Average		.8515	.179		301.6				79.7					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

Impinger Weights Data Sheet

PROJECT NO. 3648

Page 1 of 1

Station	Big Rivers Energy - Coleman Station		
Plant	Hawesville, KY		
Location	ESP Exhaust		
Date	7-16-21	Unit	3
Operator	MA		

Run No.	29 1				
Method No.	29	Train ID	IB-23	Filter No.	NA
	Contents	Tare Weight Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	573.5	693.2	-50	
Impinger No. 2	5%/10%	711.1	725.0		
Impinger No. 3	5%/10%	688.1	737.3		
Impinger No. 4	Empty	526.0	564.0		
Impinger No. 5	Silica	843.2	867.9		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	2				
Method No.	29	Train ID	IB-18	Filter No.	NA
	Contents	Tare Weight Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	552.0	637.8	-50	
Impinger No. 2	5%/10%	728.8	773.0		
Impinger No. 3	5%/10%	714.4	736.8		
Impinger No. 4	Empty	608.8	617.9		
Impinger No. 5	Silica	922.7	947.9		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

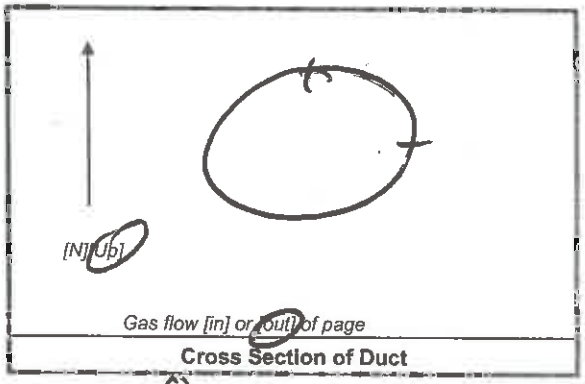
Run No.	3				
Method No.	29	Train ID	IB-23	Filter No.	NA
	Contents	Tare Weight Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	578.1	703.3	-50	
Impinger No. 2	5%/10%	690.0	725.5		
Impinger No. 3	5%/10%	729.1	738.7		
Impinger No. 4	Empty	564.4	567.4		
Impinger No. 5	Silica	867.9	881.2		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

AiRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 1

Client	Big Rivers
Plant	Coleman
Location	Eso Out 3
Date	7/12/11
Project No.	
Meter Reader	BA



Barometric (in. Hg)	29.90
Static (in H_2O)	-1.6
Ambient Temp. (^{0}F)	80
Start Time	1600
Stop Time	1730

Sample Train A (1)

Trap ID	94463	Meter ID	R19075	Yd	.9728 (1.000)
Pre Leak Check	.000		lpm @	10	(in. Hg)
Post Leak Check			lpm @		(in. Hg)

Sample Train B Spiked (2)

Trap ID	94423	Meter ID	R19075	Yd	.9756 (1.000)
Pre Leak Check	.000		lpm @	10	(in. Hg)
Post Leak Check			lpm @		(in. Hg)

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.000	Stack Temp (^{0}F)	DGM Temp (^{0}F)	Pump Vaccum (in Hg)	Probe Notes	Trap
5	.35	1.764	315	74	4	243	243
10	.35	3.416	313	74	5	237	237
15		5.374	316	74	5	246	243
20		7.138	316	75	5	241	244
25		8.890	317	75	5	241	241
30		10.556	317	75	5	243	242
35		12.249	318	75	5	243	242
40		13.999	318	75	5	243	242
45		15.790	317	76	5	243	242
50		17.500	317	76	5	243	242
55		19.257	316	76	5	243	242
60		21.017	316	76	5	243	242
Total			5686	1352			
Average			315.9	75.1			

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.000	Stack Temp (^{0}F)	DGM Temp (^{0}F)	Pump Vaccum (in Hg)	Probe Notes	Trap
5	.35	1.744	315	75	4	243	243
10	.35	3.592	315	76	4	237	237
15	.35	5.200	316	76	4	246	243
20	.35	7.240	316	76	4	242	244
25		9.022	317	77	4	242	241
30		10.744	317	76	4	243	242
35		12.493	318	77	5	243	242
40		14.107	318	77	5	243	242
45		15.750	317	78	5	243	242
50		18.006	317	78	5	243	242
55		19.309	316	78	5	243	242
60		20.549	316	78	5	243	242
Total			5686	1384			
Average			315.9	76.9			

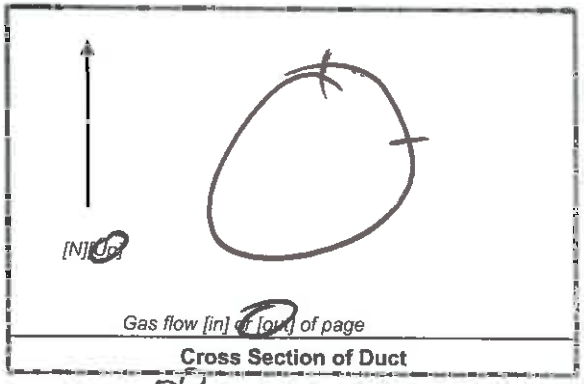
AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 1

Page	2	of	2

Client	Big Rivers
Plant	Coleman
Location	Esp Out 3
Date	7/12/11
Project No.	3CME
Meter Reader	EA



Cross Section of Duct

Barometric (in. Hg)	29.90
Static (inH_2O)	-1.6
Ambient Temp. (°F)	80
Start Time	1608
Stop Time	1730

Sample Train A

Trap ID	94463	Meter ID	RM07SA	Yd	1.000 .9728
Pre Leak Check	.004		lpm @	10	(in. Hg)
Post Leak Check			lpm @		(in. Hg)

Sample Train B Spiked

Trap ID	94423	Meter ID	RM07SB	Yd	1.000 .9756
Pre Leak Check	.000		lpm @	10	(in. Hg)
Post Leak Check			lpm @		(in. Hg)

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [I] 0.000	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Probe Notes	Trap
65	.35	22.781	314	76	6	241	241
70	↓	24.530	314	76	6	241	241
75		26.254	315	76	6	244	243
80		28.012	315	76	6	244	243
85		29.[illegible]	315	76	6	243	242
90	↓	[illegible]	315	76	6	243	242
		31.355					
Total			5686	1357			
Average			315.9	75.4			

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [I] 0.000	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Probe Notes	Trap
65	.35	22.389	314	77	5	241	241
70	↓	24.690	314	77	5	241	241
75		26.772	315	77	5	244	243
80		27.883	315	77	5	244	243
85		29.50	315	77	5	243	242
90	↓		315	77	5	243	241
			31.410				
Total							
Average							

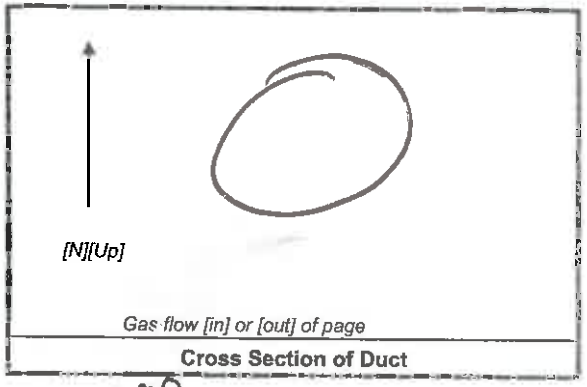
AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 2

Page	1	of	2

Client	Big Rivers
Plant	Coleman
Location	Esp Out 3
Date	7/13/11
Project No.	
Meter Reader	EA



Barometric (in. Hg)	29.65
Static (inH_2O)	-1.6
Ambient Temp. (^{0}F)	75
Start Time	6:47
Stop Time	8:17

Sample Train A — A — 1.000

Trap ID	94330	Meter ID	K19075	Yd	.9928
Pre Leak Check	.002		lpm @	10	(in. Hg)
Post Leak Check			lpm @		(in. Hg)

Min/Point 5	Flow Meter Setting	Gas Sample Initial [l]	Stack Temp (^{0}F)	DGM Temp (^{0}F)	Pump Vaccum (in Hg)	Probe Notes	Trap
Elapsed Time		0000					
5	.75	1.513	309	72	4	239	236
10		3.240	307	72	4	239	236
15		5.230	307	72	4	239	236
20		7.1006	309	74	5	241	240
25		8.818	309	74	5	241	240
30		10.518	309	74	5	241	240
35		12.142	310	77	5	244	243
40		14.090	310	77	5	244	243
45		15.602	310	77	5	244	243
50		17.602	310	80	5	243	242
55		19.168	310	80	5	243	242
60		20.758	310	80	5	243	242
Total		31.402	3708	909			
Average			309.3	78.4			

Sample Train B Spiked — B — 1.000

Trap ID	94362	Meter ID	K19075	Yd	.7956
Pre Leak Check	.000		lpm @	10	(in. Hg)
Post Leak Check			lpm @		(in. Hg)

Min/Point 5	Flow Meter Setting	Gas Sample Initial [l]	Stack Temp (^{0}F)	DGM Temp (^{0}F)	Pump Vaccum (in Hg)	Probe Notes	Trap
Elapsed Time		0.000					
5	.35	1.811	307	73	5	239	236
10		3.212	309	73	5	239	236
15		5.012	309	73	5	239	236
20		7.019	309	75	5	241	240
25		8.775	309	75	5	241	240
30		10.185	309	75	5	241	240
35		12.108	310	78	5	244	243
40		14.209	310	78	5	244	243
45		16.496	310	78	5	244	243
50		17.642	310	79	5	243	242
55		19.001	310	80	5	243	242
60		21.147	310	81	5	243	242
Total		31.397	3708	918			
Average			309.3	76.1			

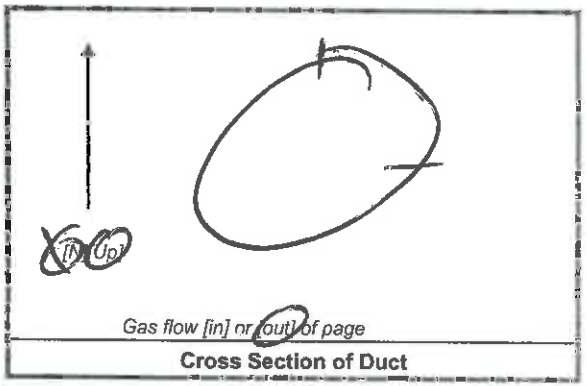
AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 3

Page	2	of	2

Client	Big Rivers
Plant	Coleman
Location	Esp Out 3
Date	7/13/11
Project No.	
Meter Reader	EA



Cross Section of Duct

Barometric (in. Hg)	29.65
Static (inH_2O)	-1.6
Ambient Temp. (°F)	75
Start Time	6:47
Stop Time	8:17

Sample Train A

Trap ID	94430	Meter ID	A RM075	Yd	.9928
Pre Leak Check	.002	lpm @	10	(in. Hg)	
Post Leak Check	.003	lpm @	10	(in. Hg)	

Sample Train B Spiked

Trap ID	94362	Meter ID	RM075B	Yd	.9951
Pre Leak Check	.000	lpm @	10	(in. Hg)	
Post Leak Check	.002	lpm @	10	(in. Hg)	

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.000	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	PROBE Notes	TRAP
65	.35	22.803	310	81	6	243	243
70		24.725	310	82	6	243	243
75		26.182	310	84	6	243	243
80		27.852	310	85	6	244	243
85		29.892	310	85	6	244	240
90		31.407	310	85	6	244	243
Total		31.407	1860	502			
Average			309.3	78.4			

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.000	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	PROBE Notes	TRAP
65	.35	22.672	310	82	5	243	243
70		24.478	310	84	5	243	243
75		26.326	310	85	5	243	243
80		27.934	310	85	5	244	244
85		29.523	310	85	5	244	244
90		31.397	310	85	5	243	243
Total		31.397	1860	506			
Average			309.3	79.1			

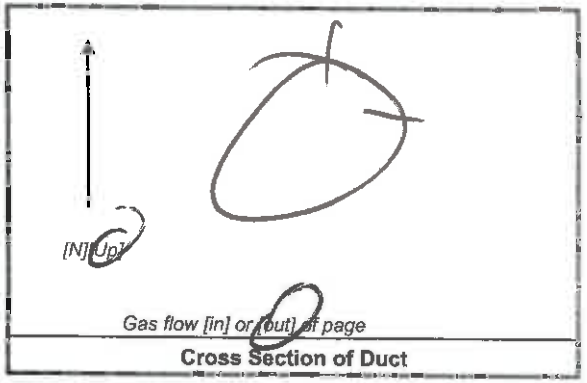
AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 3

Page	1	of	2

Client	Big Rivers
Plant	Coleman
Location	ESP Oct 3
Date	7/13/11
Project No.	
Meter Reader	EA



Cross Section of Duct

Barometric (in. Hg)	28.65
Static (inH_2C)	-1.6
Ambient Temp. (°F)	80
Start Time	850
Stop Time	1020

Sample Train A

Trap ID	94333	Meter ID	RIG075A	Yd	.9928
Pre Leak Check	.003	lpm @	10	(in. Hg)	
Post Leak Check	.003	lpm @	10	(in. Hg)	

Sample Train B Spiked

Trap ID	94385	Meter ID	RIG075B	Yd	.9956
Pre Leak Check	.001	lpm @	10	(in. Hg)	
Post Leak Check	.001	lpm @	10	(in. Hg)	

Min/Point 5 — Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.000	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	PROBE Notes	TRAP
5	.35	1.950	316	90	4	253	252
10		3.427	316	91	4	253	252
15		4.952	316	92	4	253	252
20		6.925	315	93	4	245	244
25		8.730	314	93	4	245	244
30		10.653	314	93	4	245	244
35		12.420	317	94	4	246	243
40		14.113	316	95	4	244	243
45		15.813	317	96	4	244	243
50		17.319	317	97	4	244	243
55		19.190	317	98	4	244	243
60		20.860	317	98	4	244	243
Total		31.424	3792	1130			
Average			316.4	95.7			

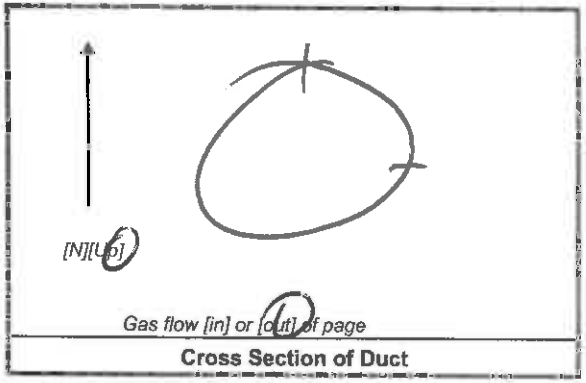
Min/Point 5 — Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.000	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	PROBE Notes	TRAP
5	.35	2.120	316	92	5	253	252
10		3.342	316	92	5	253	252
15		4.725	316	93	5	253	252
20		6.599	315	93	5	245	244
25		8.781	314	93	5	245	244
30		10.280	314	93	5	245	244
35		12.194	317	93	5	244	243
40		14.362	316	94	5	244	243
45		15.692	317	95	5	244	243
50		17.239	317	96	5	244	243
55		19.111	317	97	5	244	243
60		20.400	317	97	5	244	243
Total		17.510	3742	1128			
Average			316.4	95.6			

AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 3

Client	Big Rivers
Plant	Coleman
Location	ESP Out 3
Date	7/13/11
Project No.	
Meter Reader	EA



Cross Section of Duct

Barometric (in. Hg)	29.65
Static (inH_2O)	-1.6
Ambient Temp. (°F)	80
Start Time	850
Stop Time	1020

Sample Train A

Trap ID	94333	Meter ID	R19075A	Yd	.9928
Pre Leak Check	.003	lpm @	10	(in. Hg)	
Post Leak Check	.003	lpm @	10	(in. Hg)	

Sample Train B Spiked

Trap ID	94305	Meter ID	R19073B	Yd	.9956
Pre Leak Check	.001	lpm @	10	(in. Hg)	
Post Leak Check	.001	lpm @	10	(in. Hg)	

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.000	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Probe Notes	Trap
65	.35	22.539	317	98	5	244	243
70		24.500	317	98	5	244	243
75		27.112	317	99	5	244	243
80		28.011	317	99	5	244	243
85		29.800	317	99	5	244	243
90		31.424	318	100	5	244	243
Total		31.424	1903	593			
Average			316.4	98.7			

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.000	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Probe Notes	Trap
65	.35	22.500	317	98	5	244	243
70		24.389	317	99	5	244	243
75		27.059	317	99	5	244	243
80		28.215	317	99	5	244	243
85		29.706	317	99	5	244	243
90		31.510	318	99	5	244	243
Total		31.510	1907	593			
Average			316.4	98.6			

AIRTECH ENVIRONMENTAL SERVICES INC.

Velocity and Moisture Data Sheet

RUN NO. 1

Client	Big Rivers		
Plant	Big Rivers Henderson, KY		
Location	Coleman		
Date	7-12-11	Project No.	3C4E
Meter Operator	DG		
Probe Operator	EA		

[N] [Up]

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Method 2

Barometric (inHg)	29.4	Probe ID	
Ambient Temp (°F)	80	Duct Dim. (in)	132"
Static (inH_2O)	-1.6	Port Lgth (in.)	19"

Method 4

Meter ID	M-20	Yd	.9952	Pitot Cp	.84
Pre-Test Leak Check	@ .02	CFM @	14	(In. Hg)	
Post-Test Leak Check	@ .02	CFM @	12	(In. Hg)	
Start Time	16:00	Stop Time	17:30	Water [ml]	38
Silica gel (g)	4.0				

Min/Point 5 / Elapsed Time	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [I] 189.26	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (In Hg)	Notes
5	1.6	193.00	66	81	79	4	
10	1.6	196.22	62	81	79	4	
15	1.6	199.65	60	82	80	4	
20	1.6	203.15	60	82	79	4	
25	1.6	206.65	60	84	79	4	
30	1.6	209.89	62	84	79	4	
35	1.6	213.74	61	85	80	4	
40	1.6	217.29	62	87	80	4	
45	1.6	220.83	62	88	80	4	
50	1.6	224.38	62	86	79	4	
55	1.6	227.93	62	86	80	4	
60	1.6	231.47	62	85	79	4	
Total							
Average							

Run Number		
Start Time		
Stop Time		
Pre Leak Check		
Post Leak Check		
Points	Pressure ΔP (In H_2O)	Stack Temp (°F)
1	.92	317
2	.88	315
3	.91	315
4	.91	315
5	.91	317
6	.85	320
7	.88	317
8	.75	317
9	.78	316
10	1.86	290
11	1.89	278
12	.87	280
Total		
Average		

Run Number		
Start Time		
Stop Time		
Pre Leak Check		
Post Leak Check		
Points	Pressure ΔP (In H_2O)	Stack Temp (°F)
Total		
Average		

AIRTECH ENVIRONMENTAL SERVICES INC.
Velocity and Moisture Data Sheet

RUN NO. 1

Client	Big Rivers		
Plant	~~Big Rivers~~ Henderson, KY		
Location	Coleman		
Date	7-12-11	Project No.	3648
Meter Operator	DG		
Probe Operator	EA		

[N] [Up]

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Method 2

Barometric (inHg)		Probe ID	
Ambient Temp (°F)		Duct Dim. (in)	
Static (inH_2O)		Port Lgth (in.)	

Method 4

Meter ID	M-20	Yd		Pitot Cp	
Pre-Test Leak Check		CFM @			(In. Hg)
Post-Test Leak Check		CFM @			(In. Hg)
Start Time		Stop Time		Water [ml]	Silica gel (g)

Min/Point 5 / Elapsed Time	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [I] 231.47	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (In Hg)	Notes
65	1.6	235.02	62	86	79	4	
70	1.6	238.56	61	85	80	4	
75	1.6	242.11	62	87	80	4	
80	1.6	245.76	62	87	80	4	
85	1.6	249.19	62	86	80	4	
90	1.6	252.75	63	85	80	4	
Total							
Average							

Run Number		
Start Time		
Stop Time		
Pre Leak Check		
Post Leak Check		

Points	Pressure ΔP ($In H_2O$)	Stack Temp (°F)
Total		
Average		

Run Number		
Start Time		
Stop Time		
Pre Leak Check		
Post Leak Check		

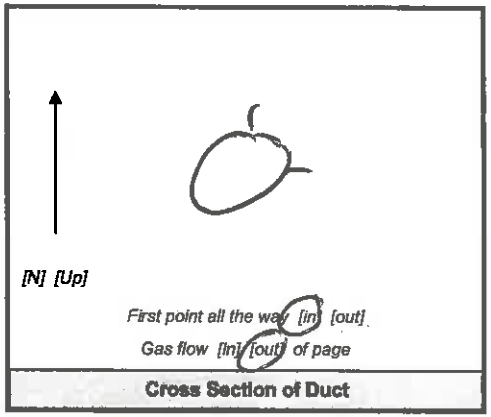
Points	Pressure ΔP ($In H_2O$)	Stack Temp (°F)
Total		
Average		

AIRTECH ENVIRONMENTAL SERVICES INC.
Velocity and Moisture Data Sheet

RUN NO. 2

Page	1	of	2

Client	Big Rivers		
Plant	Coleman		
Location	ESP #3		
Date	7-13-11	Project No.	3648
Meter Operator	DG		
Probe Operator	EA		



Method 2

Barometric (inHg)	29.65	Probe ID	
Ambient Temp (°F)	75	Duct Dim. (in)	132"
Static (inH_2O)	-1.6	Port Lgth (in.)	19"

Method 4

Meter ID	M-20	Yd	.9952	Pitot Cp	.84
Pre-Test Leak Check	0.00	CFM @	15	(In. Hg)	
Post-Test Leak Check	0.00	CFM @	14	(In. Hg)	
Start Time	6:47	Stop Time	8:17		

Water [ml]	40	Silica gel (g)	3.5

Min/Point 5 / Elapsed Time	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [I] 253.887	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)	Notes
5	1.6	257.51	54	75	74	4	
10		261.06	54	76	76	4	
15		264.58	54	78	75	4	
20		268.09	54	82	76	4	
25		271.65	55	83	76	3	
30		275.52	55	86	78	4	
35		278.90	55	88	79	4	
40		282.52	56	89	81	4	
45		286.14	57	91	81	4	
50		289.81	58	91	82	4	
55		293.38	59	92	82	3	
60	↓	297.01	59	93	84	3	
Total			670	1024	942		
Average							

Run Number	2
Start Time	6:47
Stop Time	6:57
Pre Leak Check	✓
Post Leak Check	✓

Points	Pressure ΔP ($in H_2O$)	Stack Temp (°F)
1	.85	312
2	.83	312
3	.80	312
4	.76	313
5	.73	312
6	.71	311
7	.68	311
8	.68	311
9	.66	310
10	.61	311
11	.60	311
12	.75	311
Total		
Average		

Run Number	
Start Time	
Stop Time	
Pre Leak Check	
Post Leak Check	

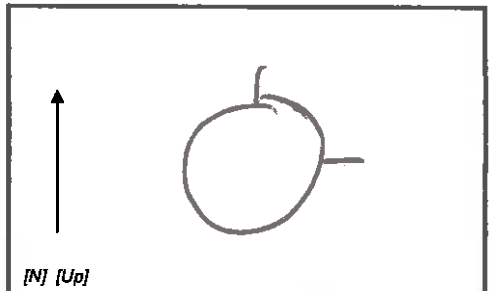
Points	Pressure ΔP ($in H_2O$)	Stack Temp (°F)
Total		
Average		

AIRTECH ENVIRONMENTAL SERVICES INC.
Velocity and Moisture Data Sheet

RUN NO. 2

Page	2	of	2

Client	Big Rivers		
Plant	Coleman		
Location	ESP #3		
Date	7-12-11	Project No.	
Meter Operator	DG		
Probe Operator	EA		



Cross Section of Duct

Method 2

Barometric (inHg)	29.65	Probe ID	
Ambient Temp (°F)	75	Duct Dim. (in)	132"
Static (inH_2O)	-1.6	Port Lgth (in.)	19"

Method 4

Meter ID	M-20	Yd	.9952	Pitot Cp	.84
Pre-Test Leak Check		✓	CFM @		(In. Hg)
Post-Test Leak Check		✓	CFM @		(In. Hg)
Start Time	6:47	Stop Time		Water [ml]	Silica gel (g)

Min/Point 5 Elapsed Time	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [I] 297.01	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (In Hg)	Notes
75	1.6	300.63	59	95	84	4	
80	↓	304.26	60	95	85	3	
85		307.89	60	96	86	3	
90		311.52	61	98	87	4	
95		315.16	61	98	87	3	
100	↓	318.78	61	98	87	4	
			362	580	946		
			1670				
			1032				
			÷15				
Total				1678	1458		
Average		64.91	57.3	3062 ÷ 36		4	

= 85.0%

Run Number	2
Start Time	6:47
Stop Time	6:57
Pre Leak Check	✓
Post Leak Check	✓

Points	Pressure ΔP ($In H_2O$)	Stack Temp (°F)
Total		
Average		

Run Number	
Start Time	
Stop Time	
Pre Leak Check	
Post Leak Check	

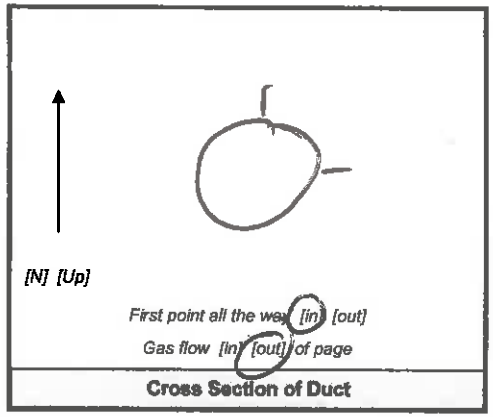
Points	Pressure ΔP ($In H_2O$)	Stack Temp (°F)
Total		
Average		

AIRTECH ENVIRONMENTAL SERVICES INC.
Velocity and Moisture Data Sheet

RUN NO. 3

Page	1	of	2

Client	Big Rivers		
Plant	Coleman		
Location	ESP #3		
Date	7-13-11	Project No.	36-18
Meter Operator	DG		
Probe Operator	EA		



Cross Section of Duct

Method 2

Barometric (inHg)	29.65	Probe ID	AE2-12-2
Ambient Temp (°F)	~80	Duct Dim. (in)	132"
Static (inH_2O)	-1.6	Port Lgth (in.)	19"

Method 4

Meter ID	M-20	Yd	.9952	Pitot Cp	.84
Pre-Test Leak Check	.000		CFM @	15	(In. Hg)
Post-Test Leak Check	.000		CFM @	10	(In. Hg)
Start Time	850	Stop Time	1020	Water [ml]	32
Silica gel (g)	4.0				

Min/Point	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [I] 319.00	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (In Hg)	Notes
Elapsed Time							
5	1.6	322.58	68	93	92	3	
10		326.17	68	93	92	3	
15		329.75	68	101	93	3	
20		333.34	58	101	93	3	
25		336.49	56	103	94	3	
30		340.66	53	105	95	3	
35		344.20	50	105	95	3	
40		347.82	50	107	96	3	
45		351.43	49	107	97	3	
50		355.06	50	108	98	3	
55		358.69	49	108	99	3	
60		362.45	49	110	100	3	
Total	(6)		668	1241	1144		
Average	1.6						

Run Number	3
Start Time	
Stop Time	
Pre Leak Check	—
Post Leak Check	—

Points	Pressure ΔP ($In H_2O$)	Stack Temp (°F)
1	.83	319
2	.85	319
3	.84	319
4	.82	319
5	.75	318
6	.75	318
7	.69	317
8	.69	317
9	.65	317
10	.67	317
11	.69	317
12	.75	317
Total		
Average		

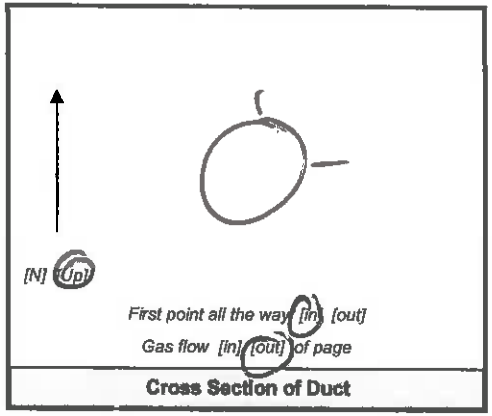
Run Number	
Start Time	
Stop Time	
Pre Leak Check	
Post Leak Check	

Points	Pressure ΔP ($In H_2O$)	Stack Temp (°F)
Total		
Average		

AIRTECH ENVIRONMENTAL SERVICES INC.
Velocity and Moisture Data Sheet

RUN NO. 3

Client	Big Rivers		
Plant	Coleman		
Location	ESP Out 3		
Date	7/13/11	Project No.	
Meter Operator	PG		
Probe Operator	EA		



Cross Section of Duct

Method 2

Barometric (inHg)	29.65	Probe ID	AE2-12-2
Ambient Temp (°F)	~80	Duct Dim. (in)	132"
Static (inH_2O)	-1.6	Port Lgth (in.)	19"

Method 4

Meter ID	M-20	Yd	.9952	Pitot Cp	.84
Pre-Test Leak Check	.000	CFM @	15	(In. Hg)	
Post-Test Leak Check	.000	CFM @	10	(In. Hg)	
Start Time		Stop Time		Water [ml]	32
Silica gel (g)					

Run Number	3
Start Time	
Stop Time	
Pre Leak Check	
Post Leak Check	

Points	Pressure ΔP ($in H_2O$)	Stack Temp (°F)
Total		
Average		

Run Number	
Start Time	
Stop Time	
Pre Leak Check	
Post Leak Check	

Points	Pressure ΔP ($in H_2O$)	Stack Temp (°F)
Total		
Average		

Min/Point 5 / Elapsed Time	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [I] 319.00	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (In Hg)	Notes
65	1.6	366.25	49	109	100	3	
70		369.59	49	110	101	3	
75		373.23	49	110	101	3	
80		376.88	49	111	102	3	
85		380.52	48	111	102	3	
90		384.18	49	111	102	3	
		319.00	293	662	608	3	
		65.18	+168	+1244	+1144		
			÷ 18	÷ 36	÷ 36		
Total		65.18	961	1903	1752		
Average			53	36.55			

÷ 36

= 101.5

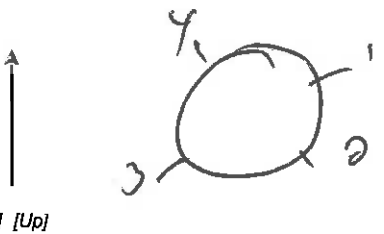
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Particulate

RUN NO. 1 METHOD NO. 5B/202 Page 1 of 1

Client	WKE			Barometric (inHg)	28.90	Water [ml] [g]	
Plant	Hawesville, Ky Coleman station			Ambient Temp (°F)	82	Silica gel (g)	
Location	Stack outlet			Static (inH_2O)	-2	Total Vic	
Date	7-8-11	Project No.	3648	Probe ID	M-10-7	Liner Type	Glass
Meter Operator	CS			Nozzle ID	.248	Nozzle Dia (in)	.248
Probe Operator	SH			Filter ID	121.37		
Meter ID	M-3	Yd	.9891	Pitot Cp	.84	Train ID	FB	Train Type	
ΔH@	1.807	Kf	2.8	Leak check	✓	Duct Dim (in)	358	Port Length (in)	14
Pre Leak Check	.000	[cfm] [lpm] @	18	(inHg)					
Post Leak Check	.000	[cfm] [lpm] @	16	(inHg)		Start Time	10:08	Stop Time	11:53



First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point 7.5 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft^3] [l] 199.75	Stack Temp (°F)	Probe Temp (°F) 320	Filter Temp (°F) 320	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)	Filter	Notes
1-1	7.5	.50	1.4	204.75	135	320	307	59	80	80	9	N/A	72	Init 199.75
2	15	.53	1.5	209.75	135	324	305	56	80	80	9		74	
3	22.5	.47	1.3	214.62	135	320	320	55	84	81	10		75	
3-1	30	.49	1.4	219.46	134	317	321	57	86	81	10		75	
2	37.5	.50	1.5	224.58	134	320	320	57	87	81	10			
3	45	.50	1.4	229.74	134	321	321	58	89	82	10			
2-1	52.5	.54	1.5	234.82	134	324	321	59	86	84	10			
2	60	.52	1.5	239.98	134	321	321	61	87	84	10			
3	67.5	.48	1.3	244.97	134	319	325	60	90	85	10			
1-1	75	.42	1.1	249.51	133	320	323	59	92	86	9			
2	82.5	.45	1.3	254.13	133	320	320	58	93	86	9			
3	90	.42	1.1	258.64	133	319	319	58	94	87	9			
Total			26.1	58.94	1608				1059	999				
Average			.358		134				85.291					
			1.63											

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

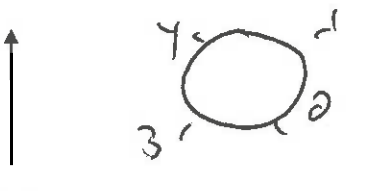
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Particulate

RUN NO. 2 METHOD NO. 5D/202 Page 1 of 1

Client	UKe						Barometric (inHg)	29.90	Water [ml] [g]		
Plant	Hawsville Ky						Ambient Temp (°F)	105	Silica gel (g)		
Location	Stack outlet						Static (inH_2O)	.2	Total Vlc		
Date	7-12-11	Project No	3648				Probe ID	AES-10-1	Liner Type	6LP	
Meter Operator	C.S						Nozzle ID	.235	Nozzle Dia (in)	.235	
Probe Operator	C.S						Filter ID	ID130			
Meter ID	M-7	Yd	.9799	Pitot Cp	.84		Train ID	IB	Train Type	IM	
ΔH@	1.815	Kf	2.45	Leak check	✓		Duct Dim (in)	35S	Port Lngth (in)	14	
Pre Leak Check	.000	[cfm] [lpm] @	18	(inHg)							
Post Leak Check	.000	[cfm] [lpm] @	15	(inHg)			Start Time	9:50	Stop Time	11:42	



First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point 7.5 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft^3] [l] 65.30	Stack Temp (°F)	Probe Temp (°F) 320	Filter Temp (°F) 320	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1-1	7.5	1.7	1.2	90.19	136	321	319	65	98	98	6	70		ΔP.48
2	15	.54	1.3	95.07	137	323	324	63	101	98	6	70		
3	22.5	.50	1.2	99.71	137	324	325	62	103	99	6	70		
2-1	030	.50	1.2	104.35	136	325	324	61	101	100	7	71		
2	37.5	.52	1.3	108.99	137	324	324	59	104	100	7	71		
3	45	.47	1.2	113.96	137	325	324	57	105	100	7	71		
3-1	505	.52	1.3	118.73	137	319	324	57	103	101	8	71		
2	60	.50	1.3	123.50	137	320	324	57	106	101	8	71		
3	67.5	.49	1.3	128.01	137	321	322	58	109	102	8	72		
4-1	75	.53	1.3	132.81	137	321	321	59	107	102	9	72		
2	82.5	.53	1.3	137.63	137	322	321	61	108	103	11	72		
3	90	.48	1.3	142.44	137	323	321	62	110	103	12	70		
Total		8.52	15.60	57.14	1642				1255	1206				
Average		.7105	1.24		136.83				102.54					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

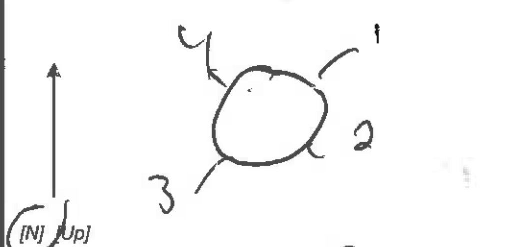
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Particulate

RUN NO. 3 **METHOD NO.** SB/1000

Client	Wke		
Plant	Hawesville Ky		
Location	Stack outlet		
Date	7-12-11	Project No	3648
Meter Operator	C-S		
Probe Operator	C-S		
Meter ID	M-7	Yd	.9799
ΔH@	1.815	Kf	2.45
Pitot Cp	.84	Leak check	✓
Pre Leak Check	.000 [cfm] [lpm] @	15	(inHg)
Post Leak Check	[cfm] [lpm] @		(inHg)



(IN) Up
First point all the way (in) [out]
Gas flow [in] (out) of page
Cross Section of Duct

Barometric (inHg)	29.90	Water [ml] [g]	
Ambient Temp (°F)	106	Silica gel (g)	
Static (inH$_2$O)	1.3	Total Vlc	
Probe ID	ACS-701	Liner Type	Glass
Nozzle ID	.235	Nozzle Dia (in)	.235
Filter ID	12131		
Train ID	IB	Train Type	Imp
Duct Dim. (in)	355	Port Lngth (in)	14
Start Time	12:30	Stop Time	

Traverse Point	Min/Point 7.5 Elapsed Time	Velocity Pressure ΔP (inH$_2$O)	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [ft³] [l] 142.85	Stack Temp (°F)	Probe Temp (°F) 320	Filter Temp (°F) 320	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
4-1	7.5	.51	1.3	147.95	136	322	325	64	99	99	6	72		
2	15	.51	1.3	152.90	137	324	325	62	101	99	6	73		
3	22.5	.47	1.2	157.72	137	325	324	60	103	100	6	73		
3-1	30	.54	1.3	162.68	137	324	324	58	101	101	6	73		
2	37.5	.52	1.3	167.51	137	324	324	57	104	101	6	73		
3	45	.47	1.2	172.19	137	325	323	56	105	101	6	73		
2-1	52.5	.54	1.3	177.05	137	324	322	57	103	101	6	74		
2	60	.52	1.3	181.88	137	325	324	59	104	101	6	74		
3	67.5	.50	1.2	186.54	136	325	324	60	105	101	6	74		
1-1	75	.48	1.2	191.42	137	324	325	61	103	102	7	74		
2	82.5	.50	1.2	196.07	137	324	325	62	105	102	7	74		
3	90	.45	1.1	200.72	137	325	325	62	107	102	7	74		
Total		8.4	14.98	57.87	1642				1244	1210				
Average		.7074	1.24		136.83				102.08					

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

Impinger Weights Data Sheet

PROJECT NO. 3648

Client	BiG RiVERS
Plant	HAWESVillE, KY
Location	STACK
Date	7/8/11 Unit
Operator	BC

Run No.	1				
Method No.	SB/202	Train ID	IB-17	Filter No.	12137
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	EmPTY	415.0	530.0	~~30~~	
Impinger No. 2	100ml DI	707.0	747.0		
Impinger No. 3	EmPTY	615.0	648.0		
Impinger No. 4	Silica	878.0	910.0		
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	2				
Method No.	SB/202	Train ID		Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	EmPTY	566.0			
Impinger No. 2	100ml DI	~~675.0~~			695.0
Impinger No. 3	EmPTY	650.0			
Impinger No. 4	Silica	846.0			
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	~~3~~ 2				
Method No.	SB/202	Train ID		Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	EmPTY	486.0	703.0	~~(0)~~	
Impinger No. 2	100ml DI	584.0	572.0		
Impinger No. 3	EmPTY	597.0	603.0		
Impinger No. 4	Silica	980.0	1010.0		
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

AIRTECH ENVIRONMENTAL SERVICES INC.

Impinger Weights Data Sheet

PROJECT NO. 364E

Page 2 of 2

Client	BIG RIVERS
Plant	HUDSON, KY, KY STACK
Location	
Date	7/12/11 Unit
Operator	BL

Run No.	3	Train ID		Filter No.	
Method No.	SB20 A				
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	EMPTY	522.0	751.0	229	
Impinger No. 2	DI	718.0	728.0		
Impinger No. 3	EMPTY	614.0	646.0		
Impinger No. 4	SILICA	929.0	963.0		
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.		Train ID		Filter No.	
Method No.					
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1					
Impinger No. 2					
Impinger No. 3					
Impinger No. 4					
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

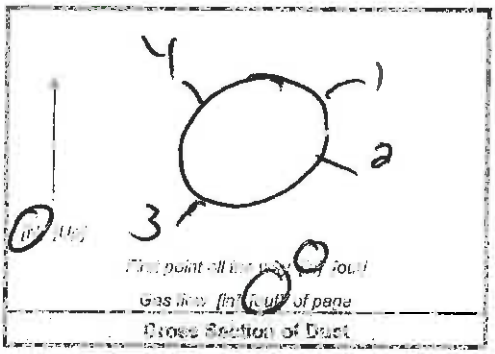
Run No.		Train ID		Filter No.	
Method No.					
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1					
Impinger No. 2					
Impinger No. 3					
Impinger No. 4					
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Airtech Environmental Services, Inc.

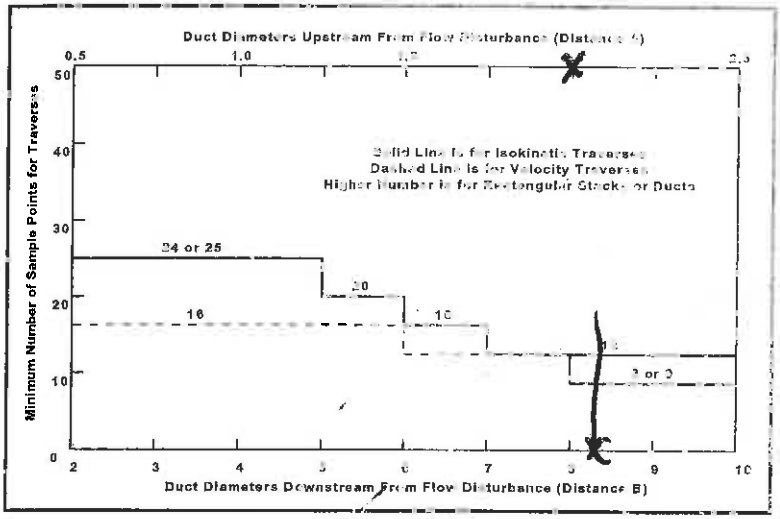
Method 1 Data Sheet

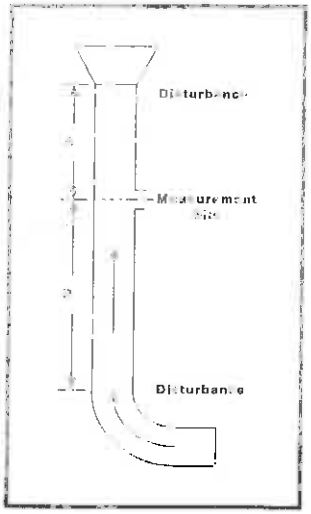
LOCATION stack outlet

Client	WKE
Project No.	3648
Plant	Hawesville Ky Cokenstation
Date	7-6-11
Technician	C.S
Duct Diameter (in.)	358
Port Diameter (in.)	6.0
Port Length (in.)	14.0
Port Type	Flange
Distance A (ft)	~60ft
Distance B (ft)	~250ft
Distance A (Duct Diameters)	2.011
Distance B (Duct Diameters)	8.379



For rectangular ducts $ED = \frac{2LW}{(L+W)}$





Location Schematic and Notes	Traverse Point	Distance (in.)
A=699.026D	1	29.60
	2	66.43
	3	119.92
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	11	
	12	
	13	
	14	
	15	
	16	

Indicate sample ports, height from grade, types of disturbances, access, obstruct configuration, etc.
Distance to point must include length of port

AIRTECH ENVIRONMENTAL SERVICES INC.
General Testing Data Sheet

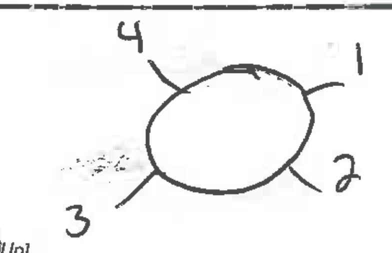
1:32

TESTING TYPE: HCl

RUN NO. 1 | METHOD NO. 26 A | Page 1 of 1

58 OD

Client	WKE				
Plant	Coleman station Hawesville Ky				
Location	Stack outlet				
Date	7/7/11	Project No.	3646		
Meter Operator	SH				
Probe Operator	C-S				
Meter ID	M-7	Yd	.9799	Pitot Cp	.84
ΔH@	1.815	Kf	3.05	Leak check	✓
Pre Leak Check	.002	[cfm] [lpm] @	16	(inHg)	
Post Leak Check	.000	[cfm] [lpm] @	12	(inHg)	



(N) Up

First point all the way (in) [out]

Gas flow [in] (out) of page

Cross Section of Duct

Barometric (inHg)	29.88	Water [ml] [g]	
Ambient Temp (°F)	90	Silica gel (g)	
Static (inH₂O)	-.2	Total Vlc	
Probe ID	AES-10-1	Liner Type	Glass
Nozzle ID	.249	Nozzle Dia (in)	.249
Filter ID	N/A		
Train ID	IB-10	Train Type	Imp
Duct Dim. (in)	358	Port Lngth (in)	14
Start Time	8:05	Stop Time	12:32

Traverse Point	Min/Point 20 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [ft³] [l] 615.39	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) [illegible]	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1-1	20	.53	1.6	629.39	139	255	259	78	92	91	5	NA		K= 3.05
2	40	.50	1.5	643.11	136	255	264	77	97	93	5			
3	60	.48	1.5	656.99	136	255	260	83	101	95	5			
2-1	80	.45	1.4	670.36	135	255	257	82	101	98	4			
2	100	.45	1.4	683.75	134	256	254	70	105	99	4			
3	120	.45	1.4	697.18	134	255	255	76	103	98	5			
3-1	140	.43	1.3	710.19	136	255	258	72	102	97	5			
2	160	.43	1.3	723.05	134	255	258	74	102	97	5			
3	180	.44	1.3	735.93	134	255	257	69	103	97	5			
4-1	200	.43	1.3	748.77	135	255	258	66	100	97	5			
2	220	.43	1.3	761.65	134	255	257	67	103	97	5			
3	240	.38	1.2	772.65	134	255	257	76	102	98	5			
Total		8.0431	16.5	157.26	1620				1211	1157				
Average		.6703	1.375		135				98.67					

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

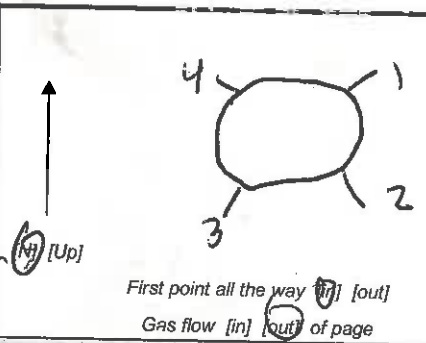
12:30

TESTING TYPE: HCl

RUN NO. 2 METHOD NO. 26A

Page 1 of 1

Client	WKE						
Plant	Hawesville Ky						
Location	Stack Outlet						
Date	7/27/11	Project No	3648				
Meter Operator	SH						
Probe Operator	CS						
Meter ID	M-2	Yd	.9799	Pitot Cp	.84		
ΔH@	1.815	Kf	3.05	Leak check	✓		
Pre Leak Check	.001	[cfm] [lpm] @	16	(inHg)			
Post Leak Check	.000	[cfm] [lpm] @	14	(inHg)			



Cross Section of Duct

Barometric (inHg)	~~29.85~~ 28.90	Water [ml] [g]	
Ambient Temp (°F)	~~84~~	Silica gel (g)	
Static (inH2O)	.2	Total Vlc	
Probe ID	AES-10.1	Liner Type	GLASS
Nozzle ID	.249	Nozzle Dia (in)	.249
Filter ID	N/A		
Train ID	IB 10 SH ~~+10 3810~~	Train Type	IMP
Duct Dim (in)	359	Port Lngth (in)	14
Start Time	6:41	Stop Time	11:31

Traverse Point	Min/Point 20 Elapsed Time	Velocity Pressure ΔP (inH2O)	Orifice Setting ΔH (inH2O)	Gas Sample Volume Initial [ft³] [l] 773.31	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
4 ~~SH~~-1	20	.45	1.4	786.30	134	255	254	71	83	82	4	NA		
2	40	.45	1.4	799.35	133	255	261	64	89	84	4			
3	60	.43	1.3	812.13	123	254	252	63	89	84	4			
3 ~~SH~~-1	80	.42	1.3	825.65	130	255	258	63	86	83	4			
2	100	.44	1.3	838.40	132	255	252	66	86	81	4			
3	120	.42	1.3	851.12	133	255	262	71	87	82	5			
2 ~~SH~~-1	140	.44	1.3	863.61	133	255	254	72	84	81	5			
2	160	.45	1.4	876.12	134	255	254	71	89	82	6			
3	180	.45	1.4	888.83	134	255	254	72	89	82	6			
1 ~~SH~~-1	200	.43	1.3	901.17	144	255	254	71	77	76	7			Filter Closed leak Chk
2	220	.43	1.3	914.65	137	255	251	69	~~68~~ 82	76	4			Start vol 912.71 gal
3	240	.43	1.3	927.62	134	255	250	72	85	80	4			New vol 913.09
														-.38
Total			16.0	153.93	1601				1026	973				
Average			1.33		133.42				83.29					

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

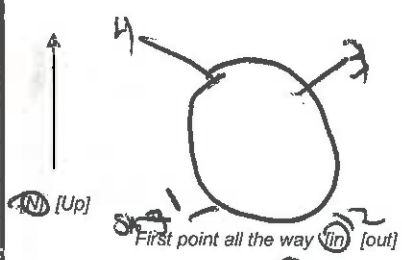
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: HCl

RUN NO. 3 METHOD NO. 26A Page 1 of 1

Client	LKE					Barometric (inHg)	28.90	Water [ml] [g]	
Plant	Hawesville ky					Ambient Temp (°F)		Silica gel (g)	
Location	Stack outlet					Static (inH_2O)	.2	Total Vlc	
Date	7/8/11	Project No	3648			Probe ID	AES-01	Liner Type	Glass
Meter Operator	SAA					Nozzle ID	.249	Nozzle Dia (in)	.249
Probe Operator	CS					Filter ID	N/A		
Meter ID	M-7	Yd	.9799	Pitot Cp	.84	Train ID	1B 14	Train Type	Imp
ΔH@	1.815	Kf	3.05	Leak check		Duct Dim (in)	35⅜	Port Lngth (in)	14
Pre Leak Check	.000	[cfm] [lpm] @	15	(inHg)					
Post Leak Check	.000	[cfm] [lpm] @	15	(inHg)		Start Time	11:49	Stop Time	



Cross Section of Duct

Traverse Point	Min/Point 20 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft³] [l]	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
				928.11		250	250							
1-1	20	.45	1.4	941.08	136	255	260	91	89	86	4	NA		
2	40	.45	1.4	954.12	135	255	251	82	93	88	4			
3	60	.44	1.3	967.10	134	255	259	81	96	90	4			
2-1	80	.47	1.4	980.33	134	255	261	90	96	91	4			
2	100	.45	1.4	993.67	134	255	250	68	96	91	4			
3	120	.44	1.3	1006.59	134	255	261	72	98	91	4			
3-1	140	.45	1.4	~~1008.72~~	134	255	256	83	93	90	4			1019.72 gas sample vol.
2	160	.44	1.3	1032.63	135	255	254	69	98	91	5			
3	180	.44	1.3	1045.63	135	255	262	68	106	94	6			
4-1	200	.44	1.3	1058.74	135	255	266	74	93	91	8			
2	220	.45	1.4	1072.25	134	253	254	66	94	90	13			
3	240	.44	1.3	1085.10	135	255	258	71	92	89	16			
Total			16.2	156.99	1615				1138	1082				
Average			1.35		134.58				92.5					

correct bracketed [ ] units
denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

Impinger Weights Data Sheet

PROJECT NO. 3648

Page ___ of ___

Client	BIG RIVER
Plant	HAWESVILLE, KY
Location	STACK
Date	
Operator	BC

Run No.	1			
Method No.	26A	Train #	IR-10	Filter No.

	Contents	Tare wt/Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	EMPTY	481.0	498.0		
Impinger No. 2	H2SO4	713.0	727.0		
Impinger No. 3	H2SO4	749.0	765.0		
Impinger No. 4	EMPTY	633.0	639.0		
Impinger No. 5	SILICA	881.0	913.0		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	2			
Method No.	26A	Train #		Filter No.

	Contents	Tare wt/Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	EMPTY	622.0	976.0		
Impinger No. 2	H2SO4	715.0	876.0		
Impinger No. 3	H2SO4	711.0	755.0		
Impinger No. 4	EMPTY	632.0	643.0		
Impinger No. 5	SILICA	880.0	912.0		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	3			
Method No.	26A	Train #	IR-14	Filter No.

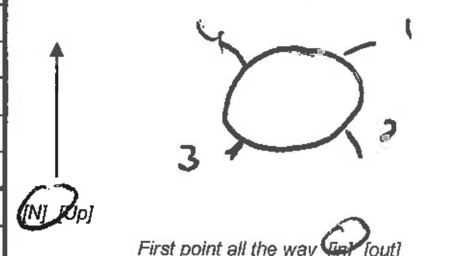
	Contents	Tare wt/Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	EMPTY	487.0	639.0		
Impinger No. 2	H2SO4	750.0	927.0		
Impinger No. 3	H2SO4	721.0	765.0		
Impinger No. 4	EMPTY	638.0	650.0		
Impinger No. 5	SILICA	879.0	917.0		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

AIRTECH ENVIRONMENTAL SERVICES INC.
General Testing Data Sheet

TESTING TYPE: Metals

RUN NO. 1 METHOD NO. 29 Page 1 of 1

Client	WKE				
Plant	Hawesville, Ky Coleman Station				
Location	Stack outlet				
Date	7-7-11	Project No.	3648		
Meter Operator	C.S				
Probe Operator	S.H				
Meter ID	M-3	Yd	.9891	Pitot Cp	.84
ΔH@	1.807	Kf	3.0	Leak check	✓
Pre Leak Check	.000	[cfm] [lpm] @	19	(inHg)	
Post Leak Check	.000	[cfm] [lpm] @	12	(inHg)	



Cross Section of Duct

Barometric (inHg)	29.85	Water [ml] [g]	
Ambient Temp (°F)	90	Silica gel (g)	
Static (inH₂O)	-.2	Total Vlc	
Probe ID	M-10-1	Liner Type	Glass
Nozzle ID	.248	Nozzle Dia (in)	.248
Filter ID	N/A		
Train ID	IB-25	Train Type	Imp
Duct Dim. (in)	358	Port Lngth (in)	14
Start Time	8:05	Stop Time	10:23

Traverse Point	Min/Point 10 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft³] [l] 956.20	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
4-1	10	.49	1.5	963.04	135	253	256	62	88	88	5	N/A		
2	20	.52	1.6	970.02	135	257	258	60	93	90	6			
3	30	.48	1.4	976.71	135	256	256	58	96	90	5			
3-1	40	.52	1.6	983.75	136	259	260	57	95	93	6			
2	50	.52	1.6	991.01	136	260	260	56	100	94	6			
3	60	.52	1.6	997.62	136	258	259	56	102	96	6			
2-1	70	.50	1.5	4.73	135	258	257	57	101	98	6			
2	80	.46	1.4	11.60	136	259	260	57	104	98	6			
3	90	.46	1.4	18.16	135	259	260	59	104	99	5			
1-1	100	.51	1.5	24.91	134	254	259	61	103	99	6			
2	110	.49	1.5	31.74	134	257	255	61	101	99	6			
3	120	.47	1.4	38.39	134	254	255	63	103	99	6			ΔH 1.4
Total		8.446	18	82.19	1621				1187	1145				
Average		.7034	1.5		135.08				97.16					

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

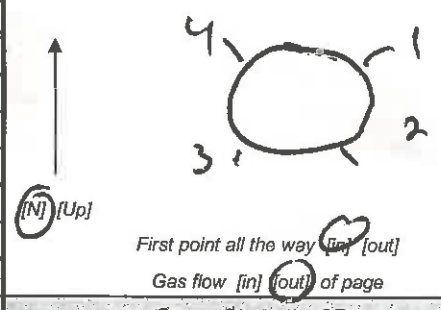
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Metals

RUN NO. 2 **METHOD NO.** 29 Page 1 of 1

Client	Wke					Barometric (inHg)	29.85	Water [ml] [g]	
Plant	Hawksville, Ky Coleman stak					Ambient Temp (°F)	94	Silica gel (g)	
Location	Stack outlet					Static (inH_2O)	-2	Total Vlc	
Date	7-7-11	Project No.	3648			Probe ID	M-10-1	Liner Type	Glass
Meter Operator	C-S					Nozzle ID	.248	Nozzle Dia (in)	.248
Probe Operator	SH					Filter ID	N/A		
Meter ID	M-3	Yd	.9891	Pitot Cp	.84	Train ID	IB -	Train Type	Imp
ΔH@	1.807	Kf	3	Leak check	✓	Duct Dim. (in)	358	Port Lngth (in)	14
Pre Leak Check	.000	[cfm] [lpm] @	17	(inHg)					
Post Leak Check	.000	[cfm] [lpm] @	15	(inHg)		Start Time	11:00	Stop Time	15:16



Traverse Point	Min/Point 10 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft^3] [l] 38.75	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1-1	10	.53	1.6	45.92	134	259	259	64	93	93	5	N/A		
2	20	.53	1.6	53.03	135	260	259	60	95	94	5			
3	30	.49	1.5	59.89	135	259	254	60	99	94	5			
2-1	40	.47	1.4	66.47	135	254	260	58	98	96	5			
2	50	.50	1.5	73.12	134	259	254	58	101	97	5			
3	60	.53	1.6	80.52	135	258	255	57	102	97	5			
3-1	70	.38	1.1	86.48	133	259	254	58	100	98	4			
2	80	.36	1.1	92.39	133	258	256	59	102	98	4			
3	90	.47	1.3	98.69	134	255	254	59	103	99	5			
4-1	100	.38	1.1	104.63	134	259	257	61	103	99	4			
2	110	.41	1.2	111.03	134	258	256	62	104	99	5			
3	120	.35	1.1	117.84	134	257	256	63	104	100	4			
Total		~~2.9896~~	~~10.1~~	78.39	1610				~~1110~~	~~1076~~	1164			
Average		.1658	1.34		134.16				98.66					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

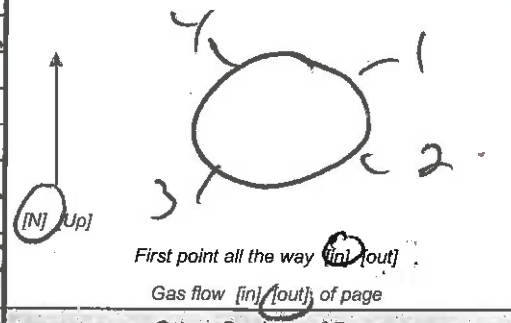
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Metals

RUN NO. 3 **METHOD NO.** 29 **Page** 1 **of** 1

Client	WKe					Barometric (inHg)	~~29.65~~ 28.90	Water [ml] [g]	
Plant	Hawesville, Ky Coleman station					Ambient Temp (°F)	~~94.80~~ 80	Silica gel (g)	
Location	Stack outlet					Static (inH_2O)	-.2	Total Vlc	
Date	7-11	Project No.	3648			Probe ID	M-10-1	Liner Type	Glass
Meter Operator	C.S					Nozzle ID	.248	Nozzle Dia (in)	.245
Probe Operator	SH					Filter ID	N/A		
Meter ID	M-3	Yd	.9891	Pitot Cp	.84	Train ID	FB-	Train Type	Imp
ΔH@	1.807	Kf	3.0	Leak check	✓	Duct Dim (in)	358	Port Lngth (in)	14
Pre Leak Check	.000	[cfm] [lpm] @	15	(inHg)					
Post Leak Check	.000	[cfm] [lpm] @	12	(inHg)		Start Time	~~806~~ 841	Stop Time	8158



Cross Section of Duct

Traverse Point	Min/Point 10 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft^3] [l]	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
4-1	10	.45	1.4	124.46	134	260	261	59	73	73	5	N/A		Initial 118.00
2	20	.52	1.6	131.31	134	259	258	57	76	74	5			
3	30	.44	1.3	137.71	133	258	260	55	80	76	5			
3-1	40	.42	1.3	144.16	134	257	259	56	82	77	5			
2	50	.46	1.4	150.61	134	260	259	56	84	77	5			
3	60	.54	1.6	157.60	133	259	260	56	85	77	6			
2-1	70	.54	1.6	164.76	132	257	259	58	85	83	6			
2	80	.52	1.6	171.81	132	259	260	58	86	83	6			
3	90	.44	1.3	178.21	130	258	258	59	91	84	6			
1-1	100	.52	1.6	185.22	132	256	259	60	92	85	6			
2	110	.52	1.6	192.25	130	256	254	60	93	86	6			
3	120	.41	1.2	~~196.47~~	132	256	255	61	94	87	6			
Total		~~6.3150~~	~~1.75~~	80.47	~~1594~~				1033	~~903~~				
Average		.6932	1.45		132.8					82.70				

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

Impinger Weights Data Sheet

PROJECT NO. 3648

Page ___ of ___

Client	BIG RIVERS
Plant	HAWESVILLE, KY
Location	STACK
Date	Unit
Operator	BC

Run No.	1				
Method No.	29	Train ID	IB-14	Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	EMPTY	644.0	697.0		
Impinger No. 2	5%, 10%	715.0	771.0		
Impinger No. 3	5%, 10%	682.0	690.0		
Impinger No. 4	EMPTY	593.0	594.0		
Impinger No. 5	SILICA	845.0	860.0		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

Run No.	2				
Method No.	29	Train ID	IB-25	Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	EMPTY	620.0	629.0		
Impinger No. 2	5%, 10%	706.0	777.0		
Impinger No. 3	5%, 10%	616.0	632.0		
Impinger No. 4	EMPTY	625.0	630.0		
Impinger No. 5	SILICA	958.0	974.0		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

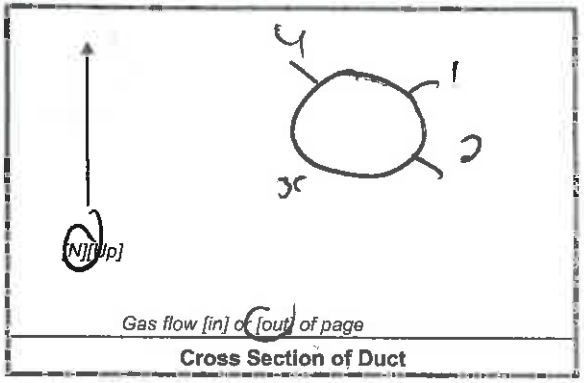
Run No.	3				
Method No.	29	Train ID	IB-25	Filter No.	
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	EMPTY	650.0	877.0		
Impinger No. 2	5%, 10%	721.0	780.0		
Impinger No. 3	5%, 10%	688.0	698.0		
Impinger No. 4	EMPTY	598.0	600.0		
Impinger No. 5	SILICA	861.0	875.0		
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)		

AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 1

Client	WKE
Plant	Hawesville Ky
Location	Stack outlet
Date	7-12-11
Project No.	3648
Meter Reader	C.S



Gas flow [in] of [out] of page

Cross Section of Duct

Barometric (in. Hg)	29.90
Static (inH_2O)	1.2
Ambient Temp. (^{0}F)	85
Start Time	16:00
Stop Time	17:30

Sample Train A 9501B

Trap ID	~~8825~~	Meter ID	25A	Yd	.9994
Pre Leak Check	.000	lpm @	15		(in. Hg)
Post Leak Check	.000	lpm @	10		(in. Hg)

Sample Train B Spiked

Trap ID	8825A	Meter ID	25B	Yd	1.007
Pre Leak Check	.000	lpm @	18		(in. Hg)
Post Leak Check	.000	lpm @	12		(in. Hg)

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.00	Stack Temp (^{0}F)	DGM Temp (^{0}F)	Pump Vaccum (in Hg)	Notes
5	.5	2.40	134	86	3	
10	.5	5.07	134	86	4	
15	.5	7.56	134	87	4	
20	.5	10.02	134	87	4	
25	.5	12.56	134	88	4	
30	.5	15.09	134	88	4	
35	.5	17.62	134	89	4	
40	.5	20.24	134	92	4	
45	.5	22.75	134	93	4	
50	.5	25.20	134	97	4	
55	.5	27.68	134	101	4	
60	.5	~~30.19~~ 29.99	134	103	4	
Total		45.27	1608	~~1094~~ 1079		
Average			134	97.2		

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.00	Stack Temp (^{0}F)	DGM Temp (^{0}F)	Pump Vaccum (in Hg)	Notes
5	.5	2.65	134	86	3	
10	.5	5.16	134	86	3	
15	.5	7.36	134	87	3	
20	.5	10.06	134	87	3	
25	.5	12.59	134	88	3	
30	.5	15.19	134	88	3	
35	.5	17.72	134	89	3	
40	.5	20.32	134	92	3	
45	.5	22.61	134	95	3	
50	.5	25.16	134	97	3	
55	.5	27.52	134	101	3	
60	.5	29.99	134	103	3	
Total		45.11	1608	1079		
Average			134	97.0		

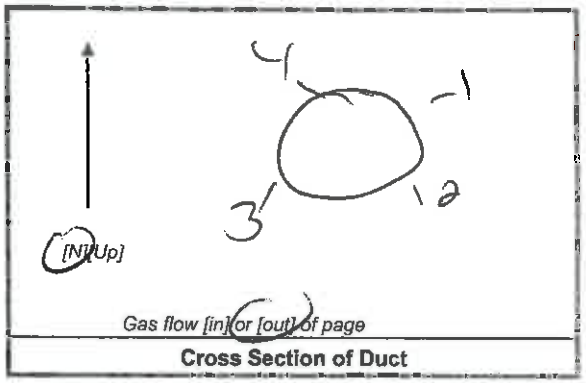
AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 1

Page	2	of	2

Client	Wke
Plant	Hunsville Ky
Location	Stack outlet
Date	7-12-11
Project No.	3648
Meter Reader	C.S



Cross Section of Duct

Barometric (in. Hg)	29.90
Static (inH_2O)	.2
Ambient Temp. (°F)	85
Start Time	16 ∝
Stop Time	

Sample Train A

Trap ID	95013	Meter ID	M05A	Yd	.9994
Pre Leak Check	.000		lpm @	15	(in. Hg)
Post Leak Check			lpm @		(in. Hg)

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [I] 0.00	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes
65	.5	32.79	134	105	4	
70	.5	35.22	134	107	4	
75	.5	37.74	134	109	4	
80	.5	40.25	134	110	4	
85	.5	42.76	134	110	4	
90	.5	45.27	134	111	4	
Total		45.27	804	652		
Average			134	97.27		

Sample Train B Spiked

Trap ID	88754	Meter ID	M05B	Yd	1.0017
Pre Leak Check	.000		lpm @	1.8	(in. Hg)
Post Leak Check			lpm @		(in. Hg)

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [I] 0.00	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes
65	.5	32.47	134	105	3	
70	.5	35.00	134	107	3	
75	.5	37.54	134	109	3	
80	.5	40.09	134	110	3	
85	.5	42.59	134	110	3	
90	.5	45.11	134	111	3	
Total		45.11	804	652		
Average			134	97.27		

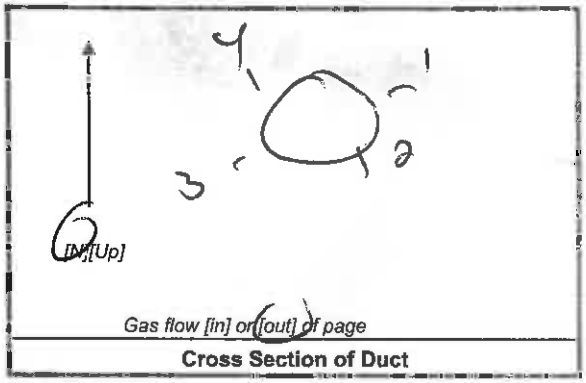
AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 2

Page 1 of 2

Client	Wlke
Plant	Hawsville Ky
Location	Stack outlet
Date	7-13-11
Project No.	3648
Meter Reader	C.S



Cross Section of Duct

Barometric (in. Hg)	29.9
Static (inH_2O)	.2
Ambient Temp. (°F)	80
Start Time	6:49
Stop Time	8:17

Sample Train A

Trap ID	94309	Meter ID	DSA	Yd	.9994
Pre Leak Check	.000	lpm @	15		(in. Hg)
Post Leak Check	.000	lpm @	10		(in. Hg)

Sample Train B Spiked 1.0017

Trap ID	88255	Meter ID	DSB	Yd	~~.9994~~
Pre Leak Check	.000	lpm @	16		(in. Hg)
Post Leak Check	.000	lpm @	8		(in. Hg)

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.00	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (In Hg)	Notes
5	1.5	2.39	135	85	4	
10	.5	4.89	135	87	4	
15	.5	7.52	135	88	4	
20	.5	10.07	135	90	4	
25	.5	12.54	135	91	4	
30	1.5	15.06	135	93	4	
35	1.5	17.56	135	95	4	
40	.5	20.08	135	97	4	
45	1.5	22.58	135	99	4	
50	.5	25.08	135	101	4	
55	.5	27.59	135	103	4	
60	.5	30.09	135	104	4	
Total			1620	1133		
Average			135			

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.00	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes
5	1.5	2.62	135	85	3	
10	.5	5.19	135	87	3	
15	.5	7.72	135	88	3	
20	.5	10.31	135	90	3	
25	1.5	12.86	135	91	3	
30	1.5	15.42	135	93	3	
35	.5	17.76	135	95	3	
40	1.5	20.24	135	97	3	
45	.5	22.79	135	99	3	
50	1.5	25.16	135	101	3	
55	.5	27.62	135	103	3	
60	1.5	30.10	135	104	3	
Total			1620	1133		
Average			135			

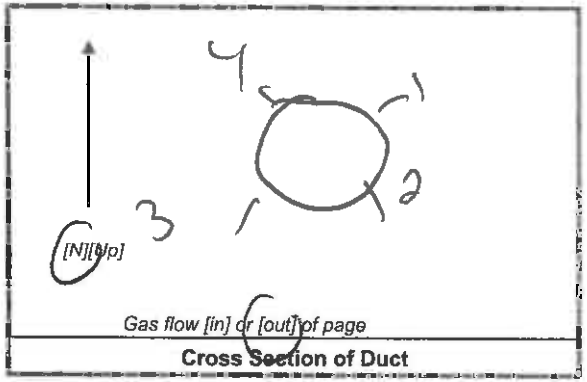
AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 2

Page	2	of	2

Client	WKE
Plant	Hawesville Ky
Location	Stack outlet
Date	7-13-11
Project No.	3648
Meter Reader	C.S



Cross Section of Duct

Barometric (in. Hg)	
Static (inH_2O)	12
Ambient Temp. (^{0}F)	82
Start Time	6:41
Stop Time	

Sample Train A

Trap ID	94309	Meter ID	DSA	Yd	.9994
Pre Leak Check	.000		lpm @	15	(in. Hg)
Post Leak Check	.000		lpm @	10	(in. Hg)

Sample Train B Spiked

Trap ID	88055	Meter ID	DSB	Yd	1.0017
Pre Leak Check	.000		lpm @	16	(in. Hg)
Post Leak Check	.000		lpm @	8	(in. Hg)

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.00	Stack Temp (^{0}F)	DGM Temp (^{0}F)	Pump Vaccum (in Hg)	Notes
65	1.5	32.59	135	104	4	
70	.5	35.11	135	105	4	
75	.5	37.63	135	107	4	
80	.5	40.16	135	107	4	
85	.5	42.66	135	108	4	
90	.5	45.19	135	108	4	
Total		45.19	810	639		
Average			135	98.44		

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.00	Stack Temp (^{0}F)	DGM Temp (^{0}F)	Pump Vaccum (in Hg)	Notes
65	1.5	39.60	135	104	3	
70	1.5	35.11	135	105	3	
75	.5	37.56	133	107	3	
80	.5	40.01	135	107	3	
85	.5	42.47	135	108	3	
90	.5	45.06	135	108	3	
Total		45.06	810	639		
Average			135	98.44		

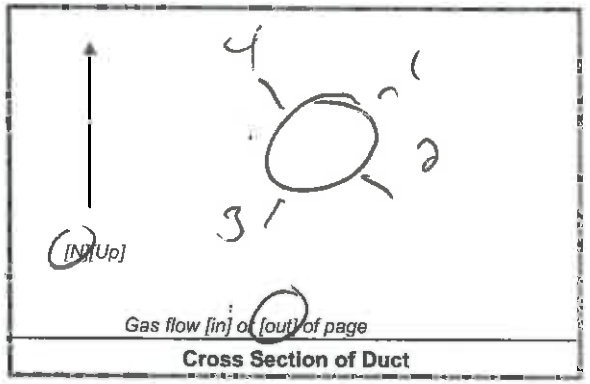
AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

5

Page	1	of	2

.ent	Wike
Plant	Hawsville KY
Location	Stack outlet
Date	7-13-11
Project No.	3648
Meter Reader	E.S



Cross Section of Duct

Barometric (in. Hg)	29.65
Static (inH_2O)	-.1
Ambient Temp. (°F)	85
Start Time	8:50
Stop Time	10:20

Sample Train A

Trap ID	94337	Meter ID	25A	Yd	.9994
Pre Leak Check	.000	lpm @	15	(in. Hg)	
Post Leak Check	.000	lpm @	10	(in. Hg)	

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [i] 0.00	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes
5	.5	2.46	133	96	6	
10	.5	5.03	133	98	6	
15	.5	7.54	133	98	6	
20	.5	10.07	133	100	6	
25	.5	12.59	133	101	6	
30	.5	15.09	133	102	6	
35	.5	17.57	133	103	6	
40	.5	20.08	133	105	6	
45	.5	22.59	133	106	6	
50	.5	25.22	133	108	6	
55	.5	27.56	133	109	6	
60	.5	30.24	137	110	6	
Total		45.31	~~1596~~	~~1036~~		
Average			133	105.7		

Sample Train B Spiked

Trap ID	87330	Meter ID	25B	Yd	1.001
Pre Leak Check	.000	lpm @	16	(in. Hg)	
Post Leak Check	.000	lpm @	9	(in. Hg)	

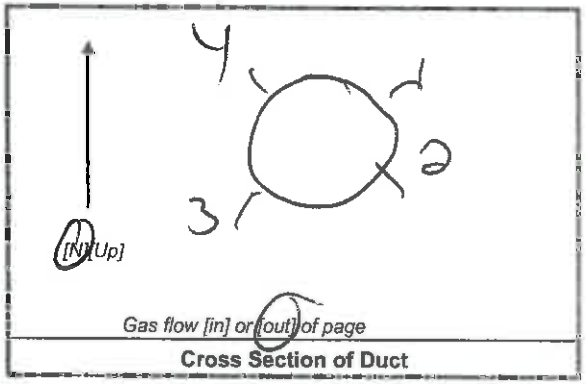
Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [i] 0.00	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes
5	.5	2.04	133	96	3	
10	.5	5.19	133	98	3	
15	.5	7.69	133	98	3	
20	.5	10.16	133	100	3	
25	.5	12.62	133	101	3	
30	.5	15.15	133	102	3	
35	.5	17.65	133	103	3	
40	.5	20.16	133	105	3	
45	.5	22.66	133	106	3	
50	.5	25.12	133	108	3	
55	.5	27.62	133	109	3	
60	.5	30.19	133	110	3	
Total		45.15	1596	1036		
Average			133	105.7		

AIRTECH ENVIRONMENTAL SERVICES INC.

Method 30B Data Sheet

Run No. 3

Client	WKE
Plant	Hawesville Ky
Location	Stack outlet
Date	7-13-11
Project No.	3648
Meter Reader	CS



Cross Section of Duct

Barometric (in. Hg)	29.05
Static (inH_2O)	-1.2
Ambient Temp. (°F)	85
Start Time	8:50
Stop Time	10:20

Sample Train A

Trap ID	99337	Meter ID	DSA	Yd	.9949
Pre Leak Check	.000	lpm @	15		(in. Hg)
Post Leak Check	.000	lpm @	10		(in. Hg)

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.00	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes
65	.5	32.54	133	110	6	
70	.5	35.24	133	111	6	
75	.5	37.79	133	111	6	
80	.5	40.29	133	112	6	
85	.5	42.80	133	112	6	
90	.5	45.37	133	112	6	
Total		45.37	798	668		
Average			133	105.7		

Sample Train B Spiked

Trap ID	87330	Meter ID	256	Yd	1.017
Pre Leak Check	.000	lpm @	16		(in. Hg)
Post Leak Check	.000	lpm @	9		(in. Hg)

Min/Point 5 Elapsed Time	Flow Meter Setting	Gas Sample Initial [l] 0.00	Stack Temp (°F)	DGM Temp (°F)	Pump Vaccum (in Hg)	Notes
65	.5	32.69	133	110	36	
70	.5	35.15	133	111	3	
75	.5	37.69	133	111	3	
80	.5	40.24	133	112	3	
85	.5	42.79	133	112	3	
90	.5	45.15	133	110	3	
Total		45.15	798	668		
Average			133	105.7		

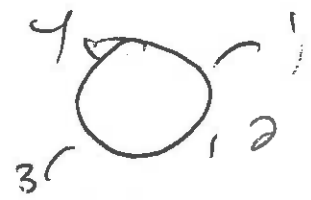
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Mostno

RUN NO. 1 **METHOD NO.** 4 Page 1 of 2

Client	Wlke					Barometric (inHg)	29.40	Water [ml] [g]	217
Plant	Hawesville Ky					Ambient Temp (°F)	85	Silica gel (g)	23
Location	Stack Outlet					Static (inH_2O)	0	Total Vlc	
Date	7-12-11	Project No.	3648			Probe ID	N/A	Liner Type	S.S
Meter Operator	C.S					Nozzle ID	N/A	Nozzle Dia (in)	N/A
Probe Operator	C.S					Filter ID	N/A		
Meter ID	M-7	Yd	.9799	Pitot Cp	N/A	Train ID	K.O	Train Type	KO
ΔH@	1.815	Kf	N/A	Leak check	[N]	Duct Dim (in)	358	Port Lngth (in)	14
Pre Leak Check	.020	[cfm] [lpm] @	19	(inHg)					
Post Leak Check	.000	[cfm] [lpm] @	19	(inHg)		Start Time	16:00	Stop Time	17:30



Traverse Point	Min/Point 5 / Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft^3] [l] 200.65	Stack Temp (°F)	Probe Temp (°F) N/A	Filter Temp (°F) N/A	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
	5	N/A	1.5	204.09	N/A			64	80	80	3			
	10		1.5	207.73				63	84	82	3			
	15		1.5	211.61				59	86	82	3			
	20		1.5	214.10				57	87	80	3			
	25		1.5	218.05				54	87	83	3			
	30		1.5	221.49				51	87	83	4			
	35		1.5	224.96				48	88	83	4			
	40		1.5	228.97				47	89	84	4			
	45		1.5	231.76				47	91	84	4			
	50		1.5	235.23				48	92	84	4			
	55		1.5	238.69				49	92	84	4			
	61		1.5	242.19				51	92	84	4			
Total			16.0	57.12					1057	997				
Average			1.3						86.97					

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Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

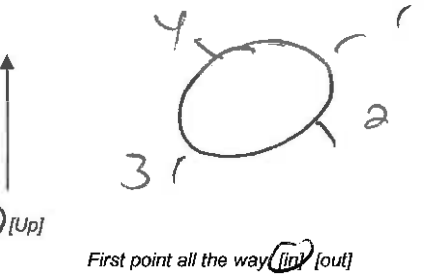
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Moisture

RUN NO. 1 METHOD NO. 4 Page 2 of 2

Client	WKe					Barometric (inHg)	29.90	Water [ml] [g]	
Plant	Hawsville Ky					Ambient Temp (°F)	85	Silica gel (g)	
Location	Stack Outlet					Static (inH2O)	-2	Total Vlc	
Date	7-12-11	Project No.	3648			Probe ID	N/A	Liner Type	S.S
Meter Operator	C.S					Nozzle ID	N/A	Nozzle Dia (in)	N/M
Probe Operator	C.S					Filter ID	N/A		
Meter ID	QM27	Yd	1.9799	Pitot Cp	N/A	Train ID	KO	Train Type	KO
ΔH@	1.815	Kf	N/A	Leak check	N	Duct Dim. (in)	358	Port Lngth (in)	14
Pre Leak Check	.000	[cfm] [lpm] @	14	(inHg)					
Post Leak Check	.000	[cfm] [lpm] @	12	(inHg)		Start Time	16:00	Stop Time	17:30



Cross Section of Duct

Traverse Point	Min/Point 5 Elapsed Time	Velocity Pressure Δh (inH2O)	Orifice Setting ΔH (inH2O)	Gas Sample Volume Initial [ft³] [l]	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
				200.85		N/A	N/A							
	65	1.5	N/A	245.66	N/A			53	93	85	4	N/A		
	70	1.5		248.14				54	94	85	4			
	75	1.5		250.14				54	94	85	4			
	80	1.5		253.10				55	95	85	4			
	85	1.5		255.58				56	95	85	4			
	90	1.5		258.06				59	96	85	4			
Total		90		57.12					567	510	1077			
Average		1.5							86.97					

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

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AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Moisture

RUN NO. 2

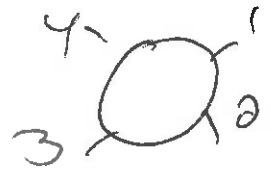
METHOD NO. 4

(C.S)

Page 1 of 2

Client	WKE					Barometric (inHg)	29.65 29.90	Water [ml] [g]	
Plant	Hawsville Ky					Ambient Temp (°F)	80	Silica gel (g)	
Location	Stack outlet					Static (inH_2O)	.2	Total Vlc	
Date	7-10-11	Project No	3648			Probe ID	N/A	Liner Type	S.S
Meter Operator	C.S					Nozzle ID	N/A	Nozzle Dia (in)	N/A
Probe Operator	C.C					Filter ID	N/A		
Meter ID	M-7	Yd	.9799	Pitot Cp	N/A	Train ID	K.O	Train Type	K.O
ΔH@	1.815	Kf	N/A	Leak check	N/A	Duct Dim (in)	358	Port Lngth (in)	14
Pre Leak Check	.000	[cfm] [lpm] @	18	(inHg)			6:47		
Post Leak Check	.000	[cfm] [lpm] @	14	(inHg)		Start Time	16:47	Stop Time	9:17

[In] [Up]



First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point 5 / Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft^3] [l] 265.90	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
	5	N/A	1.5	269.33	N/A			64	75	75	3	N/A		
	10		1.5	272.77				55	76	75	3			
	15		1.5	276.21				49	77	75	3			
	20		1.5	279.65				45	77	75	3			
	25		1.5	283.09				43	78	75	3			
	30		1.5	286.53				49	80	76	3			
	35		1.5	289.97				45	83	77	3			
	40		1.5	293.41				46	85	77	3			
	45		1.5	296.85				46	86	78	3			
	50		1.5	300.29				47	87	78	3			
	55		1.5	303.79				47	87	78	3			
	60		1.5	307.17				48	88	78	3			
Total			180	61.91					979 947		1976			
Average			1.5						81.22					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

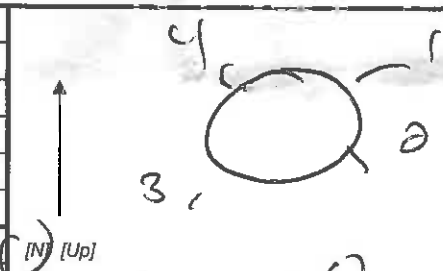
General Testing Data Sheet

TESTING TYPE: Moisture

RUN NO. 2 METHOD NO. 4

Page 2 of 2

Client	Wke					Barometric (inHg)	29.65	Water [ml] [g]	250
Plant	Hawsville KY					Ambient Temp (°F)	82	Silica gel (g)	25
Location	Stack outlet					Static (inH_2O)	.3	Total Vlc	
Date	7-13-11	Project No	3648			Probe ID	N/A	Liner Type	SS
Meter Operator	C.S					Nozzle ID	N/A	Nozzle Dia (in)	N/A
Probe Operator	C.S					Filter ID	N/A		
Meter ID	A-7	Yd	.9799	Pitot Cp	N/A	Train ID	N/A	Train Type	K.O
ΔH@	1.815	Kf	N/A	Leak check	N/A	Duct Dim (in)	358	Port Lngth (in)	14
Pre Leak Check	.006	[cfm] [lpm] @	18	(inHg)					
Post Leak Check		[cfm] [lpm] @		(inHg)		Start Time	6:47	Stop Time	18:17



Cross Section of Duct

Traverse Point	Min/Point 5 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ~~ΔH~~ (inH_2O)	Gas Sample Volume Initial [ft^3] [l]	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
				265.90		N/A	N/A							
	65	1.5	N/A	310.61	N/A			49	90	79	3	N/A		
	70	1.5		314.05				52	91	79	3			
	75	1.5		317.49				54	91	80	3			
	80	1.5		320.93				56	92	80	3			
	85	1.5		324.37				58	93	80	3			
	90	1.5		327.81				59	93	80	3			
Total		9.0		61.91					550	478	1008			
Average		1.5							91.66	79.66				

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Moisture

RUN NO. 3 **METHOD NO.** 4 Page 1 of 2

Client	WKE					Barometric (inHg)	29.65	Water [ml] [g]	748
Plant	Haxville Ky					Ambient Temp (°F)	85	Silica gel (g)	30
Location	Stack outlet					Static (inH_2O)	.2	Total Vlc	
Date	7-13-11	Project No.	3648			Probe ID	N/A	Liner Type	S.S
Meter Operator	C.S					Nozzle ID	N/A	Nozzle Dia (in)	N/A
Probe Operator	A.L					Filter ID	N/A		
Meter ID	M-1	Yd	.9799	Pitot Cp	N/A	Train ID	N/A	Train Type	K.O
ΔH@	1.815	Kf	N/A	Leak check	✓	Duct Dim. (in)	358	Port Lngth (in)	14
Pre Leak Check	.000	[cfm] [lpm] @	16	(inHg)					
Post Leak Check	.001	[cfm] [lpm] @	10	(inHg)		Start Time	8:30	Stop Time	10:20

[N] [Up]

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point 5 Elapsed Time	Velocity Pressure ΔP (inH_2O)	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [ft^3] [l]	Stack Temp (°F)	Probe Temp (°F)	Filter Temp (°F)	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
				329.15		N/A	N/A							
	5	N/A	1.5	330.67	N/A			63	93	90	2	N/A		
	10		1.5	336.08				60	93	90	3			
	15		1.5	339.45				57	95	90	3			
	20		1.5	342.90				54	97	93	3			
	25		1.5	346.39				53	99	93	3			
	30		1.5	349.80				53	100	94	3			
	35		1.5	353.37				49	102	95	3			
	40		1.5	356.86				49	102	95	3			
	45		1.5	360.35				50	103	95	3			
	50		1.5	363.87				50	103	91	3			
	55		1.5	367.33				52	104	95	3			
	60		1.5	370.88				54	104	96	3			
Total			18	40.30					1190	1173				
Average			1.5						99.11		2.917			

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

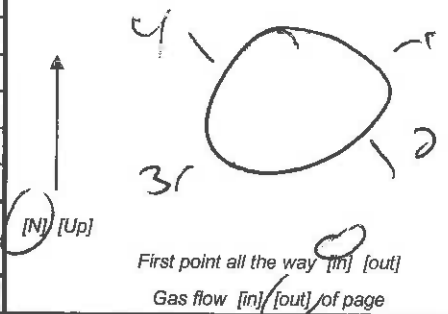
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: Moisture

RUN NO. 3 **METHOD NO.** 4 **Page** 2 **of** 2

Client	Wke					Barometric (inHg)	29.65	Water [ml] [g]	
Plant	Hawesville Ky					Ambient Temp (°F)	85	Silica gel (g)	
Location	Stack outlet					Static (inH_2O)	.0	Total Vlc	
Date	7-13-11	Project No	3645			Probe ID	N/A	Liner Type	S
Meter Operator	C.S					Nozzle ID	N/A	Nozzle Dia (in)	N/A
Probe Operator	C.S					Filter ID	N/A		
Meter ID	M-	Yd	.9799	Pitot Cp	N/A	Train ID	N/A	Train Type	Ku
ΔH@	1.615	Kf	N/A	Leak check	N	Duct Dim. (in)	358	Port Lngth (in)	14
Pre Leak Check	.000	[cfm] [lpm] @	16	(inHg)					
Post Leak Check	.000	[cfm] [lpm] @	16	(inHg)		Start Time	8:50	Stop Time	10:20



Cross Section of Duct

Traverse Point	Min/Point 5 Elapsed Time	Velocity Pressure ΔP [H] (inH_2O)	Orifice Setting ~~ΔH~~ (inH_2O)	Gas Sample Volume Initial [ft^3] [l] 379.15	Stack Temp (°F)	Probe Temp (°F) N/A	Filter Temp (°F) N/A	Impinger Outlet Temp (°F)	DGM inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
	65	1.5	N/A	371.32	N/A			56	104	96	3	N/A		
	70	1.5		377.75				58	104	97	3			
	75	1.5		381.78				59	105	97	3			
	80	1.5		384.61				60	105	97	3			
	85	1.5		388.04				61	107	98	3			
	90	1.5		391.47				61	107	98	3			
Total		9.0		12.32					632	583				
Average		1.5							105.3	98.1				

Circle correct bracketed [ ] units

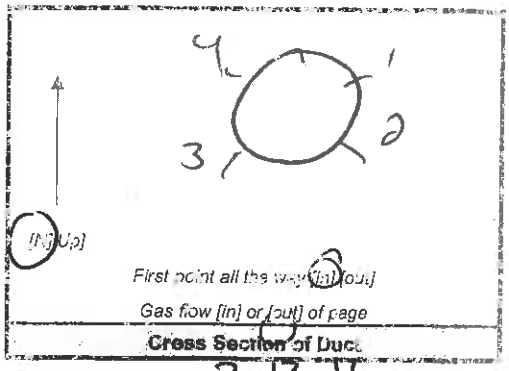
Train Type denotes impingers, knockouts, etc.

AIRTECH ENVIRONMENTAL SERVICES INC.
Velocity Traverse Data Sheet

Project No. 3648

Page 1 of 1

Client	Wire		
Plant	Hawesville Ky		
Location	Stack outlet		
Meter/Pyrometer	M-7	Duct size (in)	358
Date	7-12-11	Port Length (in)	14
Probe ID	AES 10-1	Pitot Cp	.84



7-12-11

Run Number	1
Start Time	16.36
Stop Time	16.59
Barometric (inHg)	29.90
Static (inH2O)	.12
Probe Operator	~~C.S~~ M.L
Data Recorder	C.S
Pre Leak Check	✓
Post Leak Check	✓

Traverse Point	Pressure ΔP (in H2O)	Stack Temp (°F)	Notes
1-1	.50	134	
2	.53	134	
3	.47	134	
2-1	.51	134	
2	.52	134	
3	.50	134	
3-1	.54	134	
2	.53	134	
3	.46	134	
4-1	.52	134	
2	.52	134	
3	.48	134	
Total	4.53	1608	
Average	.7116	134	

7-13-11

Run Number	2
Start Time	7:45
Stop Time	8:01
Barometric (inHg)	29.65
Static (inH2O)	.12
Probe Operator	C.S ~~M.L~~ AL
Data Recorder	C.S
Pre Leak Check	✓
Post Leak Check	✓

Traverse Point	Pressure ΔP (in H2O)	Stack Temp (°F)	Notes
1-1	.52	135	
2	.50	135	
3	.42	135	
2-1	.50	135	
2	.46	135	
3	.42	135	
3-1	.50	135	
2	.51	135	
3	.44	135	
4-1	.52	135	
2	.54	135	
3	.48	135	
Total	8.34	1620	
Average	.69	135	

7-13-11

Run Number	3
Start Time	8:51
Stop Time	9:14
Barometric (inHg)	29.65
Static (inH2O)	.12
Probe Operator	~~M.L~~ AL
Data Recorder	C.S
Pre Leak Check	✓
Post Leak Check	✓

Traverse Point	Pressure ΔP (in H2O)	Stack Temp (°F)	Notes
1-1	.51	134	
2	.47	134	
3	.45	134	
2-1	.53	134	
2	.49	134	
3	.44	134	
3-1	.50	134	
2	.48	134	
3	.42	134	
4-1	.49	134	
2	.52	134	
3	.45	134	
Total	8.37	1608	
Average	.6963	134	

AIRTECH ENVIRONMENTAL SERVICES INC.
Oxygen and Carbon Dioxide Data Sheet

PROJECT NO. 3648

Client	Big Rivers		
Plant	Coleman		
Location	ESP Outlet Unit 1	Train	4
Analyzer Type	Plant CEMS Data	Leak Check	

Run No	Trial No	%CO_{2w}	%CO_{2d}	%O_2	F_o	Date	Start Time	Stop Time
1	1				1.14	7/12/2011	16:00	17:30
	2							
	3							
	Average	11.7	12.0	7.28				
2	1				1.14	7/13/2011	6:47	8:17
	2							
	3							
	Average	11.6	11.9	7.38				
3	1				1.14	7/13/2011	8:50	10:20
	2							
	3							
	Average	11.8	12.1	7.07				
	1							
	2							
	3							
	Average							
	1							
	2							
	3							
	Average							
	1							
	2							
	3							
	Average							
	1							
	2							
	3							
	Average							
	1							
	2							
	3							
	Average							
	1							
	2							
	3							
	Average							

AIRTECH ENVIRONMENTAL SERVICES INC.
Oxygen and Carbon Dioxide Data Sheet

PROJECT NO. 3648

Client	Big Rivers		
Plant	Coleman		
Location	ESP Outlet Unit 2	Train	4
Analyzer Type	Plant CEMS Data	Leak Check	

Run No	Trial No	%CO_{2w}	%CO_{2d}	%O_2	F_O	Date	Start Time	Stop Time
1	1				1.14	7/12/2011	16:00	17:30
	2							
	3							
	Average	11.1	11.4	8.00				
2	1				1.14	7/13/2011	6:47	8:17
	2							
	3							
	Average	11.1	11.4	7.99				
3	1				1.14	7/13/2011	8:50	10:20
	2							
	3							
	Average	10.9	11.2	8.20				
	1							
	2							
	3							
	Average							
	1							
	2							
	3							
	Average							
	1							
	2							
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	3							
	Average							
	1							
	2							
	3							
	Average							
	1							
	2							
	3							
	Average							

AIRTECH ENVIRONMENTAL SERVICES INC.
Oxygen and Carbon Dioxide Data Sheet

PROJECT NO. 3648

Page	1	of	1

Client	Big Rivers		
Plant	Coleman		
Location	ESP Outlet Unit 3	Train	4
Analyzer Type	Plant CEMS Data	Leak Check	

Run No	Trial No.	$\%CO_{2w}$	$\%CO_{2d}$	$\%O_2$	F_O	Date	Start Time	Stop Time
1	1				1.14	7/12/2011	16:00	17:30
	2							
	3							
	Average	11.0	11.4	8.00				
2	1				1.14	7/13/2011	6:47	8:17
	2							
	3							
	Average	11.2	11.6	7.76				
3	1				1.14	7/13/2011	8:50	10:20
	2							
	3							
	Average	11.2	11.5	7.79				
	1							
	2							
	3							
	Average							
	1							
	2							
	3							
	Average							
	1							
	2							
	3							
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	2							
	3							
	Average							
	1							
	2							
	3							
	Average							
	1							
	2							
	3							
	Average							

AIRTECH ENVIRONMENTAL SERVICES INC.
Oxygen and Carbon Dioxide Data Sheet

PROJECT NO. 3648

Client	Big Rivers		
Plant	Coleman		
Location	Common Stack	Train	4
Analyzer Type	Plant CEMS Data	Leak Check	

Run No	Trial No.	$\%CO_{2w}$	$\%CO_{2d}$	$\%O_2$	F_O	Date	Start Time	Stop Time
1	1				1.14	7/12/2011	16:00	17:30
	2							
	3							
	Average	10.0	10.3	9.17				
2	1				1.14	7/13/2011	6:47	8:17
	2							
	3							
	Average	10.3	10.6	8.82				
3	1				1.14	7/13/2011	8:50	10:20
	2							
	3							
	Average	10.1	10.4	9.07				
	1							
	2							
	3							
	Average							
	1							
	2							
	3							
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