

# ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

Page \_\_\_\_ of \_\_\_\_

TEST ID	1	METER BOX	8013	CAL. DATA: delta H	1.846	Comments:	
PLANT	AES Greenidge	PITOT TUBE DESC	F12	Y	0.993		
LOCATION	Unit 4 Stack	PROBE LENGTH [ft]	8	C(p)	0.994		
DATE	3-11-08	NOZZLE ID [inch]	74A 2401	NA			
OPERATOR(S)	AKG BS	%H <sub>2</sub> O (Assumed)	8	rect ?			
AMBIENT TEMP [°F]	~30.0	FILTER ID	128	circ ?			
BAR. PRESS. [in. Hg]	29.82 59	K FACTOR	2.177	DUCT AREA	132.732 ft <sup>2</sup>		

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
B-5	0932	0		.60	1.68	7	848.67	30	29	173	252	216	34		
B-16-3/8"		8		.60	1.68	7	854.00	32	29	173	244	211	36		7.4
B-30-1/4"		16		.65	1.80	8	855.63	33	31	174	236	211	40		
B-50-3/8"		24	-8.2	.60	1.68	7	865.20	33	32	173	235	211	40		
		32													
C-5		40		.70	1.92	8	872.51	34	32	173	244	211	39		7.4
C-16-3/8"		48		.70	1.92	8	876.95	36	33	173	244	216	40		
C-30-1/4"		56	-7.9	.76	2.10	8.5	883.14	37	33	173	244	216	41		7.6
C-50-3/8"		64		.70	1.92	8	889.11	38	34	173	240	209	42		
		72		.65	1.80	8	895.00	39	34	174	252	212	44		
D-5		80		.76	2.10	8.5	901.13	40	35	174	251	214	46		7.6
D-16-3/8"		88	-7.2	.70	1.92	8	907.12	42	36	173	251	206	49		
D-30-1/4"		96		.65	1.80	8	912.88	44	36	174	252	206	50		7.4
		104		.60	1.68	7.5	918.54	44	38	174	251	211	51		
A-5		112		.60	1.68	7.5	924.20	45	35	175	251	210	51		7.7
A-16-3/8"		120	-7.0	.65	1.80	8	930.02	45	39	175	249	209	52		7.5
A-30-1/4"		128		.65	1.80	8	935.84	46	40	174	247	207	52		
A-50-3/8"	1155														
AVERAGE			-0.76	0.67	1.83		92.44	36.5		173.7	246.4	211.0	44.8		7.5

Sample Train	Pre Test	0.15	ft <sup>3</sup> @	10	in. Hg
Leak Checks:	Post Test	0.15	ft <sup>3</sup> @	10	in. Hg
Pitot Tube	Pre Test	OK	@	1	in. H <sub>2</sub> O
Leak Checks:	Post Test	OK	@	1	in. H <sub>2</sub> O

NOTE: Purge for 10 minutes at end of sampling.





**ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET**

TEST ID \_\_\_\_\_  
 PLANT Economizer - 2-Hg  
 LOCATION AES Greentidge  
 DATE 3/11/08  
 OPERATOR(S) R.S./K.P.  
 AMBIENT TEMP [°F] 27.0  
 BAR. PRESS. [° Hg] 29.47

METER BOX N-2  
 PITOT TUBE DESC NA  
 PROBE LENGTH [ft] 12  
 NOZZLE ID [inch] 3/16 B  
 %H<sub>2</sub>O (Assumed) 8  
 FILTER ID 198 1201  
 K FACTOR NA

CAL. DATA: delta H 1.79 Comments: \_\_\_\_\_  
 Y 0.985  
 C(p) NA  
 FILTER BOX SETTING NA  
 PROBE HTR SETTING 325  
 DUCT X-SECTION rect?  
 DUCT AREA \_\_\_\_\_

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
Port 4	13:27	0	-6.2	1.0	1.0	5	805.615	6	7	1	2	5	74	3.2	16.8
	13:32	5	-6.2	1.0	1.0	5	808.5	54	53	724	252	242	62	3.1	16.9
	13:37	10	-6.0	NA	1.0	5	811.1	56	53	744	253	240	52	3.4	16.6
	13:42	15	-6.0	11	1.0	6	813.9	60	54	753	246	242	50	3.5	16.5
	13:47	20	-5.9	11	1.0	7	816.5	62	56	752	246	243	52	3.4	16.6
	13:52	25	-5.9	11	1.0	7.5	819.2	64	57	753	252	245	54	3.4	16.6
	13:57	30	-6.1	11	1.0	9	821.985	66	58	755	255	245	56	3.5	16.5
Port 3	14:40	45	-6.0	11	1.0	3	825.410								
	14:45	50	-6.0	11	1.0	3	826.243								
Port 3	14:50	55	-6.0	11	1.0	4	828.9			612	248	239	48	6.3	14.0
	14:54	60	-6.0	11	1.0	5	831.5			614	251	239	47	6.3	13.9
	15:04	65	-6.1	11	0.75	4.5	833.9			617	249	239	44	6.6	13.6
	15:09	70	-6.1	11	0.75	5	836.3			616	245	239	44	6.4	13.8
	15:14	75	-6.3	11	0.75	5	838.7			617	249	239	44	6.5	13.7
	15:19	80	-6.4	11	0.75	6	841.390			617	251	239	45	6.7	13.5
		112.5													
		120													
AVERAGE					0.84		60.71	63.6		678.9				5.2	14.9

Sample Train Leak Checks: \_\_\_\_\_ Pro Test \_\_\_\_\_ Post Test \_\_\_\_\_  
 Pitot Tube Leak Checks: \_\_\_\_\_ PreTest \_\_\_\_\_ Post Test \_\_\_\_\_  
 in. H<sub>2</sub>O @ \_\_\_\_\_ in. H<sub>2</sub>O @ \_\_\_\_\_

NOTE: Purge for 10 minutes at end of sampling.





# ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	ECONOMIZER - 2 - Hg	METER BOX	N-2	CAL. DATA: delta H	1.779	Comments:
PLANT	AES Greentidge	PITOT TUBE DESC	NA	Y	0.985	
LOCATION	Economizer outlet	PROBE LENGTH [ft]	12	C(p)	NA	
DATE	3/11/08	NOZZLE ID [inches]	3/16 B	FILTER BOX SETTING	NA	
OPERATOR(S)	PBJ/KP	%H <sub>2</sub> O (Assumed)	8	PROBE HTR SETTING	325	
AMBIENT TEMP [°F]	65	FILTER ID	1201	DUCT X-SECTION	rect ?	
BAT. PRESS. [° Hg]		K FACTOR	NA	DUCT DIMENSIONS	DUCT AREA	

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
Port 2	15:25	60	-6.0	NA	0.75	5	843.7	63	63	609	239	240	46	5.6	14.6
	15:30	65	-5.8		0.75	5.5	846.0	63	62	610	247	237	44	5.5	14.6
	15:40	75	-5.9		0.75	5.5	848.4	63	61	608	246	235	45	5.2	14.9
	15:45	80	-5.9		0.75	6	850.8	63	61	607	247	234	45	5.0	15.1
	15:50	85	-5.8		0.75	6	853.2	64	61	607	245	234	45	4.9	15.1
	15:55	90	-5.8		0.75	7	855.630	65	61	606	246	234	44	5.0	15.1
		45					Stop test	change ports			change	ed	couple		
	15:58	95					855.630	66	62	725	248	234	49	5.5	14.5
	16:03	100	-6.2		0.75	8	858.4	66	62	725	248	234	49	5.5	14.5
	16:08	105	-6.0		0.75	9	862.9	66	61	726	253	239	48	5.8	14.3
	16:13	110	-6.1		0.75	10	865.3	66	61	761	245	241	48	6.0	14.1
	16:18	115	-6.0		0.75	11	867.6	66	62	767	249	243	50	6.2	13.9
	16:23	120	-6.1		0.75	13	870.010	66	62	768	253	243	50	6.4	13.7
	16:28	125	-6.0		0.75		Stop test, purge	10 min							
		97.5													
		105													
		112.5													
		120													
AVERAGE															

Sample Train	Pre Test	ft <sup>3</sup> @	in. Hg	Pitot Tube	PreTest	@	in. H <sub>2</sub> O
Leak Checks:	Post Test	0.002	ft <sup>3</sup> @	20	Post Test	@	in. H <sub>2</sub> O

NOTE: Purge for 10 minutes at end of sampling.





ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID: AHI      TEST 2  
 PLANT: AES Greenidge  
 LOCATION: Air Heater Inlet  
 DATE: 3/11/08  
 OPERATOR(S): K.C. L.W.R.  
 AMBIENT TEMP [°F]: 88  
 BAR. PRESS. [in. Hg]: 29.47

METER BOX: Rental  
 PITOT TUBE DESC: Y  
 PROBE LENGTH [in]: 0.540  
 NOZZLE ID [inches]: NA  
 %H<sub>2</sub>O (Assumed): 8  
 FILTER ID: 1199  
 K FACTOR: 1199

CAL. DATA: delta H: 1.842      Comments:   
 Y: 0.540  
 C(p): NA  
 FILTER BOX SETTING: 325  
 PROBE HTR SETTING: circ 2  
 DUCT X-SECTION: rect ?  
 DUCT DIMENSIONS: DUCT AREA

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [in. Hg]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX HL [°F]	LAST INP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
	13:35	0			0.8	5.0	034.91	83	84		325	230	60	7.1	10.3
	13:35	5				5.0	037.16	83	84		325	230	57	8.2	9.5
	13:40	10				5.0	040.02	83	84		325	230	56	8.1	9.5
	13:45	15				6.0	042.59	85	84		325	230	57	7.9	9.9
	13:45	20				6.0	045.49	85	84		325	230	58	8.0	9.6
	13:50	25				6.5	047.95	86	84		325	230	58	8.3	9.4
	13:55	30				7.0	050.19	86	84		325	230	59	8.5	9.3
	14:00	35				7.0	053.00	86	84		325	230	59	8.5	9.3
	14:05	40				7.0	055.58	87	85		325	230	60	8.5	9.3
	14:10	45				7.5	058.86	87	85		325	230	61	8.8	9.0
	14:15	50				7.5	060.72	87	85		325	230	60	8.8	9.0
	14:20	55				8.0	063.25	87	85		325	230	60	8.8	9.0
	14:25	60				8.0	065.80	87	85		325	230	59	9.0	8.8
	14:35	65				9.0	068.96	87	85		326	230	60	4.4	12.3
	14:40	70				10.0	071.46	87	85		325	230	60	4.3	12.5
	14:45	75				11.0	073.98	87	85		325	230	59	4.5	12.3
	14:50	80				11.5	076.50	87	85		325	230	60	4.3	12.4
	14:55	85				12.0	079.01	87	85		325	230	61	4.3	12.4
	15:00	90				12.5	081.53	87	85		324	230	61	4.4	12.3
	15:05	95				13.0	084.05	88	85		325	230	62	4.3	12.4
	15:10	100				14.0	086.59	88	85		325	230	62	4.5	12.3
	15:15	105				14.5	089.12	88	86		325	230	59	4.4	12.3
	15:20	110				15.0	091.65	88	86		325	230	57	4.4	12.3
	15:25	115				15.0	094.22	88	86		325	230	57	5.6	11.4
	15:30	120				15.5	096.71	88	86		325	230	58	4.3	12.4
AVERAGE							61.24	85.8						6.40	10.8

Sample Train: Pre Test 6.0 in. Hg      Post Test 7 in. Hg  
 Leak Checks: Pre Test 0.0 ft<sup>3</sup> @ 0.1 ft<sup>3</sup> @      Post Test 0.0 ft<sup>3</sup> @ 0.1 ft<sup>3</sup> @

Pilot Tube: Pre Test 0.0 in. H<sub>2</sub>O      Post Test 0.0 in. H<sub>2</sub>O  
 Leak Checks: Pre Test 0.0 in. H<sub>2</sub>O      Post Test 0.0 in. H<sub>2</sub>O

NOTE: Purge for 10 minutes at end of sampling.



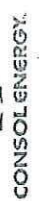


# ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	AHO-2	METER BOX	4	CAL. DATA: delta H	1.74	Comments: <u>10 min pump after test</u>
PLANT	Greenidge	PITOT TUBE DESC	E-3A	Y	1.002	
LOCATION	Air Heater Outlet	PROBE LENGTH [ft]	12	C(p)		
DATE	3/11/08	NOZZLE ID [inches]	14D	NA		
OPERATOR(S)	STL-BLO	%H <sub>2</sub> O (Assumed)	8	250		
AMBIENT TEMP [°F]	29.47	FILTER ID	1200	rect ?		
BAR. PRESS. [in. Hg]		K FACTOR		DUCT X-SECTION	108 ft <sup>2</sup>	

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
120	1330	0		0.88	1.2	5	100.90	39	38	284	250	225	36	7.5	12.7
120	1340	7		0.88	1.2	5	109.00	41	38	296	260	224	40	7.5	12.7
120	1400	14	-1.38	1.0	1.2	5	113.04	45	38	286	260	224	42	7.5	12.7
120	1412	21		1.0	1.2	5	116.93	47	39	302	259	226	44	7.5	12.7
120	1422	28		1.0	1.2	5	121.06	49	39	304	260	226	45	7.5	12.7
120	1430	35		1.0	1.2	5.5	124.930	51	40	303	273	227	46	7.5	12.7
120	1440	42		0.40	1.2	6	125.10	54	42	285	268	225	43	7.1	13.1
120	1450	35		0.40	1.2	6	129.30	51	42	285	267	226	49	7.1	13.1
120	1457	42		0.36	1.2	6	133.31	51	43	301	271	227	47	7.1	13.1
120	1472	21		0.94	1.2	6	137.32	53	43	302	280	227	48	7.0	13.2
120	1483	28		0.93	1.2	7	141.45	54	44	301	280	227	49	6.9	13.3
120	1493	35	-16.03	1.4	1.2	7	145.48	55	45	302	285	227	51	7.2	13.0
120	1455	42		1.4	1.2	7	149.590	55	46	303	279	228	53	6.8	13.4
120	1500	42		0.35	1.2	7	149.90		46	294	274	228	51	7.3	12.9
120	1510	7		0.28	1.2	8	154.13	47	47	305	273	227	54	7.3	12.9
120	1520	14		1.0	1.2	8	158.06	55	47	305	279	228	55	7.3	12.9
120	1530	21		1.0	1.2	10	162.15	56	47	306	284	228	57	7.1	13.1
120	1540	28		0.80	1.2	10	166.22	57	48	307	285	228	58	7.0	13.2
120	1550	35	-16.31	0.85	1.2	10	170.300	56	49	307	264	227	59	7.1	13.1
120	1555	42		0.85	1.2	10	174.750	56	49	307	264	227	59	7.1	13.1
AVERAGE		12.6	-16.03	0.950	1.2		73.30	47.27	47.27	301.3				7.23	13.00

Sample Train	Pre Test	Post Test	Pilot Tube	Pre Test	Post Test
Leak Checks:	OK	OK	Leak Checks:	OK	OK





ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

Page      of     

TEST ID	TEST 2	METER BOX	80513	CAL. DATA: delta H	1.846	Comments:	
PLANT	AES Greenidge	PITOT TUBE DESC	E12	Y	0.593		
LOCATION	Unit 4 Stack	PROBE LENGTH [ft]	8	C(p)			
DATE	3-11-08	NOZZLE ID [inch]	1/4" A	NA			
OPERATOR(S)	BS AG	%H <sub>2</sub> O (Assumed)	8	FILTER BOX SETTING	-925-250		
AMBIENT TEMP [°F]	2400	FILTER ID	129	PROBE HTR SETTING	circ?	rect?	
BAR. PRESS. [in. Hg]	29.47	K FACTOR	2.77	DUCT X-SECTION		DUCT AREA	132.732 ft <sup>2</sup>

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST		
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]	
B-5	1330	0		.50	1.38	7	545.80	42	40	150	248	206	45			
B-16-3/8"		8		.55	1.50	7.5	956.30	45	41	174	250	214	46			
B-30-1/4"		16		.55	1.50	7.5	961.70	47	42	175	250	218	48		7.7	
B-50-3/8"		24		.70	1.92	8.5	967.67	48	43	174	248	218	48			
		32														
		40		.70	1.92	8.5	973.73	50	45	175	252	214	48			
C-5		48		.70	1.92	8.5	979.75	53	47	174	252	215	49		7.9	
C-16-3/8"		56		.80	2.10	9	986.02	55	50	175	252	215	51			
C-30-1/4"		64		.70	1.92	8.5	992.11	56	52	175	250	210	52		7.8	
C-50-3/8"		72		.60	1.68	8	997.90	56	53	175	250	205	48		7.7	
D-5		80		.60	1.68	8	003.67	58	54	175	242	202	48			
D-16-3/8"		88		.65	1.80	8	009.60	59	56	175	248	200	49		7.7	
D-30-1/4"		96		.60	1.68	8	015.38	60	57	174	246	200	49			
D-50-3/8"		104		.55	1.50	7.5	020.86	62	60	174	252	201	50			
A-5		112		.60	1.68	8	026.68	62	60	175	250	201	51		7.9	
A-16-3/8"		120		.60	1.68	8	032.49	63	61	175	252	202	52			
A-30-1/4"		128		.60	1.68	8	038.32	65	63	175	251	200	54		7.9	
A-50-3/8"		1544		.75	1.96	8	92.52	53	28	175						
AVERAGE																7.80

Sample Train	Pre Test	OK	ft <sup>3</sup> @	10	in. Hg
Leak Checks:	Post Test	OK	ft <sup>3</sup> @	10	in. Hg
Pilot Tube	PreTest	OK	@	1	in. H <sub>2</sub> O
Leak Checks:	Post Test	OK	@	1	in. H <sub>2</sub> O

NOTE: Purge for 10 minutes at end of sampling.





# ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

Comments: Max 5 min Fuel #2 upto 1019

CAL. DATA: delta H 1.779  
 Y 585  
 C(p) NA  
 FILTER BOX SETTING NA  
 PROBE HTR SETTING 325  
 DUCT X-SECTION circ ?  
 DUCT AREA       
 other:     

METER BOX N-2  
 PITOT TUBE DESC NA  
 PROBE LENGTH [ft] 12  
 NOZZLE ID [inchi] 3/16 B  
 %H<sub>2</sub>O (Assumed) 8  
 FILTER ID 1202  
 K FACTOR NA

TEST ID Esmeralda - 3-Hg  
 PLANT AES Greenidge  
 LOCATION Economizer outlet  
 DATE 3/12/08  
 OPERATOR(S) PCB/KP  
 AMBIENT TEMP [°F] 56.0  
 BAR. PRESS. [in. Hg] 29.12

14  
24  
33  
Elevator →

TRaverse Point [port-inch]	Clock Time (24-hr)	Sample Time [minute]	Static Pres [° H <sub>2</sub> O]	Pitot Head [° H <sub>2</sub> O]	Meter Diff Pressure [° H <sub>2</sub> O]	Meter Vacuum [° Hg]	Meter Reading [ft <sup>3</sup> ]	Meter Temp [°F]		Stack Temp [°F]	Probe Temp [°F]	Filter Box Temp [°F]	Last Imp Temp [°F]	Meter Exhaust	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
Port 4	0945	0	-6.2	NA	0.75	5	876.252	6	7	2	5	4	4	3.7	12.7
	9:50	5	-6.1		0.75	5.5	878.7	48	48	715	190	49	49	3.5	13.1
	9:55	10	-6.1		0.75	6	881.1	49	48	727	190	45	45	3.3	13.2
	10:00	15	-6.1		0.75	6	883.4	49	48	742	195	47	47	3.2	13.2
	10:05	20	-6.1		0.75	6	885.8	50	48	744	205	49	49	3.3	13.2
	10:10	25	-6.1		0.75	7	888.1	52	48	749	214	49	49	3.3	13.2
	10:15	30	-6.0		0.75	7	890.501	53	49	750	217	51	51	3.3	13.2
	10:20	45			Stop test change ports										
	1019	30					890.501								
	1024	25	-6.2		0.75	7	892.9	55	50	605	239	55	55	5.1	15.2
	1029	40	-6.2		0.75	7	895.3	57	51	604	226	50	50	5.1	14.8
	1034	45	-6.0		0.75	8	897.6	59	53	604	225	50	50	4.8	15.3
	1039	50	-6.0		0.75	8	900.1	61	54	605	224	50	50	4.7	
	1044	55	-6.1		0.75	8	902.5	62	55	606	224	49	49	4.8	
	1049	60	-6.1		0.75	9	904.904	62	55	605	223	49	49	4.9	
	65			port change											
	11:04	65	-6.1		0.75	7	907.3	55	50	605	240	46	46	5.1	15.2
	11:09	70	-6.1		0.75	8	909.7	57	51	604	226	50	50	5.1	14.8
	11:14	75	-6.1		0.75	8	912.1	59	53	604	225	50	50	4.8	15.3
	11:19	80	-6.2		0.75	8	914.5	61	54	605	224	50	50	4.7	
AVERAGE			-6.1		0.75		904.848	52.9	52.9	605.3	223	49	49	4.9	

Sample Train Pre Test 0.005 ft<sup>3</sup> @ 20 in. Hg  
 Leak Checks: Post Test      ft<sup>3</sup> @      in. Hg

Pitot Tube Pre Test      @      in. H<sub>2</sub>O  
 Leak Checks: Post Test      @      in. H<sub>2</sub>O

NOTE: Purge for 10 minutes at end of sampling.





ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

Comments: \_\_\_\_\_

CAL. DATA: delta H 1.779

METER BOX N-2

PITOT TUBE DESC NA

PROBE LENGTH [ft] 12

NOZZLE ID [inch] 3/16.5

%H<sub>2</sub>O (Assumed) 8

FILTER ID 1202

K FACTOR NA

FILTER BOX SETTING NA

PROBE HTR SETTING 325

DUCT X-SECTION circ ?

DUCT AREA other:

METER BOX N-2

PITOT TUBE DESC NA

PROBE LENGTH [ft] 12

NOZZLE ID [inch] 3/16.5

%H<sub>2</sub>O (Assumed) 8

FILTER ID 1202

K FACTOR NA

TEST ID Economizer - 3 - Hg

PLANT AES Greenidge

LOCATION Economizer outlet

DATE 3/12/08

OPERATOR(S) PJB/KP

AMBIENT TEMP [°F] 47.0

BAR. PRESS. [in. Hg] 30.0

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
	10:58	600					904.904	6	7		2	5			
Port 2	11:04	655	-5.9	NA	0.75	6	907.3	55	53	621	246	240	46	5.8	
	11:09	70	-6.4		0.75	7	909.7	54	53	623	245	240	46	5.4	
	11:14	755	-6.3		0.75	8	912.1	54	53	623	245	247	46	5.5	
	11:19	80	-6.2		0.75	8	914.4	54	52	620	246	241	47	5.5	
	11:24	85	-6.3		0.75	8	916.8	55	52	620	245	241	48	5.5	
	11:29	905	-6.3		0.75	8	919.009	55	52	618	249	241	49	5.4	
		45			Stop test, change port										
		90					919.009								
Port 1	11:32	905	-6.0		0.75	9	921.2	54	52	675	249	247	54	2.1	
	11:37	905	-6.0		0.75	14	923.7	54	52	696	247	247	50	2.1	
	11:42	100	-5.9		0.75	16	926.100	54	51	695	247	247	49	1.9	
	11:47	105	-6.0		Stop test for high vacuum, Purge and 0.75 AH for 10 min										
		175													
		82.5													
		90													
		97.5													
		105													
		112.5													
		120													
AVERAGE															

Pitot Tube \_\_\_\_\_ PreTest \_\_\_\_\_ in. H<sub>2</sub>O

Leak Checks: \_\_\_\_\_ Post Test \_\_\_\_\_ in. H<sub>2</sub>O

Sample Train Pre Test \_\_\_\_\_ in. Hg

Leak Checks: \_\_\_\_\_ Post Test \_\_\_\_\_ in. Hg

NOTE: Purge for 10 minutes at end of sampling.





ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID: A.H.I. Test 3      CAL. DATA: delta H 1.842      Comments: \_\_\_\_\_  
 PLANT: AES Greenidge      Y 0.990  
 LOCATION: Air Heater Inlet      C(p) \_\_\_\_\_  
 DATE: 3/12/08      NA \_\_\_\_\_  
 OPERATOR(S): K.C. - L.W.R.      325 \_\_\_\_\_  
 AMBIENT TEMP [°F]: \_\_\_\_\_      DUCT X-SECTION: circ ?      roet? \_\_\_\_\_  
 BAR. PRESS. [in. Hg]: \_\_\_\_\_      DUCT DIMENSIONS: \_\_\_\_\_      other: \_\_\_\_\_

METER BOX: 80950      METER EXHAUST: \_\_\_\_\_  
 PITOT TUBE DESC: \_\_\_\_\_      O<sub>2</sub> [% vol]: \_\_\_\_\_  
 PROBE LENGTH [ft]: \_\_\_\_\_      CO<sub>2</sub> [% vol]: \_\_\_\_\_  
 NOZZLE ID [inches]: \_\_\_\_\_      FILTER BOX SETTING: \_\_\_\_\_  
 %H<sub>2</sub>O (Assumed): 8      PROBE HTR SETTING: \_\_\_\_\_  
 FILTER ID: 1A03      DUCT X-SECTION: circ ?      roet? \_\_\_\_\_  
 K FACTOR: \_\_\_\_\_      DUCT DIMENSIONS: \_\_\_\_\_

TRAVERSE POINT [port-inch]	CLOCK TIME [24-hr]	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST		
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]	
	09:45	0					109.86									
	09:50	5			0.80	5.0	112.46	83	84		326	231	64	4.3	15.8	
	09:55	10			"	6.0	114.97	84	83		325	230	60	3.8	16.2	
	10:00	15			"	6.5	117.48	84	84		325	231	59	3.7	16.3	
	10:05	20			"	7.0	119.99	85	84		325	230	58	3.7	16.3	
	10:10	25			"	7.0	122.48	85	84		325	230	59	3.5	16.5	
	10:15	30			"	8.0	124.98	86	84		325	231	59	3.5	16.5	
	10:20	35			"	9.0	127.48	87	85		325	230	60	3.4	16.6	
	10:25	40			"	9.0	129.99	87	85		326	231	60	3.6	16.4	
	10:30	45			"	9.5	132.52	88	86		325	230	60	3.6	16.4	
	10:35	50			"	10.5	135.00	88	86		326	231	61	3.5	16.5	
	10:40	55			"	11.0	137.56	88	86		325	231	61	3.4	16.6	
	10:45	60			"	11.5	140.08	89	86		327	230	60	3.6	16.4	
							140.20									
	10:50	65			0.80	11.5	142.81	89	87		325	231	58	5.8	14.3	
	10:55	70			"	12.0	145.33	89	87		326	230	56	5.8	14.4	
	11:00	75			"	12.5	147.83	90	88		325	231	56	5.9	14.3	
	11:05	80			"	13.0	150.36	90	88		325	230	56	6.3	13.9	
	11:10	85			"	13.5	152.88	90	88		325	230	56	6.4	13.8	
	11:15	90			"	14.0	155.38	90	89		326	231	57	5.8	14.2	
	11:20	95			"	14.5	157.87	90	89		325	230	57	5.8	14.2	
	11:25	100			"	15.0	160.37	90	89		326	231	58	5.9	14.2	
	11:30	105			"	15.5	162.86	90	89		325	230	58	6.1	14.0	
	11:35	110			"	16.0	165.30	90	89		325	230	58	6.1	14.0	
	11:40	115			"	16.0	167.79	90	89		325	230	59	6.1	14.0	
	11:45	120			"	16.0	169.99	90	90		325	230	59	6.3	13.9	
AVERAGE					0.80		60.01	87.3			325.3			4.2	15.2	

Sample Train: Pre Test 0.01 ft<sup>3</sup> @ \_\_\_\_\_ in. Hg      Post Test \_\_\_\_\_  
 Leak Checks: Pre Test 0.01 ft<sup>3</sup> @ \_\_\_\_\_ in. Hg      Post Test \_\_\_\_\_  
 Pilot Tube Leak Checks: Pre Test \_\_\_\_\_      Post Test \_\_\_\_\_  
 in. H<sub>2</sub>O @ \_\_\_\_\_      in. H<sub>2</sub>O @ \_\_\_\_\_

NOTE: Purge for 10 minutes at end of sampling.





ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID: A40-3      CAL. DATA: delta H 1.744      Comments: 10 min purge after test

PLANT: Greenidge  
 LOCATION: Air Heater Outlet  
 DATE: 3/12/00  
 OPERATOR(S): RLW  
 AMBIENT TEMP [°F]: 29  
 BAR. PRESS. [in. Hg]: 29.1

METER BOX: NC-4  
 PITOT TUBE DESC: E-3A  
 PROBE LENGTH [in]: 12  
 NOZZLE ID [inch]: 1/4 D  
 %H<sub>2</sub>O (Assumed): 8  
 FILTER ID: 1204  
 K FACTOR: 1204

Y: 1.002  
 C(p): NA  
 FILTER BOX SETTING: 250  
 PROBE HTR SETTING: circ?  
 DUCT X-SECTION: rect?  
 DUCT AREA: 108 ft<sup>2</sup>

DUCT DIMENSIONS: (6) (7) (1) (2) (3) (4)  
 other: 108 ft<sup>2</sup>

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
24.0	945	0		0.95	1.00	5	180.70	41	39	297	222	222	36	7.4	12.8
24.0		14		0.83		5	189.04	44	40	297	239	218	38	7.2	13.0
24.0		21		1.0		5	192.80	46	40	299	242	217	39	7.0	13.0
12		28		1.0		5	196.65	47	41	304	241	216	40	7.1	13.1
100		35	-16.16	1.2		5	200.50	48	41	305	248	217	41	7.1	13.1
124.0		42		1.1		5	204.30	48	41	305	222	215	41	6.4	13.7
72.0		35				6	204.50								
24		7		0.42		6	208.36	46	42	301	227	217	39	6.6	13.5
24		14		0.42		6	212.07	47	42	305	244	216	41	6.6	13.5
24		21		0.85		7	215.88	47	42	306	244	217	42	6.7	13.4
24		28		0.93		7	214.75	48	42	306	247	218	43	6.4	13.2
24		35		1.1		7.5	223.38	48	42	308	244	217	43	6.1	14.0
24		42		1.1		8.5	227.40	48	42	308	235	217	43	6.2	13.9
24		7		0.22		9	231.66	46	42	309	205	218	41	6.2	13.0
24		14		0.25		10	235.46	47	42	307	222	217	43	7.2	13.0
24		21	-16.20	1.10		10.5	239.28	48	42	311	240	217	44	7.1	13.1
24		28		1.10		10.5	243.13	48	42	311	244	218	45	7.2	13.0
24		35		0.40		10.5	246.92	48	43	311	241	218	44	6.9	13.3
24		42		0.40		11.5	250.74	48	43	312	251	218	44	7.0	13.2
AVERAGE				0.777	1.00		69.54	44.2		304.8				6.8	13.3

Sample Train: Pre Test      Pitot Tube: OK      PreTest: OK      in. H<sub>2</sub>O: 6  
 Leak Checks: 20.01 ft<sup>3</sup> @ 3 in. Hg      Post Test: 20.01 ft<sup>3</sup> @ 3 in. Hg      Post Test: OK      in. H<sub>2</sub>O: 3



CONSOL ENERGY



# ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	TEST 3	METER BOX	80913	CAL. DATA: della H	1.846	Comments:	1.846
PLANT	AES Greentidge	PITOT TUBE DESC	E12	Y	0.553		
LOCATION	Unit 4 Stack	PROBE LENGTH [ft]	8	C(p)			
DATE	3-12-08	NOZZLE ID [inches]	1/4" A				
OPERATOR(S)	BSAG	%H <sub>2</sub> O (Assumed)	8	FILTER BOX SETTING	NA		
AMBIENT TEMP [°F]	23.20	FILTER ID	124	PROBE HTR SETTING	325.250		
BAR. PRESS. [in. Hg]	29.12	K FACTOR	2.77	DUCT X-SECTION	circ?	rect?	other:
				DUCT DIMENSIONS	13 ft	DUCT AREA	132.732 ft <sup>2</sup>

Page \_\_\_\_ of \_\_\_\_

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER -BOX- [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
B-5	0945	0					052.10								
B-5		8		1.55	1.50	5.5	057.37	40	37	173	233	191	43		
B-16-3/8"		16		1.60	1.68	6	063.00	42	38	175	232	194	42	7.6	
B-30-1/4"		24	1.83	1.60	1.68	6	068.64	43	38	175	230	193	43		
B-50-3/8"		32		1.60	1.68	6.5	074.24	43	38	174	234	195	44	7.5	
C-5		40		1.65	1.80	7	080.11	43	39	175	233	198	41		
C-16-3/8"		48		1.70	1.92	7.5	086.07	43	39	175	233	201	42	7.4	
C-30-1/4"		56	1.74	1.76	2.10	8	092.30	44	39	176	233	201	45		
C-50-3/8"		64		1.76	2.10	8	098.67	44	40	176	240	204	45	7.4	
D-5		72		1.60	1.68	7	104.44	43	40	175	237	199	46		
D-16-3/8"		80		1.70	1.92	7.5	110.44	44	40	175	234	198	47	7.5	
D-30-1/4"		88	1.71	1.76	2.10	8	116.74	45	41	176	237	199	49		
D-50-3/8"		96		1.76	2.10	8	123.00	45	41	175	235	204	50	7.4	
A-5		104		1.55	1.50	7	128.38	45	41	174	241	199	51		
A-16-3/8"		112		1.65	1.80	7.5	134.24	45	41	175	237	198	51	7.5	
A-30-1/4"		120	1.70	1.76	2.10	8.5	140.52	46	42	175	236	197	53		
A-50-3/8"		128		1.76	2.10	8.5	146.84	46	42	175	234	204	54	7.5	
AVERAGE			1.745	1.70	1.86		94.74	46.8		174.9					

Sample Train	Pre Test	0.55 ft <sup>3</sup>	@	10	in. Hg
Leak Checks:	Pre Test	0.55 ft <sup>3</sup>	@	10	in. Hg
Pitot Tube	Pre Test	0.55	@	7	in. H <sub>2</sub> O
Leak Checks:	Post Test	0.55	@	7	in. H <sub>2</sub> O

NOTE: Purge for 10 minutes at end of sampling.





ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID: Econominizer - 4 - Hg  
 PLANT: AES Greenidge  
 LOCATION: Economizer outlet  
 DATE: 3/12/08  
 OPERATOR(S): PBS/KP  
 AMBIENT TEMP [°F]: ACS  
 BAR. PRESS. [in. Hg]: 29.12

METER BOX: N-2  
 PITOT TUBE DESC: NA  
 PROBE LENGTH [ft]: 121  
 NOZZLE ID [inch]: 3/16 B  
 %H<sub>2</sub>O (Assumed): 8  
 FILTER ID: 1205  
 K FACTOR: NA

CAL. DATA: delta H: 1.779  
 Y: 0885  
 C(p): NA  
 FILTER BOX SETTING: NA  
 PROBE HTR SETTING: 325  
 DUCT X-SECTION: circ ?  
 DUCT DIMENSIONS: duct ?

Comments: Heated Line  
 other: 1 2 3 4

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
Pit #1	13:55	5.5	-5.4	NA	0.75	4	933.176	46	47	708	247	248	59	4.5	
	14:00	10.5	-5.7		0.75	5	937.1	48	47	714	254	244	48	4.7	
	14:05	15.5	-5.6		0.75	5	939.5	50	47	720	247	244	47	4.7	
	14:10	20	-5.7		0.75	5.5	941.9	51	47	722	250	245	49	4.6	
	14:15	25	-5.7		0.75	5.5	944.3	53	48	722	251	246	50	4.6	
	14:20	30.5	-5.6		0.75	6	946.75	55	49	725	249	247	51	4.6	
Pit #2		45			Stop test, change ports										
	14:24	30					946.75	55							
	14:29	35	-6.1		0.75	6	949.0	55	50	619	247	246	54	5.3	
	14:34	40	-6.0		0.75	6	951.4	56	51	621	248	243	47	5.0	
	14:39	45.5	-6.1		0.75	6	953.8	58	52	621	242	241	48	5.0	
	14:44	50	-6.0		0.75	7	956.1	59	52	620	249	240	48	5.0	
	14:49	55.5	-6.0		0.75	7	958.5	59	53	620	245	240	49	5.0	
	14:54	60	-6.1		0.75	7	960.986	59	53	621	245	239	49	5.1	
					Stop test, change ports										
		97.5													
		105													
		112.5													
		120													
AVERAGE			-5.9%		0.75		28.71	51.88	669.4					4.84	

Sample Train: Pre Test 002 ft @ 10 in. Hg  
 Leak Checks: Pre Test 0.75 ft @ 0.75 in. Hg  
 Pitot Tube: 669.4  
 Leak Checks: Pitot Tube 669.4  
 PreTest: 0.75 in. H<sub>2</sub>O  
 Post Test: 0.75 in. H<sub>2</sub>O  
 NOTE: Purge for 10 minutes at end of sampling.  
4.5





ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID: ESM001 2A-4-N1      Comments: 1.7.19

PLANT: AES Greenidge      Y: 0.985

LOCATION: Economizer outlet      C(p): NA

DATE: 3/12/08      FILTER BOX SETTING: NA

OPERATOR(S): PLS/KP      PROBE HTR SETTING: 325

AMBIENT TEMP (°F): 60      DUCT X-SECTION: circ ?

BAR. PRESS. (° Hg): 29.12      DUCT AREA: NA

METER BOX: N-2      CAL. DATA: delta H: 1.7.19

PITOT TUBE DESC: NA      Y: 0.985

PROBE LENGTH (ft): 12      C(p): NA

NOZZLE ID (inch): 3/16.3      FILTER BOX SETTING: NA

%H<sub>2</sub>O (Assumed): 8      PROBE HTR SETTING: 325

FILTER ID: 1205/1171      DUCT X-SECTION: circ ?

K FACTOR: NA      DUCT DIMENSIONS: NA

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER -BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								Inlet	Outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
Port #3	1500	60	-6.0	NA	0.75	6	963.3	57	53	619	251	228	54	49	
	1505	70	-6.1		0.75	6	965.6	58	54	619	251	231	45	49	
	1515	25	-6.3		0.75	7	968.1	59	54	620	248	217	42	50	
	1520	30	-6.1		0.75	9	970.4	59	54	618	248	214	41	52	
	1525	35	-6.1		0.75	9	972.8	59	54	618	249	213	41	48	
	1530	40	-6.1		0.75	10	973.590	59	55	616	250	213	41	4.8	
	1540	45			Stop test, change probe		change filter	Leak	Leak	Jack @ 24"	24"	0.005			
	1540	47					973.860								
	1543	50	-6.2		0.75	4	975.520	57	55	628	251	225	49		
Port #4	1546	90	-5.8		Stop test, change probe										
	1551	95	-5.8		0.75	5	975.520	57	55	705	249	233	46	3.0	
	1556	100	-5.9		0.75	5	977.8	58	55	711	245	236	43	3.1	
	16:01	105	-5.9		0.75	6	980.5	60	55	727	251	240	43	3.1	
	16:06	110	-6.0		0.75	6	982.9	60	56	727	247	242	44	3.0	
	16:11	115	-5.9		0.75	6	985.3	62	56	733	251	244	45	3.6	
	16:16	120	-5.9		0.75	7	990.038	62	56	734	250	245	46	3.6	
		112.5			Stop test, purge for 10 min										
		120													
AVERAGE			-6.02		0.75		28.88	56	56	667.3				4.08	

Sample Train: Pre Test ft<sup>3</sup> @ 10 in. Hg      Post Test ft<sup>3</sup> @ 10 in. Hg

Leak Checks: Pre Test @      Post Test @

Pilot Tube: Pre Test @      Post Test @

Leak Checks: Pre Test @      Post Test @

NOTE: Purge for 10 minutes at end of sampling.





ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID: AHI Test 4 Page 1 of 1

PLANT: AES Greenidge CAL DATA: delta H 1.842 Comments:

LOCATION: Air Heater Inlet Y 0.990

DATE: 3/12/08 C(p) NA

OPERATOR(S): K.C. L.W.R. FILTER BOX SETTING 325

AMBIENT TEMP (°F): 94 PROBE HTR SETTING 325

BAR. PRESS. (° Hg): 29.12 FILTER X-SECTION circ roct?  other:

METER BOX: 80950 DUCT AREA:

PITOT TUBE DESC:

PROBE LENGTH (ft):

NOZZLE ID (incht): 8

%H<sub>2</sub>O (Assumed):

FILTER ID: 1206

K FACTOR:

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
	13:50	0					174.21								
	13:55	5			0.80	5.0	176.74	86	86		325	230	53	6.1	14.1
	14:00	10			"	5.0	179.27	87	88		324	230	51	5.9	14.2
	14:05	15			"	5.5	181.80	88	88		325	231	49	5.9	14.2
	14:10	20			"	6.0	184.33	89	88		325	230	49	6.0	14.2
	14:15	25			"	6.0	186.85	89	89		325	230	49	6.1	14.1
	14:20	30			"	6.5	189.38	89	89		325	230	50	6.1	14.1
	14:25	35			"	7.0	191.91	90	89		325	230	51	6.2	14.0
	14:30	40			"	7.0	194.44	90	89		325	230	51	6.3	13.9
	14:35	45			"	7.5	196.99	91	89		325	230	52	6.2	14.1
	14:40	50			"	8.0	199.57	91	89		325	230	53	6.4	13.8
	14:45	55			"	8.0	202.12	91	89		325	230	54	6.3	13.9
	14:50	60			"	8.5	204.66	91	90		325	230	55	6.1	14.0
						START	204.74								
	14:55	65			0.80	8.0	207.33	90	89		328	230	56	3.8	16.2
	15:00	70			"	9.0	209.83	91	89		326	231	57	3.6	16.4
	15:05	75			"	10.0	212.34	91	90		325	230	58	3.6	16.4
	15:10	80			"	10.5	214.87	91	90		325	230	59	3.5	16.5
	15:15	85			"	11.0	217.37	91	90		325	230	60	3.8	16.2
	15:20	90			"	12.0	219.88	91	90		325	230	60	3.7	16.3
	15:25	95			"	12.5	222.45	91	90		325	230	61	3.7	16.3
	15:30	100			"	13.5	225.00	92	90		325	230	61	3.6	16.4
	15:35	105			"	13.0	227.51	91	90		325	230	62	3.5	16.5
	15:40	110			"	13.0	229.28	91	90		325	230	62	3.5	16.5
		115													
		120													
AVERAGE							54.99	89.60			325.1			6.00	15.10

Sample Train: Pre Test 20.0 ft<sup>3</sup> @ 7 in. Hg, Post Test  ft<sup>3</sup> @  in. Hg

Leak Checks: Pre Test  @  in. H<sub>2</sub>O, Post Test  @  in. H<sub>2</sub>O

NOTE: Purge for 10 minutes at end of sampling.





ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

Page 1.744 of 1.744

Comments: 1.0 min purge after test

CAL. DATA: delta H 1.744  
 Y 1.002  
 C(p) NA  
 FILTER BOX SETTING 250  
 PROBE HTR SETTING circ?  
 DUCT X-SECTION rect?  
 DUCT AREA 108 ft<sup>2</sup>  
 DUCT DIMENSIONS (6) (7) (3) (4)

METER BOX NE-4  
 PITOT TUBE DESC E-3A  
 PROBE LENGTH [ft] 12  
 NOZZLE ID [inch] 1/4-D  
 %H<sub>2</sub>O (Assumed) 8  
 FILTER ID 1207  
 K FACTOR

METER BOX NE-4  
 PITOT TUBE DESC E-3A  
 PROBE LENGTH [ft] 12  
 NOZZLE ID [inch] 1/4-D  
 %H<sub>2</sub>O (Assumed) 8  
 FILTER ID 1207  
 K FACTOR

TEST ID AHO-4 Hg  
 PLANT Greentidge  
 LOCATION Air Heater Outlet  
 DATE 3/12/08 PM  
 OPERATOR(S) STL-RW  
 AMBIENT TEMP [°F] 28.12  
 BAR. PRESS. [in. Hg]

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-24.0	1350	0		0.90	1.0	4	257.20	40	41	240	233	230	36	7.4	12.8
0.264		7		0.90		4	266.10	43	40	245	244	200	38	8.4	12.8
0.272		14	-16.14	0.98		5	268.83	46	40	301	255	224	40	7.5	12.7
0.272		21		0.98		5	272.55	47	41	301	263	226	41	7.5	12.7
0.272		28		1.1		5	276.36	48	41	304	263	209	43	7.3	12.9
0.272		35		1.1		5.5	280.20	49	41	304	250	229	44	7.5	12.7
0.272	1435	42		1.1		5.5	260.50								
0.272	1435	42		0.35		5	254.70	47	42	240	247	209	42	7.4	12.8
0.272	1435	42		0.33		6	268.10	47	47	305	250	208	43	7.1	13.1
0.272	1435	42	-16.10	0.92		6.5	241.49	48	42	305	250	228	44	6.8	13.3
0.272	1435	42		0.92		6.5	245.83	48	42	306	244	208	44	6.9	13.3
0.272	1435	42		1.0		7	299.68	49	43	308	251	208	45	6.6	13.5
0.272	1517	42		1.2		8	303.51	48	43	309	243	228	46	6.6	13.5
0.272	1520	42		1.2		8	303.80								
0.272	1520	42		0.30		8	307.45	47	42	241	243	229	44	7.2	13.0
0.272	1520	42		0.30		9	291.46	48	42	308	244	224	47	6.9	13.2
0.272	1520	42	-16.06	0.98		9.5	315.33	49	43	312	245	229	49	6.6	13.5
0.272	1520	42		0.98		10	314.10	49	43	313	272	230	50	7.2	13.0
0.272	1520	42		0.52		10	322.92	49	43	312	269	230	50	7.3	12.9
0.272	1602	42		0.52		11	326.75	49	43	311	260	230	51	7.3	12.9
AVERAGE		12.6	-16.11	0.739	1.00	68.96	441.56	303.6						7.13	13.09

Pilot Tube 0.5 in. H<sub>2</sub>O @ 0.5 in. H<sub>2</sub>O  
 PreTest 0.5 Post Test 0.5  
 Leak Checks: 0.5 in. H<sub>2</sub>O @ 0.5 in. H<sub>2</sub>O





# ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	TRFST 4	METER BOX	80913	CALC. DATA: delta H	1.846	Comments:	1.846	Page	of
PLANT	AES Greenidge	PITOT TUBE DESC	E12	Y	0.993				
LOCATION	Unit 4 Stack	PROBE LENGTH [ft]	8	C(p)					
DATE	3-17-08	NOZZLE ID [inchi]	1/4" A						
OPERATOR(S)	BS, AG	%H <sub>2</sub> O (Assumed)	0	FILTER BOX SETTING	NA				
AMBIENT TEMP [°F]	33.6	FILTER ID	130	PROBE HTR SETTING	.825-250				
BAR. PRESS. [in. Hg]	29.12	K. FACTOR	2.77	DUCT X-SECTION	circ ?	rect ?			
				DUCT DIMENSIONS	13 ft	DUCT AREA	132.732 ft <sup>2</sup>		

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	-FILTER -BOX- [°F]	LAST IMP TEMP [°F]	METER EXHAUST		
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]	
B-5	1350	0					156.60									
B-16-3/8"		8		.60	1.68	8	162.26	40	39	175	236	210	42			
B-30-1/4"		16	.69	.70	1.92	8	168.12	42	39	175	235	212	42			
B-50-3/8"		24		.76	2.10	8.5		43	40	175	235	210	46			
		32		.76	2.10	8.5	180.34	44	41	176	238	195	46			
C-5		40		.65	1.80	8	186.04	44	41	175	244	196	44			
C-16-3/8"		48		.70	1.92	8	191.50	45	41	175	238	198	43			
C-30-1/4"		56	.72	.76	2.10	8	198.00	45	41	176	242	197	45			
C-50-3/8"		64		.76	2.10	8	204.09	45	41	176	240	195	45			
D-5		72		.55	1.50	7										
D-16-3/8"		80		.60	1.68	7.5	209.34	46	42	174	238	193	44			
D-30-1/4"		88	.71	.65	1.80	8	214.50	46	42	175	232	191	44			
D-50-3/8"		96		.60	1.68	7.5	220.60	46	42	175	233	189	44			
A-5		104		.55	1.50	7										
A-16-3/8"		112		.60	1.68	7.5	231.44	47	43	175	241	190	46			
A-30-1/4"		120	.75	.65	1.80	8	237.00	47	43	175	236	190	46			
A-50-3/8"		128		.65	1.80	8	242.75	47	43	176	234	190	46			
AVERAGE							248.50	47	43	175	237	185	47			
							91.90	43.85		175.2						

Sample Train	Pre Test	OK	ft <sup>3</sup>	@	10	in. Hg
Leak Checks:	Pre Test	OK	ft <sup>3</sup>	@	10	in. Hg
Pilot Tube	Pre Test	OK	@			in. H <sub>2</sub> O
Leak Checks:	Post Test	OK	@			in. H <sub>2</sub> O

NOTE: Purge for 10 minutes at end of sampling.



CONSOL ENERGY



# ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID: FL-1 PLANT: Greenidge COMMENTS: Constant rate - was 10 min after test

LOCATION: Economizer Outlet COMMENTS: purged for 10 min after test

DATE: 5/19/08

OPERATOR(S): ELV

AMBIENT TEMP [°F]: 76

BAR. PRESS. [° Hg]: 29.00

METER BOX: CAF 202215 CAL. DATA: delta H: 1.0479 Page      of     

PITOT TUBE DESC: NA Y: 09834

PROBE LENGTH [ft]: 12 CIP):     

NOZZLE ID [inch]: 1/4" 0.255

%H<sub>2</sub>O (Assumed): 8

FILTER ID: 1189

K FACTOR: NA

METER BOX: CAF 202215 CAL. DATA: delta H: 1.0479 Page      of     

PITOT TUBE DESC: NA Y: 09834

PROBE LENGTH [ft]: 12 CIP):     

NOZZLE ID [inch]: 1/4" 0.255

%H<sub>2</sub>O (Assumed): 8

FILTER ID: 1189

K FACTOR: NA

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
	11:31 am	0					729.30								
FAR	11:41 am	10	-2.40		0.60	3	733.63	76	552	303	214	58	6.1	14.0	
LEX	11:51 am	20	-2.54			3.5	737.91	81	552	305	217	56	6.1	14.0	
	12:01 am	30	-2.36			4	942.18	89	551	309	218	57	6.1	14.0	
	12:05 am						742.30	Leak	NA	20.01 @ 10" Hg					
	12:15 am	40	-2.62		0.60	4	746.57	93	528	315	220	61	6.6	13.6	
	12:25 am	50	-2.59			5.5	750.90	95	527	324	216	60	6.8	13.4	
	12:35 am	60	-2.47			7	755.18	97	527	324	215	60	6.9	13.3	
	12:39 am						755.40		Leak	NA	20.01 @ 12" Hg				
	12:49 am	70	-2.61		0.60	7.5	759.71	88	535	296	210	57	8.0	12.3	
	12:59 am	80	-2.63			8.5	764.09	83	536	273	209	53	7.9	12.4	
	1:09 am	90	-2.65			9	768.36	81	535	268	208	53	7.8	12.5	
	1:13 am						768.60		Leak	NA	20.01 @ 13" Hg				
	1:23 am	100	-2.19		0.60	9	772.89	80	594	290	203	53	6.3	13.9	
	1:33 am	110	-2.81			10.5	777.17	79	594	317	204	53	6.3	13.9	
	1:43 am	120	-2.65			11.5	781.40	82	594	327	205	53	6.2	14.0	
AVERAGE			-2.59		0.60		51.52	33.4	552.1					6.3	13.4

Sample Train: Pre Test 0.51 ft<sup>3</sup> @ 12 in. Hg      Post Test 4.91 ft<sup>3</sup> @ 15 in. Hg

Leak Checks: Pre Test           Post Test     

Pilot Tube Leak Checks: Pre Test           Post Test     





ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID: OH #1  
 PLANT: AES Greenidge  
 LOCATION: Air Heater Inlet  
 DATE: 5/19/06  
 OPERATOR(S): ARK/KLC  
 AMBIENT TEMP [°F]: 79.00  
 BAR. PRESS. [° Hg]: 29.00

METER BOX: N-4  
 PITOT TUBE DESC: Y  
 PROBE LENGTH [in]: 3  
 NOZZLE ID [inch]: 1/4 C  
 %H<sub>2</sub>O (Assumed): B  
 FILTER ID: 1191  
 K FACTOR: 1

CAL. DATA: delta H: 1000  
 C(p): NA  
 FILTER BOX SETTING: 325  
 PROBE HTR SETTING: circ ?  
 DUCT X-SECTION: HL #5-4  
 DUCT AREA: 7

Comments: Constant Sampling Rate. Nozzle out of flow.

TRAVERSE POINT [port-inch]	CLOCK TIME [24-hr]	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST		
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]	
	1332	0				442.726										
	2337	5	0.75		0.75	3.5	445.200	84	88		327	239	47			
	2342	10	0.75		0.75	3.7	447.810	90	88		318	240	48			
	2347	15	0.75		0.75	4.0	450.330	92	89		328	222	47	10.7	8.9	
	2352	20	0.75		0.75	4.2	452.850	93	89		323	223	47	15.2	7.1	
	2357	25	0.75		0.75	4.2	455.360	95	89		318	225	49	15.5	4.6	
	2362	30	0.75		0.75	4.5	457.850	95	90		324	224	49	16.0		
	0007	35	0.75		0.75	5.0	460.370	96	90		318	225	50	16.4		
	0012	40	0.75		0.75	5.2	462.880	96	92		316	225	50	6.7	13.5	
	0022	45	0.75		0.75	5.8	465.345	96	92		318	226	51	7.0	13.2	
	0027	50	0.75		0.75	6.0	468.035	96	92		323	227	51	6.9	13.3	
	0032	55	0.75		0.75	6.5	470.530	95	92		319	227	51	7.1	13.2	
	0037	60	0.75		0.75	6.8	473.023	95	92		321	228	52	7.2	13.0	
	0042	65	0.75		0.75	7.0	475.547	93	92		325	253	53	7.9	12.3	
	0047	70	0.75		0.75	7.5	478.010	93	92		327	251	52	8.1	12.1	
	0052	75	0.75		0.75	7.8	480.490	93	92		320	248	52	7.7	12.5	
	0102	80	0.75		0.75	8.0	483.000	93	92		323	250	52	7.9	12.3	
	0107	85	0.75		0.75	8.5	485.520	93	92		319	245	52	7.9	12.3	
	0112	90	0.75		0.75	9.0	488.030	93	92		330	250	53	7.9	12.3	
	0117	95	0.75		0.75	9.2	490.540	93	92		324	248	54	8.0	12.7	
	0122	100	0.75		0.75	9.9	493.050	93	92		328	243	54	7.8	12.4	
	0127	105	0.75		0.75	10.1	495.560	93	92		329	243	54	7.9	12.3	
	0132	110	0.75		0.75	10.5	498.075	93	91		319	257	54	7.8	12.4	
	0137	115	0.75		0.75	11.0	450.580	92	90		322	250	54	7.8	12.4	
	0147	120	0.75		0.75	11.2	503.081	92	90		319	246	54	7.8	12.4	
AVERAGE			0.75		0.75	57.821	67.8							7.4		

found disc. exhaust low

N<sub>2</sub>O = 6.15

N<sub>2</sub>O = 7.88



CONSOL ENERGY

Sample Train: Pre Test: 3000 ft<sup>3</sup> @ 15 in. Hg Post Test: 20.0 ft<sup>3</sup> @ 15 in. Hg  
 Leak Checks: Pre Test: 20.0 ft<sup>3</sup> @ 15 in. Hg Post Test: 20.0 ft<sup>3</sup> @ 15 in. Hg  
 Pilot Tube: Pre Test: @ in. H<sub>2</sub>O Post Test: @ in. H<sub>2</sub>O  
 Leak Checks: Pre Test: @ in. H<sub>2</sub>O Post Test: @ in. H<sub>2</sub>O

NOTE: Purge for 10 minutes at end of sampling.



ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

Page 88 of 103

TEST ID: 44  
 PLANT: Greenidge  
 LOCATION: Stack  
 DATE: 5-19-08  
 OPERATOR(S): BS, PR  
 AMBIENT TEMP [°F]: 24.50  
 BAR. PRESS. [in. Hg]: 29.00

METER BOX: 285  
 PITOT TUBE DESC: 6.12 A  
 PROBE LENGTH [ft]: 8  
 NOZZLE ID [inch]: 1/4 in. 0.260  
 %H<sub>2</sub>O (Assumed): 14%  
 FILTER ID: 142  
 K FACTOR: 3.087

CAL. DATA: delta H: Y  
 C(p): 0.821  
 FILTER BOX SETTING: NA  
 PROBE HTR SETTING: 250  
 DUCT X-SECTION: circ?  
 DUCT DIMENSIONS: 13ft

Comments: 1.0021  
1.0021  
0.821  
 rect?      
 other: 132.732 ft2

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER-BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST		
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]	
	<u>2330</u>	<u>0</u>					<u>408.20</u>									
<u>-5.0</u>		<u>7.5</u>		<u>.20</u>	<u>.63</u>	<u>1</u>	<u>411.54</u>	<u>50</u>	<u>50</u>	<u>132</u>	<u>247</u>	<u>303</u>	<u>42</u>	<u>1</u>	<u>1</u>	
<u>-16.4</u>		<u>15.0</u>		<u>.23</u>	<u>.74</u>	<u>1.5</u>	<u>415.12</u>	<u>51</u>	<u>50</u>	<u>173</u>	<u>249</u>	<u>306</u>	<u>40</u>	<u>1</u>	<u>1</u>	
<u>-30.3</u>		<u>22.5</u>	<u>-405</u>	<u>.28</u>	<u>.88</u>	<u>2</u>	<u>419.00</u>	<u>53</u>	<u>51</u>	<u>174</u>	<u>252</u>	<u>305</u>	<u>41</u>	<u>10.6</u>	<u>1</u>	
<u>-50.4</u>		<u>30.0</u>		<u>.28</u>	<u>.88</u>	<u>2</u>	<u>422.88</u>	<u>54</u>	<u>52</u>	<u>174</u>	<u>249</u>	<u>306</u>	<u>41</u>	<u>10.4</u>	<u>1</u>	
<u>-5.0</u>		<u>37.5</u>		<u>.23</u>	<u>.74</u>	<u>2</u>	<u>426.23</u>	<u>55</u>	<u>53</u>	<u>126</u>	<u>250</u>	<u>305</u>	<u>41</u>	<u>1</u>	<u>1</u>	
<u>-16.4</u>		<u>45.0</u>		<u>.27</u>	<u>.85</u>	<u>2</u>	<u>430.30</u>	<u>55</u>	<u>53</u>	<u>174</u>	<u>246</u>	<u>306</u>	<u>41</u>	<u>10.0</u>	<u>1</u>	
<u>-30.3</u>		<u>52.5</u>		<u>.28</u>	<u>.88</u>	<u>2.5</u>	<u>434.21</u>	<u>57</u>	<u>54</u>	<u>175</u>	<u>244</u>	<u>306</u>	<u>41</u>	<u>1</u>	<u>1</u>	
<u>-50.4</u>		<u>60.0</u>	<u>-387</u>	<u>.28</u>	<u>.88</u>	<u>2.5</u>	<u>438.11</u>	<u>58</u>	<u>55</u>	<u>175</u>	<u>250</u>	<u>306</u>	<u>42</u>	<u>10.3</u>	<u>1</u>	
<u>-5.0</u>		<u>67.5</u>		<u>.20</u>	<u>.63</u>	<u>1.5</u>	<u>441.24</u>	<u>57</u>	<u>55</u>	<u>132</u>	<u>250</u>	<u>306</u>	<u>43</u>	<u>1</u>	<u>1</u>	
<u>-16.4</u>		<u>75.0</u>		<u>.23</u>	<u>.74</u>	<u>2</u>	<u>445.11</u>	<u>58</u>	<u>56</u>	<u>174</u>	<u>248</u>	<u>306</u>	<u>43</u>	<u>10.3</u>	<u>1</u>	
<u>-30.3</u>		<u>82.5</u>		<u>.28</u>	<u>.88</u>	<u>2.5</u>	<u>449.02</u>	<u>59</u>	<u>57</u>	<u>175</u>	<u>245</u>	<u>305</u>	<u>43</u>	<u>10.3</u>	<u>1</u>	
<u>-50.4</u>		<u>90.0</u>	<u>-404</u>	<u>.30</u>	<u>.95</u>	<u>2.5</u>	<u>453.10</u>	<u>60</u>	<u>57</u>	<u>175</u>	<u>246</u>	<u>305</u>	<u>42</u>	<u>1</u>	<u>1</u>	
<u>-5.0</u>		<u>97.5</u>		<u>.23</u>	<u>.74</u>	<u>2</u>	<u>456.70</u>	<u>59</u>	<u>57</u>	<u>140</u>	<u>250</u>	<u>305</u>	<u>42</u>	<u>1</u>	<u>1</u>	
<u>-16.4</u>		<u>105.0</u>		<u>.27</u>	<u>.85</u>	<u>2.5</u>	<u>460.58</u>	<u>59</u>	<u>56</u>	<u>174</u>	<u>251</u>	<u>305</u>	<u>42</u>	<u>10.3</u>	<u>1</u>	
<u>-30.3</u>		<u>112.5</u>		<u>.28</u>	<u>.88</u>	<u>2.5</u>	<u>464.50</u>	<u>59</u>	<u>56</u>	<u>175</u>	<u>242</u>	<u>305</u>	<u>43</u>	<u>1</u>	<u>1</u>	
<u>-50.4</u>	<u>0147</u>	<u>120.0</u>	<u>-431</u>	<u>.30</u>	<u>.95</u>	<u>2.5</u>	<u>468.62</u>	<u>60</u>	<u>56</u>	<u>175</u>	<u>250</u>	<u>303</u>	<u>43</u>	<u>10.3</u>	<u>1</u>	
AVERAGE			<u>0.408</u>	<u>0.258</u>	<u>0.819</u>		<u>60.42</u>	<u>55</u>	<u>4</u>	<u>164.2</u>				<u>10.3</u>		

Sample Train: Pre Test 0.15 ft<sup>3</sup> @ 10 in. Hg, Post Test     ft<sup>3</sup> @     in. Hg  
 Leak Checks: Pre Test 0.15 @     in. H<sub>2</sub>O, Post Test     @     in. H<sub>2</sub>O

NOTE: Purge for 10 minutes at end of sampling.





ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

Page 12 of 12

Comments: 12 Probe  
10' into duct  
10 min purge after test

CAL. DATA: delta H 1.8479  
 Y 1993  
 C(p) NA  
 FILTER BOX SETTING 325  
 PROBE HTR SETTING circ?  
 DUCT X-SECTION duct?  
 DUCT AREA leaked

METER BOX 2023LS  
 PITOT TUBE DESC 12  
 PROBE LENGTH [ft] 8  
 NOZZLE ID [inch] 1190  
 %H<sub>2</sub>O (Assumed) 1190  
 FILTER ID 1190  
 K FACTOR

TEST ID Beon Out-2  
 PLANT Greenidge  
 LOCATION Economizer Outlet  
 DATE 5/20/08  
 OPERATOR(S) RWO, KC  
 AMBIENT TEMP [°F] 65  
 BAR. PRESS. [in. Hg] 29.03

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	ELMER BOX TEMP [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
	3:15 AM	10	-2.77		0.65	4	786.90	68	68	604	325	201	47	6.4	13.8
	3:25 AM	20	-2.62		0.65	4.5	795.77	69	67	609	323	204	47	6.4	13.8
	3:35 AM	30	-2.67		0.65	4.5	800.13	69	68	608	323	206	48	6.4	13.8
	3:59 AM						800.50			Leak etc	<0.01	@ 9"	49		
	3:24 AM	40	-2.05		0.65	5	804.66	69	67	536	310	204	48	8.3	12.0
	3:59 AM	50	-2.63			5.5	809.05	72	67	534	292	205	47	8.0	12.3
	4:09 AM	60	-2.60			6	813.43	72	70	535	263	205	49	7.9	12.4
	4:14 AM						813.60			Leak etc	<0.01	@ 10"	49		
	4:24 AM	70	-2.69		0.65	7	818.01	72	71	532	296	223	51	6.6	13.4
	4:34 AM	80	-2.65			7.5	822.35	73	70	533	313	224	52	6.6	13.4
	4:44 AM	90	-2.71			8	826.67	73	70	533	319	225	53	6.6	13.4
	4:47 AM						826.80			Leak etc	<0.01	@ 12"	53		
	4:57 AM	100	-2.57		0.65	9	831.15	70	68	608	296	224	53	7.0	13.2
	5:07 AM	110	-2.60			10	835.43	71	68	613	303	223	53	7.0	13.2
	5:17 AM	120	-2.60			11	839.73	71	68	613	309	223	64	7.0	13.2
AVERAGE			-2.70		0.65		52.35	69.6						7.1	13.2

Sample Train Leak Checks: Pre Test 5.01 ft<sup>3</sup> @ 10 in. Hg Post Test 5.01 ft<sup>3</sup> @ 10 in. Hg  
 Pitot Tube Leak Checks: Pre Test 571.7 in. H<sub>2</sub>O Post Test 571.7 in. H<sub>2</sub>O





# ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	04H #2	CAL. DATA: delta H	1.744	Page	of
PLANT	AES Greenidge	METER BOX	N-4	Comments:	Constant sample rate
LOCATION	Air Heater Inlet	PITOT TUBE DESC	Y		Made out of (Pen)
DATE	5/20/08	PROBE LENGTH [ft]	3		
OPERATOR(S)	AR6/KRC	NOZZLE ID [inch]	1/4 C		
AMBIENT TEMP [°F]		%H <sub>2</sub> O (Assumed)	8		
BAR. PRESS. [in. Hg]	29.05	FILTER BOX SETTING	325		
		PROBE HTR SETTING			
		DUCT X-SECTION	circle 2		
		DUCT DIMENSIONS			
		FILTER ID	1192		
		K FACTOR			
		DUCT AREA			

TRAVERSE POINT [port-inch]	CLOCK TIME [24-hr]	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft]	METER TEMP [°F]		STACK TEMP [°F]	PROBE Z TEMP [°F]	FILPER BOX TEMP [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								Inlet	Outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
	0307	0	0.75		0.75	5.8	508.910	87	87		319	220	51	8.1	12.1
	0312	5	0.75		0.75	4.0	518.940	89	87		322	228	49	8.3	12.0
	0317	10	0.75		0.75	4.2	516.435	90	88		323	224	51	8.2	12.1
	0322	15	0.75		0.75	4.5	518.940	91	88		319	226	52	8.3	12.0
	0327	20	0.75		0.75	4.9	521.435	91	89		325	229	54	8.3	12.0
	0332	25	0.75		0.75	5.0	523.930	91	88		329	230	54	8.5	11.7
	0337	30	0.75		0.75	5.0	526.430	91	89		328	231	54	8.8	11.6
	0342	35	0.75		0.75	5.5	528.920	92	89		319	232	55	8.8	11.5
	0347	40	0.75		0.75	5.8	531.415	91	88		328	233	55	8.9	11.4
	0352	45	0.75		0.75	6.0	533.900	91	89		325	233	55	8.6	11.7
	0357	50	0.75		0.75	6.2	536.390	91	88		319	229	56	8.7	11.6
	0402	55	0.75		0.75	6.5	538.874	91	88		319	234	56	8.5	11.8
Pause	0407	60	0.75		0.75						3				
Start	0415		0.75		0.75	7.0	541.400	89	88		319	266	53	7.3	13.0
	0420	65	0.75		0.75	7.2	543.875	90	88		319	266	51	7.6	12.6
	0425	70	0.75		0.75	7.5	546.375	90	88		327	267	52	7.9	12.3
	0430	75	0.75		0.75	7.8	548.865	90	88		327	266	52	7.9	12.3
	0435	80	0.75		0.75	8.0	551.345	91	88		327	266	53	7.9	12.3
	0440	85	0.75		0.75	8.2	553.850	91	88		321	267	54	8.0	12.2
	0445	90	0.75		0.75	8.5	556.345	91	88		320	267	54	8.0	12.2
	0450	95	0.75		0.75	9.0	558.850	91	88		322	267	54	8.2	12.1
	0455	100	0.75		0.75	9.2	561.330	91	88		319	266	54	8.2	12.1
	0500	105	0.75		0.75	9.5	563.845	91	89		328	267	54	8.2	12.1
	0505	110	0.75		0.75	10.0	566.330	91	88		325	266	54	8.2	12.1
	0510	115	0.75		0.75	10.2	568.825	90	89		321	267	55	8.2	12.1
	0515	120	0.75		0.75		571.317								
AVERAGE															

Sample Train Leak Checks:	Pre Test	Post Test	Pilot Tube Leak Checks:	Pre Test	Post Test
	20.01	20.01			
	ft <sup>3</sup> @ 15	ft <sup>3</sup> @ 15		in. H <sub>2</sub> O	in. H <sub>2</sub> O

NOTE: Purge for 10 minutes at end of sampling.





# ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID: #2      PLANT: Greenidge      CAL. DATA: delta H: 0.883      Comments:      Page \_\_\_\_ of \_\_\_\_

LOCATION: Stack      PITOT TUBE DESC: F12      Y: 0.991      C(p): 0.821      LAST IMP TEMP [°F]:      METER EXHAUST O<sub>2</sub> [% vol]:      CO<sub>2</sub> [% vol]:

DATE: 5-19-08      PROBE LENGTH [ft]: 8      FILTER BOX SETTING: NA      PROBE HTR SETTING: 250      DUCT AREA: 132.732 ft<sup>2</sup>

OPERATOR(S): B.S.P.P.      NOZZLE ID [inch]: 1/4" x 210      14%      DUCT X-SECTION: circ?      rect?      other:      DUCT DIMENSIONS: 13ft

AMBIENT TEMP [°F]: -45.0      FILTER ID: 143      K FACTOR: 3.07

BAR. PRESS. [° Hg]: 29.03

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minutes]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	-FILTER- %OK [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-5.0	0305	0					474.10	49	48	147	253	299	41		
-16.4		7.5	.20	.63	.63	1	477.48	51	49	173	248	304	40		
-30.3		15.0	.27	.85	.85	1.5	481.32	53	50	175	250	306	41	10.4	
-50.4		22.5	.28	.88	.88	2	485.24	55	52	175	241	308	42	10.4	
		30.0	.30	.95	.95	2	489.30								
-5.0		37.5	.20	.63	.63	1	492.64	55	54	133	245	307	41		
-16.4		45.0	.28	.88	.88	2	496.56	57	55	174	248	307	41	10.3	
-30.3		52.5	.30	.95	.95	2.5	500.63	57	54	176	252	307	42		
-50.4		60.0	.44	.28	.88	2	504.55	57	54	175	243	306	42	10.2	
		67.5	.20	.63	.63	1.5	507.90	57	55	150	255	307	41		
-16.4		75.0	.27	.85	.85	2	511.75	57	55	174	254	308	41	10.3	
-30.3		82.5	.28	.88	.88	2	515.70	57	54	175	249	308	41		
-50.4		90.0	.41	.28	.88	2	519.60	57	54	176	248	308	41	10.3	
		97.5	.20	.63	.63	1.5	522.96	57	54	164	246	309	42		
-16.4		105.0	.27	.85	.85	2	526.80	57	53	174	254	309	42	10.3	
-30.3		112.5	.28	.88	.88	2	530.72	57	53	175	254	308	43	10.2	
-50.4	0514	120.0	.47	.28	.88	2	534.64	57	54	176	245	308	43		
AVERAGE			0.833	0.58	0.58		60.54	58.3	58.3	68.3				10.3	

Sample Train: ALS Pre Test: OK Post Test: OK      in. H<sub>2</sub>O: 7      in. H<sub>2</sub>O: 7

Leak Checks: OK      PreTest: OK      Post Test: OK

Pilot Tube Leak Checks: OK      PreTest: OK      Post Test: OK

NOTE: Purge for 10 minutes at end of sampling.



CONSOL ENERGY





Purge @ 70" H<sub>2</sub>O flow 1146-1156

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	ECON-1	METER BOX	053	CAL. DATA: delta H	1.666	Comments:	Constant Sample Rate - Nozzle Reversed to flow
PLANT	Greenidge	PITOT TUBE DESC		Y	1.0086		
LOCATION	Economizer Outlet	PROBE LENGTH [ft]	12	C(p)	2.54		
DATE	6-12-08	NOZZLE ID [inches]	0	FILTER BOX SETTING	NA		
OPERATOR(S)	JM, NJ	%H <sub>2</sub> O (Assumed)	8	PROBE HTR SETTING	325		
AMBIENT TEMP [°F]	80	FILTER ID	1223	DUCT X-SECTION		rect ?	
BAR. PRESS. [° Hg]	29.54	K FACTOR	NA	DUCT DIMENSIONS		other:	

Inlet = 475.6577  
 Outlet = 475.518

TRAVERSE POINT [port-inch]	CLOCK TIME [24-hr]	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [°C]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
D-1	0940	0	-	.03	0.70	2	477.527	70	70	666	268	315	66	3.2	12.7
D-1	0950	10	-	.03	0.70	2	478.795	71	71	673	260	315	65	2.8	13.1
D-1	1000	20	-	.03	0.70	2	480.590	72	72	693	261	315	64	2.5	13.4
D-1	1010	30	-	.09	2.1			446	2052						
C-1	1020	40	-	.10	0.70	3	482.600	75	75	601	265	315	58	5.5	15.4
C-1	1030	50	-5.5	.11	0.70	3	484.586	75	75	602	266	315	58	5.4	15.5
C-1	1040	60	-	.11	0.70	3	486.658	76	76	602	267	314	58	5.2	15.7
				.41	4.2			87.8	38.57						
	1042														
-1	1052	70	-	.09	0.70	3	487.105	78	78	626	285	314	62	5.8	15.1
-1	1102	80	-5.7	.10	0.70	3	491.584	78	78	629	285	314	58	5.6	15.3
-1	1112	90	-	.09	0.70	3	495.961	78	78	628	291	313	59	5.7	15.2
					6.3										
	1115														
-1	1125	100	-	.03	0.70	3	497.165	78	78	657	282	313	63	4.8	16.1
-1	1135	110	-5.5	0.03	0.70	3	499.690	79	79	672	278	315	65	2.6	18.3
-1	1145	120	-	0.03	0.70	3	502.378	79	79	675	286	315	65	3.0	17.9
					8.4										
AVERAGE			-5.83		1.70		26.500	75.8		645.3	274.5	314.4	61.8	4.34	

Sample Train	Pre Test	0.206	ft @ 10	in. Hg
Leak Checks:	Post Test	2.003	ft @ 5	in. Hg
Pilot Tube	Pre Test	0.00	@ 3.0	in. H <sub>2</sub> O
Leak Checks:	Post Test	0.20	@ 3.0	in. H <sub>2</sub> O





TEST 1

9:42 AM

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID: AHS-1      PLANT: AES Greenidge      OPERATOR(S): RSS  
 LOCATION: Air Heater Inlet      DATE: 6.11.08      AMBIENT TEMP (°F): 79  
 METER BOX: N-2      CAL. DATA: delta H: 1.779      Comments: Constant Sampling Rate  
 PITOT TUBE DESC: 3      Y: 0.985      NOZZLE: Barber Sletto Flow  
 PROBE LENGTH (ft): 34.6      C(p): NA      FILTER BOX SETTING: 325  
 NOZZLE ID (inches): 8      PROBE HTR SETTING: circ 2      DUCT X-SECTION: rect?  
 %H<sub>2</sub>O (Assumed): 12.30      FILTER ID: 12.30      DUCT AREA: (4)  
 K FACTOR: 29.59      FILTER AREA: (3)

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME (minute)	STATIC PRES [in. Hg]	PITOT HEAD [in. Hg]	METER DIFF PRESSURE [in. Hg]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
	0940	0					319.200	73	73		340	224	68	3.4	16.6
		5			0.70	4"	321.600	74	73		341	206	60	3.4	16.6
		10				4"	324.000	75	73		344	207	61	3.2	16.8
		15				5"	326.400	76	73		349	208	62	3.3	16.7
		20				5"	328.800	78	74		324	208	66	3.3	16.7
		25				6"	331.200	78	74		320	207	68	3.5	16.5
		30				6"	333.600	79	75		328	207	69	3.5	16.5
		35				7"	336.000	79	75		330	207	70	3.3	16.7
		40				7"	338.400	80	75		320	207	70	3.2	16.8
		45				8"	340.800	80	75		332	208	67	3.3	16.7
		50				8"	343.200	80	77		321	209	61	3.3	16.7
		55				9"	345.600	81	76		321	209	61	3.3	16.7
		60				9"	347.777	81	77		321	209	60	3.4	16.6
	10:44						347.777								
		65				9"	350.190	81	77		329	213	56	5.0	15.1
		70				10"	352.570	82	77		333	213	54	4.9	15.2
		75				10"	354.900	82	78		321	213	53	4.9	15.2
		80				11"	357.340	82	78		330	216	54	4.9	15.2
		85				11"	359.750	82	78		332	214	55	5.0	15.1
		90				11"	362.130	83	78		325	216	55	5.1	15.0
		95				12"	364.510	83	79		332	215	58	4.9	15.2
		100				12"	366.890	84	79		329	215	56	5.0	15.1
		105				12	369.250	83	79		329	215	56	4.7	15.4
		110				13	371.600	83	79		328	216	55	4.8	15.3
		115				14	373.990	84	79		323	216	56	4.8	15.3
		120				14	376.365	84	80		323	217	55	4.9	15.2
AVERAGE					0.70		371.65	84.9			334.9	219	60.3	4.13	

Sample Train: Pre Test 7 in. Hg      Post Test 16 in. Hg  
 Leak Checks: Pre Test 7 in. Hg      Post Test 16 in. Hg  
 Pilot Tube Leak Checks: Pre Test 7 in. Hg      Post Test 16 in. Hg

NOTE: Purge for 10 minutes at end of sampling.





ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

Page      of     

TEST ID	#1	METER BOX	N-5
PLANT	Greenidge	PITOT TUBE DESC	E-12
LOCATION	Stack	PROBE LENGTH [ft]	8
DATE	6-12-08	NOZZLE ID [inch]	1/4" A. 0.240
OPERATOR(S)	BS PR	%H <sub>2</sub> O (Assumed)	14%
AMBIENT TEMP [°F]	-75.0	FILTER ID	154
BAR. PRESS. [in. Hg]	29.59	K FACTOR	3.27

Comments: CAL. DATA: delta H 1.315 Y 0.990 C(p) 0.521 NA  
 FILTER BOX SETTING NA  
 PROBE HTR SETTING 250  
 DUCT X-SECTION circ ?  
 DUCT AREA 132.732 ft<sup>2</sup>  
 other: HLS (4)  
(6) (7)

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	-FILTER- BOX- [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-5.0	0942	0					910.70								
-5.0		7.5		.55	1.80	3.5	916.42	74	74	172	248	52	52		
-16.4		15.0		.55	1.80	3.5	922.08	75	74	174	251	308	52		8.0
-30.3		22.5		.55	1.80	3.5	927.74	77	74	174	248	308	54		
-50.4		30.0		.55	1.80	4	933.47	79	75	175	254	307	56		8.0
-5.0		37.5		.63	2.06	4	939.50	81	77	174	243	307	54		
-16.4		45.0		.63	2.06	4	945.54	82	77	175	243	307	52		7.9
-30.3		52.5		.63	2.06	4	951.61	83	77	175	241	306	54		
-50.4		60.0		.60	1.96	4	957.52	84	78	176	248	306	54		8.0
-5.0		67.5		.58	1.90	4	963.47	85	77	174	253	307	56		
-16.4		75.0		.58	1.90	4	969.20	84	78	175	254	308	58		7.9
-30.3		82.5		.63	2.06	4.5	975.24	84	78	175	255	310	61		
-50.4		90.0		.55	1.80	4	981.00	84	77	176	252	310	58		7.9
-5.0		97.5		.45	1.47	3	986.16	81	76	174	248	310	55		
-16.4		105.0		.50	1.64	3.5	991.60	83	76	174	246	310	53		8.0
-30.3		112.5		.50	1.64	3.5	997.07	83	76	175	254	310	54		
-50.4		1157		.55	1.80	4	1002.75	83	76	175	243	311	56		7.9
AVERAGE							92.05	78.8		174.6	248.8	306.3	54.9		7.95

Sample Train Pre Test OK ft<sup>3</sup> @ 10 in. Hg  
 Leak Checks: Post Test OK ft<sup>3</sup> @ 10 in. Hg  
 Pilot Tube PreTest OK @ 7 in. H<sub>2</sub>O  
 Leak Checks: Post Test OK @ 7 in. H<sub>2</sub>O

NOTE: Purge for 10 minutes at end of sampling.





2600-2-3008



ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID: ELON-2  
 PLANT: Greenidge  
 LOCATION: Economizer Outlet  
 DATE: 6-12-08  
 OPERATOR(S): JY, MN  
 AMBIENT TEMP [°F]: 85  
 BAR. PRESS. [° Hg]: 29.65

METER BOX: 083  
 PITOT TUBE DESC: Y  
 PROBE LENGTH [ft]: 12  
 NOZZLE ID [inches]: .314 B  
 %H<sub>2</sub>O (Assumed): 8  
 FILTER ID: 1228  
 K FACTOR: NA

CAL. DATA: delta H: 1.666  
 Y: 1.0886  
 C(p): 0.84  
 FILTER BOX SETTING: NA  
 PROBE HTR SETTING: 325  
 DUCT X-SECTION: circ?  
 DUCT DIMENSIONS: rect?  
 DUCT AREA: other:

Comments: large @ -30' H<sub>2</sub>O from 1539 to 1548

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet				O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
A-1	1340	10	-	.05	0.70	2	508.200	80	80	677	306	61	12.0	8.9
A-1	1350	20	-5.7	.03	0.70	3	511.345	80	80	681	305	60	11.9	9.0
A-1	1400	30	-	.03	0.70	3	514.525	81	81	690	304	58	12.0	8.9
	1404		-	Leak	/ =	100L	505.347				leak where sample line connected to probe.			
B-1	1414	40	-	.12	0.70	3	514.965	82	82	628	296	64	6.2	14.7
B-1	1424	50	-6.1	.14	0.70	3	520.745	83	83	627	308	61	6.1	14.8
B-1	1434	60	-	.14	0.70	3	524.148	84	84	629	315	61	6.3	14.6
	1437		-											
C-1	1447	70	-	.11	0.70	3	527.894	85	85	605	314	62	5.7	15.2
C-1	1457	80	-5.8	.15	0.70	3	530.125	85	85	614	322	58	5.6	15.3
C-1	1507	90	-	.15	0.70	3	533.115	86	86	615	326	57	5.5	15.4
	1508		-											
D-1	1518	100	-	.26	0.70	5	536.350	86	86	791	321	57	3.4	17.5
D-1	1528	110	-5.7	.25	0.70	5	539.330	87	87	797	317	57	2.7	18.2
D-1	1538	120	-	.25	0.70	5	542.910	86	86	799	318	56	2.8	18.1
AVERAGE			-5.83		0.70		527.073	83.8		679.6	312.7	59.3	6.68	

Sample Train: Pre Test 0.01 ft<sup>3</sup> @ 15 in. Hg  
 Leak Checks: Post Test 0.007 ft<sup>3</sup> @ 7 in. Hg  
 Pilot Tube: Pre Test 0.00 @ 3 in. H<sub>2</sub>O  
 Leak Checks: Post Test 0.00 @ 3 in. H<sub>2</sub>O





TEST # 2

ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

Page \_\_\_ of \_\_\_

TEST ID	AIH-2	Comments:	
PLANT	AES Greenidge	CAL. DATA: delta H	Y
LOCATION	Air Heater Inlet	CLIP	NA
DATE	06-12-08	FILTER BOX SETTING	325
OPERATOR(S)	RSS	PROBE HTR SETTING	circ 2
AMBIENT TEMP [°F]	84	DUCT X-SECTION	rect 7
BAR. PRESS. [° Hg]	29.65	DUCT AREA	3

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX TEMP [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
	13:30	0			0.70	4"	382.900	81	80		332	221	56	5.7	14.4
		5				4"	385.400	86	80		322	222	55	5.8	14.3
		10				4"	390.140	83	80		330	223	54	5.9	14.2
		15				5"	392.520	84	80		333	224	53	5.7	14.4
		20				5"	394.930	85	82		325	225	56	5.5	14.6
		25				5"	397.320	85	81		323	224	54	6.0	14.1
		30				5"	399.710	87	82		329	224	54	5.8	14.3
		35				6"	402.090	86	82		321	224	55	5.6	14.5
		40				6"	404.480	86	82		319	224	54	5.9	14.2
		45				6"	406.860	87	82		324	227	58	5.7	14.4
		50				7"	409.250	87	83		319	224	54	5.7	14.4
		55				7"	411.620	87	83		326	228	55	5.7	14.4
	14:33						411.62								
		65				7"	414.010	87	83		331	229	50	3.9	16.1
		70				8"	416.400	87	83		330	229	48	3.8	16.2
		75				8"	418.780	87	84		320	229	47	3.9	16.1
		80				9"	421.080	87	84		320	227	48	4.3	15.7
		85				9"	423.430	87	84		319	229	48	4.2	15.8
		90				10"	425.810	87	84		318	229	48	4.5	15.5
		95				7"	427.550	87	84		323	229	51	4.5	15.5
		100				7"	429.230	86	84		330	229	53	4.1	15.9
		105				8"	430.900	87	84		317	230	52	4.3	15.7
		110				8"	432.580	88	84		329	231	55	4.2	15.8
		115				8"	434.250	87	85		317	231	54	4.3	15.7
		120				8"	435.910	87	84		325	230	54	4.4	15.6
AVERAGE	15:33				0.70		53.015	84.4			324.3	226.8	52.8	4.98	

Sample Train	Pre Test	Post Test	in. Hg	Pilot Tube	PreTest	Post Test	in. H <sub>2</sub> O
Leak Checks:	Leak Checks:	Leak Checks:	Leak Checks:	Leak Checks:	Leak Checks:	Leak Checks:	Leak Checks:

NOTE: Purge for 10 minutes at end of sampling.





# ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

Page \_\_\_\_\_ of \_\_\_\_\_

TEST ID	#2	METER BOX	2.5	CAL. DATA: delta H	1.818	Comments:	
PLANT	Greenidge	PITOT TUBE DESC	E-12	Y	0.990		
LOCATION	Stack	PROBE LENGTH [ft]	8	C(p)	0.821		
DATE	6-12-08	NOZZLE ID [inch]	1/4" A 260	FILTER BOX SETTING	NA		
OPERATOR(S)	BSPR	%H <sub>2</sub> O (Assumed)	14%	PROBE HTR SETTING	250		
AMBIENT TEMP [°F]	~75.0	FILTER ID	155	DUCT X-SECTIONS	circ? (1)		
BAR. PRESS. [° Hg]	29.65	K FACTOR	3.27	DUCT AREA	132.732 ft <sup>2</sup>		
				DUCT DIMENSIONS	15 (G) 11 (1) 15 (4)		

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	"FILTER-BOX" [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
	1330	0					005.00								
-5.0		7.5		.45	1.47	12	014.24	78	76	173	250	305	60		
-16.4		15.0		.50	1.64	12.5	019.67	80	78	174	246	309	58		
-30.3		22.5	-.350	.55	1.80	14.5	025.36	83	81	174	242	305	60	7.6	
-50.4		30.0		.58	1.90	15.5	031.21	86	83	174	250	308	60	7.7	
-5.0		37.5		.55	1.80	15	036.92	89	86	174	252	310	61		
-16.4		45.0		.63	2.06	18	043.00	90	87	174	255	311	61	7.7	
-30.3		52.5		.65	2.13	18	—	92	87	174	249	310	57		
-50.4		60.0	-.440	.63	2.06	18	055.17	92	87	174	245	310	55	7.8	
-5.0		67.5		.63	2.06	18	061.50	93	89	174	254	307	56		
-16.4		75.0		.63	2.06	18	067.32	94	89	174	253	307	57	8.0	
-30.3		82.5	-.400	.63	2.06	18	—	95	89	174	247	307	58		
-50.4		90.0		.60	1.96	18	079.32	95	89	174	251	308	59	8.2	
-5.0		97.5		.50	1.64	14.5	084.50	96	89	174	250	310	59		
-16.4		105.0		.50	1.64	14.5	090.50	96	90	174	254	310	60	8.1	
-30.3		112.5	-.430	.55	1.80	16.5	096.26	98	90	174	243	310	62	8.0	
-50.4	1547	120.0		.55	1.80	17	102.10	98	90	174	254	309	63		
AVERAGE			-.415	0.57	1.868		93.10	88.6		173.9	249.7	308.8	59.1	7.89	

Sample Train	Pre Test	0.15	ft <sup>3</sup> @	10	in. Hg
Leak Checks:	Post Test	0.15	ft <sup>3</sup> @	18	in. Hg
Pitot Tube	Pre Test	0.15	@	7	in. H <sub>2</sub> O
Leak Checks:	Post Test	0.15	@	7	in. H <sub>2</sub> O

NOTE: Purge for 10 minutes at end of sampling.





Electrol



ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID: FL20-3  
 PLANT: Greentidge  
 LOCATION: Economizer Outlet  
 DATE: 6-13-08  
 OPERATOR(S): JM, NY  
 AMBIENT TEMP [°F]: 80  
 BAR. PRESS. [in. Hg]: 29.65

METER BOX: 283  
 PITOT TUBE DESC: Y  
 PROBE LENGTH [ft]: 12  
 NOZZLE ID [inch]: 3.5-1/16  
 %H<sub>2</sub>O (Assumed): 8  
 FILTER ID: 1234  
 K FACTOR: N/A

CAL. DATA: delta H: 1.666  
 Y: 1.00886  
 C(p): .84  
 FILTER BOX SETTING: NA  
 PROBE HTR SETTING: 325  
 DUCT X-SECTION: rect?  
 DUCT DIMENSIONS: DUCT AREA

Comments: Large @ 170" No. 7.4 12.14 to 12.24  
 other: 75.4

TRAVERSE POINT [port-inch]	CLOCK TIME [24-hr]	SAMPLE TIME [minutes]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	LAST IMP TEMP [°F]	METER EXHAUST		
								inlet	outlet				O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]	
	10:20	0					546.628								
D 1	10:20	10	-.14	.14	.70	2	548.365	81	81	692	330	312	66	5.8	15.1
D 1	10:20	20	-.10	.10	.70	2	550.070	81	81	770	319	311	65	2.6	18.3
D 1	10:22	30	-.12	.12	.70	2	551.932	83	83	775	313	311	61	2.6	18.3
C 1	10:40	40	-.14	.14	.70	2	554.270	84	84	626	310	311	55	6.0	14.9
C 1	10:50	50	-.13	.13	.70	2	557.600	84	84	627	300	313	51	5.7	15.7
C 1	11:00	60	-.12	.12	.70	4	561.000	86	86	625	306	313	50	5.8	15.1
							length added part changed								
							562.930								
B 1	11:11	70	-.15	.15	.70	4	566.410	86	86	586	281	315	54	5.9	15.0
B 1	11:31	80	-.16	.16	.70	5	569.808	88	88	628	300	316	55	5.6	15.3
B 1	11:41	90	-.16	.16	.70	5	573.192	89	89	629	313	316	56	5.6	15.3
A 1	11:51	100	-.16	.16	.70	5	576.513	90	90	628	321	314	58	5.8	15.1
A 1	12:01	110	-.17	.17	.70	6	577.720	90	90	629	314	313	59	5.5	15.4
A 1	12:11	120	-.16	.16	.70	6	583.480	90	90	630	312	315	60	5.6	15.3
AVERAGE			-6.1	0.127	0.70		36.852	86.0	86.0	653.8				5.2	15.7

Sample Train: Pre Test 0.52 ft<sup>3</sup> @ 12 in. Hg  
 Leak Checks: Post Test 0.08 ft<sup>3</sup> @ 9 in. Hg  
 Pilot Tube: Pre Test 0.20 @ 3.2 in. H<sub>2</sub>O  
 Leak Checks: Post Test 0.30 @ 3.1 in. H<sub>2</sub>O





ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

Page      of     

TEST ID	AH1-3	METER BOX	2	CAL. DATA: delta H	Y	Comments:	
PLANT	AES Greentidge	PITOT TUBE DESC	34K	Y			
LOCATION	Air Heater Inlet	PROBE LENGTH [in]	2.57	C(p)			
DATE	06-13-08	NOZZLE ID [inch]	8	NA			
OPERATOR(S)	KSS	%H <sub>2</sub> O (Assumed)		325			
AMBIENT TEMP [°F]	29.65	FILTER ID	1233	circ?			
BAR. PRESS. [° Hg]		K FACTOR		rest?			
				DUCT AREA			

101.9

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minutes]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
		0			0.70		438.500								
		5				4"	440.920	84	82		329	233	56	3.7	16.3
		10				5"	443.36	85	83		331	234	54	3.8	16.2
		15				5"	445.81	86	82		324	235	54	3.8	16.2
		20				6"	448.24	88	85		330	235	54	3.9	16.1
		25				6"	450.66	89	85		334	237	56	3.8	16.2
		30				7"	453.08	90	85		324	237	56	3.9	16.1
		35				7"	455.47	91	86		333	237	57	4.1	15.9
		40				7"	457.84	92	87		335	237	57	4.2	15.8
		45				8"	460.20	92	88		334	242	56	4.5	15.5
		50				8"	462.58	93	88		329	242	56	4.6	15.4
		55				9"	464.93	93	89		322	243	56	4.4	15.6
		60				9"	467.29	94	89		330	231	56	4.2	15.8
							467.29								
		65			0.70	8"	469.91	97	90		326	237	59	5.9	14.1
		70				8"	471.62	94	90		327	237	60	6.1	14.0
		75				9"	473.41	95	91		334	237	58	6.3	13.9
		80				10"	475.93	96	91		324	238	54	6.5	13.7
		85				10"	478.36	95	91		327	238	52	6.4	13.7
		90				11"	480.78	95	91		324	238	53	6.7	13.5
		95				11"	483.15	95	91		329	238	54	6.9	13.3
		100				7"	484.89	94	91		320	238	58	8.0	12.1
		105				8"	486.48	96	92		326	238	59	5.5	14.6
		110				8"	488.09	95	92		333	239	60	5.5	14.6
		115				8"	489.72	95	92		330	240	60	5.3	14.8
		120				9"	491.35	95	92		329	240	60	5.4	14.7
AVERAGE					0.70		52.85	98.4						5.1	

Sample Train	Pre Test	Post Test	Leak Checks:	Pilot Tube	PreTest	Post Test	Leak Checks:
	ft <sup>3</sup> @	ft <sup>3</sup> @		in. H <sub>2</sub> O	in. H <sub>2</sub> O		
	7	7		117	117		

NOTE: Purge for 10 minutes at end of sampling.



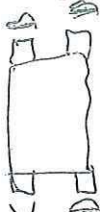
CONSOL ENERGY







11/15/2001



ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	EL00-4	METER BOX	083	CAL. DATA: delta H	1.0086	Comments:	Age @ 70' H <sub>2</sub> O for 10 min
PLANT	Greenidge	PITOT TUBE DESC			Y		
LOCATION	Economizer Outlet	PROBE LENGTH [ft]	12		(ip)		
DATE	6-18-08	NOZZLE ID [inch]	3H				
OPERATOR(S)	J.M.W.	%H <sub>2</sub> O (Assumed)	8				
AMBIENT TEMP [°F]	85.5	FILTER ID	123.5				
BAR. PRESS. [° Hg]	27.62	K FACTOR	1.4				
				METER TEMP [°F]		rect ?	
						DUCT AREA	
						DUCT X-SECTION	
						DUCT HTR SETTING	
						DUCT DIMENSIONS	

TRAVEL POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER PRESSURE [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	LAST IMP TEMP [°F]	METER EXHAUST		
									inlet	outlet				O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]	
A	1457	0						587.828								
A	1502	10		103	170	170	4	592.645	92	92	662	285	64	3.6	17.3	
A	1512	20		103	170	170	5	597.238	73	93	670	315	58	3.4	17.5	
A	1522	30		103	170	170	5	601.918	95	95	674	315	58	3.3	17.6	
B	1532	40		115	170	170	6	606.510	95	95	637	328	63	6.5	14.4	
B	1542	50		118	170	170	7	611.245	95	95	638	314	63	6.3	14.6	
B	1552	60		118	170	170	7	615.968	94	94	639	316	65	6.4	14.5	
	1557							Leak ✓ after but change to 1005012 Hg								
								616.410								
C	1607	70		116	170	170	8	620.872	94	94	621	275	62	6.2	14.7	
C	1617	80		120	170	170	8	625.622	94	94	621	301	56	5.6	15.3	
C	1627	90		120	170	170	9	627.588	94	94	621	313	52	5.5	15.3	
D	1637	100		110	170	170	11	635.125	94	94	819	307	54	3.0	17.7	
D	1647	110		111	170	170	12	637.885	94	94	821	307	54	2.9	18.0	
D	1657	120		110	170	170	13	644.652	93	93	824	328	58	3.0	17.9	
AVERAGE					6.70	6.70		56.312	93.9		610.6	308.8	58.9	4.64		

Sample Train	Pre Test	1000	ft	@	15	in. Hg
Leak Checks:	Post Test		ft	@		in. Hg
Pilot Tube	PreTest	2.50	@	3.5	in. H <sub>2</sub> O	
Leak Checks:	Post Test	0.00	@	3.3	in. H <sub>2</sub> O	





ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID: AP1-4      METER BOX: 2      Comments: .985      Page      of     

PLANT: AES Greenidge      PITOT TUBE DESC: Y      CAL DATA: delta H

LOCATION: Air Heater Inlet      PROBE LENGTH [in]: 3.25      C(p): NA

DATE: 06-13-08      NOZZLE ID [inch]: 8      FILTER BOX SETTING: 325

OPERATOR(S): RSS      %H<sub>2</sub>O (Assumed): 8      PROBE HTR SETTING: circ?

AMBIENT TEMP [°F]: 101      FILTER ID: 1237      DUCT X-SECTION: rect?

BAR. PRESS. [° Hg]: 29.62      K FACTOR: 0.0000      DUCT AREA:     

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX TEMP [°F]	LAST IMP TEMP [°F]	METER EXHAUST		
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]	
		0					497.500									
		5				4"	499.86	98	96		330	217	55	5.9	14.2	
		10				4"	502.32	99	96		327	219	52	6.0	14.1	
		15				4"	504.75	100	97		326	222	52	5.8	14.3	
		20				5"	507.13	102	97		333	221	51	5.7	14.4	
		25				5"	509.53	101	98		334	221	52	5.7	14.4	
		30				5"	511.96	101	98		321	221	53	5.7	14.4	
		35				6"	514.38	101	98		331	221	53	5.5	14.6	
		40				6"	516.78	102	98		327	221	54	5.7	14.4	
		45				6"	519.19	102	99		329	221	54	5.6	14.5	
		50				6"	521.61	102	99		331	221	55	5.5	14.6	
		55				7"	524.01	102	99		334	221	54	5.6	14.5	
		60				7"	526.40	102	99		321	221	55	5.5	14.6	
		65				7"	528.81	102	99		335	217	55	4.4	15.6	
		70				8"	531.21	103	100		331	217	52	4.6	15.4	
		75				8"	533.61	104	100		330	217	51	4.7	15.3	
		80				8"	535.96	103	100		332	217	51	4.7	15.3	
		85				9"	538.40	103	100		327	218	51	4.6	15.4	
		90				9"	540.79	103	100		333	218	49	4.6	15.4	
		95				9"	543.18	103	100		325	217	48	4.5	15.5	
		100				10"	545.59	104	100		334	218	48	4.5	15.5	
		105				10"	547.90	104	101		331	218	46	4.5	15.5	
		110				10"	550.32	103	101		323	217	48	4.5	15.5	
		115				11"	552.75	103	101		323	217	48	4.5	15.5	
		120				11"	555.13	103	101		322	217	48	4.5	15.5	
AVERAGE	1643						57.63	100.6			328.6	219.0	57.5	5.14		

Sample Train Pre Test 6.00 ft @ 9" in. Hg      Pitot Tube Pre Test      @      in. H<sub>2</sub>O

Leak Checks: Post Test 2.00 ft @ 12" in. Hg      Leak Checks: Post Test      @      in. H<sub>2</sub>O

NOTE: Purge for 10 minutes at end of sampling.





# ONTARIO HYDRO Hg SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID: #4  
 PLANT: Greenidge  
 LOCATION: Stack  
 DATE: 6-13-08  
 OPERATOR(S): RS, PR  
 AMBIENT TEMP [°F]: 28.8  
 BAR. PRESS. [°Hg]: 29.62

METER BOX: 2.5  
 PITOT TUBE DESC: E-12  
 PROBE LENGTH [ft]: 8  
 NOZZLE ID [inch]: 1/4" A, 2.00  
 %H<sub>2</sub>O (Assumed): 14%  
 FILTER ID: 157  
 K FACTOR: 3.27

CAL. DATA: delta H Y: 1.818  
 C(p): 0.990  
 FILTER BOX SETTING: NA  
 PROBE HTR SETTING: 250  
 DUCT X-SECTION: circ?   
 DUCT DIMENSIONS: 13ft  
 rect?   
 DUCT AREA: 132.732 ft<sup>2</sup>

Comments: CHECK IMP'S FOR RESTRICTIONS. \* 2.6? COULD NOT PULL. NEED FLOW.

Page \_\_\_ of \_\_\_

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST		
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]	
-5.0	1450	0					214.80									
-5.0		7.5		1.45	1.47	10	230.09									
-16.4		15.0		.50	1.64	12	235.70	95	93	174	220	309	53			
-30.3		22.5		.50	1.64	12	231.23	96	94	175	228	310	56	8.2		
-50.4		30.0	-350	.58	1.90	14.5	237.20	97	95	175	230	310	58			
-5.0		37.5		.58	1.50	15	243.13	96	95	175	230	310	60			
-16.4		45.0		1.65	2.13	18		97	95	175	217	310	63			
-30.3		52.5		1.65	2.13	18	255.50	97	95	175	228	310	63	7.9		
-50.4		60.0	-401	1.65	2.13	18	261.61	98	96	176	230	309	64	7.8		
-5.0		67.5		1.55	1.80		267.50	97	96	174	228	312	65			
-16.4		75.0		1.65	2.13	18	273.42	97	95	175	226	312	65	8.0		
-30.3		82.5	-390	1.70	2.30	18		96	95	175	223	312	67	8.0		
-50.4		90.0		1.65	2.13	18	285.20	96	94	176	228	311	64			
-5.0		97.5		1.63	2.06	18	291.00	95	93	174	230	311	63	7.8		
-16.4		105.0		1.65	2.13	18	296.70	95	93	174	223	311	63			
-30.3		112.5	-390	1.65	2.13	18	302.44	95	93	174	230	311	64	8.0		
-50.4	1702	120.0		1.65	2.13	18	308.12	95	93	174	226	310	65			
AVERAGE			-40.343	0.604	1.984		93.32	95.2		174.7	226.5	310.5	62.2	7.96		

Sample Train: Pro Test 0.15 ft<sup>3</sup> @ 18 in. Hg  
 Leak Checks: Pro Test 0.15 ft<sup>3</sup> @ 18 in. Hg  
 Pitot Tube: PreTest 0.15 @ 7 in. H<sub>2</sub>O  
 Leak Checks: Post Test 0.15 @ 7 in. H<sub>2</sub>O

NOTE: Purge for 10 minutes at end of sampling.





**APPENDIX H.3  
MERCURY TESTS  
(U.S. EPA METHOD 30B)**

- **Sampling Data Reduction Worksheets**
  - **Field Sampling Data Sheets**



# AES GREENIDGE UNIT 4 METHOD 30B TRAIN DATA

FOLLOW-UP TESTING - June 12-13, 2008

Test Number	30B-1		30B-2		30B-3		30B-4	
	Stack	Stack	Stack	Stack	Stack	Stack	Stack	Stack
Location	6/12/08		6/12/08		6/13/08		6/13/08	
Date	6/12/08		6/12/08		6/13/08		6/13/08	
Train ID (A, B, C, or D)	A	B	A	B	A	B	A	B
Trap ID	1677	1678	1670	1673	1681	1682	1674	1683
Sorbent Batch Lot No.	5355	5355	5355	5355	5355	5355	5355	5355
Start Time	1020	1020	1410	1410	1037	1037	1415	1415
Stop Time	1320	1320	1710	1710	1337	1337	1715	1715
Y factor of dry gas meter	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010
Gas Volume - L	359.98	359.96	359.94	359.93	360.15	360.26	360.03	360.11
Meter Temperature - °F	93.6	93.9	104.1	104.3	104.4	104.4	112.6	112.3
Sample Time - minutes	180	180	180	180	180	180	180	180
Barometric Pressure - " Hg	29.59	29.59	29.65	29.65	29.65	29.65	29.62	29.62
% Oxygen								
Sample Volume - dry std. L	342.66	342.59	336.92	336.93	336.94	337.18	331.67	332.05
Sample Volume - dscm	0.343	0.343	0.337	0.337	0.337	0.337	0.332	0.332

Spike Values:	30B-1		30B-2		30B-3		30B-4	
	Stack	Stack	Stack	Stack	Stack	Stack	Stack	Stack
Analytical Spike Mass - µg	NA	NA	NA	NA	NA	NA	NA	NA
Analytical Results:								
Section 1 Mass - ng	2.55	1.65	2.52	4.05	4.03	10.5	3.19	1.05
Section 2 Mass - ng	2.67	2.33	3.14	3.08	11.3	3.60	1.40	1.48
Analytical Spike Result - ng	NA	NA	NA	NA	NA	NA	NA	NA
Calculated Results:								
Analytical Spike Recovery - %	NA	NA	NA	NA	NA	NA	NA	NA
Bed Section Breakthrough - %	104.7	141.2	124.6	76.0	280.4	34.3	43.9	141.0
Tube Concentration - µg/dscm	0.015	0.012	0.017	0.021	0.045	0.042	0.014	0.008
Pair Agreement - %	13.47		11.49		4.21		28.99	
Reporting Concentration - µg/dscm	0.013		0.019		0.044		0.011	

Avg % O2 From Simultaneous Tests  
Hg Concentration - µg/dscm @ 3% O2

8.0  
0.015

7.9  
0.026

7.8  
0.060

8.0  
0.019

**COAL DATA:**

% Carbon	77.48	77.26	77.28	77.32
% Hydrogen	5.34	5.38	5.38	5.42
% Nitrogen	1.71	1.71	1.7	1.75
% Sulfur	2.35	2.55	2.51	2.46
% Oxygen	5.82	5.62	5.63	5.79
% Ash	7.3	7.48	7.5	7.26
% Volatile Matter	38.82	38.61	39.1	38.93
Btu/lb	14184	13963	14137	14044
ppm Hg	0.071	0.080	0.080	0.075
F-Factor	9651	9804	9684	9756
Moisture	4.97%	4.40%	4.57%	4.01%
Coal Hg (lb/TBtu)	5.01	5.73	5.66	5.34
Flue Gas Hg (lb/TBtu)	0.01	0.02	0.04	0.01
% Removal (Coal-to-Stack)	99.7%	99.7%	99.3%	99.8%



**AES GREENIDGE UNIT 4 METHOD 30B TRAIN DATA**

PROCESS PERFORMANCE TESTING - June 16-19, 2008

Test Number	30B-5		30B-6		30B-7		30B-8	
	Stack	Stack	Stack	Stack	Stack	Stack	Stack	Stack
Location	6/16/08		6/17/08		6/18/08		6/19/08	
Date	A	B	A	B	A	B	A	B
Train ID (A, B, C, or D)	1669	1675	1241	1277	1206	1259	1671	1676
Trap ID	5355	5355	5355	5355	5355	5355	5355	5355
Sorbent Batch Lot No.	1130	1130	1130	1130	1130	1130	1130	1130
Start Time	1730	1730	1730	1730	1730	1730	1730	1730
Stop Time								
Y factor of dry gas meter	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010
Gas Volume - L	719.37	719.34	360.07	360.04	360.11	359.42	360.08	360.04
Meter Temperature - °F	98.5	97.7	82.8	82.9	86.5	86.7	92.9	93.0
Sample Time - minutes	360	360	360	360	360	360	360	360
Barometric Pressure - " Hg	29.23	29.23	29.18	29.18	29.18	29.18	29.23	29.23
% Oxygen								
Sample Volume - dry std. L	670.49	671.70	344.73	344.77	342.43	341.79	339.02	339.05
Sample Volume - dscm	0.670	0.672	0.345	0.345	0.342	0.342	0.339	0.339

Spike Values:	30B-5		30B-6		30B-7		30B-8	
	NA	NA	NA	NA	NA	NA	NA	NA
Analytical Spike Mass - µg								
Analytical Results:								
Section 1 Mass - ng	14.1	8.65	15.5	9.00	3.79	3.88	9.30	7.54
Section 2 Mass - ng	3.23	4.49	3.10	4.74	0.71	0.65	<0.25	<0.25
Analytical Spike Result - ng	NA	NA	NA	NA	NA	NA	NA	NA
Calculated Results:								
Analytical Spike Recovery - %	NA	NA	NA	NA	NA	NA	NA	NA
Bed Section Breakthrough - %	22.9	51.9	20.0	52.7	18.7	16.8	2.7	3.3
Tube Concentration - µg/dscm, dry	0.0258	0.0196	0.0540	0.0399	0.0131	0.0133	0.0282	0.0230
Pair Agreement - %	13.84	15.03	15.03	15.03	0.43	0.43	10.16	10.16
Reporting Concentration - µg/dscm	0.023	0.023	0.047	0.047	0.013	0.013	0.026	0.026

Avg % O2 From Simultaneous Tests  
Hg Concentration - µg/dscm @ 3% O2

8.1  
0.032

8.9  
0.070

7.7  
0.018

7.5  
0.034

**COAL DATA:**

% Carbon	76.08	76.97	77.39	76.96
% Hydrogen	5.30	5.42	5.40	5.43
% Nitrogen	1.69	1.71	1.67	1.71
% Sulfur	2.52	2.59	2.48	2.55
% Oxygen	6.01	5.88	5.68	6.06
% Ash	8.41	7.45	7.39	7.31
% Volatile Matter	37.85	39.00	38.77	39.29
Btu/lb	13776	14049	14070	14076
ppm Hg	0.102	0.085	0.076	0.075
F-Factor	9771	9715	9743	9690
Moisture	4.88%	4.84%	5.29%	5.53%
Coal Hg (lb/TBtu)	7.40	6.05	5.40	5.29
Flue Gas Hg (lb/TBtu)	0.02	0.05	0.01	0.02
% Removal (Coal-to-Stack)	99.7%	99.2%	99.8%	99.5%



# METHOD 30B Hg SAMPLING FIELD DATA SHEET

TEST ID: 30B-1  
 PLANT: GRN  
 LOCATION: S+K  
 DATE: 6/12  
 OPERATOR(S): ARB  
 AMBIENT TEMP [°F]: 75  
 BAR. PRESS. [in. Hg]: 29.59

METER BOX: 5T-1  
 TRAP ID (A/B): 1671/1673  
 PROBE LENGTH [ft]: 10  
 TRAP LOT (A/B): 3355/5335  
 %H<sub>2</sub>O (Assumed): 12

DUCT X-SECTION: rect?  other:   
 DUCT DIMENSIONS: 2.436 in. x 1.719 in.

CAL. DATA: delta H Y: 1.00083  
 PROBE HTR SETTING: N/A

Comments: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_

TRAVERSE POINT [port-inch]	CLOCK TIME [24-hr]	SAMPLE TIME [minute]	STACK TEMP [°F]	TRAP TEMP [°F]	HEATED LINE TEMP [°F]	ROTAMETER SETTING LPM		METER VACUUM [in. Hg]		METER READING [liters]		METER TEMP [°F]		LAST IMP TEMP [°F]	METER EXHAUST O <sub>2</sub> [% vol]	
						A	B	A	B	A	B	A	B		A	B
N/A	10:30	10	173	173	120	2.0	2.0	5.0	4.0	0.000	200.0	79.5	79	50	N/A	N/A
	10:40	20	173			1.8	1.8	4.5	3.5	41.25	41.44	81	81	49		
	10:50	30	173			1.8	1.8	4.5	3.5	59.50	59.87	86	86	47		
	11:00	40	173			2.0	2.0	5.0	4.0	79.65	79.73	90	90	46		
	11:10	50	173			1.9	1.9	4.5	3.5	100.47	100.42	91	92	46		
	11:20	60	174			1.9	1.9	4.5	3.5	120.0	120.0	93	93	47		
	11:30	70	172			1.9	1.9	4.5	3.5	139.9	139.8	94	94	47		
	11:40	80	172			1.9	1.9	4.5	3.5	160.0	160.2	95	95	47		
	11:50	90	172			1.9	1.9	4.5	3.5	179.7	179.7	96	96	47		
	12:00	100	172			1.9	1.9	4.5	3.5	200.0	200.0	96	96	46		
	12:10	110	173			1.9	1.9	4.5	3.5	219.7	219.8	96	96	48		
	12:20	120	173			1.9	1.9	4.5	3.5	240.1	240.1	97	97	46		
	12:30	130	173			1.9	1.9	4.5	3.5	259.8	259.9	97	98	46		
	12:40	140	174			1.9	1.9	4.5	3.5	280.0	280.0	98	99	47		
	12:50	150	174			1.9	1.9	4.5	3.5	299.9	299.9	99	99	47		
	13:00	160	174			1.9	1.9	4.5	3.5	320.1	320.1	99	99	46		
	13:10	170	173			1.9	1.9	4.5	3.5	339.8	339.8	99	100	47		
	13:20	180	172			1.9	1.9	4.5	3.5	359.83	359.88	99	100	48		
AVERAGE			172.9							359.983	359.988	93.6	93.9			

Leak Checks: \_\_\_\_\_  
 A Train Pre Test 20.30 in. Hg @ 20  
 Post Test 20.0 in. Hg @ 20  
 B Train: Pre Test 20.2 in. Hg @ 20  
 Post Test 20.0 in. Hg @ 20

2.788 1.080  
 W 3







# METHOD 30B Hg SAMPLING FIELD DATA SHEET

TEST ID: Subst Tr. 0 30B-2  
 PLANT: Greendy  
 LOCATION: Stack  
 DATE: 6/12/08  
 OPERATOR(S): SPC  
 AMBIENT TEMP [°F]: 77  
 BAR. PRESS. [in. Hg]: 29.65

METER BOX: ST-1  
 TRAP ID (A/B): 1670/1673  
 PROBE LENGTH [ft]: 10  
 TRAP LOT (A/B): 5285/5355  
 %H<sub>2</sub>O (Assumed): 0

CAL. DATA: delta H: 1.00  
 Comments: \_\_\_\_\_

DUCT X-SECTION: rect? other?  
 DUCT DIMENSIONS: M  
2.7885 / 1.0820

TRAVERSE POINT	CLOCK TIME (24-hr)	SAMPLE TIME (minute)	STACK TEMP [°F]	TRAP TEMP [°F]	HEATED LINE TEMP [°F]	ROTAMETER SETTING LPM		METER VACUUM [in. Hg]		METER READING (liters)		METER TEMP [°F]		LAST IMP TEMP [°F]		METER EXHAUST O <sub>2</sub> [% vol]	
						A	B	A	B	A	B	A	B	A	B	A	B
N/A	1410	10	174	Unheated		2.0	2.0	5.5	5.5	0.1200	0.200	91	90	52	54		
	1430	20	173			1.9	1.9	4.5	5.5	39.9	39.9	94	93	53	54		
	1440	30	173			1.9	1.9	4.5	5.5	60.0	60.0	97	96	53	54		
	1450	40	173			1.9	1.9	4.5	5.5	79.9	79.9	100	99	53	54		
	1450	50	173			1.9	1.9	4.5	5.5	100.0	100.0	102	101	53	54		
	1510	60	173			1.9	1.9	4.5	5.5	119.9	120.0	104	103	53	54		
	1520	70	173			1.9	1.9	4.5	5.5	140.2	140.3	104	104	54	55		
	1530	80	173			1.9	1.9	4.5	5.5	157.8	159.8	105	105	54	55		
	1540	90	175			1.9	1.9	4.5	5.5	180.2	180.1	105	106	54	55		
	1550	100	172			1.9	1.9	4.5	5.5	199.8	199.8	105	106	54	55		
	1600	110	170			1.9	1.9	4.5	5.5	220.0	220.1	106	106	54	55		
	1610	120	173			1.9	1.9	4.5	5.5	240.0	240.1	107	107	54	55		
	1620	130	173			1.9	1.9	4.5	5.5	259.9	259.8	108	108	54	55		
	1630	140	173			1.9	1.9	4.5	5.5	280.0	280.0	108	109	54	55		
	1640	150	173			1.9	1.9	4.5	5.5	300.2	300.1	109	110	55	55		
	1650	160	173			1.9	1.9	4.5	5.5	319.7	319.9	109	110	55	55		
	1700	170	173			1.9	1.9	4.5	5.5	339.9	340.2	110	111	56	55		
	1710	180	172			1.9	1.9	4.5	5.5	359.931	359.931	110	112	56	56		
AVERAGE			172.9							359.939	357.931	104.1	104.3				

Pre Test: 2200 ft<sup>3</sup> @ 20 in. Hg  
 Post Test: 5000 ft<sup>3</sup> @ 20 in. Hg

Pre Test: 6000 ft<sup>3</sup> @ 20 in. Hg  
 Post Test: 5000 ft<sup>3</sup> @ 20 in. Hg

B Train: \_\_\_\_\_  
 Pre Test: \_\_\_\_\_  
 Post Test: \_\_\_\_\_

A Train: \_\_\_\_\_  
 Pre Test: \_\_\_\_\_  
 Post Test: \_\_\_\_\_



CONSOL ENERGY

21404 | 14426  
 M3



# METHOD 30B Hg SAMPLING FIELD DATA SHEET

TEST ID: 30B-3  
 PLANT: GERRARD  
 LOCATION: STABLE  
 DATE: 6/13/08  
 OPERATOR(S): AIRG  
 AMBIENT TEMP (°F): 81  
 BAR. PRESS. (° Hg): 27.65

METER BOX: 27-1  
 TRAP ID (A/B): 1681 / 1682  
 PROBE LENGTH (ft): 10  
 TRAP LOT (A/B): 5355 / 5356  
 %H<sub>2</sub>O (Assumed):

DUCT X-SECTION: rect?  other:   
 DUCT DIMENSIONS: 3.112 / 1.4436  
 DUCT AREA:

CAL. DATA: delta H Y  
 Comments:   
 Page \_\_\_ of \_\_\_

TRAVERSE POINT (port-inch)	CLOCK TIME (24-hr)	STACK TEMP (°F)	TRAP TEMP (°F)	HEATED LINE TEMP (°F)	ROTAMETER SETTING (LPM)		METER VACUUM (° Hg)		METER READING (liters)		METER TEMP (°F)		LAST IMP TEMP (°F)		METER EXHAUST O <sub>2</sub> (% vol)	
					A	B	A	B	A	B	In/out	In/out	A	B	A	B
16A	10:37	174	174	174	1.9	1.9	4.5	5.5	0.000	0.000	81	81	54	58		
	10:57	174	174	174	2.0	2.0	5.0	5.5	19.8	19.9	86	86	53	57		
	11:07	173	173	173	2.0	2.0	5.0	5.5	40.0	40.1	92	92	53	57		
	11:17	173	173	173	1.9	1.9	4.5	5.5	59.7	59.9	96	96	53	56		
	11:27	173	173	173	2.0	2.0	5.0	5.5	79.8	79.9	101	101	53	56		
	11:37	173	173	173	1.9	1.9	5.0	5.5	99.8	99.9	103	103	54	56		
	11:47	173	173	173	2.0	2.0	5.0	5.5	120.0	120.0	104	104	55	56		
	11:57	173	173	173	1.9	1.9	5.0	5.5	137.9	140.0	105	104	54	56		
	12:07	173	173	173	1.9	1.9	5.0	5.5	157.9	157.9	108	108	53	54		
	12:17	173	173	173	1.9	1.9	5.0	5.5	179.8	180.0	109	108	52	54		
	12:27	173	173	173	1.9	1.9	4.5	5.5	200.1	200.0	110	109	53	54		
	12:37	173	173	173	1.9	1.9	4.5	5.5	220.2	220.2	111	110	53	54		
	12:47	173	173	173	1.9	1.9	4.5	5.0	239.8	239.9	111	111	53	55		
	12:57	173	173	173	1.9	1.9	4.5	5.0	250.0	260.0	111	111	54	56		
	13:07	173	173	173	1.9	1.9	4.5	5.0	260.1	260.0	112	112	56	57		
	13:17	173	173	173	1.9	1.9	4.5	5.0	279.8	300.0	112	112	58	59		
	13:27	173	173	173	1.9	1.9	4.5	5.0	319.9	320.0	113	113	59	60		
	13:27	173	173	173	1.9	1.9	4.5	5.0	340.2	340.2	113	113	60	61		
	13:37	173	173	173	1.9	1.9	4.5	5.0	360.24	360.24	113	113	60	62		
AVERAGE		173.1							360.154	360.261	104.4	104.4				

Pre Test 60.000 ft<sup>3</sup> @ 15 in. Hg  
 Post Test 60.001 ft<sup>3</sup> @ 14 in. Hg  
 A Train  
 Leak Checks:   
 Pre Test 20.001 ft<sup>3</sup> @ 15 in. Hg  
 Post Test 20.001 ft<sup>3</sup> @ 14 in. Hg  
 B Train:   
 Pre Test 20.001 ft<sup>3</sup> @ 15 in. Hg  
 Post Test 20.001 ft<sup>3</sup> @ 14 in. Hg

Handwritten: 1.8044  
 111.2





# METHOD 30B Hg SAMPLING FIELD DATA SHEET

TEST ID: 30B-4      METER BOX: ST-1      CAL. DATA: delta H Y

PLANT: Greenidge      TRAP ID (A/B): 1621/1653      Y

LOCATION: Stack      PROBE LENGTH (ft): 1.0      PROBE HTR SETTING: \_\_\_\_\_

DATE: 6/13/08      TRAP LOT (A/B): 5355/5355      \_\_\_\_\_

OPERATOR(S): ARL      %H<sub>2</sub>O (Assumed): \_\_\_\_\_      \_\_\_\_\_

AMBIENT TEMP [°F]: 88      DUCT X-SECTION: circ?      rect?      other: \_\_\_\_\_

BAR. PRESS. [in. Hg]: 29.62      DUCT DIMENSIONS: \_\_\_\_\_      DUCT AREA: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

Comments: \_\_\_\_\_

TRAVERSE POINT	CLOCK TIME (24-hr)	SAMPLE TIME (minute)	STACK TEMP [°F]	TRAP TEMP [°F]	HEATED LINE TEMP [°F]	ROTAMETER SETTING LPM		METER VACUUM [in. Hg]		METER READING (liters)		METER TEMP (°F)		LAST IMP TEMP [°F]		METER EXHAUST O <sub>2</sub> [% vol]	
						A	B	A	B	A	B	A	B	A	B	A	B
NA	1425	0	173	Unheated		2.0	2.0	5.0	5.0	20.0	20.1	104	104	51	58	NA	NA
	1435	20	173			2.0	2.0	5.0	5.0	37.9	40.0	105	105	53	57		
	1445	30	173			2.0	2.0	5.0	5.0	59.9	60.0	107	107	54	55		
	1455	40	172			1.9	1.9	4.5	5.0	79.7	79.9	109	109	52	55		
	1505	50	173			1.9	1.9	4.5	5.0	100.1	100.0	110	110	52	54		
	1515	60	174			1.9	1.9	4.5	5.0	120.0	120.0	111	111	54	55		
	1525	70	173			1.9	1.9	4.5	5.0	137.9	137.9	112	112	52	55		
	1535	80	174			1.9	1.9	4.5	5.0	159.9	160.0	113	113	54	56		
	1545	90	173			1.9	1.9	4.5	5.0	180.1	180.3	114	114	52	55		
	1555	100	173			1.9	1.9	4.5	5.0	199.9	200.0	115	115	54	56		
	1605	110	173			1.9	1.9	4.5	5.0	220.1	220.0	115	115	54	57		
	1615	120	173			1.9	1.9	4.5	5.0	240.1	240.0	116	116	55	58		
	1625	130	173			1.9	1.9	4.5	5.0	260.0	260.0	116	116	55	57		
	1635	140	173			1.9	1.9	4.5	5.0	279.8	279.9	116	115	55	58		
	1645	150	173			1.9	1.9	4.5	5.0	300.1	300.0	115	115	54	57		
	1655	160	172			1.9	1.9	4.5	5.0	319.9	319.9	116	115	53	55		
	1665	170	173			1.9	1.9	4.5	5.0	339.8	339.7	116	115	53	54		
	1675	180	173			1.9	1.9	4.5	5.0	360.031	360.113	117	116	52	53		
AVERAGE			173.0							360.031	360.113	116.6	112.3				



CONSOL ENERGY

A Train Pre Test 20.001 ft<sup>3</sup> @ 16.5 in. Hg  
 Post Test 22.001 ft<sup>3</sup> @ 11 in. Hg

B Train: Pre Test 20.001 ft<sup>3</sup> @ 20 in. Hg  
 Post Test 20.001 ft<sup>3</sup> @ 11 in. Hg

3.4952 | 1.8072  
 2.1600  
 M.3



# METHOD 30B Hg SAMPLING FIELD DATA SHEET

TEST ID: 5 METER BOX: 30B-1 Page      of       
 PLANT: GreenVAC TRAP ID (A/B): 1669/1673 Comments: Meters Vacuum read off  
 LOCATION: Stack PROBE LENGTH (ft): 0 can't see scale  
 DATE: 6/16 TRAP LOT (A/B): 5355/5355 not in the stack  
 OPERATOR(S): PR/B/S %H<sub>2</sub>O (Assumed):      DUCT X-SECTION:      rect?      other:       
 AMBIENT TEMP (°F): 75 DUCT DIMENSIONS:      x      x      DUCT AREA:       
 BAR. PRESS. (in. Hg): 29.23

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STACK TEMP [°F]	TRAP TEMP [°F]	HEATED LINE TEMP [°F]	ROTAMETER SETTING LPM		METER VACUUM [in. Hg]		METER READING (liters)		METER TEMP (°F)		LAST IMP TEMP [°F]		METER EXHAUST O <sub>2</sub> [% vol]	
						A	B	A	B	A	B	In/out	In/out	A	B	A	B
NA	11:30	0	176	65	65	2.0	2.0	12	12	0	0	80	80	56	57	NA	NA
	12:00	30	176	6	65	2.0	2.0	12	12	60.85	60.85	85	85	54	53		
	12:30	60	176	6	65	2.1	2.1	15	12	120.07	120.25	95	96	52	53		
	13:05	95	174	5.5	4	2.0	2.0	14	10	190.42	190.80	103	102	54	53		
	14:00	150	174	4.5	4	2.0	2.0	12	10	299.40	299.30	105	107	54	56		
	14:33	183	174	5	4	2.0	2.0	12	10	365.25	363.70	104	102	52	52		
	15:00	210	175	5	4	2.0	2.0	12	10	479.11	478.58	101	100	51	53		
	15:35	245	175	5	4	2.0	2.0	12	10	491.15	492.30	103	102	52	54		
	14:30	300	173	5	4	2.0	2.0	12	10	605.57	606.91	101	100	50	42		
	15:00	330	174	5	4	2.0	2.0	12	10	665.40	665.40	103	102	49	44		
	15:30	360	175	5	4	2.0	2.0	12	10	719.37	719.34	103	102	50	44		
					Unheated												
AVERAGE			174.7			2.0	2.0			719.37	719.34	98.5	97.7				

CAL. DATA: delta H: Y  
 PROBE HTR SETTING: 1.010/1.010  
 A Train: Pre Test 20.00 ft<sup>3</sup> @ 15 in. Hg  
 Leak Checks: Post Test 20.00 ft<sup>3</sup> @ 9A in. Hg  
 B Train: Pre Test 20.00 ft<sup>3</sup> @ 15 in. Hg  
 Post Test 20.00 ft<sup>3</sup> @ 20 in. Hg





# METHOD 30B Hg SAMPLING FIELD DATA SHEET

TEST ID: Test 10      METER BOX: C/D 124/1277      CAL. DATA: delta H Y      1.012/1.011

PLANT: Greenville      TRAP ID (A/B): C/D 124/1277      Y

LOCATION: STACK      PROBE LENGTH [ft]: 53.55/53.55      PROBE HTR SETTING:         

DATE: 6/17/08      TRAP LOT (A/B): 53.55/53.55      %H<sub>2</sub>O (Assumed):         

OPERATOR(S): PR.      DUCT X-SECTION:               rect?               other:         

AMBIENT TEMP [°F]: 68      DUCT DIMENSIONS:         

BAR. PRESS. [in. Hg]: 29.18      DUCT AREA:         

Comments:         

Page          of         

TRAVERSE POINT [port-inch]	CLOCK TIME [24-hr]	SAMPLE TIME [minutes]	STACK TEMP [°F]	TRAP TEMP [°F]	HEATED LINE TEMP [°F]	ROTAMETER SETTING LPM		METER VACUUM [in. Hg]		METER READING [liters]		METER TEMP [°F]		LAST IMP TEMP [°F]		METER EXHAUST O <sub>2</sub> [% vol]	
						A	B	A	B	A	B	A	B	A	B	A	B
	11:30	0				1.0	1.0	3.0	3.0	30.00	39.86	70	71	53	44		
	12:00	30	174	Understand		1.0	1.0	3.0	3.0	59.44	60.65	81	80	45	42		
	12:30	60	173			1.0	1.0	3.0	3.0	123.00	124.24	85	85	52	42		
	13:35	125	172			1.0	1.0	3.0	3.0	150.60	152.25	85	85	53	44		
	14:00	150	173			1.0	1.0	3.0	3.0	243.36	243.50	89	89	50	41		
	15:30	240	174			1.0	1.0	3.0	3.0	269.48	273.03	87	87	50	42		
	16:00	270	174			1.0	1.0	3.0	3.0	300.08	301.10	82	83	48	41		
	16:30	300	174			1.0	1.0	3.0	3.0	329.62	329.21	83	83	46	42		
	17:00	330	174			1.0	1.0	3.0	3.0	360.07	360.04	83	83	44	42		
	17:30	360	174			1.0	1.0	3.0	3.0								
AVERAGE						1.0	1.0			300.07	300.04	82.08	82.9				

Leak Check:  Train      Pre Test 50.00 ft<sup>3</sup> @ 15 in. Hg      Post Test 50.00 ft<sup>3</sup> @ 6 in. Hg

Leak Check:  Train      Pre Test 40.00 ft<sup>3</sup> @ 15 in. Hg      Post Test 40.00 ft<sup>3</sup> @ 6 in. Hg





# METHOD 30B Hg SAMPLING FIELD DATA SHEET

TEST ID GREEN. TRST7	METER BOX TRAP ID (A/B) GREEN/1	CAL. DATA: delta H Y	Page _____ of _____
PLANT STACK 1	TRAP LENGTH (ft) 418.108	PROBE HTR SETTING	Comments:
LOCATION PR/BS	TRAP LOT (A/B) 5355		
DATE 6/18/08	%H <sub>2</sub> O (Assumed)		
OPERATOR(S) 62	DUCT X-SECTION circ? other?		
AMBIENT TEMP [°F] 89.18	DUCT DIMENSIONS		
BAR. PRESS. [in. Hg]			

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STACK TEMP [°F]	TRAP TEMP [°F]	HEATED LINE TEMP [°F]	ROTAMETER SETTING LPM		METER VACUUM [in. Hg]		METER READING (liters)		METER TEMP (°F)		LAST IMP TEMP [°F]		METER EXHAUST O <sub>2</sub> [% vol]	
						A	B	A	B	A	B	A	B	A	B	A	B
	11:30	0				1.0	1.0	2.0	2.0	0	0						
	12:00	30	177			1.0	1.0	2.0	2.0	30.01	30.15	66	65	42	44		
	12:30	60	175			1.0	1.0	2.0	2.0	59.72	59.63	79	79	41	42		
	13:00	90	175			1.0	1.0	2.0	2.0	90.14	90.50	84	85	42	44		
	13:30	120	175			1.0	1.0	2.0	2.0	119.08	119.92	88	89	38	42		
	14:05	155	175			1.0	1.0	2.0	2.0	153.36	157.55	91	91	41	43		
	14:30	180	175			1.0	1.0	2.0	2.0	179.72	180.67	92	91	41	44		
	15:00	210	175			1.0	1.0	2.0	2.0	210.40	210.34	92	92	40	43		
	16:00	270	175			1.0	1.0	2.0	2.0	269.30	272.60	88	90	41	47		
	16:30	300	175			1.0	1.0	2.0	2.0	300.35	299.72	89	90	42	46		
	17:00	330	176			1.0	1.0	2.0	2.0	324.50	328.65	90	90	42	47		
	17:30	360	176			1.0	1.0	2.0	2.0	360.11	359.42	92	92	42	46		
AVERAGE		360	175.4							360.11	359.42	86.5	86.7				





# METHOD 30B Hg SAMPLING FIELD DATA SHEET

TEST ID: 8      METER BOX: 1671 / 1676      CAL. DATA: delta H Y      Page      of     

PLANT: Greenville      TRAP ID (MB): 1671 / 1676      Comments:     

LOCATION: STAK      PROBE LENGTH (R):           PROBE HTR SETTING:     

DATE: 6-19-08      TRAP LOT (MB): 5355/5355      DUCT X-SECTION:           DUCT AREA:     

OPERATOR(S): PR      %H<sub>2</sub>O (Assumed):           DUCT DIMENSIONS:     

AMBIENT TEMP (°F): 62      DUCT X-SECTION:           DUCT AREA:     

BAR. PRESS. (° Hg): 29.23      DUCT DIMENSIONS:     

TRAVERSE POINT [foot-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STACK TEMP [°F]	TRAP TEMP [°F]	HEATED LINE TEMP [°F]	ROTAMETER SETTING LPM		METER VACUUM [° Hg]		METER READING (liters)		METER TEMP (°F)		LAST IMP TEMP [°F]		METER EXHAUST O <sub>2</sub> [% vol]	
						A	B	A	B	A	B	A	B	A	B	A	B
	11:30	0				1.0	1.0	2.0	2.0	0	0	88	88	41	39		
	12:00	30	180			"	"	"	"	29.28	29.43	90	90	40	40		
	12:30	60	180							60.69	60.72						
	13:00																
	13:30	120	180			1.0	1.0	2.0	2.0	119.32	122.77	93	94	38	38		
	14:00	150	181			"	"	"	"	149.88	150.13	95	95	40	41		
	14:30	180	179			"	"	"	"	180.38	180.05	93	93	43	43		
	15:00	210	174			"	"	"	"	211.07	210.79	91	91	43	44		
	15:30	240	174			"	"	"	"	240.54	240.07	93	93	43	45		
	16:00	270	179			"	"	"	"	269.00	270.06	95	95	43	44		
	16:30	300	180			"	"	"	"	299.74	299.98	95	95	45	45		
	17:00	330	179			"	"	"	"	330.49	330.30	95	95	44	45		
	17:30	360	180			"	"	"	"	360.08	360.04	94	94	47	47		
AVERAGE										360.08	360.04	92.9	93.0				
Leak Checks:										A Train: Pre Test <u>001</u> ft <sup>3</sup> @ <u>15</u> in. Hg		B Train: Pre Test <u>001</u> ft <sup>3</sup> @ <u>15</u> in. Hg		Post Test <u>001</u> ft <sup>3</sup> @ <u>15</u> in. Hg		Post Test <u>001</u> ft <sup>3</sup> @ <u>15</u> in. Hg	





## **APPENDIX H.4 SULFUR TRIOXIDE TESTS**

- **Sampling Data Reduction Worksheets**
  - **Field Sampling Data Sheets**

Greenidge Baseline SO<sub>2</sub> Sampling Results

DATE	Low Load				Low Load				Low Load				
	11/17/2004	11/17/2004	11/17/2004	11/17/2004	11/17/2004	11/17/2004	11/17/2004	11/17/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004	11/18/2004
START TIME	1116	1116	1500	1500	1453	1438	1439	1439	1439	1529	1536	1436	
END TIME	1152	1156	1530	1540	1543	1540	1540	1508	1508	1508	1536	1536	
RUN	AHI-1	AHO-1	STK-1	AHI-2	AHO-2	STK-2	AHO-3	AHI-3	AHO-4	AHI-3	AHO-5	STK-3	
<b>MEASURED METER VARIABLES</b>													
SAMPLE TIME [Minutes]	36	40	50	30	40	50	40	40	40	30	40	40	60
BAROMETRIC PRESSURE [Hq]	29.60	29.60	29.60	29.56	29.56	29.56	29.50	29.50	29.50	29.40	29.40	29.40	29.40
SAMPLE VOLUME [ft <sup>3</sup> ]	3.05	4.53	5.52	2.94	4.37	5.34	4.43	4.21	4.21	2.39	4.15	6.40	6.40
METER TEMPERATURE [°F]	126.1	60.6	56.3	128.3	61.1	67.9	58.6	65.1	65.1	128.2	68.4	64.9	64.9
ORIFICE PRESSURE [H <sub>2</sub> O]	0.02	0.02	0.02	0.02	0.03	0.02	0.03	0.02	0.02	0.03	0.03	0.03	0.03
Y FACTOR	1.038	0.966	1.006	1.038	0.966	1.006	0.966	0.966	0.966	1.038	0.966	1.006	1.006
DSCF SAMPLED	2.824	4.390	5.617	2.704	4.226	5.308	4.296	4.032	4.032	2.188	3.937	6.364	6.364
APPROX CONDENSER TEMP [°F]	128	128	138	130	123	144	91	135	135	127	146	141	141
WATER BATH TEMP [°F]	132	145	146	129	147	147	146	146	146	129	146	147	147
CCMIN @ CONDENSER	2489	3558	3652	2846	3436	3454	3277	3202	3202	3449	3200	3449	3449
DUCT STATIC PRESSURE, in H <sub>2</sub> O	-15.00	-13.00	-15.00	-15.00	-13.00	-13.00	-13.00	-13.00	-13.00	-15.00	-13.00	-1.00	-1.00
DUCT PRESSURE, " Hg	28.50	28.64	29.53	28.46	28.60	29.49	28.54	28.54	28.54	28.30	28.44	29.33	29.33
DUCT MOISTURE, % VOL	6.00	6.00	6.90	6.00	6.40	6.70	6.00	6.00	6.00	6.00	6.00	6.90	6.90
DUCT OXYGEN I % I	3.80	6.00	6.20	2.90	6.40	6.40	9.90	9.70	9.70	3.00	6.40	6.70	6.70
DUCT TEMP DURING TEST [°F]	693.5	313.8	312.8	654.7	303.3	312.8	274.0	277.8	277.8	673.0	305.3	313.3	313.3
<b>SO<sub>2</sub></b>													
SO <sub>2</sub> in IMPINGERS													
lb/DSCF	2.46E-04	1.95E-04	1.92E-04	2.47E-04	1.99E-04	2.03E-04	1.56E-04	1.60E-04	1.60E-04	2.63E-04	1.88E-04	2.03E-04	2.03E-04
PPMV, As Sampled	1486	1180	1162	1491	1200	1224	945	966	966	1592	1135	1224	1224
PPMV, @ 0% Oxygen	1816	1656	1652	1731	1730	1765	1795	1802	1802	1859	1637	1801	1801
<b>SO<sub>3</sub></b>													
SO <sub>3</sub> in FILTER PLUG													
lb/DSCF	8.04E-08	5.17E-07	4.04E-08	8.40E-08	5.37E-08	4.28E-08	5.29E-08	5.63E-08	5.63E-08	2.08E-07	5.77E-08	5.35E-08	5.35E-08
PPMV, As Sampled	0.4	0.3	0.2	0.4	0.3	0.3	0.3	0.3	0.3	1.0	0.3	0.3	0.3
PPMV, @ 0% Oxygen	0.5	0.4	0.3	0.5	0.4	0.4	0.5	0.5	0.5	1.2	0.4	0.4	0.4
SO <sub>3</sub> in PROBE													
lb/DSCF	6.43E-07	4.66E-07	1.21E-07	2.94E-07	2.96E-07	8.56E-08	7.93E-07	5.63E-07	5.63E-07	3.11E-07	2.02E-07	1.43E-07	1.43E-07
PPMV, As Sampled	3.1	2.3	0.6	1.4	1.4	0.4	3.8	2.7	2.7	1.5	1.0	0.7	0.7
PPMV, @ 0% Oxygen	3.8	3.2	0.8	1.7	2.1	0.6	7.3	5.1	5.1	1.8	1.4	1.0	1.0
SO <sub>3</sub> in CONDENSER													
lb/DSCF	8.85E-07	2.07E-07	1.62E-07	4.20E-07	1.61E-07	3.64E-07	8.72E-07	7.04E-07	7.04E-07	3.63E-07	4.04E-07	5.71E-07	5.71E-07
PPMV, As Sampled	4.3	1.0	0.8	2.0	0.8	1.8	4.2	3.4	3.4	1.8	2.0	2.8	2.8
PPMV, @ 0% Oxygen	5.2	1.4	1.1	2.4	1.1	2.5	8.0	6.4	6.4	2.1	2.8	4.1	4.1
GAS PHASE SO <sub>3</sub> [lb/DSCF]	1.53E-06	6.72E-07	2.83E-07	7.14E-07	4.57E-07	4.49E-07	1.67E-06	1.27E-06	1.27E-06	6.75E-07	6.06E-07	7.14E-07	7.14E-07
GAS PHASE SO <sub>3</sub> [As Sampled PPM]	7.4	3.3	1.4	3.5	2.2	2.2	8.0	6.1	6.1	3.3	2.9	3.5	3.5
GAS PHASE SO <sub>3</sub> [As Sampled PPM]	9.0	4.6	1.9	4.0	3.2	3.2	15.3	11.4	11.4	3.8	4.2	5.1	5.1
TOTAL PHASE SO <sub>3</sub> [lb/DSCF]	1.61E-06	7.24E-07	3.23E-07	7.98E-07	5.11E-07	4.92E-07	1.72E-06	1.32E-06	1.32E-06	8.82E-07	6.63E-07	7.67E-07	7.67E-07
TOTAL PHASE SO <sub>3</sub> [As Sampled PPM]	7.8	3.5	1.6	3.9	2.5	2.4	8.3	6.4	6.4	4.3	3.2	3.7	3.7
TOTAL SO <sub>3</sub> PPM @ 0% O <sub>2</sub>	9.5	4.9	2.2	4.5	3.6	3.4	15.8	11.9	11.9	5.0	4.6	5.5	5.5
% SO <sub>3</sub> in SOLIDS [filter plug/total]	5.0	7.1	12.5	10.5	10.5	8.7	3.1	4.3	4.3	23.5	8.7	7.0	7.0
<b>DEW POINT DETERMINATION</b>													
Partial Pressure H <sub>2</sub> O, mmHg	43.43	43.65	51.75	43.37	46.50	50.18	43.50	43.50	43.50	43.12	43.35	51.40	51.40
Partial Pressure SO <sub>3</sub> , mmHg	0.0056	0.0025	0.0012	0.0028	0.0018	0.0018	0.0060	0.0046	0.0046	0.0031	0.0023	0.0028	0.0028
Calculated SO <sub>3</sub> Dew Point, °F	264	250	240	251	245	246	265	260	260	253	248	254	254



DATE	03/29/07	03/29/07	03/29/07	03/29/07	03/29/07	03/29/07
START TIME	1000	1003	1220	1240	1515	1517
END TIME	1040	1103	1300	1330	1555	1617
RUN	AHO-1	STK-1	AHO-2	STK-2	AHO-3	STK-3
<b>Titration Information:</b>						
FILTER PLUG:						
NORMALITY	0.0095	0.0095	0.0095	0.0095	0.0095	0.0095
VOLUME	100	100	100	100	100	100
ALIQOT	10.0	10.0	10.0	10.0	10.0	10.0
TITRANT	0.20	0.10	0.20	0.10	0.15	0.10
PROBE:						
NORMALITY	0.0095	0.0095	0.0095	0.0095	0.0095	0.0095
VOLUME	100	100	100	100	100	100
ALIQOT	10.0	10.0	10.0	10.0	10.0	10.0
TITRANT	0.15	0.10	0.20	0.10	0.20	0.10
CONDENSER:						
VOLUME	100	100	100	100	100	100
ALIQOT	10.0	10.0	10.0	10.0	10.0	10.0
TITRANT	0.30	0.15	0.35	0.10	0.28	0.13

**AES Greenidge Turbosorp SO<sub>2</sub> Sampling Results  
Guarantee Testing (Invalid)**

DATE	3/29/2007	3/29/2007	3/29/2007	3/29/2007	3/29/2007	3/29/2007
START TIME	1000	1003	1220	1240	1515	1517
END TIME	1040	1103	1300	1330	1555	1617
RUN	AHO-1	STK-1	AHO-2	STK-2	AHO-3	STK-3
<b>MEASURED METER VARIABLES</b>						
SAMPLE TIME [Minutes]	40	60	40	60	40	60
BAROMETRIC PRESSURE [in Hg]	30.06	30.06	30.03	30.03	29.97	29.97
SAMPLE VOLUME [ft <sup>3</sup> ]	3.77	5.94	3.82	4.81	4.02	5.82
METER TEMPERATURE [°F]	41.1	56.6	45.8	59.0	50.0	74.4
ORIFICE PRESSURE [in H <sub>2</sub> O] (assumed)	0.20	0.20	0.20	0.20	0.20	0.20
Y FACTOR	0.983	1.046	0.983	1.046	0.983	1.046
DSCF SAMPLED	3.922	6.385	3.929	5.132	4.097	6.021
APPROX CONDENSER TEMP [°F]	142	151	141	149	141	155
DUCT STATIC PRESSURE, in H <sub>2</sub> O	-13.60	-0.55	-13.50	-0.56	-13.10	-0.57
DUCT PRESSURE, in Hg	29.06	30.02	29.04	29.99	29.01	29.93
DUCT MOISTURE, % VOL	7.20	10.60	7.70	11.00	7.80	10.50
DUCT OXYGEN [%] (see note)	7.20	9.16	7.10	8.50	7.25	8.94
DUCT TEMP DURING TEST [°F]	304.0	186.3	307.3	185.6	306.3	187.5
<b>SO<sub>2</sub></b>						
<b>SO<sub>2</sub> in FILTER PLUG</b>						
lb/DSCF	4.27E-07	1.31E-07	4.26E-07	1.63E-07	3.07E-07	1.39E-07
PPMVD, As Sampled	2.1	0.6	2.1	0.8	1.5	0.7
PPMVD, @ 3% Oxygen	2.7	1.0	2.7	1.1	1.9	1.0
<b>SO<sub>2</sub> in PROBE</b>						
lb/DSCF	3.20E-07	1.31E-07	4.26E-07	1.63E-07	4.09E-07	1.39E-07
PPMVD, As Sampled	1.5	0.6	2.1	0.8	2.0	0.7
PPMVD, @ 3% Oxygen	2.0	1.0	2.7	1.1	2.6	1.0
<b>SO<sub>2</sub> in CONDENSER</b>						
lb/DSCF	6.41E-07	1.97E-07	7.46E-07	1.63E-07	5.62E-07	1.74E-07
PPMVD, As Sampled	3.1	1.0	3.6	0.8	2.7	0.8
PPMVD, @ 3% Oxygen	4.0	1.5	4.7	1.1	3.6	1.3
GAS PHASE SO <sub>2</sub> [lb/DSCF]	9.61E-07	3.28E-07	1.17E-06	3.27E-07	9.71E-07	3.13E-07
GAS PHASE SO <sub>2</sub> [As Sampled PPMVD]	4.6	1.6	5.7	1.6	4.7	1.5
<b>GAS PHASE SO<sub>2</sub>, PPMVD @ 3% O<sub>2</sub></b>	<b>6.1</b>	<b>2.4</b>	<b>7.4</b>	<b>2.3</b>	<b>6.2</b>	<b>2.3</b>
TOTAL PHASE SO <sub>2</sub> [lb/DSCF]	1.39E-06	4.59E-07	1.60E-06	4.90E-07	1.28E-06	4.52E-07
TOTAL PHASE SO <sub>2</sub> [As Sampled PPMVD]	6.7	2.2	7.7	2.4	6.2	2.2
TOTAL SO <sub>2</sub> , PPMVD @ 3% O <sub>2</sub>	8.8	3.4	10.0	3.4	8.1	3.3
% SO <sub>2</sub> in SOLIDS [filter plug/total]	30.8	28.6	26.7	33.3	24.0	30.8
<b>DEW POINT DETERMINATION</b>						
Partial Pressure H <sub>2</sub> O, mmHg	53.14	80.83	56.79	83.79	57.47	79.82
Partial Pressure SO <sub>2</sub> , mmHg	0.0050	0.0017	0.0057	0.0018	0.0046	0.0017
Calculated SO <sub>2</sub> Dew Point, °F	265	255	269	256	265	254

NOTE: The %O<sub>2</sub> at the air heater outlet was measured by CONSOL using a Teledyne Max 5 portable electrochemical Q analyzer, and the % O<sub>2</sub> at the stack was calculated from the %CO<sub>2</sub> measured by the plant's stack CEM and from the coal composition.

DATE	03/30/07	03/30/07	03/30/07	03/30/07	03/30/07	03/30/07
START TIME	1137	1137	1333	1333	1552	1552
END TIME	1217	1218	1414	1414	1632	1632
RUN	SCRI-1	SCRO-1	SCRI-2	SCRO-2	SCRI-3	SCRO-3
SAMPLE O <sub>2</sub> [sampling meter reading]	4.50	5.30	10.70	7.80	11.20	9.30
<b>Titration Information:</b>						
FILTER PLUG:						
NORMALITY	0.0095	0.0095	0.0095	0.0095	0.0095	0.0095
VOLUME	100	100	100	100	100	100
ALIQUOT	10.0	10.0	10.0	10.0	10.0	10.0
TITRANT	0.08	0.10	0.05	0.40	0.10	0.10
PROBE:						
NORMALITY	0.0095	0.0095	0.0095	0.0095	0.0095	0.0095
VOLUME	100	100	100	100	100	100
ALIQUOT	10.0	10.0	10.0	10.0	10.0	10.0
TITRANT	0.05	0.25	0.08	0.33	0.10	0.38
CONDENSER:						
VOLUME	100	100	100	100	100	100
ALIQUOT	10.0	10.0	10.0	10.0	10.0	10.0
TITRANT	0.15	0.23	0.20	0.10	0.10	0.25

**AES Greenidge SCR SO<sub>3</sub> Sampling Results**  
**Guarantee Testing (Invalid)**

DATE	3/30/2007	3/30/2007	3/30/2007	3/30/2007	3/30/2007	3/30/2007
START TIME	1137	1137	1333	1333	1552	1552
END TIME	1217	1218	1414	1414	1632	1632
RUN	SCRI-1	SCRO-1	SCRI-2	SCRO-2	SCRI-3	SCRO-3
<b>MEASURED METER VARIABLES</b>						
SAMPLE TIME [Minutes]	40	40	40	40	40	40
BAROMETRIC PRESSURE [in Hg]	29.74	29.74	29.74	29.74	29.71	29.71
SAMPLE VOLUME [ft <sup>3</sup> ]	3.26	4.17	3.98	4.04	3.52	4.35
METER TEMPERATURE [°F]	86.3	76.8	89.3	84.0	92.0	80.8
ORIFICE PRESSURE [in H <sub>2</sub> O] (assumed)	0.20	0.20	0.20	0.20	0.20	0.20
Y FACTOR	1.046	0.991	1.046	0.991	1.046	0.991
DSCF SAMPLED	3.279	4.038	3.975	3.866	3.497	4.178
APPROX CONDENSER TEMP [°F]	148	145	147	142	138	140
DUCT STATIC PRESSURE, in H <sub>2</sub> O	-13.60	-13.60	-13.50	-13.50	-13.10	-13.10
DUCT PRESSURE, in Hg	28.74	28.74	28.75	28.75	28.75	28.75
DUCT MOISTURE, % VOL	7.20	7.20	7.60	7.60	8.30	8.30
DUCT OXYGEN [%]	4.50	5.30	10.70	7.80	11.20	9.30
DUCT TEMP DURING TEST [°F]	691.5	673.0	717.5	659.8	714.0	651.3
<b>SO<sub>3</sub></b>						
<b>SO<sub>3</sub> in FILTER PLUG</b>						
lb/DSCF	1.92E-07	2.08E-07	1.05E-07	8.67E-07	2.40E-07	2.01E-07
PPMVD, As Sampled	0.9	1.0	0.5	4.2	1.2	1.0
PPMVD, @ 3% Oxygen	1.0	1.2	0.9	5.7	2.1	1.5
<b>SO<sub>3</sub> in PROBE</b>						
lb/DSCF	1.28E-07	5.19E-07	1.58E-07	7.04E-07	2.40E-07	7.52E-07
PPMVD, As Sampled	0.6	2.5	0.8	3.4	1.2	3.6
PPMVD, @ 3% Oxygen	0.7	2.9	1.3	4.7	2.1	5.6
<b>SO<sub>3</sub> in CONDENSER</b>						
lb/DSCF	3.83E-07	4.67E-07	4.22E-07	2.17E-07	2.40E-07	5.01E-07
PPMVD, As Sampled	1.9	2.3	2.0	1.0	1.2	2.4
PPMVD, @ 3% Oxygen	2.0	2.6	3.6	1.4	2.1	3.7
GAS PHASE SO <sub>3</sub> [lb/DSCF]	5.11E-07	9.86E-07	5.80E-07	9.21E-07	4.79E-07	1.25E-06
GAS PHASE SO <sub>3</sub> [As Sampled PPMVD]	2.5	4.8	2.8	4.5	2.3	6.1
<b>GAS PHASE SO<sub>3</sub>, PPMVD @ 3% O<sub>2</sub></b>	<b>2.7</b>	<b>5.5</b>	<b>4.9</b>	<b>6.1</b>	<b>4.3</b>	<b>9.3</b>
TOTAL PHASE SO <sub>3</sub> [lb/DSCF]	7.03E-07	1.19E-06	6.85E-07	1.79E-06	7.19E-07	1.45E-06
TOTAL PHASE SO <sub>3</sub> [As Sampled PPMVD]	3.4	5.8	3.3	8.6	3.5	7.0
TOTAL SO <sub>3</sub> , PPMVD @ 3% O <sub>2</sub>	3.7	6.6	5.8	11.8	6.4	10.8
% SO <sub>3</sub> in SOLIDS [filter plug/total]	27.3	17.4	15.4	48.5	33.3	13.8
<b>DEW POINT DETERMINATION</b>						
Partial Pressure H <sub>2</sub> O, mmHg	52.56	52.56	55.49	55.49	60.60	60.60
Partial Pressure SO <sub>3</sub> , mmHg	0.0025	0.0042	0.0024	0.0063	0.0025	0.0051
Calculated SO <sub>3</sub> Dew Point, °F	253	262	254	270	256	268



**AES Greenidge Turbosorp SO<sub>3</sub> Sampling Results**  
**Guarantee Testing**

	5/2/2007	5/2/2007	5/2/2007	5/2/2007	5/2/2007	5/2/2007	5/2/2007
<b>DATE</b>	5/2/2007	5/2/2007	5/2/2007	5/2/2007	5/2/2007	5/2/2007	5/2/2007
<b>START TIME</b>	1050	1044	1322	1312	1527	1517	1517
<b>END TIME</b>	1202	1215	1426	1443	1635	1648	1648
<b>RUN</b>	AHO-1	STK-1	AHO-2	STK-2	AHO-3	STK-3	STK-3
<b>MEASURED METER VARIABLES</b>							
<b>SAMPLE TIME [Minutes]</b>	60	90	60	90	60	90	90
<b>BAROMETRIC PRESSURE [” Hg]</b>	29.41	29.41	29.47	29.47	29.47	29.47	29.47
<b>SAMPLE VOLUME [ft<sup>3</sup>]</b>	5.53	9.70	5.73	9.04	5.89	9.39	9.39
<b>METER TEMPERATURE [°F]</b>	62.2	63.5	67.2	73.2	66.5	78.7	78.7
<b>ORIFICE PRESSURE [” H<sub>2</sub>O] (assumed)</b>	0.20	0.20	0.20	0.20	0.20	0.20	0.20
<b>Y FACTOR</b>	0.991	0.970	0.991	0.991	0.991	0.970	0.970
<b>DSCF SAMPLED</b>	5.447	9.330	5.597	8.551	5.766	8.789	8.789
<b>APPROX CONDENSER TEMP [°F]</b>	143	140	144	141	146	140	140
<b>WATER BATH TEMP [°F]</b>	143	140	144	141	146	140	140
<b>CC/MIN @ CONDENSER</b>	2937	3335	3020	3061	3124	3144	3144
<b>DUCT STATIC PRESSURE, in H<sub>2</sub>O</b>	29.41	29.41	29.47	29.47	29.47	29.47	29.47
<b>DUCT PRESSURE, ” Hg</b>	8.0	8.0	8.1	8.1	8.0	8.0	8.0
<b>DUCT MOISTURE, % VOL</b>							
<b>DUCT OXYGEN [%] (see note)</b>	8.0	8.0	8.1	8.1	8.0	8.0	8.0
<b>DUCT TEMP DURING TEST [°F]</b>		172.1	299.5	172.0	306.0	172.0	172.0
<b>SO<sub>3</sub></b>							
<b>SO<sub>3</sub> in FILTER PLUG</b>							
Analytical Results: mg SO <sub>4</sub> <sup>2-</sup>	3.02	0.41	2.27	0.03	3.39	0.11	0.11
PPMVD SO <sub>3</sub> , As Sampled	4.9	0.4	3.6	0.0	5.2	0.1	0.1
PPMVD SO <sub>3</sub> , @ 3% Oxygen	6.8	0.5	5.0	0.0	7.2	0.2	0.2
<b>SO<sub>3</sub> in PROBE</b>							
Analytical Results: mg SO <sub>4</sub> <sup>2-</sup>	2.29	0.41	4.29	0.17	2.06	0.16	0.16
PPMVD SO <sub>3</sub> , As Sampled	3.7	0.4	6.8	0.2	3.2	0.2	0.2
PPMVD SO <sub>3</sub> , @ 3% Oxygen	5.2	0.5	9.5	0.2	4.4	0.2	0.2
<b>SO<sub>3</sub> in CONDENSER</b>							
Analytical Results: mg SO <sub>4</sub> <sup>2-</sup>	9.06	0.24	8.69	0.38	9.92	0.31	0.31
PPMVD SO <sub>3</sub> , As Sampled	14.7	0.2	13.7	0.4	15.2	0.3	0.3
PPMVD SO <sub>3</sub> , @ 3% Oxygen	20.4	0.3	19.2	0.5	21.1	0.4	0.4
<b>GAS PHASE SO<sub>3</sub>, PPMVD as Sampled</b>							
<b>GAS PHASE SO<sub>3</sub>, PPMVD @ 3% O<sub>2</sub></b>	18.4	0.6	20.5	0.6	18.4	0.5	0.5
<b>TOTAL PHASE SO<sub>3</sub>, PPMVD as Sampled</b>	25.5	0.8	28.7	0.8	25.4	0.7	0.7
<b>TOTAL PHASE SO<sub>3</sub>, PPMVD @ 3% O<sub>2</sub></b>	23.3	1.0	24.1	0.6	23.6	0.6	0.6
<b>% SO<sub>3</sub> in SOLIDS [filter plug/total]</b>	32.3	1.4	33.7	0.8	32.6	0.8	0.8
	21.0%	38.6%	14.9%	5.2%	22.1%	19.0%	19.0%

NOTE: The % O<sub>2</sub> at the stack was calculated from the %CO<sub>2</sub> measured by the plant's stack CEM and from the coal composition. O<sub>2</sub> measurements at the air heater outlet were invalid; hence, the %O<sub>2</sub> at the air heater outlet was assumed to approximately equal the %O<sub>2</sub> at the stack.

AES Greenidge SO <sub>3</sub> Sampling Results												
Process Performance Testing - High-Sulfur Coal												
DATE	10/4/2007	10/4/2007	10/4/2007	10/4/2007	10/5/2007	10/5/2007	10/5/2007	10/5/2007	10/5/2007	10/5/2007	10/5/2007	10/5/2007
START TIME	1530	1525	1520	1541	840	840	840	840	840	1120	1120	1120
END TIME	1605	1625	1623	1641	948	950	950	940	940	1220	1220	1505
RUN	SCRI-1	SCRO-1	AHO-1	STK-1	SCRI-2	SCRO-2	AHO-2	STK-2	SCRI-3	SCRO-3	SCRI-4	SCRO-4
<b>MEASURED METER VARIABLES</b>												
SAMPLE TIME [Minutes]	35.2	60	60	60	60	60	60	60	60	60	60	60
BAROMETRIC PRESSURE [” Hg]	29.59	29.59	29.59	29.59	29.70	29.70	29.70	29.70	29.68	29.68	29.65	29.65
SAMPLE VOLUME [ft <sup>3</sup> ]	2.94	3.62	7.85	6.04	5.82	6.08	6.53	6.30	6.00	5.88	5.98	6.57
METER TEMPERATURE [°F]	87.0	86.0	84.9	82.9	79.0	79.9	73.5	67.5	84.2	87.6	89.3	92.1
ORIFICE PRESSURE [” H <sub>2</sub> O]	0.04	0.03	0.03	0.03	0.05	0.04	0.03	0.03	0.04	0.04	0.04	0.04
Y FACTOR	1.046	0.991	1.001	1.004	1.046	0.991	1.001	1.004	1.046	0.991	1.046	0.991
DSCF SAMPLED	2.935	3.430	7.529	5.829	5.918	5.849	6.418	6.281	6.039	5.572	5.960	6.169
APPROX CONDENSER TEMP [°F]	140	142	140	140	140	141	143	136	140	142	140	142
WATER BATH TEMP [°F]	140	142	140	140	143	140	144	141	143	140	146	140
CC/MIN @ CONDENSER	2683	1845	4039	3127	3191	3137	2968	3372	3256	2988	3229	3310
DUCT STATIC PRESSURE, in H <sub>2</sub> O												
DUCT PRESSURE, ” Hg												
DUCT MOISTURE, % VOL												
DUCT OXYGEN [ % ]	4.3	10.6	6.5	7.0	4.1	6.0	7.0	7.2	4.7	4.8	5.6	6.3
DUCT TEMP DURING TEST [°F]	636.0	695.0	318.2	178.7	672.8	679.7	316.3	176.5	634.5	659.8	636.3	670.0
<b>SO<sub>2</sub></b>												
<b>SO<sub>2</sub> in IMPINGERS and LINE</b>												
Analytical Results: mg SO <sub>4</sub> <sup>2-</sup>	519.8	555.9	1245.92	43.55	1380.39	1079.22	1070.44	24.12	187.07	1296.11	1257.43	1218.35
PPMVD SO <sub>2</sub> , As Sampled	1565.8	1432.9	1463.0	66.1	2062.0	1631.1	1474.6	34.0	273.9	2056.5	1865.0	1746.0
PPMVD SO <sub>2</sub> , @ 3% Oxygen	1688.4	2490.1	1818.6	85.1	2197.1	1959.5	1898.9	44.4	302.6	2286.4	2181.9	2140.7
<b>SO<sub>3</sub></b>												
<b>SO<sub>3</sub> in FILTER PLUG</b>												
Analytical Results: mg SO <sub>4</sub> <sup>2-</sup>	1.01	0.62	3.41	0.13	0.14	1.13	1.97	0.20	1.11	2.30	0.61	1.55
PPMVD SO <sub>3</sub> , As Sampled	3.0	1.6	4.0	0.2	0.2	1.7	2.7	0.3	1.6	3.6	0.9	2.2
PPMVD SO <sub>3</sub> , @ 3% Oxygen	3.3	2.8	5.0	0.3	0.2	2.1	3.5	0.4	1.8	4.1	1.1	2.7
<b>SO<sub>3</sub> in PROBE</b>												
Analytical Results: mg SO <sub>4</sub> <sup>2-</sup>	0.45	5.06	8.30	0.16	3.23	6.28	2.25	0.17	1.12	3.44	2.73	2.98
PPMVD SO <sub>3</sub> , As Sampled	1.4	13.0	9.7	0.2	4.8	9.5	3.1	0.2	1.6	5.5	4.0	4.3
PPMVD SO <sub>3</sub> , @ 3% Oxygen	1.5	22.7	12.1	0.3	5.1	11.4	4.0	0.3	1.8	6.1	4.7	5.2
<b>SO<sub>3</sub> in CONDENSER</b>												
Analytical Results: mg SO <sub>4</sub> <sup>2-</sup>	1.69	3.50	6.06	0.35	3.69	5.74	2.73	0.26	0.75	5.77	3.12	5.26
PPMVD SO <sub>3</sub> , As Sampled	5.1	9.0	7.1	0.5	5.5	8.7	3.8	0.4	1.1	9.2	4.6	7.5
PPMVD SO <sub>3</sub> , @ 3% Oxygen	5.5	15.7	8.8	0.7	5.9	10.4	4.8	0.5	1.2	10.2	5.4	9.2
<b>GAS PHASE SO<sub>3</sub>, PPMVD as Sampled</b>												
<b>GAS PHASE SO<sub>3</sub>, PPMVD @ 3% O<sub>2</sub></b>	6.4	22.1	16.9	0.8	10.3	18.2	6.9	0.6	2.7	14.6	8.7	11.8
<b>TOTAL PHASE SO<sub>3</sub>, PPMVD as Sampled</b>	7.0	38.3	21.0	1.0	11.0	21.8	8.8	0.8	3.0	16.2	10.2	14.5
<b>TOTAL PHASE SO<sub>3</sub>, PPMVD @ 3% O<sub>2</sub></b>	9.5	23.7	20.9	1.0	10.5	19.9	9.6	0.9	4.4	18.3	9.6	14.0
<b>TOTAL PHASE SO<sub>3</sub>, PPMVD @ 3% O<sub>2</sub></b>	10.2	41.1	25.9	1.2	11.2	23.9	12.3	1.2	4.8	20.3	11.2	17.2
% SO <sub>3</sub> in SOLIDS [filter plug/total]	32.1%	6.8%	19.2%	20.3%	2.0%	8.6%	28.3%	31.7%	37.2%	20.0%	9.4%	15.8%



**AES Greenidge SO<sub>2</sub> Sampling Results**  
**Process Performance Testing - Turbosorp Parametric Tests**

DATE	10/8/2007	10/8/2007	10/9/2007	10/9/2007	10/10/2007	10/10/2007	10/11/2007	10/11/2007
START TIME	1533	1530	1040	1040	1040	1044	1230	1230
END TIME	1634	1630	1150	1140	1140	1144	1335	1335
RUN	AHO-3	STK-3	AHO-4	STK-4	AHO-5	STK-5	AHO-6	STK-6
<b>MEASURED METER VARIABLES</b>								
SAMPLE TIME [minutes]	60	60	60	60	60	60	60	60
BAROMETRIC PRESSURE [ " Hg]	29.26	29.26	29.26	29.26	29.12	29.12	29.15	29.15
SAMPLE VOLUME [ft <sup>3</sup> ]	5.74	6.22	6.01	6.17	5.90	6.06	5.98	6.35
METER TEMPERATURE [°F]	87.6	86.0	72.3	70.4	68.7	68.3	60.8	58.5
ORIFICE PRESSURE [ " H <sub>2</sub> O]	0.04	0.03	0.04	0.03	0.03	0.03	0.04	0.03
Y FACTOR	0.970	1.004	0.970	1.004	1.004	1.004	0.970	1.004
DSCF SAMPLED	5.249	5.903	5.653	6.022	5.561	5.911	5.728	6.319
APPROX CONDENSER TEMP [°F]	144	140	144	140	144	140	144	140
WATER BATH TEMP [°F]	144	140	144	140	144	140	144	140
CC/MIN @ CONDENSER	2833	3167	3052	3229	3002	3170	3090	3387
DUCT STATIC PRESSURE, in H <sub>2</sub> O								
DUCT PRESSURE, " Hg								
DUCT MOISTURE, % VOL	6.5	7.3	6.8	7.5	7.0	7.4	7.2	7.2
DUCT OXYGEN [ % ]	316.5	175.0	307.7	176.8	307.2	174.0	303.2	181.0
DUCT TEMP DURING TEST [°F]								
<b>SO<sub>2</sub></b>								
<b>SO<sub>2</sub> in IMPINGERS and LINE</b>								
Analytical Results: mg SO <sub>2</sub>	644.19	10.78	686.47	80.02	883.84	81.66	889.18	79.19
PPMVD SO <sub>2</sub> , As Sampled	1085.0	16.1	1073.5	117.5	1405.1	122.1	1372.4	110.8
PPMVD SO <sub>2</sub> , @ 3% Oxygen	1348.8	21.2	1362.8	156.9	1809.4	161.9	1793.1	144.7
<b>SO<sub>3</sub></b>								
<b>SO<sub>3</sub> in FILTER PLUG</b>								
Analytical Results: mg SO <sub>4</sub>	3.90	0.08	3.01	0.04	3.58	0.10	2.23	0.04
PPMVD SO <sub>3</sub> , As Sampled	6.6	0.1	4.7	0.1	5.7	0.1	3.4	0.1
PPMVD SO <sub>3</sub> , @ 3% Oxygen	8.2	0.2	6.0	0.1	7.3	0.2	4.5	0.1
<b>SO<sub>3</sub> in PROBE</b>								
Analytical Results: mg SO <sub>4</sub>	2.00	0.07	3.08	0.07	1.69	0.07	2.7	0.06
PPMVD SO <sub>3</sub> , As Sampled	3.4	0.1	4.8	0.1	2.7	0.1	4.2	0.1
PPMVD SO <sub>3</sub> , @ 3% Oxygen	4.2	0.1	6.1	0.1	3.5	0.1	5.4	0.1
<b>SO<sub>3</sub> in CONDENSER</b>								
Analytical Results: mg SO <sub>4</sub>	2.47	0.16	0.94	0.21	1.97	0.73	2.3	0.26
PPMVD SO <sub>3</sub> , As Sampled	4.2	0.2	1.5	0.3	3.1	1.1	3.5	0.4
PPMVD SO <sub>3</sub> , @ 3% Oxygen	5.2	0.3	1.9	0.4	4.0	1.4	4.6	0.5
<b>GAS PHASE SO<sub>3</sub>, PPMVD as Sampled</b>								
<b>GAS PHASE SO<sub>3</sub>, PPMVD @ 3% O<sub>2</sub></b>	7.5	0.3	6.3	0.4	5.8	1.2	7.7	0.4
TOTAL PHASE SO <sub>3</sub> , PPMVD as Sampled	9.4	0.5	8.0	0.5	7.5	1.6	10.1	0.6
TOTAL PHASE SO <sub>3</sub> , PPMVD @ 3% O <sub>2</sub>	14.1	0.5	11.0	0.5	11.5	1.3	11.2	0.5
% SO <sub>3</sub> in SOLIDS [filter plug/total]	17.5	0.6	14.0	0.6	14.8	1.8	14.6	0.7
	46.6%	25.8%	42.8%	12.5%	49.4%	11.1%	30.8%	11.1%

**AES Greenidge Unit 4 SO<sub>2</sub> Sampling Results**  
**Process Performance Testing - Reduced Load / Biomass Co-Firing**

DATE	11/18/2007	11/18/2007	11/18/2007	11/18/2007	11/18/2007	11/18/2007	11/18/2007	11/18/2007	11/18/2007	11/18/2007	11/18/2007	11/18/2007	11/18/2007	11/18/2007	11/18/2007	11/18/2007	11/18/2007	11/18/2007
START TIME	2330	2325	0136	0143	0406	0405	2305	2305	0205	0205	0530	0530	0530	0530	0530	0530	0530	0530
END TIME	0447	0023	0934	0233	0510	0305	0305	0310	0210	0210	1328	1328	1328	1328	1328	1328	1328	1328
RUN	AHO-1	STK-1	AHO-2	STR-2	AHO-3	STR-3	AHO-4	STR-4	AHO-5	STR-5	AHO-6	STR-6	AHO-7	STR-7	AHO-8	STR-8		
MEASURED METER VARIABLES																		
SAMPLE TIME (Minutes)	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
BAROMETRIC PRESSURE [ Hg]	29.32	29.32	29.29	29.29	29.29	29.29	29.06	29.06	29.06	29.06	29.03	29.03	29.21	29.21	29.23	29.23	29.23	29.23
SAMPLE VOLUME (ft <sup>3</sup> )	5.95	9.70	5.90	8.09	6.01	8.65	6.01	6.90	5.99	7.16	5.99	6.27	6.00	6.87	6.00	6.49	6.00	6.49
METER TEMPERATURE (F)	49.7	51.0	50.6	50.2	55.5	49.3	62.8	58.2	59.8	56.9	53.0	50.5	38.9	33.4	40.3	35.0	35.0	35.0
ORIFICE PRESSURE [ H <sub>2</sub> O]	0.04	0.10	0.04	0.09	0.04	0.10	0.04	0.06	0.04	0.06	0.04	0.06	0.04	0.05	0.04	0.05	0.04	0.05
Y FACTOR	1.001	0.967	1.001	0.967	1.001	0.967	1.001	0.967	1.001	0.967	1.001	0.967	1.001	0.967	1.001	0.967	1.001	0.967
DSCF SAMPLED	6.044	9.495	5.977	7.920	6.030	8.488	6.601	6.601	5.974	6.867	5.986	6.063	6.204	6.939	6.191	6.539	6.191	6.539
APPROX CONDENSER TEMP [F]	141	147	141	140	140	139	144	138	141	138	140	138	141	137	140	139	140	139
WATER BATH TEMP [F]	141	147	141	140	140	139	144	138	141	138	140	138	141	137	140	139	140	139
CCMIN @ CONDENSER	3244	5151	3209	4247	3232	4542	3186	3529	3174	3672	3211	3250	3331	3701	3321	3499	3321	3499
DUCT STATIC PRESSURE, in H <sub>2</sub> O																		
DUCT PRESSURE, in Hg																		
DUCT MOISTURE, % VOL																		
DUCT OXYGEN [ % ]	11.3	10.0	10.8	10.0	10.9	11.0	9.1	7.7	9.1	7.7	9.5	8.3	8.8	7.7	9.6	7.6	9.6	7.6
DUCT TEMP DURING TEST [F]	268.0	171.1	269.7	172.7	279.0	169.8	298.2	170.7	304.7	170.7	286.0	184.0	307.7	170.3	309.8	171.2	309.8	171.2
<b>SO<sub>2</sub> in IMPINGERS and LINE</b>																		
Analytical Results: mg SO <sub>2</sub> <sup>2</sup>	691.00	45.23	809.55	26.02	758.07	56.43	912.86	32.69	968.26	19.77	862.51	55.42	930.99	9.02	945.54	29.20	945.54	29.20
PPMVD SO <sub>2</sub> , As Sampled	1010.7	42.1	1197.4	29.0	1111.3	58.8	1367.9	43.8	1447.4	25.4	1273.8	80.5	1326.7	11.5	1350.3	39.5	1350.3	39.5
PPMVD SO <sub>2</sub> , @ 3% Oxygen	1884.5	69.2	2122.2	47.7	1989.2	106.3	2075.1	59.1	2195.7	34.5	1991.4	114.4	1962.6	15.6	2138.9	53.1	2138.9	53.1
<b>SO<sub>2</sub> in FILTER PLUG</b>																		
Analytical Results: mg SO <sub>2</sub> <sup>2</sup>	2.28	0.01	2.58	0.10	2.36	0.02	2.30	0.07	1.17	0.09	2.43	0.06	1.71	0.03	2.59	0.12	2.59	0.12
PPMVD SO <sub>2</sub> , As Sampled	3.3	0.0	3.8	0.1	3.5	0.0	3.4	0.1	1.7	0.1	3.6	0.1	2.4	0.0	3.7	0.2	3.7	0.2
PPMVD SO <sub>2</sub> , @ 3% Oxygen	6.2	0.0	6.8	0.2	6.2	0.0	5.2	0.1	2.7	0.2	5.6	0.1	3.6	0.1	5.9	0.2	5.9	0.2
<b>SO<sub>2</sub> in PROBE</b>																		
Analytical Results: mg SO <sub>2</sub> <sup>2</sup>	1.18	0.05	2.54	0.05	3.23	0.05	1.05	0.06	1.74	0.12	2.01	0.17	3.21	0.08	2.32	0.07	2.32	0.07
PPMVD SO <sub>2</sub> , As Sampled	1.7	0.0	3.8	0.1	4.7	0.1	1.6	0.1	2.6	0.2	3.0	0.2	4.6	0.1	3.3	0.1	3.3	0.1
PPMVD SO <sub>2</sub> , @ 3% Oxygen	3.2	0.1	6.7	0.1	8.5	0.1	2.4	0.1	3.9	0.2	4.6	0.4	6.8	0.1	5.2	0.1	5.2	0.1
<b>SO<sub>2</sub> in CONDENSER</b>																		
Analytical Results: mg SO <sub>2</sub> <sup>2</sup>	0.55	0.44	0.98	0.43	1.94	0.16	1.42	0.07	2.11	0.34	2.70	0.66	3.02	0.19	1.01	0.1	1.01	0.1
PPMVD SO <sub>2</sub> , As Sampled	0.8	0.4	1.4	0.5	2.8	0.2	2.1	0.1	3.2	0.4	4.0	1.0	4.3	0.2	1.4	0.1	1.4	0.1
PPMVD SO <sub>2</sub> , @ 3% Oxygen	1.5	0.7	2.6	0.8	5.1	0.3	3.2	0.1	4.8	0.6	6.2	1.4	6.4	0.3	2.3	0.2	2.3	0.2
GAS PHASE SO <sub>2</sub> , PPMVD as Sampled	2.5	0.5	5.2	0.5	7.6	0.2	3.7	0.2	8.7	0.6	7.0	1.2	8.9	0.3	4.8	0.2	4.8	0.2
<b>GAS PHASE SO<sub>2</sub>, PPMVD @ 3% O<sub>2</sub></b>	<b>4.7</b>	<b>0.7</b>	<b>9.2</b>	<b>0.9</b>	<b>13.6</b>	<b>0.4</b>	<b>5.6</b>	<b>0.2</b>	<b>8.7</b>	<b>0.8</b>	<b>10.9</b>	<b>1.7</b>	<b>13.1</b>	<b>0.5</b>	<b>7.5</b>	<b>0.3</b>	<b>7.5</b>	<b>0.3</b>
TOTAL PHASE SO <sub>2</sub> , PPMVD as Sampled	5.9	0.5	9.0	0.6	11.0	0.2	7.1	0.3	7.5	0.7	10.5	1.3	11.3	0.4	8.5	0.4	8.5	0.4
<b>TOTAL PHASE SO<sub>2</sub>, PPMVD @ 3% O<sub>2</sub></b>	<b>10.9</b>	<b>0.8</b>	<b>16.0</b>	<b>1.1</b>	<b>19.8</b>	<b>0.4</b>	<b>10.8</b>	<b>0.4</b>	<b>11.4</b>	<b>1.0</b>	<b>16.5</b>	<b>1.8</b>	<b>16.7</b>	<b>0.5</b>	<b>13.4</b>	<b>0.5</b>	<b>13.4</b>	<b>0.5</b>
% SO <sub>2</sub> in SOLIDS (filter plug/total)	56.9%	2.0%	42.3%	17.2%	31.3%	8.7%	48.2%	35.0%	23.3%	16.4%	34.0%	6.7%	21.5%	10.0%	43.8%	41.4%	43.8%	41.4%





**AES Greenidge Unit 4 SO<sub>2</sub> Sampling Results**  
Process Performance Testing - Reduced Load

DATE	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/22/2008	5/22/2008	5/22/2008	5/22/2008
START TIME	0044	0040	0350	0435	2300	2300	0125	0125	0125	0125	0410	0410	0410	0510
END TIME	0146	0140	0452	0535	0010	0000	0225	0225	0225	0225	0510	0510	0510	0510
RUN	AHO-1	STK-1	AHO-2	STK-2	AHO-3	STK-3	AHO-4	STK-4	AHO-5	STK-5				
<b>MEASURED METER VARIABLES</b>														
SAMPLE TIME [Minutes]	60	60	60	60	60	60	60	60	60	60	60	60	60	60
BAROMETRIC PRESSURE [” Hg]	28.88	28.88	28.88	28.88	28.91	28.91	28.94	28.94	28.94	28.94	28.97	28.97	28.97	28.97
SAMPLE VOLUME [ft <sup>3</sup> ]	5.99	6.01	6.24	6.01	5.97	6.00	5.89	6.00	5.86	6.01	5.86	6.01	5.86	6.01
METER TEMPERATURE [°F]	58.7	58.3	58.3	61.0	57.0	58.8	59.5	58.3	54.3	56.6	54.3	56.6	54.3	56.6
ORIFICE PRESSURE [” H <sub>2</sub> O]	0.05	0.10	0.05	0.10	0.04	0.08	0.04	0.10	0.05	0.07	0.05	0.07	0.05	0.07
Y FACTOR	0.970	1.046	0.970	1.046	0.970	1.046	0.970	1.046	0.970	1.046	0.970	1.046	0.970	1.046
DSCF SAMPLED	5.707	6.181	5.950	6.149	5.713	6.170	5.615	6.183	5.649	6.220	5.649	6.220	5.649	6.220
APPROX CONDENSER TEMP [°F]	142	147	142	147	142	147	142	146	142	147	142	147	142	147
WATER BATH TEMP [°F]	142	147	142	147	142	147	142	146	142	147	142	147	142	147
CC/MIN @ CONDENSER	3071	3353	3201	3336	3074	3348	3021	3349	3039	3374	3039	3374	3039	3374
DUCT STATIC PRESSURE, in H <sub>2</sub> O	-10.46	-0.49	-9.25	-0.50	-6.60	-0.46	-6.80	-0.47	-6.70	-0.43	-6.70	-0.43	-6.70	-0.43
DUCT PRESSURE, ” Hg	28.11	28.84	28.20	28.84	28.42	28.88	28.44	28.91	28.48	28.94	28.48	28.94	28.48	28.94
DUCT MOISTURE, % VOL	7.2	7.9	7.4	8.3	9.5	10.1	9.5	10.2	9.6	10.3	9.6	10.3	9.6	10.3
DUCT OXYGEN [ % ]	293.5	176.7	286.3	174.3	275.2	176.0	273.7	173.6	269.3	174.0	269.3	174.0	269.3	174.0
<b>SO<sub>2</sub></b>														
<b>SO<sub>2</sub> in IMPINGERS and LINE</b>														
Analytical Results: mg SO <sub>2</sub> <sup>2-</sup>	899.16	20.74	1076.11	46.66	790.21	124.68	862.39	15.90	865.56	34.98	865.56	34.98	865.56	34.98
PPMVD SO <sub>2</sub> , As Sampled	1392.8	29.7	1598.8	67.1	1222.8	178.6	1357.8	22.7	1354.6	49.7	1354.6	49.7	1354.6	49.7
PPMVD SO <sub>2</sub> , @ 3% Oxygen	1819.7	40.8	2119.9	95.3	1920.1	296.1	2132.0	38.0	2145.8	84.0	2145.8	84.0	2145.8	84.0
<b>SO<sub>3</sub></b>														
<b>SO<sub>3</sub> in FILTER PLUG</b>														
Analytical Results: mg SO <sub>4</sub> <sup>2-</sup>	0.13	0.39	0.75	0.13	1.65	0.2	1.7	0.13	1.79	0.11	1.79	0.11	1.79	0.11
PPMVD SO <sub>3</sub> , As Sampled	0.2	0.6	1.1	0.2	2.6	0.3	2.7	0.2	2.8	0.2	2.8	0.2	2.8	0.2
PPMVD SO <sub>3</sub> , @ 3% Oxygen	0.3	0.8	1.5	0.3	4.0	0.5	4.2	0.3	4.4	0.3	4.4	0.3	4.4	0.3
<b>SO<sub>3</sub> in PROBE</b>														
Analytical Results: mg SO <sub>4</sub> <sup>2-</sup>	6.19	0.11	3.89	0.05	0.57	0.04	1.63	0.03	0.73	0.04	0.73	0.04	0.73	0.04
PPMVD SO <sub>3</sub> , As Sampled	9.6	0.2	5.8	0.1	0.9	0.1	2.6	0.0	1.1	0.1	1.1	0.1	1.1	0.1
PPMVD SO <sub>3</sub> , @ 3% Oxygen	12.5	0.2	7.7	0.1	1.4	0.1	4.0	0.1	1.8	0.1	1.8	0.1	1.8	0.1
<b>SO<sub>3</sub> in CONDENSER</b>														
Analytical Results: mg SO <sub>4</sub> <sup>2-</sup>	4.1	0.17	4.68	0.08	1.87	0.11	4.29	0.07	2.49	0.1	2.49	0.1	2.49	0.1
PPMVD SO <sub>3</sub> , As Sampled	6.4	0.2	7.0	0.1	2.9	0.2	6.8	0.1	3.9	0.1	3.9	0.1	3.9	0.1
PPMVD SO <sub>3</sub> , @ 3% Oxygen	8.3	0.3	9.2	0.2	4.5	0.3	10.6	0.2	6.2	0.2	6.2	0.2	6.2	0.2
GAS PHASE SO <sub>3</sub> , PPMVD as Sampled	15.9	0.4	12.7	0.2	3.8	0.2	9.3	0.1	5.0	0.2	5.0	0.2	5.0	0.2
<b>GAS PHASE SO<sub>3</sub>, PPMVD @ 3% O<sub>2</sub></b>	<b>20.8</b>	<b>0.6</b>	<b>16.9</b>	<b>0.3</b>	<b>5.9</b>	<b>0.4</b>	<b>14.6</b>	<b>0.2</b>	<b>8.0</b>	<b>0.3</b>	<b>8.0</b>	<b>0.3</b>	<b>8.0</b>	<b>0.3</b>
TOTAL PHASE SO <sub>3</sub> , PPMVD as Sampled	16.1	1.0	13.8	0.4	6.3	0.5	12.0	0.3	7.8	0.4	7.8	0.4	7.8	0.4
<b>TOTAL PHASE SO<sub>3</sub>, PPMVD @ 3% O<sub>2</sub></b>	<b>21.1</b>	<b>1.3</b>	<b>18.4</b>	<b>0.5</b>	<b>9.9</b>	<b>0.8</b>	<b>18.8</b>	<b>0.6</b>	<b>12.4</b>	<b>0.6</b>	<b>12.4</b>	<b>0.6</b>	<b>12.4</b>	<b>0.6</b>
% SO <sub>3</sub> in SOLIDS [filter plug/total]	1.2%	58.2%	8.0%	50.0%	40.3%	57.1%	22.3%	56.5%	35.7%	44.0%	35.7%	44.0%	35.7%	44.0%



AES Greenidge Unit 4 SO<sub>2</sub> Sampling Results  
Follow-Up Testing

DATE	6/10/2008	6/10/2008	6/10/2008	6/10/2008	6/11/2008	6/11/2008	6/11/2008	6/11/2008	6/11/2008	6/11/2008	6/11/2008	6/11/2008	6/11/2008	6/11/2008	6/11/2008	6/11/2008
START TIME	1327	1325	1325	1325	1490	1490	1490	1490	1490	1490	1490	1490	1490	1490	1490	1490
END TIME	1541	1530	1525	1535	1603	1603	1603	1603	1603	1603	1603	1603	1603	1603	1603	1603
RUN	ECON-1	AHI-1	AHO-1	STK-1	ECON-2	AHI-2	AHO-2	STK-2	ECON-3	AHI-3	AHO-3	STK-3	ECON-4	AHI-4	AHO-4	STK-4
<b>MEASURED METER VARIABLES</b>																
SAMPLE TIME (minutes)	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
BAROMETRIC PRESSURE [° Hg]	29.29	29.29	29.29	29.29	29.38	29.38	29.38	29.38	29.41	29.41	29.41	29.41	29.44	29.44	29.44	29.44
SAMPLE VOLUME [ft <sup>3</sup> ]	5.78	5.15	6.00	5.99	6.45	5.95	6.00	6.00	5.08	6.37	6.00	6.01	3.86	6.03	6.00	6.01
METER TEMPERATURE [°F]	110.3	101.8	94.6	97.8	103.4	86.3	77.2	83.6	112.5	93.8	83.0	86.9	104.5	97.1	85.5	92.6
ORIFICE PRESSURE [° H <sub>2</sub> O]	0.03	0.05	0.03	0.08	0.03	0.05	0.04	0.03	0.03	0.05	0.04	0.06	0.03	0.05	0.04	0.05
Y FACTOR	0.999	1.002	0.986	1.062	0.999	1.002	0.986	1.062	1.009	1.002	0.986	1.062	1.009	1.002	0.986	1.062
DSCF SAMPLED	5.232	4.746	5.512	5.694	5.957	5.707	5.707	6.075	5.980	5.653	5.653	6.085	5.653	5.653	5.653	5.989
APPROX CONDENSER TEMP [°F]	148	140	146	148	144	140	145	142	147	140	144	142	150	140	145	144
WATER BATH TEMP [°F]	148	140	146	148	144	140	145	142	147	140	144	142	150	140	145	144
CCMIN @ CONDENSER	2842	2545	2985	3203	3033	3033	3086	3269	2519	3207	3052	3258	2341	3021	3046	3238
DUCT STATIC PRESSURE, in H <sub>2</sub> O																
DUCT PRESSURE, ° Hg																
DUCT MOISTURE, % VOL	5.8	4.8	7.6	8.4	12.4	5.3	7.1	7.8	9.8	5.3	6.9	7.7	4.2	5.3	7.3	7.8
DUCT OXYGEN [%]	617	644	314	174	680	649	304	175	686	647	308	142	635	643	308	174
DUCT TEMP DURING TEST [°F]																
<b>SO<sub>2</sub></b>																
<b>SO<sub>2</sub> in IMPINGERS and LINE</b>																
Analytical Results: mg SO <sub>2</sub>	865.68	1197.64	948.52	12.63	251.84	1016.87	1069.84	36.52	499.97	1138.53	1028.41	41.73	750.15	1171.42	987.28	29.52
PPMVD SO <sub>2</sub> , As Sampled	1462.8	2230.6	1521.3	18.9	375.5	1589.2	1657.2	53.1	951.9	1863.1	1608.3	60.9	1853.3	1838.4	1549.5	43.5
PPMVD SO <sub>2</sub> , @ 3% Oxygen	1734.1	2480.0	2047.5	27.1	790.7	1823.5	2149.6	72.6	1535.0	1931.3	2056.3	82.6	1986.5	2109.4	2039.4	59.4
<b>SO<sub>2</sub> in FILTER PLUG</b>																
Analytical Results: mg SO <sub>2</sub>	1.03	0.07		0.09	0.01	0.88	1.35	0.12	0.53	1.17	1.43	0.06	0.15	2.6	0.78	0.06
PPMVD SO <sub>2</sub> , As Sampled	1.7	0.1	0.0	0.1	0.0	1.4	2.1	0.2	1.0	1.7	2.2	0.1	0.4	4.1	1.2	0.1
PPMVD SO <sub>2</sub> , @ 3% Oxygen	2.1	0.1	0.0	0.2	0.0	1.6	2.7	0.2	1.6	2.0	2.9	0.1	0.4	4.7	1.6	0.1
<b>SO<sub>2</sub> in PROBE</b>																
Analytical Results: mg SO <sub>2</sub>	1.44	7.62	2.97	0.03	1.49	3.91	1.73	0.07	2.07	3.36	2.68	0.51	2.76	3.84	1.88	0.02
PPMVD SO <sub>2</sub> , As Sampled	2.4	14.2	4.8	0.0	2.2	6.1	2.7	0.1	3.9	5.0	4.2	0.7	6.8	6.0	3.0	0.0
PPMVD SO <sub>2</sub> , @ 3% Oxygen	2.9	15.8	6.4	0.1	4.7	7.0	3.5	0.1	6.4	5.7	5.4	1.0	7.3	6.9	3.9	0.0
<b>SO<sub>2</sub> in CONDENSER</b>																
Analytical Results: mg SO <sub>2</sub>	3.24	8.97	4.03	0.17	1.7	7.16	5.71	0.24	2.13	8.87	5.79	0.11	3.2	8.95	4.9	0.08
PPMVD SO <sub>2</sub> , As Sampled	5.5	16.7	6.5	0.3	2.5	11.2	8.8	0.3	4.1	13.1	9.1	0.2	7.9	14.0	7.7	0.1
PPMVD SO <sub>2</sub> , @ 3% Oxygen	6.5	18.6	8.7	0.4	5.3	12.8	11.5	0.5	6.5	15.0	11.6	0.2	8.5	16.1	10.1	0.2
<b>GAS PHASE SO<sub>2</sub>, PPMVD as Sampled</b>																
<b>GAS PHASE SO<sub>2</sub>, PPMVD @ 3% O<sub>2</sub></b>	<b>9.4</b>	<b>34.4</b>	<b>15.1</b>	<b>0.4</b>	<b>4.8</b>	<b>17.3</b>	<b>11.5</b>	<b>0.5</b>	<b>8.0</b>	<b>18.1</b>	<b>13.2</b>	<b>0.9</b>	<b>14.7</b>	<b>20.1</b>	<b>10.6</b>	<b>0.1</b>
TOTAL PHASE SO <sub>2</sub> , PPMVD as Sampled	9.6	31.0	11.2	0.4	4.8	18.7	13.6	0.6	9.0	19.8	15.5	1.0	15.1	24.2	11.9	0.2
<b>TOTAL PHASE SO<sub>2</sub>, PPMVD @ 3% O<sub>2</sub></b>	<b>11.4</b>	<b>34.5</b>	<b>15.1</b>	<b>0.6</b>	<b>10.0</b>	<b>21.4</b>	<b>17.7</b>	<b>0.9</b>	<b>14.5</b>	<b>22.7</b>	<b>19.8</b>	<b>1.3</b>	<b>16.2</b>	<b>27.7</b>	<b>15.6</b>	<b>0.3</b>
% SO <sub>2</sub> in SOLIDS (filter plug/total)	18.0%	0.4%	0.0%	31.0%	0.3%	7.4%	15.4%	27.9%	11.2%	8.7%	14.4%	8.8%	2.5%	16.9%	10.3%	37.5%

Invalid - Significant leak at ECON. SO<sub>2</sub> indicates significant

No plug





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT AES Greentidge	AMBIENT TEMP [-uo°F] 140	WATER BATH SETTING 530	Page <u>1</u> of <u>1</u>
LOCATION Air Heater Inlet	BAROMETRIC PRESSURE [in Hg] 30.0	PROBE HTR SETTING circ ?	
DUCT DIMENSIONS	%H <sub>2</sub> O (Assumed) 6	DUCT X-SECTION rect ?	
DUCT AREA	PROBE LENGTH [ft] 1	POSITION OF PORT A other:	
DATE	NOZZLE ID [inches] XXXX		
TIME	CALIBRATION FACTORS: delta H Y		
SAMPLE BOX	C(p) K		
METER BOX	NOZZLE ID [inches] XXXX		
PITOT TUBE DESC			
OPERATOR(S)			

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-uo°F]
A-	0-10		530	1.0	30.0	30.0	120	120	120	530	5.0				
	10-20		530	1.0	30.0	30.0	120	120	120	530	5.0				
	20-30		530	1.0	30.0	30.0	120	120	120	530	5.0				
	<del>30-40</del>		<del>530</del>	<del>1.0</del>	<del>30.0</del>	<del>30.0</del>	<del>120</del>	<del>120</del>	<del>120</del>	<del>530</del>	<del>5.0</del>				
B-	30-40		530	1.0	30.0	30.0	120	120	120	530	5.0				
	40-50		530	1.0	30.0	30.0	120	120	120	530	5.0				
	50-60		530	1.0	30.0	30.0	120	120	120	530	5.0				
AVERAGE			530	1.0	30.0	30.0	120.1	120.1	120.1	530	5.0		3.2		

Pre-Leak Check:	Post-Leak Check:	Gas Vol, dscf	BaCl <sub>2</sub> NORMALITY
PLUG--SO <sub>3</sub>	TITRATION (ml)	ppmv, act	
PROBE--SO <sub>3</sub>		ppmv, cor	
CONDENSER--SO <sub>3</sub>			
BLANK			
IMPINGER (H <sub>2</sub> O) <sub>1</sub> -SO <sub>2</sub>			

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

CONSOL ENERGY

C:\IRd\AppRes\STACK\data\sheets\ISO3SHEET 11/11/04

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT AES Greentidge	AMBIENT TEMP [-uo°F] 29.6	WATER BATH SETTING 140	Page _____ of _____
LOCATION Air Heater Outlet	BAROMETRIC PRESSURE [in Hg] (Assumed) 30.0	PROBE HTR SETTING 530	
DUCT DIMENSIONS DUCT AREA	PROBE LENGTH [ft] 6	DUCT X-SECTION circ ?	rect ?
DATE 11/11/04	NOZZLE ID [inch] XXXX	POSITION OF PORT A	other:
TIME Start: 11:00 Stop: 11:56	CALIBRATION FACTORS: delta H Y K		
SAMPLE BOX METER BOX PITOT TUBE DESC OPERATOR(S) D.X			

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM O <sub>2</sub> [%]	CONTROL ROOM DUCT TEMP [-uo°F]
							inlet	outlet							
A-	0-10		310	<del>0.02</del>	80	736.65	61	60	137	555	138	8			
	10-20		310	0.02	80	737.80	61	60	138	539	147	8	6.6	13.5	
	20-30														
B-	30-36		317	0.02	80	738.98	61	60	117	544	146	8.5	5.7	14.4	
	30-40		318		80	740.04	61	61	121	547	147	8.5	5.6	14.5	
	40-50														
	50-60														
AVERAGE			315.3	0.02	80	4.53	60.6	60.6	128.3		144.5		6.0		
REMARKS	Pre-Leak Check: _____ Post-Leak Check: _____														

Condenser Temp = 140°F  
Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

ALLOQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv,act	ppmv,cor
PLUG-SO <sub>3</sub>				
PROBE-SO <sub>3</sub>				
CONDENSER-SO <sub>3</sub>				
BLANK				
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>				

Gas Vol, dscf  
BaCl<sub>2</sub> NORMALITY



O:\R\A\ppRes\STACK\data\sheet\SO3SHEET 11/11/04



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: AES Greentidge  
 LOCATION: Stack  
 DUCT DIMENSIONS: \_\_\_\_\_  
 DUCT AREA: \_\_\_\_\_  
 DATE: 11/17/21  
 TIME: 17:27  
 SAMPLE BOX: Stop- 04 73  
 METER BOX: \_\_\_\_\_  
 PITOT TUBE DESC: \_\_\_\_\_  
 OPERATOR(S): \_\_\_\_\_

AMBIENT TEMP [-uo°F]: \_\_\_\_\_  
 BAROMETRIC PRESSURE [in Hg]: \_\_\_\_\_  
 %H<sub>2</sub>O (Assumed): 6  
 PROBE LENGTH [ft]: XXXX  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: Y  
 C(p): K

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 530  
 DUCT X-SECTION: circ? \_\_\_\_\_  
 POSITION OF PORT A: \_\_\_\_\_

DRY MOLECULAR WEIGHT (Assumed): \_\_\_\_\_  
 WET MOLECULAR WEIGHT (Assumed): \_\_\_\_\_

Page 1 of 1

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-uo°F]
D-50 318	0-10	0.45	311	1.1	6	472.53	32	32	130	420	140	14	15.5	15.5	15.5
	10-20	0.44	311	1.2	6	471.04	32	32	137	420	140	14	15.5	15.5	15.5
	20-30	0.39	311	1.1	6	470.75	19	32	134	420	140	14	15.5	15.5	15.5
	30-40	0.37	311	1.2	6	473.1	32	32	140	420	140	14	15.5	15.5	15.5
	40-50	0.4	311	1.2	6	474.99	32	32	140	420	140	14	15.5	15.5	15.5
	50-60														
AVERAGE			312.8			5.52	54.3		138		146.2		6.2		

Pre-Leak Check: 11/17/21 17:27  
 Post-Leak Check: 11/17/21 17:27

PLUG-SO <sub>3</sub>	ALLOQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv,act	ppmv,cor	Gas Vol. dscf
PROBE-SO <sub>3</sub>						
CONDENSER-SO <sub>3</sub>						
BLANK						
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>						

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min



O:\RdAppRes\STACK\data\sheet\SO3SHEET 11/17/21

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: AES Greentidge  
 LOCATION: Air Heater Inlet  
 DUCT DIMENSIONS: 18" x 18"  
 DUCT AREA: 324 sq in  
 DATE: 11/11/04  
 TIME: 11:30  
 SAMPLE BOX: Stop-1520  
 METER BOX: NuTech # 3  
 PITOT TUBE DESC: NA  
 OPERATOR(S): SL

AMBIENT TEMP [-uoF]: 53.0  
 BAROMETRIC PRESSURE [" Hg]: 30.00  
 PROBE LENGTH [ft]: 6  
 NOZZLE ID [inch]: .030  
 CALIBRATION FACTORS: delta H: Y, C(p): 1.0, K: .000

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 530  
 DUCT X-SECTION: circ ?  
 POSITION OF PORT A: other:

Page 140 of 530

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 530  
 DUCT X-SECTION: circ ?  
 POSITION OF PORT A: other:

WATER BATH TEMP [°F]:  
 PROBE TEMP [°F]:  
 CONDENSER TEMP [°F]:  
 METER VACUUM [" Hg]:  
 O<sub>2</sub> METER [%]:  
 CONTROL ROOM O<sub>2</sub> [%]:  
 DUCT TEMP [-uo F]:

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [" H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [" H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [" Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-uo F]
A-	0 - 10		64.7	NA	20	2.937	128	127	53.0	53.0	50				
	10 - 20				20	3.000	127	127	53.0	53.0	50				
	20 - 30				20	3.000	130	127	53.0	53.0	50				
B-	30 - 40														
	40 - 50														
	50 - 60														
AVERAGE			64.7		20	2.937	128.3	127.3	53.0	53.0			2.9		

Pre-Leak Check: \_\_\_\_\_

Post-Leak Check: \_\_\_\_\_

REMARKS:

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

ALLOQUOT / VOLUME: \_\_\_\_\_

TITRATION (ml): \_\_\_\_\_

IB/dscf: \_\_\_\_\_

ppmv.act: \_\_\_\_\_

ppmv.cor: \_\_\_\_\_

Gas Vol, dscf: \_\_\_\_\_

BaCl<sub>2</sub> NORMALITY: \_\_\_\_\_





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT	AES Greentidge	WATER BATH SETTING	140
LOCATION	Air Heater's Outlet	PROBE HTR SETTING	530
DUCT DIMENSIONS		DUCT X-SECTION	circ ?
DUCT AREA		POSITION OF PORT A	rect ? other:
DATE	11/17/04	AMBIENT TEMP [-uoF]	60.6
TIME	15:00	BAROMETRIC PRESSURE [in Hg]	29.54
SAMPLE BOX	Stop-1540	%H <sub>2</sub> O (Assumed)	6
METER BOX		PROBE LENGTH [ft]	XXXX
PITOT TUBE DESC		NOZZLE ID [inch]	XXXX
OPERATOR(S)	DJK	CALIBRATION FACTORS: delta H	Y
		Cip)	K

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP (Assumed)		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM O <sub>2</sub> [%]	DUCT TEMP [-uoF]
							inlet	outlet							
A-	0-10		301	0.3	5	742.85	60	58	124	551	146	8	6.3	13.9	
	10-20		302		5	743.97	62	59	122	544	147	8	6.3	13.9	
	20-30														
B-	20-30		304	0.3	5	746.18	64	61	124	551	146	8	6.4	13.8	
	30-40		306		5	747.22	64	61	123	557	147	8	6.4	13.8	
	40-50														
	50-60														
AVERAGE			305.3			4.37	6.1	6.1	123.3		146.5				

Pre-Leak Check:	Post-Leak Check:
PLUG-SO <sub>3</sub>	ALIQUOT / VOLUME
PROBE-SO <sub>3</sub>	TITRATION (ml)
CONDENSER-SO <sub>3</sub>	lb/dscf
BLANK	ppmv,act
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>	ppmv,cor

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

**CONSOL ENERGY**

O:\RD\AppRes\STACK\data\sheet\SO3SHEET 11/17/04

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT LOCATION	AES Greenidge	WATER BATH SETTING	140	Page	of
DUCT DIMENSIONS		PROBE HTR SETTING	530		
DUCT AREA		DUCT X-SECTION	circ ?	rect ?	other:
DATE	11/17/04	POSITION OF PORT A			
TIME	Start: 7:15 Stop: 7:43				
SAMPLE BOX					
METER BOX					
PITOT TUBE DESC					
OPERATOR(S)					

AMBIENT TEMP [-uo°F]	5.7	WATER BATH TEMP [-uo°F]	140
BAROMETRIC PRESSURE [in Hg]	29.32	PROBE HTR SETTING	530
%H <sub>2</sub> O (Assumed)	6	DUCT X-SECTION	circ ?
PROBE LENGTH [ft]	XXXX	POSITION OF PORT A	
NOZZLE ID [inch]	XXXX		
CALIBRATION FACTORS: delta H	Y		
	C(p)		
	K		

DRY MOLECULAR WEIGHT (Assumed)	
WET MOLECULAR WEIGHT (Assumed)	

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP. [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-uo°F]
D-50 3/8	0-10	-0.74	312			487.35	67	67	103	477	147	6.1			
	10-20	-0.65	312			486.43	67	69	149	477	6.2	6.5	13.6		
	20-30	-0.71	313			487.48	67	69	145	477	6.2	6.4	13.7		
	30-40	-0.65	313			485.26	67	69	146	477	6.5	6.3	13.6		
	40-50	-0.71	314			484.64	65	69	100	477	6.2	6.4	13.7		
	50-60														
AVERAGE			312.8			5.34	67.9		147.2		146.8		6.4		

Pre-Leak Check: \_\_\_\_\_ Post-Leak Check: \_\_\_\_\_

ALIQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv.act	ppmv.cor
PLUG-SO <sub>3</sub>				
PROBE-SO <sub>3</sub>				
CONDENSER-SO <sub>3</sub>				
BLANK				
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>				

Gas Vol, dscf: \_\_\_\_\_  
BaCl<sub>2</sub> NORMALITY: \_\_\_\_\_

Condenser Temp = 140°F  
Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min



O:\RdAppRes\STACK\data\sheet\SO3SHEET  
11/17/04



SO<sub>3</sub> FIELD SAMPLING DATA SHEET

*Reduced Cond Tent*

PLANT: AES Greentidge  
 LOCATION: Air Heater Outlet  
 DUCT DIMENSIONS: DUCT AREA: 140, 530  
 DATE: 11/18/04  
 TIME: 04:10 EST  
 SAMPLE BOX: Start-040 Stop-040  
 METER BOX: NuTech # N-4  
 PITOT TUBE DESC: -JEL/DJK  
 OPERATOR(S):

AMBIENT TEMP [-uo°F]: 50  
 BAROMETRIC PRESSURE [in Hg]: 30.10  
 %H<sub>2</sub>O (Assumed): 6  
 PROBE LENGTH [ft]: XXXX  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: 0.966  
 Y: C(p)  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 530  
 DUCT X-SECTION: circ?  
 POSITION OF PORT A: other:

Page \_\_\_\_\_ of \_\_\_\_\_

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	O <sub>2</sub> [%]	CONTROL ROOM DUCT TEMP [-uo°F]
								inlet	outlet							
A-	0-10		268	0.02	0.02	10	718.52	57	54	147	512	7	10.0	10.5		
	10-20		272	0.02	0.02	10	749.68	57	57	144	548	7	9.9			
	20-30															
B-	30-40		276	0.03	0.03	10	751.88	61	58	144	541	7	9.7	10.4		
	40-50		280	0.02	0.02	10	752.95	62	60	144	543	7	9.9			
	50-60															
AVERAGE			274	0.03	0.03		4.43	59	60	146.3				2.9		

Pre-Leak Check: \_\_\_\_\_

Post-Leak Check: \_\_\_\_\_

REMARKS:

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

PLUG-SO<sub>3</sub>  
 PROBE-SO<sub>3</sub>  
 CONDENSER-SO<sub>3</sub>  
 BLANK  
 IMPINGER (H<sub>2</sub>O)-SO<sub>2</sub>

ALIQUOT / VOLUME: \_\_\_\_\_ TITRATION (ml): \_\_\_\_\_ ppmv,act: \_\_\_\_\_ ppmv,cor: \_\_\_\_\_

Gas Vol. dscf: \_\_\_\_\_

BaCl<sub>2</sub> NORMALITY: \_\_\_\_\_

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

*Res Acedd Local Test*

PLANT AES Greenidge	WATER BATH SETTING 140	Page _____ of _____
LOCATION Air Heater Outlet	PROBE HTR SETTING 530	
DUCT AREA	DUCT X-SECTION circ? <input type="checkbox"/> rect? <input type="checkbox"/> other: _____	
DATE 11/18/04	POSITION OF PORT A	
TIME 08:47		
SAMPLE BOX Stop-Test		
METER BOX DC53C		
PITOT TUBE DESC N-4		
OPERATOR(S)		

AMBIENT TEMP [-10°F]	77.50
BAROMETRIC PRESSURE [in Hg]	30.5
%H <sub>2</sub> O (Assumed)	6
PROBE LENGTH [ft]	XXXX
NOZZLE ID [inch]	XXXX
CALIBRATION FACTORS: delta H	Y
C(p)	0.9164
K	XXXX

DRY MOLECULAR WEIGHT (Assumed)	
WET MOLECULAR WEIGHT (Assumed)	

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						C O <sub>2</sub> [%]	DUCT TEMP [-uo F]
A-	0 - 10		275	0.02	10	754.25	65	63	120	541	144	8	96.9	9.9	
	10 - 20		273	0.02	10	755.34	66	63	130	549	147	8	10.0	10.3	
	20 - 30														
B-	30 - 40		281	0.02	10	757.16	67	64	144	550	147	8	<del>10.0</del>	<del>11.0</del>	
	40 - 50		282	0.02	10	758.46	68	65	146	551	147	8	9.3	11.0	
	50 - 60														
AVERAGE			277.8	0.02		16.21	65.1	135			146.3		9.7		

Pre-Leak Check: \_\_\_\_\_

Post-Leak Check: \_\_\_\_\_

CONDENSER Temp = 140°F	ALLOQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv,act	ppmv,cor	Gas Vol, dscf
Sampling Rate=3 ipm=0.1 ft <sup>3</sup> /min	PLUG-SO <sub>3</sub>					
	PROBE-SO <sub>3</sub>					
	CONDENSER-SO <sub>3</sub>					BaCl <sub>2</sub> NORMALITY
	BLANK					
	IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>					





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: AES Greentidge  
 LOCATION: Air Heater Inlet  
 DUCT DIMENSIONS: 12" x 12"  
 DUCT AREA: 144 sq in  
 DATE: 11/11/10  
 TIME: 10:00  
 SAMPLE BOX: Stop-  
 METER BOX: NuTech #  
 PITOT TUBE DESC: 1/2"  
 OPERATOR(S):

AMBIENT TEMP [-uo°F]: 12.7  
 BAROMETRIC PRESSURE [in Hg]: 30.0  
 %H<sub>2</sub>O (Assumed): 6  
 PROBE LENGTH [ft]: 6  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: Y, C(p): 1.1, K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 530  
 DUCT X-SECTION: circ ?  
 POSITION OF PORT A: other:

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-uo°F]
A-	0 - 10				20	3.2	127.2	127.2	127.3	127.3	128.7	12.0	3.0		
	10 - 20				20	3.2	127.2	127.2	127.3	127.3	128.7	12.0	3.0		
	20 - 30				20	3.2	127.2	127.2	127.3	127.3	128.7	12.0	3.0		
B-	<del>30 - 40</del>														
	<del>40 - 50</del>														
	<del>50 - 60</del>														
AVERAGE			127.3		20	2.308	128.2	127.3	127.3	127.3	128.7		3.0		

Pre-Leak Check: \_\_\_\_\_

Post-Leak Check: \_\_\_\_\_

Gas Vol, dscf: \_\_\_\_\_  
 BaCl<sub>2</sub> NORMALITY: \_\_\_\_\_

ALIQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv.act	ppmv.cor
PLUG-SO <sub>3</sub>				
PROBE-SO <sub>3</sub>				
CONDENSER-SO <sub>3</sub>				
BLANK				
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>				

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT LOCATION	AES Greentidge	WATER BATH SETTING	140
DUCT DIMENSIONS	Air Heater Outlet	PROBE HTR SETTING	530
DUCT AREA		DUCT X-SETTING	circ ?
DATE	1/18/04	POSITION OF PORT A	
TIME	14:39	rect ?	
SAMPLE BOX	Stop-	other:	
METER BOX	N-4		
PITOT TUBE DESC			
OPERATOR(S)	DJK		

AMBIENT TEMP [-uo°F]	39.4C
BAROMETRIC PRESSURE [in Hg]	6
%H <sub>2</sub> O (Assumed)	
PROBE LENGTH [ft]	12
NOZZLE ID [inch]	XXXX
CALIBRATION FACTORS: delta H	XXXX
Y	0.916
C(p)	
K	

DRY MOLECULAR WEIGHT (Assumed)	
WET MOLECULAR WEIGHT (Assumed)	

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						CO <sub>2</sub>	DUCT TEMP [-uo°F]
A-	0 - 10		301	0.3	10	759.58	68	65	147	541	145	8	6.5	13.6	
	10 - 20		303	0.3	10	760.76	69	66	145	551	146	8	6.1	14.0	
	20 - 30														
B-	30 - 30		308	0.2	10	762.84	71	68	146	549	147	8	6.3	13.8	
	30 - 40		309	0.2	10	763.73	71	69	145	552	147	8	6.5	13.7	
	40 - 50														
	50 - 60														
AVERAGE			305.3	0.25		761.5	68.4	67.4	145.8		146.3		6.4		

Pre-Leak Check:	Post-Leak Check:
ALLOQUOT / VOLUME	TITRATION (ml)
PLUG--SO <sub>3</sub>	ppmv,act
PROBE--SO <sub>3</sub>	ppmv,cor
CONDENSER--SO <sub>3</sub>	lb/dscf
BLANK	Gas Vol, dscf
IMPINGER (H <sub>2</sub> O)--SO <sub>2</sub>	BaCl <sub>2</sub> NORMALITY

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min







# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Run 1

PLANT LOCATION GREENIDGE AIR HEATER OUTLET	WATER BATH SETTING H/C	PAGE 550	OF of
DUCT DIMENSIONS DUCT AREA	PROBE HTR SETTING DUCT X-SECTION	rect ?	other:
DATE TIME	POSITION OF PORT A		
SAMPLE BOX METER BOX	DRY MOLECULAR WEIGHT (Assumed) <span style="border: 1px solid black; padding: 2px;"> </span> WET MOLECULAR WEIGHT (Assumed) <span style="border: 1px solid black; padding: 2px;"> </span>		
PITOT TUBE DESC OPERATOR(S)	AMBIENT TEMP [-40 F] <span style="border: 1px solid black; padding: 2px;">30.06</span> BAROMETRIC PRESSURE [in Hg] (Assumed) <span style="border: 1px solid black; padding: 2px;">10</span> PROBE LENGTH [ft] <span style="border: 1px solid black; padding: 2px;">8</span> NOZZLE ID [inches] <span style="border: 1px solid black; padding: 2px;">XXXX</span> CALIBRATION FACTORS: delta H <span style="border: 1px solid black; padding: 2px;">XXXX</span> Y <span style="border: 1px solid black; padding: 2px;">-0.83</span> C(p) <span style="border: 1px solid black; padding: 2px;">K</span> K <span style="border: 1px solid black; padding: 2px;">XXXX</span>		

1.2

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [F]		CONDENSER TEMP [F]	PROBE TEMP [F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet					O <sub>2</sub> [%]	DUCT TEMP [F]
8'	0-10	-13.27	302	3.2PM	810.673	41	39	144	421	10	7.4%			
8'	10-20	-12.86	304	3.4PM	811.441	41	39	145	464	13	6.9			
8'	20-30	STOP CHANGE PLUG			812.703	43	31	139	442	14	7.3			
8'	30-40	-13.39	305	3.6PM	813.62	43	41	139	442	14	7.3			
8'	40-50	-13.16	305	3.8PM	814.442	44	41	140	479	18	7.1			
8'	50-60													
AVERAGE		-13.16	304		3.769	41.1		142				7.2		

Pre-Leak Check: **Good**

Post-Leak Check:

CONDENSER Temp = 140°F	ALLOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv.act	ppmv.cor	Gas Vol, dscf
Sampling Rate=3 lpm=0.1 ft <sup>3</sup> /min	PLUG-SO <sub>3</sub>					
	PROBE-SO <sub>3</sub>					
	CONDENSER-SO <sub>3</sub>					
	BLANK					
	IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>					





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

GREENIDGE  
 STACK T<sub>5</sub>+1  
 LOCATION  
 DUCT DIMENSIONS  
 DUCT AREA  
 DATE 7-26-17  
 TIME Start 10:55 Stop 11:23  
 SAMPLE BOX NuTech # N3  
 METER BOX  
 PITOT TUBE DESC  
 OPERATOR(S) K. CERAR & B. SLIFER R. Douglas

AMBIENT TEMP [°F] 40  
 BAROMETRIC PRESSURE [°Hg] 30.06  
 %H<sub>2</sub>O (Assumed) 10.1  
 PROBE LENGTH [ft] 8  
 NOZZLE ID [inch] XXXX  
 CALIBRATION FACTORS: delta H Y  
 C(p) K  
 K XXXX

WATER BATH SETTING 140  
 PROBE HTR SETTING 550  
 DUCT X-SECTION (circ?)  
 POSITION OF PORT A

DRY MOLECULAR WEIGHT (Assumed)  
 WET MOLECULAR WEIGHT (Assumed)

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [° H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]	CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [° Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM O <sub>2</sub> [%]	DUCT TEMP [°F]
8"	0-10	-5.03	187		187	434.246	54	143	529	9	9.6		
8"	10-20		186			435.22	54	154	551	11	9.5		
8"	20-30	-5.71	186			436.2157	55	157	560	11	9.6		
8"	30-40		186			437.2958	56	151	561	11	9.6		
8"	40-50		186			438.2658	57	149	562	11	9.8		
8"	50-60	-5.64	187			439.1559	57	153	561	11	9.6		
8"						440.1959							
AVERAGE		-0.542	186.3			5.944	56.6	151.2			9.6		

Pre-Leak Check: \_\_\_\_\_  
 Post-Leak Check: \_\_\_\_\_

ALICUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act	ppmv, cor
PLUG-SO <sub>2</sub>				
PROBE-SO <sub>2</sub>				
CONDENSER-SO <sub>2</sub>				
BLANK				
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>				

Gas Vol, dscf  
 BaCl<sub>2</sub> NORMALITY

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: GREENIDGE  
 LOCATION: AIR HEATER OUTLET - 725-7  
 DUCT DIMENSIONS: \_\_\_\_\_  
 DUCT AREA: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 TIME: \_\_\_\_\_  
 SAMPLE BOX: \_\_\_\_\_  
 METER BOX: \_\_\_\_\_  
 PITOT TUBE DESC: \_\_\_\_\_  
 OPERATOR(S): R. ODA & D. OLSEN

AMBIENT TEMP [-40°F]: \_\_\_\_\_  
 BAROMETRIC PRESSURE [in. Hg]: 30.03  
 %H<sub>2</sub>O (Assumed): \_\_\_\_\_  
 PROBE LENGTH [ft]: 8  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: XXXX  
 Y: \_\_\_\_\_  
 C(p): \_\_\_\_\_  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: \_\_\_\_\_  
 POSITION OF PORT A: \_\_\_\_\_  
 rect?  other: \_\_\_\_\_

DRY MOLECULAR WEIGHT (Assumed): \_\_\_\_\_  
 WET MOLECULAR WEIGHT (Assumed): \_\_\_\_\_

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in. H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in. H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in. Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM DUCT TEMP [°F]	
							inlet	outlet					O <sub>2</sub> [%]	DUCT TEMP [°F]
8'	0-10	-13.10	307		32PM	817.4	47	44	142	460	6	7.6		
8'	10-20		307		32PM	818.4	49	46	141	490	7	7.2		
8'	20-30		307		32PM	819.3	49	46	140	485	7	6.5		
8'	30-40	-13.9	305		32PM	820.2	50	47	139	478	13			
8'	40-50													
8'	50-60													
AVERAGE		-13.5	307.3			3.815	48.8	45.8	140.5	478.3		7.1		

Pre-Leak Check: Good  
 Post-Leak Check: \_\_\_\_\_

ALYQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act	ppmv, cor
PLUG-SO <sub>3</sub>				
PROBE-SO <sub>3</sub>				
CONDENSER-SO <sub>3</sub>				
BLANK				
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>				

Gas Vol, dscf: \_\_\_\_\_  
 BaCl<sub>2</sub> NORMALITY: \_\_\_\_\_

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: GREENIDGE  
 LOCATION: STACK - Test #2  
 DUCT DIMENSIONS: [ ]  
 DUCT AREA: [ ]  
 DATE: 3-29-07  
 TIME: Start-12:40 Stop-1:50  
 SAMPLE BOX: NuTech # N-3  
 METER BOX: K. CERAR & B. SLIFER  
 PITOT TUBE DESC: R. 1205/05  
 OPERATOR(S):

AMBIENT TEMP [-to F]: [ ]  
 BAROMETRIC PRESSURE [in Hg]: 30.03  
 %H<sub>2</sub>O (Assumed): 10%  
 PROBE LENGTH [ft]: 8  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: Y  
 C(p): K  
 K: XXXX

WATER BATH SETTING: 150  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: [ ]  
 POSITION OF PORT A: [ ]

DRY MOLECULAR WEIGHT (Assumed): [ ]  
 WET MOLECULAR WEIGHT (Assumed): 11.0

Page \_\_\_ of \_\_\_

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [F]		CONDENSER TEMP [F]	PROBE TEMP [F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet					O <sub>2</sub> [%]	DUCT TEMP [F]
						440.700								
8'	0-10		184		100/100	441.75	58	58	144	560	11	9.5		
8'	10-20		186			442.61	59	59	147	554	11	9.3		
8'	20-30		186			443.67	60	58	151	562	11	9.4		
8'	30-40		186			444.50	60	58	153	554	11	9.4		
8'	40-50		186			445.505	61	59	151	565	11	9.6		
8'	50-60													
AVERAGE			185.6			4.805	59.6	58.4	149.2	559.0		9.44		

Pre-Leak Check: [ ]  
 Post-Leak Check: [ ]

ALIQUOT / VOLUME: [ ]  
 TITRATION (ml): [ ]  
 ppmv,act: [ ]  
 ppmv,cor: [ ]

Gas Vol, dscf: [ ]  
 BaCl<sub>2</sub> NORMALITY: [ ]

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

C:\RdAppRes\STACK\data\sheet\SCSSHEET 03/20/07



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: GREENIDGE  
 LOCATION: AIR HEATER-OUTLET  
 DUCT DIMENSIONS: \_\_\_\_\_  
 DUCT AREA: \_\_\_\_\_  
 DATE: 3/29/07  
 TIME: Start-1515 Stop-  
 SAMPLE BOX: NuTech # 4  
 METER BOX: \_\_\_\_\_  
 PITOT TUBE DESC: \_\_\_\_\_  
 OPERATOR(S): R. ODA & D. OLSEN

AMBIENT TEMP [-10°F]: 29.97  
 BAROMETRIC PRESSURE [in Hg]: 30.06  
 %H<sub>2</sub>O (Assumed): 10  
 PROBE LENGTH [ft]: 8  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: XXXX  
 Y: \_\_\_\_\_  
 C(p): \_\_\_\_\_  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: (rect?)  
 POSITION OF PORT A: other:

DRY MOLECULAR WEIGHT (Assumed): \_\_\_\_\_  
 WET MOLECULAR WEIGHT (Assumed): \_\_\_\_\_

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTMETER SETTINGS	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM DUCT TEMP [°F]	
							inlet	outlet					O <sub>2</sub> [%]	DUCT TEMP [°F]
8"	0-10	-13.17	306		30PM	822.175	51	47	142	381	6	7.5		
8"	10-20	-13.25	305		30PM	824.08	51	49	139	428	7	6.7		
8"	20-30		307		30PM	824.93	52	49	140	430	8	7.6		
8"	30-40	-12.89	307		30PM	826.194	52	49	141	434	13	7.2		
8"	40-50													
8"	50-60													
AVERAGE	40	-13.10	306.2			4.019			140.5			7.25		

Pre-Leak Check: \_\_\_\_\_  
 Post-Leak Check: OK @ 10" H<sub>2</sub>O

ALYQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv_act	ppmv_cor	Gas Vol, dscf
PLUG-SO <sub>3</sub>					
PROBE-SO <sub>3</sub>					
CONDENSER-SO <sub>3</sub>					
BLANK					
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>					

BaCl<sub>2</sub> NORMALITY: \_\_\_\_\_

Condenser Temp = 140°F  
 Sampling Rate = 3.1pm = 0.1 ft<sup>3</sup>/min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT	GREENIDGE	AMBIENT TEMP [°F]	24.97	WATER BATH SETTING	160
LOCATION	STACK	BAROMETRIC PRESSURE [° Hg]	29.97	PROBE HTR SETTING	550
DUCT DIMENSIONS		%H <sub>2</sub> O (Assumed)	0.0	DUCT X-SECTION	(circ)
DUCT AREA		PROBE LENGTH [ft]	8	POSITION OF PORT A	rect ? other:
DATE		NOZZLE ID [inch]	XXXX		
TIME		CALIBRATION FACTORS: delta H	XXXX		
SAMPLE BOX	Start: 1517 Stop:	Y			
METER BOX	NuTech # N-3	C(p)			
PITOT TUBE DESC		K			
OPERATOR(S)	K. CERAR & B. SLIFER	(Assumed=)			

DRY MOLECULAR WEIGHT (Assumed) 10.5  
 WET MOLECULAR WEIGHT (Assumed)

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [° H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [° Hg]	O <sub>2</sub> METER [%]	O <sub>2</sub> CONTROL ROOM [%]
							inlet	outlet					
		3.17				446.304							
8"	0 - 10	-5.14	186			447.25	71	72	158	557	9	9.3	
8"	10 - 20		187			448.88	73	73	149	548	9	9.2	
8"	20 - 30	-5.76	188			449.12	74	74	151	575	9	9.2	
8"	30 - 40		186			450.10	75	75	157	560	9	9.2	
8"	40 - 50		188			451.10	76	76	157	558	9	9.2	
8"	50 - 60	-6.40	184			452.00	77	77	158	567	9	9.2	
AVERAGE	60	-5.65	187.5			5.816	74.4		154.7			9.22	

REMARKS	Pre-Leak Check: <input checked="" type="checkbox"/>	Post-Leak Check: <input checked="" type="checkbox"/>			
CONDENSER Temp = 140°F					
Sampling Rate=3 lpm=0.1 ft <sup>3</sup> /min					
PLUG-SO <sub>3</sub>	ALICUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act	ppmv, cor
PROBE-SO <sub>3</sub>					
CONDENSER-SO <sub>3</sub>					
BLANK					
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>					
					Gas Vol, dscf
					BaCl <sub>2</sub> NORMALITY

O:\RDAppRes\STACK\data\sheet65.C



RUN 1

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT	GREENIDGE	AMBIENT TEMP [-10°F]	98	WATER BATH SETTING	140	Page	of
LOCATION	SCR INLET	BAROMETRIC PRESSURE [in Hg]		PROBE HTR SETTING	550		
DUCT DIMENSIONS		%H <sub>2</sub> O (Assumed)		DUCT X-SECTION		rect ?	other:
DUCT AREA		PROBE LENGTH [ft]	8	POSITION OF PORT A			
DATE	3/30/07	NOZZLE ID [inch]	XXXX				
TIME	Start-1137 Stop- (2:17)	NOZZLE ID [inch]	XXXX				
SAMPLE BOX		CALIBRATION FACTORS: delta H	Y				
METER BOX		C(p)	K				
PITOT TUBE DESC							
OPERATOR(S)	B. GREEN & R. DOUGLAS						

DRY MOLECULAR WEIGHT (Assumed)  
WET MOLECULAR WEIGHT (Assumed)

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet					O <sub>2</sub> [%]	DUCT TEMP [°F]
8'	0 - 10		707			452.752	90	90	153	562	5			
8'	10 - 20		709			454.44	86	86	149	541	6	3.2		
8'	20 - 30		636			455.22	85	86	146	547	6			
8'	30 - 40		714			456.015	84	84	144	555	5	5.8		
8'	40 - 50													
8'	50 - 60													
AVERAGE						3.763	80.3		148			4.5		

Pre-Leak Check:  Post-Leak Check:

PLUG--SO <sub>3</sub>	ALIQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv.act	ppmv.cor
PROBE--SO <sub>3</sub>					
CONDENSER--SO <sub>3</sub>					
BLANK					
IMPINGER (H <sub>2</sub> O <sub>2</sub> )--SO <sub>2</sub>					

Condenser Temp = 140°F  
Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





# Run One SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT	AMBIENT TEMP [-10°F]	WATER BATH SETTING	Page <u>140</u> of <u>    </u>
LOCATION	BAROMETRIC PRESSURE [in Hg]	PROBE HTR SETTING	
DUCT DIMENSIONS	%H <sub>2</sub> O (Assumed)	DUCT X-SECTION	circ? <u>550</u>
DUCT AREA	PROBE LENGTH [ft]	POSITION OF PORT A	rect? <u>    </u> other: <u>    </u>
DATE	NOZZLE ID [inch]		
TIME	NOZZLE ID [inch]		
SAMPLE BOX	CALIBRATION FACTORS: delta H		
METER BOX	Y		
PITOT TUBE DESC	C(p)		
OPERATOR(S)	K		

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet					O <sub>2</sub> [%]	DUCT TEMP [°F]
8'	0 - 10		667		3CPM	680.784	80	79	146	607	4			
8'	10 - 20		678		3CPM		80	78	147	608	4	3.8		
8'	20 - 30		677		3CPM		78	73	146	672	3			
8'	30 - 40		670		3CPM		76	71	140	664	4	6.8 - soot blow		
8'	40 - 50													
8'	50 - 60													
AVERAGE			673			4.167	76.8		144.8			5.3		

Pre-Leak Check: Good      Post-Leak Check: Good

CONDENSER Temp = 140°F	ALIQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv.act	ppmv.cor
Sampling Rate=3 lpm=0.1 ft <sup>3</sup> /min					
	PLUG-SO <sub>3</sub>				
	PROBE-SO <sub>3</sub>				
	CONDENSER-SO <sub>3</sub>				
	BLANK				
	IMPINGER (H <sub>2</sub> O <sub>2</sub> )-SO <sub>2</sub>				

Super heater soot blow during last 10 min of test

O:\RUAppRes\STACK\data\sheet\SO3SHEET 03/20/07



Run 2

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

GREENIDGE	AMBIENT TEMP [-to°F]	WATER BATH SETTING	Page	of
SCR INLET	BAROMETRIC PRESSURE [in Hg]	PROBE HTR SETTING	140	
3-30-07	%H <sub>2</sub> O (Assumed)	DUCT X-SECTION	550	
Start-1333 Stop- 1414	PROBE LENGTH [ft]	POSITION OF PORT A	circ?	rect?
NuTech # N3	NOZZLE ID [inch]			
B. GREEN & R. DOUGLAS	CALIBRATION FACTORS: delta H			
	Y			
	C(p)			
	K			

DRY MOLECULAR WEIGHT (Assumed)  
WET MOLECULAR WEIGHT (Assumed)

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet					O <sub>2</sub> [%]	DUCT TEMP [°F]
8'	0 - 10		679			457.223	87	87	146	545	6			
8'	10 - 20		723			459.19	90	88	147	545	6	10.7		
8'	20 - 30		739			460.28	90	89	149	545	7			
8'	30 - 40		729			461.20	91	90	147	545	8			
8'	40 - 50													
8'	50 - 60													
AVERAGE			717.5			3.977	89.3		147.3			10.7		

Pre-Leak Check: ✓

Post-Leak Check: ✓

CONDENSER Temp = 140°F	ALIQUOT / VOLUME	TITRATION (ml)	ppmv.act	ppmv.cor	Gas Vol. dscf
Sampling Rate=3 lpm=0.1 ft <sup>3</sup> /min	PLUG-SO <sub>3</sub>				
	PROBE-SO <sub>3</sub>				
	CONDENSER-SO <sub>3</sub>				
	BLANK				
	IMPINGER (H <sub>2</sub> O) <sub>2</sub> -SO <sub>2</sub>				





Run 2

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

GREENIDGE  
SCR OUTLET

AMBIENT TEMP [-10°F] 140  
WATER BATH SETTING

BAROMETRIC PRESSURE [in Hg] 29.74  
PROBE HTR SETTING

%H<sub>2</sub>O (Assumed) 10  
DUCT X-SECTION

PROBE LENGTH [ft] 8  
POSITION OF PORT A

NOZZLE ID [inch] XXXX  
rect?  other:

CALIBRATION FACTORS: delta H XXXX  
Y 991  
C(p) XXXX  
K XXXX

DATE 3/30/07  
TIME Start-1333 Stop-1414

METER BOX NuTech # 5

PITOT TUBE DESC B. GREEN & R. DOUGLAS

OPERATOR(S)

PLANT LOCATION  
DUCT DIMENSIONS  
DUCT AREA  
DATE  
TIME  
SAMPLE BOX  
METER BOX  
PITOT TUBE DESC  
OPERATOR(S)

DRY MOLECULAR WEIGHT (Assumed)   
WET MOLECULAR WEIGHT (Assumed)

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [F]		CONDENSER TEMP [F]	PROBE TEMP [F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet					O <sub>2</sub> [%]	DUCT TEMP [F]
8'	0 - 10		646		32PM	688.559	81	85	138	542	4			
8'	10 - 20		661		32PM	690.6	83	86	142	639	5	7.8		
8'	20 - 30		668		32PM	691.59	83	85	146	663	5			
8'	30 - 40		664		32Pm	692.602	84	85	140	669	5			
8'	40 - 50													
8'	50 - 60													
AVERAGE			659.8			4.043	84		141.5			7.8		

Pre-Leak Check: Good      Post-Leak Check: Good

Condenser Temp = 140°F  
Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

PLUG-SO <sub>3</sub>	ALIQUOT / VOLUME	TITRATION (ml)	IB/dscf	ppmv.act	ppmv.cor
PROBE-SO <sub>3</sub>					
CONDENSER-SO <sub>3</sub>					
BLANK					
IMPINGER (H <sub>2</sub> O <sub>2</sub> )-SO <sub>2</sub>					

Gas Vol. dscf

BaCl<sub>2</sub> NORMALITY



Run 3

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT GREENIDGE  
 LOCATION SCR INLET  
 DUCT DIMENSIONS  
 DUCT AREA  
 DATE  
 TIME Start: 1552 Stop:  
 SAMPLE BOX NuTech # N-3  
 METER BOX  
 PITOT TUBE DESC  
 OPERATOR(S) B. GREEN & R. DOUGLAS

AMBIENT TEMP [-10°F] 74.7  
 BAROMETRIC PRESSURE [in Hg] 30.0  
 %H<sub>2</sub>O (Assumed)  
 PROBE LENGTH [ft] 8  
 NOZZLE ID [inch] XXXX  
 CALIBRATION FACTORS: delta H Y  
 C(p) K

WATER BATH SETTING 140  
 PROBE HTR SETTING 550  
 DUCT X-SECTION  
 POSITION OF PORT A

Page 140 of

DRY MOLECULAR WEIGHT (Assumed)  
 WET MOLECULAR WEIGHT (Assumed)

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet					O <sub>2</sub> [%]	DUCT TEMP [°F]
						462,580								
8'	0 - 10		670			463,503	92	92	138	546	8			
8'	10 - 20		729			464,34	92	92	140	561	8	11.1		
8'	20 - 30		728			465,22	92	92	137	549	8	11.3		
8'	30 - 40		729			466,100	92	92	136	551	8			
8'	40 - 50													
8'	50 - 60													
AVERAGE			714			3.52	92	92	137.75			11.2		

Pre-Leak Check: (92)

Post-Leak Check:

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

ALLOQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv.act	ppmv.cor
PLUG--SO <sub>3</sub>				
PROBE--SO <sub>3</sub>				
CONDENSER--SO <sub>3</sub>				
BLANK				
IMPINGER (H <sub>2</sub> O) <sub>2</sub> --SO <sub>2</sub>				

Gas Vol. dscf  
 BaCl<sub>2</sub> NORMALITY

Stopped at 12.8 min vol was 463.768





SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Run 3

PLANT	GREENRIDGE	AMBIENT TEMP [-to°F]		WATER BATH SETTING	140	Page	of
LOCATION	SCR OUTLET	BAROMETRIC PRESSURE [in Hg]	29.71	PROBE HTR SETTING	550		
DUCT DIMENSIONS		%H <sub>2</sub> O (Assumed)		DUCT X-SECTION		rect?	other:
DUCT AREA		PROBE LENGTH [ft]	8	POSITION OF PORT A			
DATE	3/30/07	NOZZLE ID [inch]	XXXX				
TIME	Start- 1552 Stop- 1632	CALIBRATION FACTORS: delta H	XXXX				
SAMPLE BOX		Y	991				
METER BOX	NuTech # 5	C(p)					
PITOT TUBE DESC	B. GREEN & R. DOUGLAS	K					
OPERATOR(S)							

DRY MOLECULAR WEIGHT (Assumed)  
WET MOLECULAR WEIGHT (Assumed)

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet					O <sub>2</sub> [%]	DUCT TEMP [°F]
8'	0 - 10		652		3 LPM	697.020	84	80	136	563	6	9.2		
8'	10 - 20		660		5 LPM	699.12	83	78	141	606	8			
8'	20 - 30		660			700.25	83	78	141	606	8	9.4		
8'	30 - 40		660			701.368	82	78	141	608	8			
8'	40 - 50													
8'	50 - 60													
AVERAGE			651.3			4,348	80.75		139.8			9.3		

Pre-Leak Check: \_\_\_\_\_  
Post-Leak Check: \_\_\_\_\_

CONDENSER Temp = 140°F	ALIQUOT / VOLUME	TITRATION (ml)	lb/dscft	ppmv.act	ppmv.cor	Gas Vol, dscft
Sampling Rate=3 lpm=0.1 ft <sup>3</sup> /min						
	PLUG--SO <sub>3</sub>					
	PROBE--SO <sub>3</sub>					
	CONDENSER--SO <sub>3</sub>					
	BLANK					
	IMPINGER (H <sub>2</sub> O <sub>2</sub> )--SO <sub>2</sub>					



# SO<sub>2</sub> FIELD SAMPLING DATA SHEET

Appendix H.4

Page 1 of 1

AMBIENT TEMP [°F] <u>48.4</u> BAROMETRIC PRESSURE [in Hg] <u>29.41</u> %H <sub>2</sub> O (Assumed) <u>8%</u> PROBE LENGTH [ft] <u>10</u> NOZZLE ID [inches] <u>XXXX</u> CALIBRATION FACTORS: delta H <u>1.883</u> C(p) <u>1.991</u> K <u>XXXX</u>	WATER BATH SETTING <u>150</u> PROBE HTR SETTING <u>550</u> DUCT X-SECTION <u>circ?</u> POSITION OF PORT A <u>rect?</u> other:
--	--

DRY MOLECULAR WEIGHT (Assumed)   
 WET MOLECULAR WEIGHT (Assumed)

GREENIDGE AIR HEATER OUTLET DUCT DIMENSIONS DUCT AREA DATE <u>5-2-07</u> TIME <u>Start 10:50 Stop 12:02</u> SAMPLE BOX METER BOX PITOT TUBE DESC OPERATOR(S) <u>RPD BPS</u>	(Assumed= ROTOMETER SETTING METER READING [ft <sup>3</sup> ] METER TEMP [°F] inlet outlet CONDENSER TEMP [°F] PROBE TEMP [°F] WATER BATH TEMP [°F] METER VACUUM [in Hg] O <sub>2</sub> METER [%] CONTROL ROOM DUCT TEMP [in Hg]
--	---

Run One

TRAVRSE POINT	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]	CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM DUCT TEMP [in Hg]
<u>A-1</u>	<u>0-10</u>					<u>867.67</u>		<u>140</u>	<u>550</u>	<u>NA</u>	<u>10</u>		
<u>A-2</u>	<u>10-20</u>					<u>869.05</u>		<u>145</u>	<u>552</u>		<u>13</u>	<u>12.7</u>	
<u>B-1</u>	<u>20-30</u>					<u>870.07</u>		<u>144</u>	<u>545</u>		<u>10</u>	<u>10.7</u>	
<u>B-2</u>	<u>30-40</u>					<u>871.10</u>		<u>144</u>	<u>551</u>		<u>10</u>	<u>10.3</u>	
<u>C-1</u>	<u>40-50</u>					<u>872.15</u>		<u>144</u>	<u>555</u>		<u>10</u>	<u>10.6</u>	
<u>C-2</u>	<u>50-60</u>					<u>873.15</u>		<u>143</u>	<u>543</u>		<u>11</u>	<u>10.5</u>	
<u>A port is on top bottom</u>													
Pre-Leak Check: <u>Good</u> Post-Leak Check: <u>Good</u>													
AVERAGE													

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

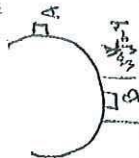
ALLOQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act	ppmv, cor
PLUG-SO <sub>2</sub>				
PROBE-SO <sub>2</sub>				
CONDENSER-SO <sub>2</sub>				
BLANK				
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>				

Gas Vol, dscf   
 SO<sub>2</sub> NORMALITY

CONSOL ENERGY

O:\PdAppReel\STACK\data\sheet\SO2SHEET 04/27/07





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Run One

Page 1 of 1

WATER BATH SETTING 140  
 PROBE HTR SETTING 550  
 DUCT X-SECTION Circ?  
 POSITION OF PORT A         

AMBIENT TEMP [°F] 60  
 BAROMETRIC PRESSURE [in Hg] 29.41  
 %H<sub>2</sub>O (Assumed) 8  
 PROBE LENGTH [ft] 8  
 NOZZLE ID [inch] XXXX  
 CALIBRATION FACTORS: delta H 1.874  
 Y 0.170  
 C(p)           
 K XXXX

GREENIDGE           
 STACK           
 DUCT DIMENSIONS           
 DUCT AREA           
 DATE 5/2/07  
 TIME Start-1044 Stop-1215  
 SAMPLE BOX           
 METER BOX           
 PITOT TUBE DESC           
 OPERATOR(S) BWG & KRC

DRY MOLECULAR WEIGHT (Assumed)           
 WET MOLECULAR WEIGHT (Assumed)         

*3 points per 2 spots. & minutes per point / 10 minute readings*  
15

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CO <sub>2</sub> [%]	REMARKS
							inlet	outlet							
BCHA-1	0-10	NA	171		143/min	512.849	63	60	143	544	NA	5			
1-2	10-20		172		"	514.02	63	61	140	508		4	7.3		
2/3	20-30		172		"	515.96	64	61	138	497		4	7.0		
3	30-40		172		"	517.05	64	62	140	495		4	7.3		
3/B-1	40-50		172		"	518.12	66	63	142	499		4	7.2		
B-1	50-60		172		"	519.14	65	63	139	503		4	7.2		
Z	60-70		172		"	520.32	65	63	139	504		4	7.2		
Z/B-3	70-80		173		"	521.42	66	64	140	495		4	7.2		
B-3	80-90		173		"	522.550	66	64	139	495		4	7.3		
AVERAGE	10-96		172.1			9.701	63.5		140.0				7.2		

Pre-Leak Check: Good

Post-Leak Check: Good

Gas Vol, dscf           
 BaCl<sub>2</sub> NORMALITY         

ALLOT / VOLUME	TITRATION [ml]	lb/dscf	ppmv/act	ppmv/cor
PLUG-SO <sub>3</sub>				
PROBE-SO <sub>3</sub>				
CONDENSER-SO <sub>3</sub>				
BLANK				
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>				

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min



CONSOL ENERGY

port change at 45 minutes

O:\RdAppRes\STACK\data\sheet\SO3\SHEET 04/27/07

Run 2

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT LOCATION: GREENIDGE  
 DUCT DIMENSIONS: AIR HEATER OUTLET  
 DUCT AREA: 5-2-07  
 DATE: Start 1 22 2007 Stop 14 26  
 TIME: NuTech # N-5  
 SAMPLE BOX: 11  
 METER BOX: 101  
 PITOT TUBE DESC: 503  
 OPERATOR(S): R. P. B. S.

AMBIENT TEMP [°F]: 55  
 WATER BATH SETTING: 140  
 BAROMETRIC PRESSURE [in Hg]: 29.47  
 PROBE HTR SETTING: 550  
 %H<sub>2</sub>O (Assumed): 8%  
 DUCT X-SECTION: circ?  
 PROBE LENGTH [in]: 8  
 rect?  
 NOZZLE ID [inches]: XXXX  
 POSITION OF PORT A: other:  
 CALIBRATION FACTORS: delta H: 1.525  
 Y: 1.041  
 C(p):  
 K: XXXX

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):  
 S Fe<sub>2</sub>O<sub>3</sub>  
 CO<sub>2</sub>

TRANSVERSE POINT [inches]	SAMPLE TIME [minutes]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						CO <sub>2</sub> [%]	DUCT TEMP [in H <sub>2</sub> O]
A1	0-10		301			874.330	65	67	144	549	NA	10	9.2		
A2	10-20		303			876.32	65	68	144	543		10	8.8	11.2	
B1	20-30		300			877.38	66	68	143	554		10	8.7	11.5	
B2	30-40		303			878.15	66	69	144	551		10	8.7	11.6	
C1	40-50		291			879.10	67	69	143	550		10	9.2	11.1	
C2	50-60		299			880.55	67	69	144	546		10	9.2	11.2	
AVERAGE			299.5			5.75	67.2		143.7				9.0	11.3	

Pre-Leak Check: Good  
 Post-Leak Check: Good

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

ALLOQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act	ppmv, cor
PLUG-SO <sub>3</sub>				
PROBE-SO <sub>3</sub>				
CONDENSER-SO <sub>3</sub>				
BLANK				
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>				

Gas Vol, dscf  
 BaCl<sub>2</sub> NORMALITY



O:\RdAppRes\STACK\datasheets\SO3SHEET 04/27/07



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Run Two

GREENIDGE  
 STACK  
 LOCATION  
 DUCT DIMENSIONS  
 DUCT AREA  
 DATE  
 TIME  
 SAMPLE BOX  
 METER BOX  
 PITOT TUBE DESC  
 OPERATOR(S)

AMBIENT TEMP [°F] 60  
 BAROMETRIC PRESSURE [° Hg] 29.47  
 %H<sub>2</sub>O (Assumed) 9  
 PROBE LENGTH [ft] 8  
 NOZZLE ID [inch] XXXX  
 CALIBRATION FACTORS: delta H Y 1.874  
 C(p) N/A  
 K XXXX

WATER BATH SETTING 140  
 PROBE HTR SETTING 550  
 DUCT X-SECTION (irc?)  
 POSITION OF PORT A

DRY MOLECULAR WEIGHT (Assumed)  
 WET MOLECULAR WEIGHT (Assumed)

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [° H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [° Hg]	O <sub>2</sub> METER [%]	DUCT TEMP [°-40°F]
							inlet	outlet						
B-1	0-10	NA	172		1.1 ft <sup>3</sup> /min	576.300	68	66	142	498	NA	4		
1/2	10-20		171		"	528.34	69	67	140	492		4	7.5	
2	20-30		172		"	529.33	71	69	140	510		4	7.2	13.0
3	30-40		172		"	530.36	73	71	141	532		4	7.0	13.2
3/A-1	40-50		173		"	531.52	76	73	139	513		4	6.9	13.3
A-1	50-60		172		"	532.36	78	75	143	501		4	7.0	13.2
2	60-70		172		"	533.34	78	75	145	515		4	7.1	13.1
2/3	70-80		172			534.33	78	76	138	523		4	7.2	13.0
3	80-90	↓	172			535.337	78	76	139	525		4	7.2	13.0
AVERAGE			172			9.037	73.7		140.8				7.1	13.1

Pre-Leak Check: Good

Post-Leak Check:

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

ALLOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act	ppmv, cor	Gas Vol, dscf
PLUG-SO <sub>3</sub>					
PROBE-SO <sub>3</sub>					
CONDENSER-SO <sub>3</sub>					
BLANK					
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>					

BaCl<sub>2</sub> NORMALITY



O:\RdAppReas\STACK\data\sheet\SO3SHEET 04/27/07

Run 3

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT LOCATION: GREENIDGE  
 DUCT DIMENSIONS: AIR HEATER OUTLET 140 of \_\_\_\_\_  
 DUCT AREA: 530  
 DATE: 5-7-01  
 TIME: Start 15:27 Stop 16:35  
 SAMPLE BOX: NuTech # N-5  
 METER BOX: 84 SO<sub>3</sub>  
 PITOT TUBE DESC: KTD BPS  
 OPERATOR(S):

AMBIENT TEMP [°F]: 61  
 BAROMETRIC PRESSURE [in Hg]: 29.87  
 %H<sub>2</sub>O (Assumed): 8  
 PROBE LENGTH [in]: 5  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: 1.041  
 Y: C(p): K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 530  
 DUCT X-SECTION: circ?  rect?  other:   
 POSITION OF PORT A:

DRY MOLECULAR WEIGHT (Assumed):  CO<sub>2</sub>  
 WET MOLECULAR WEIGHT (Assumed):

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [°F]
	0 - 10		301			881.550	66	66	154	354	NA	10	9.3	11.0	
	10 - 20		303			883.72	66	67	150	352		10	8.7	11.6	
	20 - 30		301			884.53	66	67	142	353		10	9.0	11.3	
	30 - 40		303			885.44	66	67	143	354		14	8.8	11.5	
	40 - 50		292			886.47	66	68	144	352		15	9.3	10.9	
	50 - 60		300			887.440	66	68	144	348		15	9.0	11.3	
AVERAGE			306			5.890			146.2				9.0	11.3	

Pre-Leak Check: Good

Post-Leak Check: Good

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

ALLOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act	ppmv, cor	Gas Vol, dscf
PLUG-SO <sub>2</sub>					
PROBE-SO <sub>2</sub>					
CONDENSER-SO <sub>2</sub>					
BLANK					
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>					

BaCl<sub>2</sub> NORMALITY:





# SO<sub>2</sub> FIELD SAMPLING DATA SHEET

Run 3

Page 1 of 1

WATER BATH SETTING 140  
 PROBE HTR SETTING 550  
 DUCT X-SECTION (circ?)  
 POSITION OF PORT A

AMBIENT TEMP [°F] 66  
 BAROMETRIC PRESSURE [in Hg] 29.47  
 %H<sub>2</sub>O (Assumed) 9  
 PROBE LENGTH [ft] XXXX  
 NOZZLE ID [inch] 1.674  
 CALIBRATION FACTORS: delta H 0.970  
 Y XXXX  
 C(p) XXXX  
 K XXXX

DRY MOLECULAR WEIGHT (Assumed)           
 WET MOLECULAR WEIGHT (Assumed)         

PLANT LOCATION           
 DUCT DIMENSIONS           
 DUCT AREA           
 DATE 5/2/07  
 TIME Start- 1517 Stop- 1645  
 SAMPLE BOX           
 METER BOX           
 PITOT TUBE DESC           
 OPERATOR(S) BWG-ERC

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F] (Assumed=)		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	GENERAL ROOM	
							inlet	outlet						CO <sub>2</sub> [%]	DUCT TEMP [in °F]
A-1	0-10		173		143/min	536.721	79	78	146	509	NA	5	7.5	12.7	
1/2	10-20		172		"	538.73	79	78	140	499		6	7.6	12.6	
2	20-30		172		"	539.75	78	78	139	492		6	7.5	12.7	
2/1	30-40		172		"	540.84	79	78	137	497		6	7.4	12.8	
3/1	40-50		172		"	541.99	78	78	143	498		6	7.4	12.8	
1/2	50-60		172		"	543.04	79	79	141	497		6	7.4	12.8	
2/2	60-70		172		"	544.03	79	79	141	497		6	7.4	12.8	
2/3	70-80		172		"	545.05	79	79	139	496		6	7.4	12.8	
3	80-90		172		"	546.106	80	79	138	494		6	7.4	12.8	
AVERAGE			172			9.385		78.7	140.4				7.4	12.8	

Pre-Leak Check: Good

Post-Leak Check: Good

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

PLUG-SO <sub>2</sub>	ALIQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv.act	ppmv.cor
PROBE-SO <sub>2</sub>					
CONDENSER-SO <sub>2</sub>					
BLANK					
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>					



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

TEST 1

PLANT	GREFIDIDGE	AMBIENT TEMP [-uo°F]	140	Page	of
LOCATION	SCRIBOLET	BAROMETRIC PRESSURE [in Hg]	29.57	WATER BATH SETTING	140
DUCT DIMENSIONS		%H <sub>2</sub> O (Assumed)		PROBE HTR SETTING	550
DUCT AREA		PROBE LENGTH [ft]	12	DUCT X-SECTION	
DATE	10-4-07	NOZZLE ID [inch]	XXXX	POSITION OF PORT A	
TIME	Start-1530 Stop-1630	CALIBRATION FACTORS: delta H	Y		
SAMPLE BOX					
METER BOX					
PITOT TUBE DESC					
OPERATOR(S)	BS, OLS				

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-uo°F]
	0 - 10		136	1.04	90	250.80	88	86	140	530		10	4.3		
	10 - 20		136	1.04	80	252.60	88	86	140	530		15			
	20 - 30	STOP	136			253.40	88	86							
	30 - 40	35.72				253.74									
	40 - 50														
	50 - 60														
AVERAGE						2.94	88		140				4.3		
REMARKS	Pre-Leak Check: OK      Post-Leak Check:														

CONDENSER Temp = 140°F	ALLOQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act	ppmv, cor
Sampling Rate=3 lpm=0.1 ft <sup>3</sup> /min	PLUG-SO <sub>3</sub>				
	PROBE-SO <sub>3</sub>				
	CONDENSER-SO <sub>3</sub>				
	BLANK				
	IMPINGING (H <sub>2</sub> O <sub>2</sub> )-SO <sub>2</sub>				





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

TEST 1

PLANT LOCATION	WATER BATH SETTING	AMBIENT TEMP [-uo°F]	Page _____ of _____
DUCT DIMENSIONS	PROBE HTR SETTING	BAROMETRIC PRESSURE [in Hg]	
DUCT AREA	DUCT X-SECTION	%H <sub>2</sub> O (Assumed)	
DATE	POSITION OF PORT A	PROBE LENGTH [ft]	
TIME		NOZZLE ID [inch]	
SAMPLE BOX		CALIBRATION FACTORS: delta H	
METER BOX		Y	
PITOT TUBE DESC		C(p)	
OPERATOR(S)		K	

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft]	METER TEMP (Assumed)		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-uo°F]
	0-10		688			406.54	86	86	143	630					
	10-20		692			408.11	86	85	143	639					
	20-30		690			408.52	86	85	141	527	20	12.7	12.7		
	30-40		699			409.18	85	86	141	450	25	8.5			
	40-50		699			409.85	86	87	142	432					
	50-60		702			410.56	86	88	142	425					
AVERAGE			695			5.62	86.0		142				10.6		
REMARKS	Pre-Leak Check: OK														

Post-Leak Check:			
ALLOQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act
PLUG-SO <sub>3</sub>			ppmv, cor
PROBE-SO <sub>3</sub>			
CONDENSER-SO <sub>3</sub>			
BLANK			
IMPINGER (H <sub>2</sub> O) <sub>2</sub> -SO <sub>2</sub>			

Condenser Temp = 140°F  
Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min



O:\Rd\AppRes\STAC\K\datalshets\SO3SHEET 09/28/07

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: Test 1  
 LOCATION: AES Greendale  
 DUCT DIMENSIONS: As per Water Duct 1  
 DUCT AREA: \_\_\_\_\_  
 DATE: 10/4/07  
 TIME: Start-1520 Stop-  
 SAMPLE BOX: \_\_\_\_\_  
 METER BOX: \_\_\_\_\_  
 PITOT TUBE DESC: \_\_\_\_\_  
 OPERATOR(S): RJK / KZ

AMBIENT TEMP [-uo°F]: \_\_\_\_\_  
 BAROMETRIC PRESSURE [in Hg]: 29.57  
 %H<sub>2</sub>O (Assumed): \_\_\_\_\_  
 PROBE LENGTH [ft]: \_\_\_\_\_  
 NOZZLE ID [inch]: \_\_\_\_\_  
 CALIBRATION FACTORS: delta H: \_\_\_\_\_  
 Y: \_\_\_\_\_  
 C(p): \_\_\_\_\_  
 K: \_\_\_\_\_

WATER BATH SETTING: \_\_\_\_\_  
 PROBE HTR SETTING: \_\_\_\_\_  
 DUCT X-SECTION: \_\_\_\_\_  
 POSITION OF PORT A: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_  
 circ? \_\_\_\_\_ rect? \_\_\_\_\_ other: \_\_\_\_\_

DRY MOLECULAR WEIGHT (Assumed): \_\_\_\_\_  
 WET MOLECULAR WEIGHT (Assumed): \_\_\_\_\_

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM O <sub>2</sub> [%]	CONTROL ROOM DUCT TEMP [-uo°F]
							inlet	outlet							
	0 - 10	-	305	-	10	392.419	85	85	141	475	60	5.0			
	10 - 20	-	316	-	10	-	85	84	140	483	58	15.0			
	20 - 30	-	319	-	10	395.990	85	85	140	476	58	10.0			
	30 - 40	-	314	-	10	397.190	85	85	140	430	59	15.0			
	40 - 50	-	328	-	10	378.650	85	85	140	499	60	14.0			6.5
	50 - 60	-	317	-	10	400.210	85	85	140	496	60	14.0			
	-63														
AVERAGE			312.2			7.851	84.9	84.9	140.2						6.5

Pre-Leak Check: 0.000 / 5" H<sub>2</sub>O  
 Post-Leak Check: 0.000 / 15" H<sub>2</sub>O

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

ALIQVOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv,act	ppmv,cor
PLUG-SO <sub>3</sub>				
PROBE-SO <sub>3</sub>				
CONDENSER-SO <sub>3</sub>				
BLANK				
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>				

Gas Vol, dscf: \_\_\_\_\_  
 BaCl<sub>2</sub> NORMALITY: \_\_\_\_\_



O:\RdAppRes\STACK\data\sheet\SO3\SHEET 09/28/07



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: Test 1  
 LOCATION: AGS Groundwater  
 DUCT DIMENSIONS: Stack  
 DUCT AREA: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 TIME: \_\_\_\_\_  
 SAMPLE BOX: 16-407  
 METER BOX: Start-1571 Stop-1651  
 PITOT TUBE DESC: NA  
 OPERATOR(S): SM, HC

AMBIENT TEMP [-uo F]: \_\_\_\_\_  
 BAROMETRIC PRESSURE [in Hg]: 29.57  
 %H<sub>2</sub>O (Assumed): 15%  
 PROBE LENGTH [ft]: 81  
 NOZZLE ID [inches]: XXXX  
 CALIBRATION FACTORS: delta H: XXXX  
 Y: 1.024  
 C(p): NA  
 K: XXXX

WATER BATH SETTING: \_\_\_\_\_  
 PROBE HTR SETTING: \_\_\_\_\_  
 DUCT X-SECTION: \_\_\_\_\_  
 POSITION OF PORT A: \_\_\_\_\_

cirtc?  rect?  other: \_\_\_\_\_

DRY MOLECULAR WEIGHT (Assumed): \_\_\_\_\_  
 WET MOLECULAR WEIGHT (Assumed): \_\_\_\_\_

Page 1 of 1

TRAVERSE POINT [inches]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [uo F]
	0 - 10		179	NA	10	187.350	80	79	140	547	62	5	7.1		
	10 - 20		179			186.780	81	79	141	544	62	5	7.0		
	20 - 30		181			187.800	83	81	141	550	60	5	7.0		
	30 - 40		178			188.820	86	82	140	550	60	5	6.9		
	40 - 50		177			189.280	88	84	140	550	60	5	7.0		
	50 - 60		178			190.166	88	84	140	550	60	5	7.0		
AVERAGE			178.7			187.939	82.9		140.3				7.0		
REMARKS	Pre-Leak Check: 0.000 @ 60" Hg      Post-Leak Check: 200 @ 60" Hg														

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

ALIQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act	ppmv, cor	Gas Vol, dscf
PLUG--SO <sub>2</sub>					
PROBE--SO <sub>2</sub>					
CONDENSER--SO <sub>2</sub>					
BLANK					
IMPINGER (H <sub>2</sub> O) <sub>2</sub> -SO <sub>2</sub>					

BaCl<sub>2</sub> NORMALITY: \_\_\_\_\_



SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT LOCATION: **TEST 2**  
 DUCT DIMENSIONS: **YES GAGEBOARD**  
 DUCT AREA: **SCA INLET**  
 DATE: **10/5/07**  
 TIME: **Start-0845 Stop-0948**  
 SAMPLE BOX: **3**  
 METER BOX: **BS**  
 PITOT TUBE DESC: **3**  
 OPERATOR(S): **BS**

AMBIENT TEMP [-uo F]: **140**  
 BAROMETRIC PRESSURE [in Hg]: **30.50**  
 %H<sub>2</sub>O (Assumed): **12**  
 PROBE LENGTH [ft]: **12**  
 NOZZLE ID [inch]: **XXXX**  
 CALIBRATION FACTORS: delta H: **XXXX**  
 Y: **1.046**  
 C(p): **K**  
 K: **XXXX**

WATER BATH SETTING: **140**  
 PROBE HTR SETTING: **530**  
 DUCT X-SECTION: **rect ?**  
 POSITION OF PORT A: **other:**

Page **140** of **140**

DRY MOLECULAR WEIGHT (Assumed): **80**  
 WET MOLECULAR WEIGHT (Assumed): **18**

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [uo F]
	0 - 10		621	1.03	90	254.02	80	77	140	465		20	4.0		
	10 - 20		621	1.05	90	255.50	80	77	140	460		20	—		
	20 - 30		622	1.05	90	257.03	81	77	140	509		22	4.1		
	30 - 40		623	1.05	90	257.57	81	77	140	532		22	—		
	40 - 50		625	1.05	90	258.50	81	77	140	535		24	4.3		
	50 - 60		625	1.05	90	259.84	82	78	140	534		27	—		
AVERAGE			623	1.05		5.02	78.0		140				4.1		

Pre-Leak Check: **OK**      Post-Leak Check: **OK**

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

ALLOQUOT / VOLUME: **PLUG-SO<sub>3</sub>**  
 TITRATION (ml): **PROBE-SO<sub>3</sub>**  
 ppmv, act: **CONDENSER-SO<sub>3</sub>**  
 ppmv, cor: **BLANK**  
 lb/dscf: **IMPINGER (H<sub>2</sub>O<sub>2</sub>-SO<sub>2</sub>)**  
 Gas Vol, dscf: **BaCl<sub>2</sub> NORMALITY**





30-40 plug change mid

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

TEST 2

PLANT	GREENRIDGE	AMBIENT TEMP [-uo F]	140	WATER BATH SETTING	140	Page	of
LOCATION	SCR OUTLET	BAROMETRIC PRESSURE [in Hg]		PROBE HTR SETTING	550		
DUCT DIMENSIONS		%H <sub>2</sub> O (Assumed)		DUCT X-SECTION	circ?	rect?	other:
DUCT AREA		PROBE LENGTH [ft]	1.2	POSITION OF PORT A			
DATE	10/15/07	NOZZLE ID [inch]	XXXX				
TIME	Stop-	CALIBRATION FACTORS: delta H	XXXX				
SAMPLE BOX		Y	0.991				
METER BOX		C(p)					
PITOT TUBE DESC		K	XXXX				
OPERATOR(S)	BS, DL						

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM		
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-uo F]	
840	0-10	-	689	-	10	410.904	6	7	143	556	100	6.0			6.0	
Change plug	10-20	-	674	-	70	413.120	79	79	140	552		15.0				
	20-30	-	664	-	90	414.00	80	80	140	550		10.0				
Change plug	30-40	-	682	-	70	414.987	79	80	140	551		7.0			6.0	
	40-50	-	684	-	80	415.720	80	82	143	549		15.0				
850	50-60	-	685	-	10	418.886	80	83	140	546		20.0				
AVERAGE			679.7			6.082	79.9		141							6.0

Pre-Leak Check: 0.000 / 5" H<sub>2</sub>O

Post-Leak Check: 0.000 / 20" H<sub>2</sub>O

PLUG--SO <sub>3</sub>	ALIQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act	ppmv, cor
PROBE--SO <sub>3</sub>					
CONDENSER--SO <sub>3</sub>					
BLANK					
IMPINGER (H <sub>2</sub> O) <sub>2</sub> --SO <sub>2</sub>					

Gas Vol, dscf

BaCl<sub>2</sub> NORMALITY

Condenser Temp = 140°F  
Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: AHC-2      AMBIENT TEMP [-uo°F]:               WATER BATH SETTING:               Page          of         

LOCATION: AFS brendice      BAROMETRIC PRESSURE [in Hg]:               PROBE HTR SETTING:         

DUCT DIMENSIONS:               %H<sub>2</sub>O (Assumed):               DUCT X-SECTION:               rect?  other:         

DUCT AREA:               PROBE LENGTH [ft]:               DUCT X-SECTION:               circ?  other:         

DATE: 10/21/07      NOZZLE ID [inch]: XXXX      POSITION OF PORT A:         

TIME: Start: 840 Stop: 840      CALIBRATION FACTORS: delta H:               Y:               DRY MOLECULAR WEIGHT (Assumed):         

SAMPLE BOX:               K:               WET MOLECULAR WEIGHT (Assumed):         

METER BOX:               C(p):         

PITOT TUBE DESC:         

OPERATOR(S): NuTech # 12

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-uo°F]
	0-10	-	323	-	1 RTM	400.254	6	7	3	2	3	6			
	10-20	-	316	-		401.201	68		-141	416		6			
	20-30	-	310	-		403.000	70		-141	442		6			
	30-40	-	311	-		403.512	74		143	424		6			
	40-50	-	319	-		404.580	75		147	476		10			
	50-60	-	319	-		405.004	77		143	426		5			
	70	-		-		405.942	77		149	400		5			
						406.782									
AVERAGE			316.3			6.578	73.5		143.2						
REMARKS	Pre-Leak Check: <u>Good</u> Post-Leak Check: <u>Good</u>														

Condenser Temp = 140°F  
Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

PLUG-SO <sub>3</sub>	ALIQOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act	ppmv, cor	Gas Vol, dscf
PROBE-SO <sub>3</sub>						
CONDENSER-SO <sub>3</sub>						
BLANK						
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>						

BaCl<sub>2</sub> NORMALITY:         

402.379 Leak check @ 24.3 min  
402.700 Start @ 24.3 min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

**PLANT** TEST 3  
**LOCATION** GREFOLDGE  
**DUCT DIMENSIONS** SCRIBLET  
**DUCT AREA**  
**DATE** 10-5-07  
**TIME** Start 1120 Stop 1220  
**SAMPLE BOX**  
**METER BOX** NuTech # 3  
**PITOT TUBE DESC**  
**OPERATOR(S)** BS

**AMBIENT TEMP** [-uo F] 85  
**BAROMETRIC PRESSURE** [in Hg] 29.63  
**%H<sub>2</sub>O (Assumed)**  
**PROBE LENGTH** [ft] 12  
**NOZZLE ID** [inch] XXXX  
**CALIBRATION FACTORS:** delta H Y  
 C(p) K

**WATER BATH SETTING** 140  
**PROBE HTR SETTING** 550  
**DUCT X-SECTION**  
**POSITION OF PORT A**

**DRY MOLECULAR WEIGHT (Assumed)**  
**WET MOLECULAR WEIGHT (Assumed)**

Page \_\_\_ of \_\_\_

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-uo F]
	0 - 10		627	.03	70	259.88	83	81	140	501		15	4.7		
	10 - 20		630	.04	80	261.78	85	83	140	497		15			
	20 - 30		635	.04	90	262.82	86	83	140	492		22	4.5		
	30 - 40		636	.05	100	263.80	86	83	140	493		24			
	40 - 50		639	.05	100	264.88	86	84	140	490		26	4.5		
	50 - 60		640	.05	100	265.88	86	84	140	491		26			
AVERAGE			634.5	0.04		60.000	84.2		140				4.7		
REMARKS	Pre-Leak Check: OK Post-Leak Check: OK														

**Condenser Temp = 140°F**  
**Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min**

ALIQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act	ppmv, cor
PLUG-SO <sub>3</sub>				
PROBE-SO <sub>3</sub>				
CONDENSER-SO <sub>3</sub>				
BLANK				
IMPINGER (H <sub>2</sub> O) <sub>2</sub> -SO <sub>3</sub>				

**Gas Vol, discf**  
**BaCl<sub>2</sub> NORMALITY**

O:\RdAppRes\STACK\data\sheet\SO3\SHEET  
 09/28/07





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Test 3

PLANT LOCATION: AKS Greenridge  
 DUCT DIMENSIONS: SCR outlet  
 DUCT AREA: \_\_\_\_\_  
 DATE: 10/5/07  
 TIME: Start- 1120 Stop-  
 SAMPLE BOX: \_\_\_\_\_  
 METER BOX: \_\_\_\_\_  
 PITOT TUBE DESC: \_\_\_\_\_  
 OPERATOR(S): KJ Brunel Down

AMBIENT TEMP [-uo°F]: 35°  
 WATER BATH SETTING: \_\_\_\_\_  
 BAROMETRIC PRESSURE [" Hg]: 29.68  
 PROBE HTR SETTING: \_\_\_\_\_  
 %H<sub>2</sub>O (Assumed): \_\_\_\_\_  
 DUCT X-SECTION: \_\_\_\_\_  
 rect?  other: \_\_\_\_\_  
 POSITION OF PORT A: \_\_\_\_\_  
 cirt?

NOZZLE LENGTH [ft]: 3'  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: XXXX  
 Y: \_\_\_\_\_  
 C(p): \_\_\_\_\_  
 K: \_\_\_\_\_

DRY MOLECULAR WEIGHT (Assumed): \_\_\_\_\_  
 WET MOLECULAR WEIGHT (Assumed): \_\_\_\_\_

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [" H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [" H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [" Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-uo°F]
1120	0-10	658	658	-	60	417.02	86	143	143	547	198	15	11.7	4.8	
	10-20	-	658	-	80	418.210	89	143	143	546	-	200			
	20-30	-	658	-	80	419.240	90	143	143	549	-	200	5.0		
	30-40	-	661	-	80	421.38	91	142	142	544	-	20.0			
	40-50	-	661	-	80	422.18	91	141	141	540	-	140			
12:20	50-60	-	663	-	80	422.90	92	142	142	537	-	21			
AVERAGE			658			5088	87.6	142.3					4.8		

Pre-Leak Check: 0.000/15" H<sub>2</sub>  
 Post-Leak Check: OK

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

PLUG-SO <sub>3</sub>	ALIQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv.act	ppmv.cor
PROBE-SO <sub>3</sub>					
CONDENSER-SO <sub>3</sub>					
BLANK					
IMPINGER (H <sub>2</sub> O) <sub>2</sub> -SO <sub>2</sub>					

Gas Vol, dscf: \_\_\_\_\_  
 BaCl<sub>2</sub> NORMALITY: \_\_\_\_\_



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

TEST 4

PLANT	AMBIENT TEMP [-40°F]	WATER BATH SETTING	Page _____ of _____
LOCATION	BAROMETRIC PRESSURE [in Hg]	PROBE HTR SETTING	
DUCT DIMENSIONS	%H <sub>2</sub> O (Assumed)	DUCT X-SECTION	
DUCT AREA	PROBE LENGTH [ft]	rect? <input type="checkbox"/>	other: _____
DATE	NOZZLE ID [inches]	POSITION OF PORT A	
TIME	CALIBRATION FACTORS: delta H		
SAMPLE BOX	Y	DRY MOLECULAR WEIGHT (Assumed)	
METER BOX	K	WET MOLECULAR WEIGHT (Assumed)	
PITOT TUBE DESC			
OPERATOR(S)			

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-40°F]
	0 - 10		640	.04	70	265.956	87	84	140	485		15	6.0		
	10 - 20		634	.04	80	279.2	90	87	140	450		17	—		
	20 - 30		635	.04	90	268.80	91	88	140	501		20	5.0		
	30 - 40		636	.04	100	269.88	92	88	140	526		25	—		
	40 - 50		637	.04	100	270.92	92	85	140	529		26	5.8		
	50 - 60		636	.04	100	271.94	93	90	140	531		27	—		
AVERAGE			636.3	0.04		5.984	89.3		147				5.6		
REMARKS	Pre-Leak Check: OK														

Condenser Temp = 140°F	ALIQUOT / VOLUME	TITRATION (ml)	ppmv, cor
Sampling Rate=3 lpm=0.1 ft <sup>3</sup> /min			
PLUG--SO <sub>3</sub>			
PROBE--SO <sub>3</sub>			
CONDENSER--SO <sub>3</sub>			
BLANK			
IMPINGER (H <sub>2</sub> O) <sub>2</sub> --SO <sub>2</sub>			
Gas Vol, dscf			
BaCl <sub>2</sub> NORMALITY			



O:\RdAppRes\STACK\data\sheets\ISO3SHEET 09/28/07



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT <i>Test 4</i>	AMBIENT TEMP [-uo°F] <i>86</i>	WATER BATH SETTING <i>140</i>	Page _____ of _____
LOCATION <i>AES Greenidge</i>	BAROMETRIC PRESSURE [in Hg] <i>29.65</i>	PROBE HTR SETTING <i>550</i>	
DUCT DIMENSIONS	%H <sub>2</sub> O (Assumed)	DUCT X-SECTION rect? <input type="checkbox"/> other: _____	
DUCT AREA	PROBE LENGTH [ft] <i>8'</i>	POSITION OF PORT A	
DATE <i>10/5/07</i>	NOZZLE ID [inch] XXXX		
TIME <i>Start=145 Stop= 1505</i>	CALIBRATION FACTORS: delta H Y <i>191</i>		
SAMPLE BOX			
METER BOX			
PITOT TUBE DESC			
OPERATOR(S) <i>K. B. Rice, D. G. ...</i>			

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-uo°F]
<i>1405</i>	<i>0-10</i>	<i>-</i>	<i>666</i>	<i>-</i>	<i>90</i>	<i>423.20</i>	<i>88</i>	<i>90</i>	<i>142</i>	<i>540</i>		<i>6.0</i>	<i>5.0</i>		
	<i>10-20</i>	<i>-</i>	<i>668</i>	<i>-</i>	<i>90</i>	<i>425.40</i>	<i>89</i>	<i>92</i>	<i>142</i>	<i>551</i>		<i>6.0</i>			
	<i>20-30</i>	<i>-</i>	<i>670</i>	<i>-</i>	<i>90</i>	<i>426.90</i>	<i>90</i>	<i>94</i>	<i>143</i>	<i>557</i>		<i>6.0</i>			
	<i>30-40</i>	<i>-</i>	<i>672</i>	<i>-</i>	<i>90</i>	<i>427.96</i>	<i>91</i>	<i>95</i>	<i>141</i>	<i>548</i>		<i>6.0</i>	<i>5.0</i>		
	<i>40-50</i>	<i>-</i>	<i>672</i>	<i>-</i>	<i>90</i>	<i>428.84</i>	<i>92</i>	<i>96</i>	<i>141</i>	<i>544</i>		<i>6.0</i>			
	<i>50-60</i>	<i>-</i>	<i>672</i>	<i>-</i>	<i>90</i>	<i>429.77</i>	<i>92</i>	<i>96</i>	<i>142</i>	<i>548</i>		<i>6.0</i>	<i>9.0</i>		
AVERAGE			<i>670</i>			<i>6.570</i>	<i>92.1</i>		<i>141.3</i>				<i>6.3</i>		
REMARKS	Pre-Leak Check: <i>OK</i> Post-Leak Check: <i>OK</i>														

CONDENSER Temp = 140°F	Gas Vol, dsfc
Sampling Rate=3 lpm=0.1 ft <sup>3</sup> /min	BaCl <sub>2</sub> NORMALITY
ALIQVOT / VOLUME	ppmv, act
TITRATION (ml)	lb/dscf
PLUG-SO <sub>3</sub>	ppmv, cor
PROBE-SO <sub>3</sub>	
CONDENSER-SO <sub>3</sub>	
BLANK	
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>	



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

TEST 3

PLANT: GREYRIDGE LOCATION: A110-3 WATER BATH SETTING: 140 Page      of     

DUCT DIMENSIONS: 10-8-01 PROBE HTR SETTING: 550

DUCT AREA: Start-1533 Stop-1534 DUCT X-SECTION:      rect?  other:     

DATE:      TIME:      POSITION OF PORT A:     

SAMPLE BOX:      METER BOX:      NOZZLE ID [in]: XXXX

PITOT TUBE DESC:      OPERATOR(S):      CALIBRATION FACTORS: delta H: Y C(p):      K: XXXX

NUTECH # 1:      DRY MOLECULAR WEIGHT (Assumed):     

WET MOLECULAR WEIGHT (Assumed):     

TRAVRSE POINT [inch]	SAMPLE TIME [minutes]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [°F]
A-1	0-10		316	.05	20	736.15	87	86	142	470		8	1		
2	10-20	-14.6	322	.04	20	738.00	88	86	144	469		8	6.2		
3	20-30		316	.04	20	739.05	89	87	145	483		8	1		
B-1	30-40	-14.5	315	.04	20	735.57	89	87	144	480		12	6.8		
2	40-50		314	.04	20	740.52	89	87	145	480		15	1		
3	50-60	-14.4	316	.03	30	741.89	89	87	144	476		25	1		
AVERAGE		-14.5	316.5	0.04		5.74	87.6		144						6.5
REMARKS	Pre-Leak Check: <u>OK</u> Post-Leak Check: <u>OK</u>														

Condenser Temp = 140°F  
Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

ALIQOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv,act	ppmv,cor	Gas Vol, dscf
PLUG-SO <sub>3</sub>					
PROBE-SO <sub>3</sub>					
CONDENSER-SO <sub>3</sub>					
BLANK					
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>					

BaCl<sub>2</sub> NORMALITY:



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT <b>GREENIDGE</b>	AMBIENT TEMP [-uo F] <b>85</b>	WATER BATH SETTING <b>140</b>	Page <b>1</b> of <b>1</b>
LOCATION <b>Stack - 3</b>	BAROMETRIC PRESSURE [in Hg] <b>29.76</b>	PROBE HTR SETTING <b>550</b>	
DUCT DIMENSIONS	%H <sub>2</sub> O (Assumed) <b>0</b>	DUCT X-SECTION circ ? <input type="checkbox"/> rect ? <input type="checkbox"/> other: _____	
DUCT AREA	PROBE LENGTH [ft] <b>0</b>	POSITION OF PORT A	
DATE <b>10/18/07</b>	NOZZLE ID [inch] <b>XXXX</b>		
TIME <b>Start- 1530 Stop- 1630</b>	CALIBRATION FACTORS: delta H Y <b>1.0036</b>		
SAMPLE BOX	C(p) <b>K</b>		
METER BOX	K <b>XXXX</b>		
PITOT TUBE DESC <b>NA</b>			
OPERATOR(S) <b>BE &amp; KC</b>			

DRY MOLECULAR WEIGHT (Assumed) \_\_\_\_\_  
WET MOLECULAR WEIGHT (Assumed) \_\_\_\_\_

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-uo F]
A 1	0 - 10	-	176	-	1 RTM	197.511	86	85	139	547	-	10	7.4		
2	10 - 20	-	176	-		199.75	86	85	140	550	-	6			
2	20 - 30	-	175	-		200.51	86	86	141	550	-	6			
3	30 - 40	-	175	-		201.53	86	86	140	550	-	6			
3	40 - 50	-	175	-		202.68	86	86	141	551	-	7	7.2		
4	50 - 60	-	175	-	↓	203.733	87	87	140	549	-	7			
AVERAGE						6.222	86	86	140.2				7.3		
REMARKS	Pre-Leak Check: <b>Good</b> Post-Leak Check: <b>Good</b>														

CONDENSER Temp = 140°F	ALLOQUOT / VOLUME	TITRATION (ml)	ppmv, act	ppmv, cor
Sampling Rate=3 lpm=0.1 ft <sup>3</sup> /min	PLUG-SO <sub>3</sub>			
	PROBE-SO <sub>3</sub>			
	CONDENSER-SO <sub>3</sub>			
	BLANK			
	IMPINGER (H <sub>2</sub> O) <sub>2</sub> -SO <sub>2</sub>			
	Gas Vol, discf			
	BaCl <sub>2</sub> NORMALITY			



O:\PdAppRest\STACK\data\sheets\SO3\SSHEET 09/28/07

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

TEST 4

PLANT LOCATION: **GREENIDGE**  
 DUCT DIMENSIONS: **A140-4**  
 DUCT AREA: \_\_\_\_\_  
 DATE: **10-9-07**  
 TIME: **Start 10:40 Stop 11:50**  
 SAMPLE BOX: \_\_\_\_\_  
 METER BOX: \_\_\_\_\_  
 PITOT TUBE DESC: \_\_\_\_\_  
 OPERATOR(S): **BS,RO**

AMBIENT TEMP [-10°F]: **57.1**  
 BAROMETRIC PRESSURE [in Hg]: **29.72**  
 %H<sub>2</sub>O (Assumed): \_\_\_\_\_  
 PROBE LENGTH [ft]: **12.1**  
 NOZZLE ID [inch]: **XXXX**  
 CALIBRATION FACTORS: delta H: **Y**  
 C(p): **0.970**  
 K: **XXXX**

WATER BATH SETTING: **140**  
 PROBE HTR SETTING: **550**  
 DUCT X-SECTION: \_\_\_\_\_  
 POSITION OF PORT A: \_\_\_\_\_

rect?  other: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

DRY MOLECULAR WEIGHT (Assumed): \_\_\_\_\_  
 WET MOLECULAR WEIGHT (Assumed): \_\_\_\_\_

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-uo°F]
A1	0-10		304	.03	15	744.00	71.70	144	483		5				
2	10-20	-15.7	313	.03	15	745.27	72.70	143	481		12	6.4			
3	20-30		309	.03	20	745.84	72.71	144	487		25				
B1	30-40		306	.03	15	746.90	74.72	144	489		15				
2	40-50	-15.3	306	.04	20	747.84	75.72	144	488		25				
3	50-60		308	.05	15	749.11	76.73	144	489		7	7.2			
AVERAGE		-15.5	307.7	.04		6.01	72.3	144							6.8
REMARKS	Pre-Leak Check: <b>OK</b> Post-Leak Check: <b>OK</b>														

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

ALLOQUOT / VOLUME: \_\_\_\_\_ TITRATION (ml): \_\_\_\_\_ ppmv, act: \_\_\_\_\_ ppmv, cor: \_\_\_\_\_

PLUG--SO<sub>3</sub>: \_\_\_\_\_  
 PROBE--SO<sub>3</sub>: \_\_\_\_\_  
 CONDENSER--SO<sub>3</sub>: \_\_\_\_\_  
 BLANK: \_\_\_\_\_  
 IMPINGER (H<sub>2</sub>O<sub>2</sub>)--SO<sub>2</sub>: \_\_\_\_\_

Gas Vol, dscf: \_\_\_\_\_  
 BaCl<sub>2</sub> NORMALITY: \_\_\_\_\_





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT LOCATION DUCT DIMENSIONS DUCT AREA DATE TIME SAMPLE BOX METER BOX PITOT TUBE DESC OPERATOR(S)	AMBIENT TEMP [-uo F] <u>69</u> BAROMETRIC PRESSURE [in Hg] <u>29.26</u> %H <sub>2</sub> O (Assumed) <u>8</u> PROBE LENGTH [ft] <u>8</u> NOZZLE ID [inches] <u>XXXX</u> CALIBRATION FACTORS: delta H <u>XXXX</u> Y <u>1.00%</u> C(p) <u>NA</u> K <u>XXXX</u>	WATER BATH SETTING <u>140</u> PROBE HTR SETTING <u>550</u> DUCT X-SECTION POSITION OF PORT A	Page <u>    </u> of <u>    </u> rect? <input type="checkbox"/> other: <input type="checkbox"/>
GREENIDGE STACK - 4 10/19/07 Start- 1040 Stop- 11:40 NuTech # CAE 204354 NA 130 + 12C	DRY MOLECULAR WEIGHT (Assumed) <input type="text"/> WET MOLECULAR WEIGHT (Assumed) <input type="text"/>	DUCT X-SECTION POSITION OF PORT A	rect? <input type="checkbox"/> other: <input type="checkbox"/>

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM		
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-uo F]	
D-1	0-10	-	178	.03	1RTM	203.773	68	68	140	552	same as Condenser	5	7.6			
2	10-20	-	177	.03		204.88	69	68	140	549		5				
2	20-30	-	176	.03		206.78	70	68	140	548		5	7.5			
3	30-40	-	176	.03		207.80	71	71	140	549		5				
3	40-50	-	177	.03		208.81	73	71	140	551		5	7.4			
4	50-60	-	177	.03	↓	209.84	74	74	140	551		5				
						209.899										
AVERAGE		-0.38	176.83	.03		6.166		70.42	140							7.5
REMARKS	Pre-Leak Check: Good      Post-Leak Check:															

Condenser Temp = 140°F	ALLOQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv.act	ppmv.cor
Sampling Rate=3 lpm=0.1 ft <sup>3</sup> /min	PLUG-SO <sub>3</sub>				
	PROBE-SO <sub>3</sub>				
	CONDENSER-SO <sub>3</sub>				
	BLANK				
	IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>				
	Gas Vol, dscf				
	BaCl <sub>2</sub> NORMALITY				

O:\RdA\ppRes\STACK\data\sheet\SO3SHEET 09/28/07



SO<sub>3</sub> FIELD SAMPLING DATA SHEET

TEST 5

PLANT LOCATION: GREENIDGE  
 DUCT DIMENSIONS: AHO  
 DUCT AREA: \_\_\_\_\_  
 DATE: 10-10-07  
 TIME: Start-1040 Stop-1148  
 SAMPLE BOX: \_\_\_\_\_  
 METER BOX: \_\_\_\_\_  
 PITOT TUBE DESC: \_\_\_\_\_  
 OPERATOR(S): B.S.P.

AMBIENT TEMP [-uo°F]: 63  
 BAROMETRIC PRESSURE [in Hg]: 29.12  
 %H<sub>2</sub>O (Assumed): \_\_\_\_\_  
 PROBE LENGTH [ft]: 12  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: 0.570  
 Y: \_\_\_\_\_  
 C(p): \_\_\_\_\_  
 K: \_\_\_\_\_

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: \_\_\_\_\_  
 POSITION OF PORT A: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

DRY MOLECULAR WEIGHT (Assumed): \_\_\_\_\_  
 WET MOLECULAR WEIGHT (Assumed): \_\_\_\_\_

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-uo°F]
A-1	0-10		300	.03	15	749.30	66	64	144	474		5	-		
2	10-20	-15.3	308	.04	15	750.24	67	65	144	475		17	7.0		
3	20-30		307	.03	25	751.25	70	67	144	483		25	-		
B-1	30-40		310	.03	15	752.04	71	68	144	487		7	-		
2	40-50	-15.2	308	.03	15	753.22	72	69	144	491		9	7.0		
3	50-60		310	.04	20	754.32	74	71	144	489		15	-		
AVERAGE		-15.25	307.17	.033		5.90		68.07	144				7.0		

Pre-Leak Check: OK      Post-Leak Check: OK

ALIQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv,act	ppmv,cor	Gas Vol, dscf
PLUG-SO <sub>2</sub>					
PROBE-SO <sub>2</sub>					
CONDENSER-SO <sub>2</sub>					
BLANK					
IMPINGER (H <sub>2</sub> O) <sub>2</sub> -SO <sub>2</sub>					

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

Consol Energy logo



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: Greenidge      WATER BATH SETTING: 140      Page      of       
 LOCATION: Stack - 5      PROBE HTR SETTING: 550  
 DUCT DIMENSIONS:      DUCT X-SECTION:      rect?  other:   
 DUCT AREA:      POSITION OF PORT A:      circ?

DATE: 10/10/07      AMBIENT TEMP [-10°F]:      METER VACUUM:      CONTROL ROOM:      DUCT TEMP:      O<sub>2</sub> METER:      O<sub>2</sub> [%]:      [ -10°F ]  
 TIME:      BAROMETRIC PRESSURE [in Hg]:      WET MOLECULAR WEIGHT (Assumed):      WET MOLECULAR WEIGHT (Assumed):  
 SAMPLE BOX:      %H<sub>2</sub>O (Assumed):      DRY MOLECULAR WEIGHT (Assumed):      DRY MOLECULAR WEIGHT (Assumed):  
 METER BOX:      PROBE LENGTH [ft]:      NOZZLE ID [inch]:      Y:      C(p):      K:      AM: 1.9442  
 PITOT TUBE DESC:      NOZZLE ID [inch]:      CALIBRATION FACTORS: delta H:      Y:      C(p):      K:      WET MOLECULAR WEIGHT (Assumed):  
 OPERATOR(S):      OPERATOR(S):      OPERATOR(S):      OPERATOR(S):      OPERATOR(S):      OPERATOR(S):      OPERATOR(S):      OPERATOR(S):      OPERATOR(S):      OPERATOR(S):

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-10°F]
	0-10	-	175	0.02	1RTM	209.940	65	64	140	548	-	5			
	10-20	-	175	0.02	1RTM	211.03	67	65	141	551	-	4	7.4		
	20-30	-	175	0.03	1RTM	213.17	69	67	140	550	-	5			
	30-40	-	176	0.03	1RTM	214.18	70	68	140	550	-	5	7.4		
	40-50	-	176	0.04	1RTM	215.13	71	70	140	550	-	5			
	50-60	-	177	0.03	1RTM	215.997	72	71	140	550	-	5	7.3		
AVERAGE			175.67	0.0283		6.057		68.25	140				7.37		

Pre-Leak Check: Good      Post-Leak Check: Good  
 Condenser Temp = 140°F      Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min  
 ALIQUOT / VOLUME:      TITRATION (ml):      lb/dscf:      ppmv.act:      ppmv.cor:  
 PLUG-SO<sub>3</sub>:      PROBE-SO<sub>3</sub>:      CONDENSER-SO<sub>3</sub>:      BLANK:      IMPINGER (H<sub>2</sub>O)-SO<sub>2</sub>:  
 Gas Vol, dscf:      BaCl<sub>2</sub> NORMALITY:



# SO<sub>2</sub> FIELD SAMPLING DATA SHEET

PLANT LOCATION: TEST 6      WATER BATH SETTING: 140 of \_\_\_\_\_  
 DUCT DIMENSIONS: GREENWIDGE      PROBE HTR SETTING: 550  
 DUCT AREA: AH0-6      DUCT X-SECTION: \_\_\_\_\_  
 DATE: 10-11-07      POSITION OF PORT A: \_\_\_\_\_  
 TIME: Start-1330 Stop-1335  
 SAMPLE BOX: \_\_\_\_\_  
 METER BOX: \_\_\_\_\_  
 PITOT TUBE DESC: \_\_\_\_\_  
 OPERATOR(S): BSRO

AMBIENT TEMP [-40°F]: 60      WET MOLECULAR WEIGHT (Assumed): \_\_\_\_\_  
 BAROMETRIC PRESSURE [in Hg]: 29.15      DRY MOLECULAR WEIGHT (Assumed): \_\_\_\_\_  
 %H<sub>2</sub>O (Assumed): \_\_\_\_\_      WET MOLECULAR WEIGHT (Assumed): \_\_\_\_\_  
 PROBE LENGTH [ft]: 12'  
 NOZZLE ID [inches]: XXXX  
 CALIBRATION FACTORS: delta H: XXXX  
 Y: 0.970  
 Cp: \_\_\_\_\_  
 K: XXXX

TRAVEL POINT [inches]	SAMPLE TIME [minutes]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP. [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-40°F]
A1	0-10		300	.03	15	755.40	60	58	143	475		5			
112	10-20	-15.3	305	.04	15	757.40	61	59	143	477		9	7.1		
113	20-30		308	.04	15	759.32	62	60	144	483		12			
B1	30-40		301	.04	15	759.41	63	60	144	486		5			
112	40-50	-15.0	302	.04	15	760.42	63	61	144	483		5	7.2		
113	50-60		303	.04	15	761.38	63	61	144	487		9			
AVERAGE			303.2	0.038		5.98	64.8	143.7					7.2		
REMARKS	Pre-Leak Check: <u>OK</u> Post-Leak Check: <u>OK</u>														

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

ALIQOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv.act	ppmv.cor
PLUG-SO <sub>2</sub>				
PROBE-SO <sub>2</sub>				
CONDENSER-SO <sub>2</sub>				
BLANK				
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>				

Gas Vol, dscf: \_\_\_\_\_  
 BaCl<sub>2</sub> NORMALITY: \_\_\_\_\_





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT Greenidge	AMBIENT TEMP [-40°F] 58	WATER BATH SETTING 1/40	Page _____ of _____
LOCATION 5th - 7c	BAROMETRIC PRESSURE [in Hg] 29.15	PROBE HTR SETTING 550	
DUCT DIMENSIONS	%H <sub>2</sub> O (Assumed)	DUCT X-SECTION circ ?	rect ?
DUCT AREA	PROBE LENGTH [ft] 6	POSITION OF PORT A	other:
DATE 10/11/07	NOZZLE ID [inch] XXXX		
TIME Start-12:30 Stop-	CALIBRATION FACTORS: delta H Y C(p) K		
SAMPLE BOX METER BOX PITOT TUBE DESC OPERATOR(S)	NetFeet-# CAC	DRY MOLECULAR WEIGHT (Assumed)	
	BG + KC	WET MOLECULAR WEIGHT (Assumed)	

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD ΔP [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [-40°F]
A-1	0-10	-38	182	0.04	RTM	216.002	57	57	140	548	140	5	7.3		
2	10-20		181	.03	RTM	218.02	58	58	140	551	140	4	7.2		
2	20-30		180	.02	RTM	219.05	59	58	139	549	139	4			
3	30-40	-42	181	.02	RTM	220.15	59	59	139	546	140	4	7.1		
3	40-50		181	.02	RTM	221.26	59	59	140	549	140	4			
4	50-60		181	.02	RTM	222.351	60	59	140	550	140	5	7.1		
AVERAGE		-40	181	.025		6.349			58.5	139.7					7.18

Post-Leak Check:

Pre-Leak Check:

ALIQUOT / VOLUME	TITRATION (ml)	ppmv,act	ppmv,cor
PLUG-SO <sub>2</sub>			
PROBE-SO <sub>2</sub>			
CONDENSER-SO <sub>2</sub>			
BLANK			
IMPINGER (H <sub>2</sub> O) <sub>2</sub> -SO <sub>2</sub>			

Condenser Temp = 140°F  
Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min



O:\RdA\ppRes\STACK\data\sheet\SO3SHEET  
09/28/07

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

TEST #1

PLANT: Greenidge  
 LOCATION: Air Heater Outlet  
 DUCT DIMENSIONS: 9' X 12'  
 DUCT AREA: 108 ft<sup>2</sup>  
 DATE: 11-13-07  
 TIME: Start-2330 Stop-0047  
 SAMPLE BOX: NuTech # 4  
 METER BOX: B.S.P.R.  
 PITOT TUBE DESC: (Assumed= )  
 OPERATOR(S):

AMBIENT TEMP [°F]: 45  
 WATER BATH SETTING: 140  
 BAROMETRIC PRESSURE [in Hg]: 29.3  
 PROBE HTR SETTING: 550  
 %H<sub>2</sub>O (Assumed):  
 DUCT X-SECTION: circ?  
 PROBE LENGTH [ft]: 12.1  
 POSITION OF PORT A: rect?  
 NOZZLE ID [in]: XXXX  
 DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

CALIBRATION FACTORS: delta H: Y 1.001  
 C(p): K XXXX

Page \_\_\_ of \_\_\_

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (DH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet					O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0 - 10			1.04	15	650.10	49	47	140	482		6	11.2	
	10 - 20			1.04	15	652.04	49	47	141	480		6	11.8	
	20 - 30			1.04	20	652.83	51	49	140	501		15	11.4	
	30 - 40		266	1.04	15	654.06	51	49	140	484		7	11.0	
	40 - 50		268	1.04	15	654.97	52	50	141	488		9	11.5	
	50 - 60		270	1.04	25	656.05	52	50	141	507		22	11.0	
AVERAGE														
REMARKS	Pre-Leak Check: OK Post-Leak Check: OK													

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





#1

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT Greenidge

LOCATION Stack

DUCT DIMENSIONS 13 ft

DUCT AREA 132.732 ft<sup>2</sup>

DATE 11-13-07

TIME Start-11:25 Stop-12:25

SAMPLE BOX NuTech # 2

METER BOX K.C.B.H.

PITOT TUBE DESC OPERATOR(S)

AMBIENT TEMP [°F] 38.8

BAROMETRIC PRESSURE [in Hg] 29.31

WATER BATH SETTING

PROBE HTR SETTING

DUCT X-SECTION

POSITION OF PORT A

WATER BATH TEMP [°F]

PROBE TEMP [°F]

CONDENSER TEMP [°F]

METER TEMP [°F]

METER VACUUM [in Hg]

Meter Outlet O<sub>2</sub> [%]

Meter Outlet CO<sub>2</sub> [%]

PROBE LENGTH [ft] XXXX

NOZZLE ID [inch] XXXX

CALIBRATION FACTORS: delta H Y

C(p) K

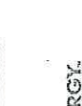
DRY MOLECULAR WEIGHT (Assumed)

WET MOLECULAR WEIGHT (Assumed)

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (DH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet					O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0 - 10		180	.1	20	529.901		49	247	300		10		
	10 - 20		170	.1	20	533.13		49	247	497		10	10.1	
	20 - 30		169	.1	20	534.75		49	248	490		10	9.9	
	30 - 40		169	.1	20	536.04		50	248	499		10		
	40 - 50		171	.1	20	538.00		50	246	499		10		
	50 - 60		171	.1	20	539.60		50	246	500		10	10.0	
AVERAGE			171.7	0.1	20	9.699		51		496		10	10.0	
REMARKS	Pre-Leak Check: OK < 0.01													
	Post-Leak Check: < 0.01													

Condenser Temp = 140°F

Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

 CONSOL ENERGY

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

TEST # 2

PLANT: Greentidge  
 LOCATION: Air Heater Outlet  
 DUCT DIMENSIONS: 9' x 12'  
 DUCT AREA: 108 ft<sup>2</sup>  
 DATE: 11-14-07  
 TIME: Start- 0135 Stop- 0240  
 SAMPLE BOX: NuTech # 4  
 METER BOX: B.S.P.R.  
 PITOT TUBE DESC: (Assumed= )  
 OPERATOR(S):

AMBIENT TEMP [°F]: 40  
 WATER BATH SETTING: 140  
 BAROMETRIC PRESSURE [in Hg]: 25.2  
 PROBE HTR SETTING: 550  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: 12  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: Y, C(p): 1.001, K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ?  rect?  other:  
 POSITION OF PORT A:

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (DH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet					O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10		266	0.04	15	656.30	48	47	171	485		4	10.6	
	10-20		268	0.04	15	658.20	50	48	171	485		13	10.8	
	20-30		270	0.04	15	655.25	51	48	171	504		15	11.0	
	30-40		265	0.04	15	660.22	52	50	170	485		6	10.4	
	40-50		274	0.04	15	661.27	54	51	171	482		9	11.0	
	50-60		271	0.04	15	662.20	56	52	170	507		20	11.1	
AVERAGE			269.7	0.04		5.90	50.6		170.7	492		11.2	10.8	
REMARKS	Pre-Leak Check: OK      Post-Leak Check: OK													

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

TEST #1

PLANT LOCATION	GREENIDGE STACK	AMBIENT TEMP [°F]	24.0	WATER BATH SETTING	140	Page	of
DUCT DIMENSIONS		BAROMETRIC PRESSURE [in Hg]	29.74	PROBE HTR SETTING	550	rect ?	
DUCT AREA		%H <sub>2</sub> O (Assumed)	9	DUCT X-SECTION		other:	
DATE	3-10-08	PROBE LENGTH [ft]	7	POSITION OF PORT A			
TIME	1440 Stop-1550	NOZZLE ID [inch]	XXXX				
SAMPLE BOX		CALIBRATION FACTORS: delta H	1.827				
METER BOX		Y	1.042				
PITOT TUBE DESC		C(p)	XXXX				
OPERATOR(S)	SS, AGD	K					

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP (Assumed)		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [uoF]
	0-10			.04	25	312.70	49	78	145	558	NA	2	7.8		
	10-20		173	.04	25	314.74	50	48	145	560		25			
	20-30		173	.04	25	315.70	51	49	145	560		3			
	30-40		174	.04	25	316.76	52	50	145	560		3	7.6		
	40-50		175	.04	25	317.71	53	51	145	561		4			
	50-60		175	.04	25	318.71	54	52	145	561		55	7.4		
	60-70														
	70-80														
	80-90														
AVERAGE			174.0	0.04		6.01	50.6		145	560.0		3.3	7.6		

Pre-Leak Check: OK      Post-Leak Check: OK

	ALIQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv,act	ppmv,cor	Gas Vol, dscf
PLUG--SO <sub>3</sub>						
PROBE--CO <sub>2</sub>						
CONDENSER--SO <sub>3</sub>						
BLANK						
IMPINGER (H <sub>2</sub> O) <sub>2</sub> -SO <sub>2</sub>						

Consenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

 **CONSOL ENERGY.**

C:\HRAppRes\STACK\data\sheet\SO3SHEET 03/05/08

#2

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT	Greentidge	AMBIENT TEMP [°F]	28	WATER BATH SETTING		Page	of
LOCATION	Stack	BAROMETRIC PRESSURE [° Hg]	27.89	PROBE HTR SETTING		rect ?	
DUCT DIMENSIONS	13 ft	%H <sub>2</sub> O (Assumed)		DUCT X-SECTION	circ ?	other:	
DUCT AREA	132.732 ft <sup>2</sup>	PROBE LENGTH [ft]		POSITION OF PORT A			
DATE	11-14-07	NOZZLE ID [inch]	XXXX				
TIME	Start- Stop-	CALIBRATION FACTORS: delta H	Y				
SAMPLE BOX		C(p)	K				
METER BOX							
PITOT TUBE DESC							
OPERATOR(S)	KC BH						

DRY MOLECULAR WEIGHT (Assumed)  
WET MOLECULAR WEIGHT (Assumed)

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (DH) [° H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [° Hg]	Meter Outlet	
							inlet	outlet					O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10	-.39	172	.1	20	539.80	52	50	140	499	1	7		10.2
	10-20		173	.1	16	542.9	50	50	140	496		7		
	20-30		176	.08	16	544.2	50	49	140	503		5		9.9
	30-40		176	.08	14	505.5	50	49	140	501		5		
	40-50		169	.08	14	546.7	51	50	140	504		5		10.0
	50-60		170	.08	14	547.886	51	50	140	507		5		
AVERAGE			172.7	0.086		8.086	50.3		140	501.7		5.7		10.0

Pre-Leak Check: \_\_\_\_\_  
Post-Leak Check: \_\_\_\_\_

Condenser Temp = 140°F  
Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





SO<sub>3</sub> FIELD SAMPLING DATA SHEET

TEST #3

Page 140 of       
 WATER BATH SETTING 140  
 PROBE HTR SETTING 550  
 DUCT X-SECTION       
 POSITION OF PORT A       
 other:     

AMBIENT TEMP [°F] ~44  
 BAROMETRIC PRESSURE [in Hg] 29.25  
 %H<sub>2</sub>O (Assumed)       
 PROBE LENGTH [ft] 127  
 NOZZLE ID [inch] XXXX  
 CALIBRATION FACTORS: delta H XXXX  
 Y 1001  
 C(p)       
 K     

DRY MOLECULAR WEIGHT (Assumed)       
 WET MOLECULAR WEIGHT (Assumed)     

PLANT Greentidge  
 LOCATION Air Heater Outlet  
 DUCT DIMENSIONS 9' x 12'  
 DUCT AREA 108 ft<sup>2</sup>  
 DATE 11-14-07  
 TIME Start-0405 Stop-0510  
 SAMPLE BOX       
 METER BOX       
 PITOT TUBE DESC       
 OPERATOR(S) BS, PR

WATER BATH TEMP [°F]       
 PROBE TEMP [°F]       
 CONDENSER TEMP [°F]       
 METER VACUUM [in Hg]       
 METER OUTLET O<sub>2</sub> [%]       
 METER OUTLET CO<sub>2</sub> [%]     

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (DH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet					O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0 - 10		279	1.04	90	663.50	55	51	140	484		12	10.5	
	10 - 20		281	1.04	90	665.48	57	54	139	484		16	11.0	
	20 - 30		279	1.04	90+	666.46	57	54	141	506		26	11.0	
	30 - 40		278	1.04	90	667.50	57	55	140	499		15	10.7	
	40 - 50		278	1.05	90	668.46	58	55	139	486		21	10.9	
	50 - 60		279	1.05	90+	669.51	58	55	139	505		26	11.0	
AVERAGE			279	1.043		6.01	55.5		139.7	494		19.3	10.9	

Pre-Leak Check: OK      Post-Leak Check: OK

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min



#3

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT	Greenidge	AMBIENT TEMP [°F]	33	WATER BATH SETTING		Page	of
LOCATION	Stack	BAROMETRIC PRESSURE [° Hg]	29.23	PROBE HTR SETTING		rect?	
DUCT DIMENSIONS	13 ft	%H <sub>2</sub> O (Assumed)		DUCT X-SECTION	circ?	other:	
DUCT AREA	132.732 ft <sup>2</sup>	PROBE LENGTH [ft]		POSITION OF PORT A			
DATE	11-14-07	NOZZLE ID [inch]	XXXX				
TIME	Start-4:05 Stop-	CALIBRATION FACTORS: delta H	Y				
SAMPLE BOX				DRY MOLECULAR WEIGHT (Assumed)			
METER BOX				WET MOLECULAR WEIGHT (Assumed)			
PITOT TUBE DESC							
OPERATOR(S)	KC BK						

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (DH) [° H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [° Hg]	Meter Outlet	
							inlet	outlet					O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10	169	169	.1	20	547.95	48	48	139	503		7	10.3	
	10-20	170	170	.1	20	550.92	48	48	138	499		7	11.1	
	20-30	170	170	.1	20	552.41	48	48	139	498		7	11.5	
	30-40	170	170	.1	20	554.00	48	48	139	501		7	11.5	
	40-50	170	170	.1	20	555.23	51	49	139	499		7		
	50-60	170	170	.1	20	556.60	52	50	138	499		7		
AVERAGE		0.42	169.5	0.1		8.65	49.3		138.7	499.8		7	11.1	
REMARKS	Pre-Leak Check: < 0.01 Post-Leak Check: < 0.01													

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: Greenidge      AMBIENT TEMP [°F]: 60.9      WATER BATH SETTING: 140      Page      of     

LOCATION: Air Heater Outlet      BAROMETRIC PRESSURE [in Hg]: 29.06      PROBE HTR SETTING: 550

DUCT DIMENSIONS: 9' x 12'      %H<sub>2</sub>O (Assumed):           DUCT X-SECTION: rect?      other:     

DUCT AREA: 108 ft<sup>2</sup>      PROBE LENGTH [ft]: 12'      POSITION OF PORT: A

DATE: 11-14-07      NOZZLE ID [inch]: XXXX

TIME: Start-2305 Stop-0010      CALIBRATION FACTORS: delta H: Y      DRY MOLECULAR WEIGHT (Assumed):     

SAMPLE BOX:           NOZZLE ID [inch]: XXXX      WET MOLECULAR WEIGHT (Assumed):     

METER BOX:           Y: 1.001      C(p):           K:     

PITOT TUBE DESC:     

OPERATOR(S): BS, PR

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (DH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet					O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0 - 10		289	.04	90	669.10	63	61	150	487		12	8.2	
	10 - 20		290	.04	90	670.57	63	61	140	485		19	8.4	
	20 - 30		297	.04	90+	672.59	63	61	142	512		26	9.0	
	30 - 40		302	.04	90	673.56	64	62	152	487		18	9.2	
	40 - 50		304	.04	90	674.59	65	63	140	488		21	9.6	
	50 - 60		307	.04	90+	675.61	65	63	141	517		26	9.9	
AVERAGE			298.2	0.04		6.01	62.8		144.2				9.1	
REMARKS	Pre-Leak Check: OK      Post-Leak Check: OK													

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min



# 11

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT Greenidge  
 LOCATION Stack  
 DUCT DIMENSIONS 13 ft  
 DUCT AREA 132.732 ft<sup>2</sup>  
 DATE 11-14-07  
 TIME 11:05 Stop- 12:05  
 SAMPLE BOX NuTech # 2  
 METER BOX BH, KC  
 PITOT TUBE DESC  
 OPERATOR(S)

AMBIENT TEMP [°F] 48  
 BAROMETRIC PRESSURE [in Hg] 29.06  
 %H<sub>2</sub>O (Assumed)  
 PROBE LENGTH [ft] XXXX  
 NOZZLE ID [inch] XXXX  
 CALIBRATION FACTORS: delta H Y  
 C(p) K  
 DRY MOLECULAR WEIGHT (Assumed)  
 WET MOLECULAR WEIGHT (Assumed)

WATER BATH SETTING 140 Page of  
 PROBE HTR SETTING 500  
 DUCT X-SECTION circ? rect?  
 POSITION OF PORT A

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (DH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet					O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10		170	.05	.180	557.01	58	57	138	499		4	7.7	12.6
	10-20		170	.06	.095	558.17	58	57	139	499		5	7.6	9.9
	20-30	38	171	.06	.10	560.48	58	57	138	498		5		
	30-40		171	.06	.10	561.59	59	57	138	498		5	7.7	12.6
	40-50		171	.06	.10	562.80	60	58	138	500		5		
	50-60		171	.06	.10	563.91	60	59	138	501		5	7.6	12.6
AVERAGE		0.38	170.7	0.058		6.90	58.2		138.2	499.2				7.65
REMARKS	Pre-Leak Check: OK Post-Leak Check: OK													

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min  
 CONSOL ENERGY



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

TEST # 5

PLANT Greentidge	WATER BATH SETTING 140	Page _____ of _____
LOCATION Air Heater Outlet	PROBE HTR SETTING 550	
DUCT DIMENSIONS 9' x 12'	DUCT X-SECTION circ?	
DUCT AREA 108 ft <sup>2</sup>	POSITION OF PORT A rect? <input type="checkbox"/> other: <input type="checkbox"/>	
DATE 11-15-07		
TIME Start-0105 Stop- 0210		
SAMPLE BOX METER BOX		
PITOT TUBE DESC OPERATOR(S) RS, PR		

AMBIENT TEMP [°F] ~56	WATER BATH TEMP [°F] 140
BAROMETRIC PRESSURE [in Hg] 29.0	PROBE TEMP [°F] 477
%H <sub>2</sub> O (Assumed)	CONDENSER TEMP [°F] 140
PROBE LENGTH [ft] 12.1	METER TEMP [°F] 59
NOZZLE ID [inch] XXXX	inlet outlet
CALIBRATION FACTORS: delta H Y C(p) K	

DRY MOLECULAR WEIGHT (Assumed) \_\_\_\_\_  
WET MOLECULAR WEIGHT (Assumed) \_\_\_\_\_

(3) (3)

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (DH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet					O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0 - 10		308	1.04	90	65.70	59	58	140	477	140	9	8.7	
	10 - 20		310	1.04	90	67.65	59	58	141	472	15	8.4		
	20 - 30		313	1.04	90	67.68	60	58	141	519	16	8.8		
	30 - 40		258	1.04	90	67.90	61	55	140	455	14	8.8		
	40 - 50		257	1.04	90	68.05	62	60	141	450	18	9.6		
	50 - 60		302	1.04	90	68.15	63	60	140	518	22	10.0		
AVERAGE			304.7	1.04		5.99	59.8		140.5				9.1	

Pre-Leak Check: O/K  
Post-Leak Check: O/K

Condenser Temp = 140°F  
Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT Greenidge	AMBIENT TEMP [°F] 48	WATER BATH SETTING Page _____ of _____	
LOCATION Stack	BAROMETRIC PRESSURE [° Hg] 29.86	PROBE HTR SETTING DUCT X-SECTION	rect? <input type="checkbox"/> other: _____
DUCT DIMENSIONS DUCT AREA	%H <sub>2</sub> O (Assumed)	PROBE LENGTH [ft]	XXXX
DATE 11-15-07	NOZZLE ID [inch]	NOZZLE ID [inch]	XXXX
TIME 1055 Stop	CALIBRATION FACTORS: delta H	Y	
SAMPLE BOX METER BOX	C(p)	K	
PITOT TUBE DESC OPERATOR(S)	NuTech # 2 BH, KC		

DRY MOLECULAR WEIGHT (Assumed) \_\_\_\_\_  
 WET MOLECULAR WEIGHT (Assumed) \_\_\_\_\_

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (DH) [° H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [° Hg]	Meter Outlet	
							inlet	outlet					O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0 - 10		171	.06	.10	565.30	57	57	138	502		5	8.0	12.2
	10 - 20		171	.06	.10	566.50	57	56	139	499		5		
	20 - 30		171	.06	.10	567.82	57	56	139	487		5		
	30 - 40		171	.06	.10	569.02	57	56	138	494		5	7.6	12.6
	40 - 50		170	.06	.10	570.28	58	56	138	493		4		
	50 - 60		170	.06	.10	571.18	59	57	138	498		4	7.5	12.7
AVERAGE			170.7	0.06		7.16	56.9		138.3	496.0				7.7
REMARKS	Pre-Leak Check: OK      Post-Leak Check: OK													

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





SO<sub>3</sub> FIELD SAMPLING DATA SHEET

TEST # 6

PLANT: Greentidge  
 LOCATION: Air Heater Outlet  
 DUCT DIMENSIONS: 9' X 12'  
 DUCT AREA: 108 ft<sup>2</sup>  
 DATE: 11-15-01  
 TIME: Start=0430 Stop= 0535  
 SAMPLE BOX: NuTech # 4  
 METER BOX: BS, PR  
 PITOT TUBE DESC: OPERATOR(S):

AMBIENT TEMP [°F]: 53.0  
 BAROMETRIC PRESSURE [in Hg]: 29.03  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: 12.1  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: XXXX  
 Y: 1.001  
 C(p):  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ ?  
 POSITION OF PORT A: rect ?

Page \_\_\_ of \_\_\_

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (DH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet					O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0 - 10		287	0.04	90	681.80	54	52	140	482		12	8.8	
	10 - 20		290	0.04	90	683.67	54	52	140	481		26	9.9	
	20 - 30		295	0.04	90	684.79	54	52	140	506		26	9.9	
	30 - 40		280	0.04	90	685.78	54	52	140	489		14	8.7	
	40 - 50		279	0.04	90	686.79	54	52	140	485		18	9.4	
	50 - 60		285	0.04	90	687.79	54	52	141	501		26	10.0	
AVERAGE			286	0.04		5.99	53.0		140.2	490.7				9.45

Pre-Leak Check: OK

Post-Leak Check:

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min



#6

### SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT LOCATION	Greenidge	AMBIENT TEMP [°F]	48	WATER BATH SETTING		Page	of
DUCT DIMENSIONS	Stack	BAROMETRIC PRESSURE [in Hg]	29.83	PROBE HTR SETTING		rect ?	
DUCT AREA	13 ft	%H <sub>2</sub> O (Assumed)		DUCT X-SECTION		other:	
DATE	132.732 ft <sup>2</sup>	PROBE LENGTH [ft]		POSITION OF PORT A			
TIME	11-15-07	NOZZLE ID [inch]	XXXX				
SAMPLE BOX	Start-2430	CALIBRATION FACTORS: delta H	XXXX				
METER BOX	Stop- 3:30	Y					
PITOT TUBE DESC	NuTech # 2	C(p)					
OPERATOR(S)	BH, KC	K					

DRY MOLECULAR WEIGHT (Assumed)  
WET MOLECULAR WEIGHT (Assumed)

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Offset (DH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet					O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0 - 10		184	.06	.10	571.40	50	50	138	500		4	8.3	11.9
	10 - 20		184	.06	.10	572.48	52	50	137	502		4	8.3	11.9
	20 - 30		183	.06	.10	574.58	50	49	139	500		4	8.3	11.9
	30 - 40		183	.06	.10	575.63	51	50	138	499		4	8.3	11.9
	40 - 50		185	.06	.10	576.65	53	49	138	498		4	8.3	11.9
	50 - 60		185	.06	.10	577.67	53	49	137	499		4	8.3	11.9
AVERAGE			184	0.06	0.10	6.27	50.5		137.8	499.7			8.3	

Pre-Leak Check: OK  
Post-Leak Check: OK

Condenser Temp = 140°F  
Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





# TEST # 7 SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT Greentidge	WATER BATH SETTING 140	PAGE _____ OF _____
LOCATION Air Heater Outlet	PROBE HTR SETTING 530	
DUCT DIMENSIONS 9' x 12'	DUCT X-SECTION rect ?	
DUCT AREA 108 ft <sup>2</sup>	POSITION OF PORT A	
DATE 11-16-07		
TIME Start-1218 Stop-1328		
SAMPLE BOX METER BOX		
PITOT TUBE DESC OPERATOR(S)		

AMBIENT TEMP [°F] 53.2	WATER BATH TEMP [°F] 140
BAROMETRIC PRESSURE [in Hg] 29.7	PROBE HTR SETTING 530
%H <sub>2</sub> O (Assumed)	DUCT X-SECTION rect ?
PROBE LENGTH [ft] 12.1	POSITION OF PORT A
NOZZLE ID [inch] XXXX	
CALIBRATION FACTORS: delta H Y	
C(p) K	
K XXXX	

DRY MOLECULAR WEIGHT (Assumed)	
WET MOLECULAR WEIGHT (Assumed)	

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (DH) [in H <sub>2</sub> O]	ROTMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet					O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0 - 10		312	0.04	90	6.8790			141	535		13	9.7	
	10 - 20		310	0.04	90	6.8883	39	38	141	488		18	8.7	
	20 - 30		302	0.04	90	6.9050	39	38	141	470		27	8.0	
	30 - 40		310	0.04	90	6.9187	40	38	141	530		16	9.0	
	40 - 50		308	0.04	90	6.9292	41	38	141	487		20	9.3	
	50 - 60		304	0.04	90	6.9390	41	39	140	465		26	8.8	
AVERAGE			307.7	0.04		6.900	38.9		140.8					8.8
REMARKS	Pre-Leak Check: O.K. Post-Leak Check: O.K.													

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min



**#17**

**SO<sub>3</sub> FIELD SAMPLING DATA SHEET**

PLANT LOCATION: Greenidge  
 DUCT DIMENSIONS: Stack 13 ft  
 DUCT AREA: 132.732 ft<sup>2</sup>  
 DATE: 11/16/07  
 TIME: Start-1215 Stop-  
 SAMPLE BOX: NuTech # 2  
 METER BOX: K.C. / BTH  
 PITOT TUBE DESC: OPERATOR(S)

AMBIENT TEMP [°F]: 33  
 BAROMETRIC PRESSURE [in Hg]: 30.31  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]:  
 NOZZLE ID [in]:  
 CALIBRATION FACTORS: delta H Y  
 C(p) K

WATER BATH SETTING: 32.5  
 PROBE HTR SETTING: circ?  
 DUCT X-SECTION: rect?  
 POSITION OF PORT A: other:  
 DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

Page 1 of 1

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (DH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet					O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0 - 10		170	.06	12	577.97	33	32	137	488		5	7.8	12.4
	10 - 20		171	.05	12	580.15	34	32	137	502		5	7.8	12.4
	20 - 30		170	.05	12	581.33	35	33	139	499		5	7.5	12.7
	30 - 40		171	.05	12	582.48	34	32	137	500		5	7.5	12.7
	40 - 50		170	.05	12	583.61	35	33	138	501		5		
	50 - 60		176	.05	12	584.74	35	33	138	502		5		
AVERAGE			170.3	0.052		6.87	33.4		136.8				7.7	12.5

REMARKS: Pre-Leak Check: Post-Leak Check:

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





# TEST # 8 SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: Greentidge  
 LOCATION: Air Heater Outlet  
 DUCT DIMENSIONS: 9' X 12'  
 DUCT AREA: 108 ft<sup>2</sup>  
 DATE: 11-16-07  
 TIME: Start: 14:27 Stop: 15:33  
 SAMPLE BOX: NuTech # 4  
 METER BOX: 05, PR  
 PITOT TUBE DESC:   
 OPERATOR(S):   
 WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ ?  
 POSITION OF PORT A:   
 rect ?  
 other:   
 Page \_\_\_ of \_\_\_

AMBIENT TEMP [°F]: 36  
 BAROMETRIC PRESSURE [in Hg]: 29.23  
 %H<sub>2</sub>O (Assumed):   
 PROBE LENGTH [ft]: 12  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: XXXX  
 Y: 100  
 C(p):   
 K:   
 DRY MOLECULAR WEIGHT (Assumed):   
 WET MOLECULAR WEIGHT (Assumed):

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (DH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]	CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet O <sub>2</sub> [%]	Meter Outlet CO <sub>2</sub> [%]
	0 - 10		314	0.04	90	654.00	41	140	547		13	10.8	
	10 - 20		310	0.04	90	656.01	41	140	488		18	9.7	
	20 - 30		307	0.04	90	656.50	41	140	463		26	8.6	
	30 - 40		310	0.04	90	658.02	41	140	516		14	10.7	
	40 - 50		310	0.04	90	659.01	42	141	475		24	10.0	
	50 - 60		308	0.04	90	700.00	42	141	461		26	7.8	
AVERAGE			309.6	0.04		6.00	40.3	140.3					9.6

Pre-Leak Check: OK  
 Post-Leak Check: OK

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: Greentidge  
 LOCATION: Stack  
 DUCT DIMENSIONS: 132.732 ft2  
 DUCT AREA: 111.1607  
 DATE: 11/16/07  
 TIME: 14:55  
 SAMPLE BOX: Stop-  
 METER BOX: 147  
 PITOT TUBE DESC: 1527  
 OPERATOR(S): BH, KC

AMBIENT TEMP [°F]: 51  
 BAROMETRIC PRESSURE [in Hg]: 29.21  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [in]:  
 NOZZLE ID [inch]:  
 CALIBRATION FACTORS: delta H  
 Y  
 C(p)  
 K

WATER BATH SETTING: \_\_\_\_\_ of \_\_\_\_\_  
 PROBE HTR SETTING: \_\_\_\_\_  
 DUCT X-SECTION: circ ?  
 POSITION OF PORT A: \_\_\_\_\_  
 DRY MOLECULAR WEIGHT (Assumed): \_\_\_\_\_  
 WET MOLECULAR WEIGHT (Assumed): \_\_\_\_\_

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (DH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet					O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0 - 10		171	.05	.10	584.779	35	33	140	486		4	7.6	12.6
	10 - 20		171	.05	.10	585.88	35	34	139	486		4		
	20 - 30		173	.05	.10	588.05	35	34	138	445		4	7.5	12.7
	30 - 40		172	.05	.10	589.13	35	34	138	501		4		
	40 - 50		171	.05	.10	590.21	34	35	138	502		4	7.6	12.6
	50 - 60		170	.05	.10	591.27	37	35	139	502		4		
AVERAGE			171.2	0.05		604.91	35.0	35.0	138.7				7.6	12.6

Pre-Leak Check: OK  
 Post-Leak Check:

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 1 of 2

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 500  
 DUCT X-SECTION: circ?  
 POSITION OF PORT A: rect? other: \_\_\_\_\_

AMBIENT TEMP [°F]: 70.0  
 BAROMETRIC PRESSURE [in Hg]: 29.74  
 %H<sub>2</sub>O (Assumed): 9  
 PROBE LENGTH [ft]: 12  
 NOZZLE ID [inches]: XXXX  
 CALIBRATION FACTORS: delta H: 0.985  
 Y: \_\_\_\_\_ C(p): \_\_\_\_\_ K: \_\_\_\_\_

WET MOLECULAR WEIGHT (Assumed): \_\_\_\_\_  
 DRY MOLECULAR WEIGHT (Assumed): \_\_\_\_\_

PLANT LOCATION: Row No. 1 Pot 1  
 DUCT DIMENSIONS: 142  
 DATE: 3/10/08  
 TIME: Start 1440 Stop 1515  
 SAMPLE BOX: NA  
 METER BOX: NA  
 PITOT TUBE DESC: P. Burg C. Bimealov  
 OPERATOR(S): 02-522

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	REF HEAD ΔH [in H <sub>2</sub> O]	ROTMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [uoF]
0						724.854	62	61	133	491	NA	9	12.3		
5	0-10		662	.01	40	725	62	61	133	481		9	10.5		
10	10-20		686	.01	54	725.49	63	62	137	469		7	12.5		
15	20-30		697	.02	58	725.85	62	62	136	489		15	12.8		
20	30-40		648	.02	58	726.28	62	62	136	497		20	12.5		
25	40-50		648	.02	60	726.59	63	62	136	497		20	12.5		
31	50-60		645	.02	65	726.921	Stop test	Remove plug, leak check	130	497		15	12.5		
AVERAGE	(Pot 1)		654.3	0.02		2.067	62.1		136.8	487.0		14.8	12.1		

Post-Leak Check:

Pre-Leak Check: O<sub>2</sub> 0.01  $\leq$  10"

Gas Vol, dscf: \_\_\_\_\_  
 BaCl<sub>2</sub> NORMALITY: \_\_\_\_\_

ALYQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act	ppmv, cor
PLUG-SO <sub>2</sub>				
PROBE-SO <sub>2</sub>				
CONDENSER-SO <sub>2</sub>				
BLANK				
IMPINGER (H <sub>2</sub> O) <sub>2</sub> -SO <sub>2</sub>				

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: Greenidge      AMBIENT TEMP [°F]:                 WATER BATH SETTING:                 Page 2 of 2  
 LOCATION: Ruik Ports 34      BAROMETRIC PRESSURE [in Hg]:                 PROBE HTR SETTING:             
 DUCT DIMENSIONS:                 %H<sub>2</sub>O (Assumed):                 DUCT X-SECTION:             
 DUCT AREA:                 PROBE LENGTH [ft]: 12'      POSITION OF PORT A:             
 DATE: 3/10/08      NOZZLE ID [inch]: XXXX      other:             
 TIME: Start- 1533 Stop- 1604      CALIBRATION FACTORS: delta H Y      DRY MOLECULAR WEIGHT (Assumed):             
 SAMPLE BOX:                 C(p)                 WET MOLECULAR WEIGHT (Assumed):             
 METER BOX:                 K             
 PITOT TUBE DESC:             
 OPERATOR(S): P. Buxa, K. Pimevce

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	4H HEAD [in H <sub>2</sub> O]	PILOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	O <sub>2</sub> [%]	CONTROL ROOM DUCT TEMP [°F]
								inlet	outlet							
31							727.233									
35	0-10		512	.02	.02	65	727.50	64	63	136	433	NA	16	11.7	9.0	
40	10-20		608	.02	.02	68	727.83	64	63	135	443		18	10.2	10.1	
45	20-30		610	.02	.02	70	728.3	65	64	136	449		15	10.4		
50	30-40		660	.03	.03	78	728.60	64	63	142	484		15			
55	40-50		699	.02	.02	70	728.98	65	63	140	510		20	17.0		
60	50-60		730	.03	.03	71.00	729.312	64	63	140	507		28	16.8		
Average (Re-td)			649.8	0.02	0.02		2079	63.8	63.8	138.8	470.8		18.7	13.2		
AVERAGE (combined)			652.1	0.02	0.02		4146	63.0	63.0	137.5	478.9		16.8	12.7		

Pre-Leak Check:                 Post-Leak Check: 15" +.001



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT	GREENIDGE	AMBIENT TEMP [°F]	89	WATER BATH SETTING		Page	of
LOCATION	AH1	BAROMETRIC PRESSURE [in. Hg]	29.74	PROBE HTR SETTING		circ ?	
DUCT DIMENSIONS		%H <sub>2</sub> O (Assumed)	9	DUCT X-SECTION		rect ?	
DUCT AREA		PROBE LENGTH [ft]	3	POSITION OF PORT A		other:	
DATE	3-10-08	NOZZLE ID [inch]	XXXX				
TIME	Start- 12:48 Stop- 1:53	CALIBRATION FACTORS: delta H	Y				
SAMPLE BOX		C(p)	K				
METER BOX							
PITOT TUBE DESC							
OPERATOR(S)	KRL						

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in. H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in. H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in. Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [—uoF]
	0 - 10		640	0.04	.65	123.12	90	89	147	537	NA	5	11.6		
	10 - 20		644	0.04	.60	124.95	90	89	146	545		5	11.2		
	20 - 30		645	0.04	.55	125.50	90	89	147	544		5	11.2		
	30 - 40		646	0.04	.65	126.27	93	91	147	557		5	6.0		
	40 - 50		648	0.04	.64	128.50	93	92	146	558		5	5.8		
	50 - 60		649	0.04	.63	129.46	93	92	147	545		5	5.8		
AVERAGE			647.0	0.04		6.335	90.9	90.9	146.7	547.7		5.3	5.1		

Pre-Leak Check:		TITRATION (ml)		ppmv.act	
ALIQUOT / VOLUME		lb/dscf		ppmv.cor	
PLUG-SO <sub>3</sub>					
PROBE-SO <sub>3</sub>					
CONDENSER-SO <sub>3</sub>					
BLANK					
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>					

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min  
 Gas Vol, dscf  
 BaCl<sub>2</sub> NORMALITY  
 O:\RdAppRes\STACK\data\sheet\SO3\SHEET 03/05/08







# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: GREENIDGE, Ossining, NY  
 LOCATION: Economizer Room 2-503  
 DUCT DIMENSIONS: 3/13/03  
 DUCT AREA: Staht-0100 Stop-10210  
 DATE: NuTech # NJ-2  
 TIME: PLS/KP  
 SAMPLE BOX: (blank)  
 METER BOX: (blank)  
 PITOT TUBE DESC: (blank)  
 OPERATOR(S): (blank)

AMBIENT TEMP [°F]: 260  
 BAROMETRIC PRESSURE [in Hg]: 29.38  
 %H<sub>2</sub>O (Assumed): g  
 PROBE LENGTH [ft]: 12  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: Y, C(p): NA, K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ? / other:  
 POSITION OF PORT A: (blank)

DRY MOLECULAR WEIGHT (Assumed): (blank)  
 WET MOLECULAR WEIGHT (Assumed): (blank)

Page 140 of 144  
 Elevator: (blank)

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STACK PRESSURE [in-Hg]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM O <sub>2</sub> [%]	CONTROL ROOM DUCT TEMP [uoF]
						inlet	outlet							
Pont #4	0510	-03	NA	65	996.360	55	53	139	414	NA	6	13.3	13.3	
0910	1020	-03		65	997.30	55	54	138	416		6	13.9		
0915	20580	-03		70	997.800	56	54	138	416		9	13.2		
Pont #3	30-40				Stop Test change parts, change of brass wear filler									
0921	4050	-03		80	997.800	56	54	135	404		9	10.9		
0926	5050	-03		80	998.26	56	54	133	378		11	11.2		
0931	25	-03		80	998.77	56	54	134	369		11	12.4		
0936	30	-03		80	999.330	56	54	137.2	369		11	12.4		
AVERAGE		0.03			6103	55.4						12.7		

Pre-Leak Check: @ 11" H<sub>2</sub>O = 0.000  
 Post-Leak Check: (blank)

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

ALIQUOT / VOLUME: (blank)  
 TITRATION (ml): (blank)  
 ppmv, act: (blank)  
 ppmv, cor: (blank)

Gas Vol, dsfc: (blank)  
 BaCl<sub>2</sub> NORMALITY: (blank)

\* Probe temperature questionable





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT LOCATION: AHI Test 2      GREENIDGE: 81      Page      of     

DUCT DIMENSIONS:           WATER BATH SETTING:     

DUCT AREA:           PROBE HTR SETTING:     

DATE: 3/13/08      DUCT X-SECTION:     

TIME: Start-5:03 Stop- 10:08      POSITION OF PORT A:     

SAMPLE BOX:           rect?  other:     

METER BOX:           circ?

PITOT TUBE DESC:     

OPERATOR(S): KC-PR

AMBIENT TEMP [°F]: 81      BAROMETRIC PRESSURE [in Hg]: 29.38      WET MOLECULAR WEIGHT (Assumed):     

%H<sub>2</sub>O (Assumed): 9      PROBE LENGTH [ft]:           DRY MOLECULAR WEIGHT (Assumed):     

NOZZLE ID [inch]: XXXX      NOZZLE ID [inch]: 1.817

CALIBRATION FACTORS: delta H: 0.926      Y:           C(p):           K:     

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC. PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [uo°F]
	0 - 10		636	.04	.80	129.648	88	87	147	552	NA	8	5.0		
	10 - 20		634	.04	.79	131.75	87	86	148	549		8	4.8		
	20 - 30		635	.04	.72	132.74	88	86	147	548		8	4.6		
	30 - 40		613	.04	.73	133.72	88	87	148	548		8	5.7		
	40 - 50		628	.04	.75	134.75	90	88	147	550		8	6.0		
	50 - 60		630	.04	.75	135.79	90	89	148	548		8	6.0		
AVERAGE			629.3	0.04		6.142	87.8		147.5				5.4		

Pre-Leak Check: LO.01 at 6      Post-Leak Check: LO.01 at 7

Condenser Temp = 140°F      Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

ALiquot / VOLUME	TITRATION (ml)	lb/dscf	ppmv,act	ppmv,cor	Gas Vol, dscf
PLUG-SO <sub>3</sub>					
PROBE-SO <sub>3</sub>					
CONDENSER-SO <sub>3</sub>					
BLANK					
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>					

BaCl<sub>2</sub> NORMALITY:     



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: Test 2 Page      of       
 LOCATION:       
 DUCT DIMENSIONS:       
 DUCT AREA:       
 DATE: 3/13/08  
 TIME: Start- 9:12 Stop- 10:17  
 SAMPLE BOX:       
 METER BOX: 5  
 PITOT TUBE DESC:       
 OPERATOR(S): RW D STL

AMBIENT TEMP [°F]: 29.30  
 BAROMETRIC PRESSURE [in Hg]: 30  
 %H<sub>2</sub>O (Assumed): 9  
 PROBE LENGTH [ft]: XXXX  
 NOZZLE ID [inch]:       
 CALIBRATION FACTORS: delta H      Y      C(p)      K     

WATER BATH SETTING:       
 PROBE HTR SETTING:       
 DUCT X-SECTION:       
 POSITION OF PORT A:     

DRY MOLECULAR WEIGHT (Assumed):       
 WET MOLECULAR WEIGHT (Assumed):     

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM O <sub>2</sub> [%]	DUCT TEMP [in H <sub>2</sub> O]
							inlet	outlet							
9:02	0-10		307		0.03	234.50	36	39	140	412	NA	1	9.0		
	10-20		308		0.035	236.36	36	39	140	419			9.0		
	20-30		296		0.035	237.24	37	39	140	425					
	30-40		308		0.03	238.11	38	41	139	423		6.5	10.0		
	40-50		312		0.03	239.17	39	40	139	428		7.0			
	50-60		314		0.03	240.01	39	40	139	430		7.0			
AVERAGE			307.8		0.03	5.41	38.6	140					9.3		

Pre-Leak Check: OK @ 6" Hg      Post-Leak Check: OK @ 7" Hg

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

ALIQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act	ppmv, cor	Gas Vol, dscf
PLUG-SO <sub>3</sub>					
PROBE-SO <sub>3</sub>					
CONDENSER-SO <sub>3</sub>					
BLANK					
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>					

BaCl<sub>2</sub> NORMALITY:



SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: GREENIDGE  
 LOCATION: STACK  
 DUCT DIMENSIONS: [blank]  
 DUCT AREA: [blank]  
 DATE: 2/13/03  
 TIME: Start-0501 Stop- 1006  
 SAMPLE BOX: NuTech # [blank]  
 METER BOX: [blank]  
 PITOT TUBE DESC: [blank]  
 OPERATOR(S): [blank]

AMBIENT TEMP [°F]: 45  
 BAROMETRIC PRESSURE [° Hg]: 29.38  
 %H<sub>2</sub>O (Assumed): 9  
 PROBE LENGTH [ft]: XXXX  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: Y, C(p): K

WATER BATH SETTING: 5-572  
 PROBE HTR SETTING: [blank]  
 DUCT X-SECTION: [blank]  
 POSITION OF PORT A: [blank]

Page 5 of 5

DRY MOLECULAR WEIGHT (Assumed): [blank]  
 WET MOLECULAR WEIGHT (Assumed): [blank]

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [° H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [° Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM O <sub>2</sub> [%]	DUCT TEMP [°-uo°F]
							inlet	outlet							
	0-10		153	0.04	25	378.80	47	46	153	561	NA	6.0			
	10-20		154	0.08	25	380.80	49	47	153	562		8.0	8.0		
	20-30	-1.69	154	0.04	25	381.80	50	47	153	561		8.0	8.0		
	30-40		155	0.04	25	382.80	51	48	153	562		8.0	7.8		
	40-50		160	0.03	25	383.81	51	49	154	562		8.0			
	50-60		157	0.03	25	384.80	52	49	154	562		8.3			
	60-70														
	70-80														
	80-90														
AVERAGE			154.8	0.04		6.00	488		153.3				7.9		

Pre-Leak Check: 0.12 @ 1"  
 Post-Leak Check: 0.12 @ 1"

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

ALIQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv.act	ppmv.cor
PLUG--SO <sub>3</sub>				
PROBE--SO <sub>3</sub>				
CONDENSER--SO <sub>3</sub>				
BLANK				
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>				

Gas Vol, dscf: [blank]  
 BaCl<sub>2</sub> NORMALITY: [blank]



# SO<sub>2</sub> FIELD SAMPLING DATA SHEET

PLANT: GREENIDGE Dresden, NY  
 LOCATION: Economizer Run 3-SO<sub>2</sub>  
 DUCT DIMENSIONS: [Blank]  
 DUCT AREA: [Blank]  
 DATE: 3/13/08  
 TIME: 11:50  
 SAMPLE BOX: Start-1150 Stop-1308  
 METER BOX: 1149  
 PITOT TUBE DESC: NA  
 OPERATOR(S): PCB/KP

AMBIENT TEMP [°F]: 60  
 BAROMETRIC PRESSURE [in Hg]: 29.89  
 ROTOMETER SETTING: 68  
 PITOT HEAD [in H<sub>2</sub>O]: NA  
 STACK TEMP [°F]: 639  
 START-PRESSURE [in H<sub>2</sub>O]: 0.3  
 SAMPLE TIME [minutes]: 5:10  
 ROTOMETER READING [ft<sup>3</sup>]: 3.234  
 METER TEMPERATURE [°F]: 56  
 METER VACUUM [in Hg]: 8  
 WATER BATH TEMP [°F]: NA  
 PROBE TEMP [°F]: 555  
 CONDENSER TEMP [°F]: 137  
 O<sub>2</sub> METER [%]: 8.1

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ?  
 POSITION OF PORT A: [Blank]

Page 1 of 2

DRY MOLECULAR WEIGHT (Assumed): [Blank]  
 WET MOLECULAR WEIGHT (Assumed): [Blank]

NOZZLE ID [inch]: 12  
 CALIBRATION FACTORS: delta H: 1.779  
 Y: 0.985  
 C(p): NA  
 K: XXXX

TRAVSE POINT [inch]	SAMPLE TIME [minutes]	START-PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER TEMPERATURE [°F]		METER READING [ft <sup>3</sup> ]	CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM O <sub>2</sub> [%]
						inlet	outlet							
Pit 1149	0	0.3	639	NA	68	3.234	56	55	137	555	NA	8	8.1	
1154	5:10	0.3	639		70	3.76	56	55	137	558		8	5.4	
1159	10:00	0.3	675		65	4.23	56	55	138	553		8	5.4	
1204	20:50	0.3	694		Stop test, change parts	4.7	56	55						
1206	30-40				4.7									
1211	40:00	0.3	609		74	5.20	57	56	136	502		9	10.3	
1216	25	0.2	625		70	5.67	58	56	136	426		10	12.6	
1221	30	0.2	625		70	6.16	58	56	136	410		10	13.7	
		0.03			Stop test, change parts									
		0.03			probe heat wires shorted, GFI trip, fix wires									
AVERAGE						6.66	57.2		137.1				9.7	

Pre-Leak Check: 10" H<sub>2</sub>O = 0.000  
 Post-Leak Check: [Blank]

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

PLUG-SO <sub>2</sub>	ALIQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv,act	ppmv,cor	Gas Vol, dscf
PROBE-SO <sub>2</sub>						
CONDENSER-SO <sub>2</sub>						
BLANK						
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>						

BaCl<sub>2</sub> NORMALITY: [Blank]





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

GREENIDGE Dundee, NY  
 Location RUN 3-SO<sub>3</sub>  
 DUCT DIMENSIONS  
 DUCT AREA  
 DATE 2/12/03  
 TIME Stop- 12:08  
 SAMPLE BOX  
 METER BOX  
 PITOT TUBE DESC  
 OPERATOR(S) PKP

AMBIENT TEMP [°F] 60  
 BAROMETRIC PRESSURE [in Hg] 30  
 %H<sub>2</sub>O (Assumed) g  
 PROBE LENGTH [ft] 12  
 NOZZLE ID [inch] XXXX  
 CALIBRATION FACTORS: delta H 1.779  
 Y 0.985  
 C(p)   
 K XXXX

WATER BATH SETTING 140  
 PROBE HTR SETTING 530  
 DUCT X-SECTION circ ?  
 POSITION OF PORT A   
 OTHER:

Page 2 of 2  
 DRY MOLECULAR WEIGHT (Assumed)   
 WET MOLECULAR WEIGHT (Assumed)

TRAVSE POINT	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [uo F]
<u>1253</u>	<u>30</u>	<u>.03</u>	<u>590</u>	<u></u>	<u>6.16</u>	<u>6.16</u>	<u>58</u>	<u>57</u>	<u>130</u>	<u>343</u>	<u>NA</u>	<u>6</u>	<u></u>	<u>9.6</u>	<u></u>
<u>1247</u>	<u>0350</u>	<u>.03</u>	<u>595</u>	<u></u>	<u>70</u>	<u>7.25</u>	<u>58</u>	<u>57</u>	<u>130</u>	<u>348</u>	<u></u>	<u>6</u>	<u></u>	<u>8.8</u>	<u></u>
<u>1252</u>	<u>2450</u>	<u>.03</u>	<u>604</u>	<u></u>	<u>70</u>	<u>7.76</u>	<u>58</u>	<u>57</u>	<u>135</u>	<u>383</u>	<u></u>	<u>6</u>	<u></u>	<u>8.8</u>	<u></u>
<u>1253</u>	<u>30-40</u>	<u></u>	<u></u>	<u></u>	<u>stop test, changing ports</u>	<u>7.76</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>
<u>1258</u>	<u>4500</u>	<u>.03</u>	<u>734</u>	<u></u>	<u>70</u>	<u>8.30</u>	<u>59</u>	<u>58</u>	<u>143</u>	<u>505</u>	<u></u>	<u>6</u>	<u></u>	<u>9.3</u>	<u></u>
<u>1:03</u>	<u>55</u>	<u>.03</u>	<u>749</u>	<u></u>	<u>76</u>	<u>8.87</u>	<u>60</u>	<u>58</u>	<u>144</u>	<u>567</u>	<u></u>	<u>7</u>	<u></u>	<u>10.2</u>	<u></u>
<u>1:08</u>	<u>60</u>	<u>.02</u>	<u>749</u>	<u></u>	<u>76</u>	<u>9.400</u>	<u>60</u>	<u>59</u>	<u>143</u>	<u>560</u>	<u></u>	<u>7</u>	<u></u>	<u>10.9</u>	<u></u>
					<u>stop test</u>										
					<u>Leak check from tip of probe head</u>										
					<u>Leak check from SO<sub>3</sub> condenser @ 12" = 0.000</u>										
AVERAGE															

Pre-Leak Check:				Post-Leak Check:			
ALYQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act	Gas Vol, dscf	BaCl <sub>2</sub> NORMALITY		
PLUG-SO <sub>3</sub>							
PROBE-SO <sub>3</sub>							
CONDENSER-SO <sub>3</sub>							
BLANK							
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>							

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min  
  
 O:\VRAppRes\STACK\data\sheet\SO3\SHEET 03/05/03

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT	GREENIDGE	AMBIENT TEMP [°F]	90	Page	_____ of _____
LOCATION	AHI TEST 3	BAROMETRIC PRESSURE [in Hg]	29.23	WATER BATH SETTING	
DUCT DIMENSIONS		%H <sub>2</sub> O (Assumed)		PROBE HTR SETTING	
DUCT AREA		PROBE LENGTH [ft]	XXXX	DUCT X-SECTION	
DATE	10-13-08	NOZZLE ID [inch]	1.817	POSITION OF PORT A	
TIME	Start-11:53 Stop-12:55	CALIBRATION FACTORS: delta H	Y		
SAMPLE BOX			0.9%		
METER BOX					
PITOT TUBE DESC					
OPERATOR(S)	KC. PR				

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [—uo°F]
	0 - 10		623	.04	.80	135.85	93	93	147	550	NA	8	6.1		
	10 - 20		635	.04	.75	138.06	95	94	147	549		8	6.0		
	20 - 30		632	.04	.73	139.05	96	95	147	551		8	6.2		
	30 - 40		637	.04	.75	140.87	96	95	147	552		8	5.5		
	40 - 50		643	.04	.75	141.02	97	96	148	548		8	5.1		
	50 - 60		644	.04	.78	142.10	98	96	148	548		8	4.9		
AVERAGE			637	0.04		6.75	95.5		147.3				5.6		
REMARKS	Pre-Leak Check: < 0.01 AT 7      Post-Leak Check: < 0.01 AT 7														

CONDENSER Temp = 140°F	Sampling Rate = 3 lpm = 0.1 ft <sup>3</sup> /min	ALLOQUOT / VOLUME	TITRATION (ml)	ppmv, act	ppmv, cor
		PLUG-SO <sub>3</sub>			
		PROBE-SO <sub>3</sub>			
		CONDENSER-SO <sub>3</sub>			
		BLANK			
		IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>			

BaCl <sub>2</sub> NORMALITY	
-----------------------------	--

O:\PdAppRes\STACK\data\sheet\ISO3\SHEET 03/05/08







# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: GREENIDGE  
 LOCATION: STACK 1-2+3  
 DUCT DIMENSIONS: 3/10/03  
 DUCT AREA: 1150  
 DATE: 12-50  
 TIME: 12:50  
 SAMPLE BOX: NuTech #1-5  
 METER BOX: 15/46  
 PITOT TUBE DESC: 15/46  
 OPERATOR(S): 15/46

AMBIENT TEMP [°F]: 35  
 BAROMETRIC PRESSURE [in Hg]: 29.29  
 WATER BATH SETTING: 35  
 PROBE HTR SETTING: 29.29  
 DUCT X-SECTION: rect?  circ?  other:   
 POSITION OF PORT A:  rect?  circ?  other:

PROBE LENGTH [ft]: XXXX  
 NOZZLE ID [inches]: 1.527  
 CALIBRATION FACTORS: delta H: 1.002  
 Y: 1.002  
 C(p): XXXX  
 K: XXXX

DRY MOLECULAR WEIGHT (Assumed):   
 WET MOLECULAR WEIGHT (Assumed):

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [°F]
	0-10		185	0.04	25	384.90	52	49	154	561	NA	3			
	10-20	-.70	185	0.04	25	386.91	54	51	154	562		3	7.9		
	20-30		186	0.04	25	388.00	54	51	154	562		3	7.9		
	30-40		186	0.05	25	388.90	55	52	154	562		325	7.8		
	40-50	-.65	186	0.04	25	389.91	55	52	154	564		325			
	50-60		186	0.04	25	390.91	55	53	154	562		325	7.9		
	60-70														
	70-80														
	80-90														
AVERAGE		-.68	185.7	0.04		6.01	52.8		154				7.9		
REMARKS	Pre-Leak Check: 0.14 @ 10' Post-Leak Check: 0.14 @ 10'														

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

Pre-Leak Check: 0.14 @ 10'  
 Post-Leak Check: 0.14 @ 10'

ALIQOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv_act	ppmv_cor	Gas Vol, dscf
PLUG-SO <sub>3</sub>					
PROBE-SO <sub>3</sub>					
CONDENSER-SO <sub>3</sub>					
BLANK					
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>					

BaCl<sub>2</sub> NORMALITY:





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT Greenville NY  
 LOCATION Rum 4-SO<sub>3</sub>  
 DUCT DIMENSIONS  
 DUCT AREA  
 DATE 3/13/08  
 TIME Start-1420 Stop-1539  
 SAMPLE BOX  
 METER BOX  
 PITOT TUBE DESC  
 OPERATOR(S) PCB / KP

GREENIDGE Economizer Dresler NY  
 Start-1420 Stop-1539  
 NuTech # N-2  
 None  
 PCB / KP

AMBIENT TEMP [°F] 26.5  
 BAROMETRIC PRESSURE [in Hg] 29.12  
 PROBE LENGTH [ft] 12  
 NOZZLE ID [inch] XXXX  
 CALIBRATION FACTORS: delta H 1.779  
 Y 0.985  
 C(p) NA  
 K XXXX

WATER BATH SETTING 140  
 PROBE HTR SETTING 550  
 DUCT X-SECTION circ ?  
 POSITION OF PORT A  
 (rect ?) other:  
 DRY MOLECULAR WEIGHT (Assumed)  
 WET MOLECULAR WEIGHT (Assumed)

Page 1 of 2  
 DRY MOLECULAR WEIGHT (Assumed) 14  
 WET MOLECULAR WEIGHT (Assumed) 20  
 E lester

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [°F]
1425	0510	0.02	617	NA	68	11.010	61	61	145	553	NA	7	12.7		
1430	1020	0.02	656		68	12.01	61	61	143	545		7	12.5		
1435	2050	0.02	707		62	12.475	61	61	141	557		7	13.0		
1440	30-40	0.02			stop test change probe										
1438	4050					12.475									
1443	5000	0.03	615		68	12.916	62	61	138	497		7	16.0		
1448	22	0.03			68	13.150	stop test, back check @ 9" Hg from condenser					7	18.5		
1450	22					13.049									
1453	25	0.03	589		68	13.52	64	62	137	365		8	16.8		
1458	30	0.02	600		70	14.005	64	62	137	355		9	16.3		
AVERAGE		0.02	614		stop test, change probe, back check from condenser @ 13" Hg							9	14.5		
REMARKS	Pre-Leak Check - from SO <sub>3</sub> Condenser @ 11" Hg = 0.000														

ALIQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act	ppmv, cor	Gas Vol, dscf
PLUG-SO <sub>3</sub>					
PROBE-SO <sub>3</sub>	5.367				
CONDENSER-SO <sub>3</sub>	63.2				
BLANK					
IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>					

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min  
  
 CONSOL ENERGY

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 2 of 2

WATER BATH SETTING 140  
 PROBE HTR SETTING 550  
 DUCT X-SECTION circ ?  rect ?  other: \_\_\_\_\_  
 POSITION OF PORT A \_\_\_\_\_

AMBIENT TEMP [°F] 66  
 BAROMETRIC PRESSURE [in Hg] 27.13  
 %H<sub>2</sub>O (Assumed) 9  
 PROBE LENGTH [ft] 12  
 NOZZLE ID [incht] XXXX  
 CALIBRATION FACTORS: delta H 1.779  
 Y 0.935  
 C(p) NA  
 K XXXX

DRY MOLECULAR WEIGHT (Assumed) \_\_\_\_\_  
 WET MOLECULAR WEIGHT (Assumed) \_\_\_\_\_

GREENIDGE Dredging NY  
 Economizer R van 4-SO<sub>3</sub>  
 DATE 3/13/08  
 TIME Stop-  
 SAMPLE BOX \_\_\_\_\_  
 METER BOX N-2  
 PITOT TUBE DESC 20cm  
 OPERATOR(S) RLB/KP

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	-STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [in °F]
<u>15-11</u>	<u>30</u>	<u>0.02</u>	<u>579</u>		<u>68</u>	<u>14.032</u>	<u>64</u>	<u>63</u>	<u>137</u>	<u>338</u>	<u>NA</u>	<u>7.5</u>	<u>16.6</u>		
<u>15-16</u>	<u>10450</u>	<u>0.02</u>	<u>613</u>		<u>68</u>	<u>15.03</u>	<u>64</u>	<u>63</u>	<u>138</u>	<u>342</u>		<u>7.5</u>	<u>16.3</u>		
<u>15-21</u>	<u>20450</u>	<u>0.02</u>	<u>625</u>		<u>66</u>	<u>15.510</u>	<u>65</u>	<u>63</u>	<u>138</u>	<u>349</u>		<u>7.5</u>	<u>16.1</u>		
<u>15-24</u>	<u>30-40</u>			<u>Stop test, change</u>		<u>puts</u>									
<u>15-29</u>	<u>40550</u>					<u>15.510</u>									
<u>15-34</u>	<u>50560</u>	<u>0.02</u>	<u>632</u>		<u>64</u>	<u>15.98</u>	<u>65</u>	<u>64</u>	<u>140</u>	<u>575</u>		<u>7.5</u>	<u>13.8</u>		
<u>15-39</u>	<u>55</u>	<u>0.02</u>	<u>708</u>		<u>68</u>	<u>16.44</u>	<u>66</u>	<u>65</u>	<u>140</u>	<u>654</u>		<u>8</u>	<u>9.3</u>		
<u>15-39</u>	<u>60</u>	<u>0.02</u>	<u>718</u>		<u>68</u>	<u>16.904</u>	<u>66</u>	<u>65</u>	<u>139</u>	<u>679</u>		<u>9</u>	<u>9.9</u>		
				<u>Stop test</u>											
AVERAGE															

Pre-Leak Check: \_\_\_\_\_  
 Post-Leak Check: from Condenser @ 12" Hg = 0.000

Gas Vol, dscf \_\_\_\_\_  
 BaCl<sub>2</sub> NORMALITY \_\_\_\_\_

ALIQUOT / VOLUME	TITRATION (ml)	lb/dscf	ppmv, act	ppmv, cor
PLUG-SO <sub>3</sub>				
PROBE-SO <sub>3</sub>				
CONDENSER-SO <sub>3</sub>				
BLANK				
IMPINGER (H <sub>2</sub> O <sub>2</sub> -SO <sub>2</sub> )				

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT LOCATION DUCT DIMENSIONS DUCT AREA DATE TIME SAMPLE BOX METER BOX PITOT TUBE DESC OPERATOR(S)	AMBIENT TEMP [°F] BAROMETRIC PRESSURE [in Hg] %H <sub>2</sub> O (Assumed) PROBE LENGTH [ft] NOZZLE ID [inch] CALIBRATION FACTORS: delta H Y C(p) K	WATER BATH SETTING PROBE HTR SETTING DUCT X-SECTION POSITION OF PORT A	Page _____ of _____ circ? _____ rect? _____ other: _____ DRY MOLECULAR WEIGHT (Assumed) WET MOLECULAR WEIGHT (Assumed)
--	--	---	---

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [in Hg]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [uoF]
	0 - 10		643	0.04	.73	147.15	96	95	147	550	NA	8	5.1		
	10 - 20		645	0.04	.73	144.12	99	98	147	550		8	4.7		
	20 - 30		646	0.04	.73	143.88	98	97	147	549		8	4.7		
	30 - 40		630	0.04	.75	146.12	98	97	148	551		9	5.8		
	40 - 50		633	0.04	.71	146.95	99	98	148	553		9	6.0		
	50 - 60		634	0.04	.72	147.97	100	98	147	551		10	6.1		
AVERAGE			633.5	0.04		5.82	97.8		147.3				5.4		

Pre-Leak Check: < 0.01 at 6      Post-Leak Check: 20.01 at 7

CONDENSER TEMP = 140°F SAMPLING RATE = 3 lpm = 0.1 ft <sup>3</sup> /min	ALIQUOT / VOLUME	TITRATION (ml)	ppmv, cor
PLUG--SO <sub>3</sub>			
PROBE--SO <sub>3</sub>			
CONDENSER--SO <sub>3</sub>			
BLANK			
IMPINGER (H <sub>2</sub> O) <sub>2</sub> --SO <sub>2</sub>			



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Test 4

PLANT LOCATION	AMBIENT TEMP [°F]	WATER BATH SETTING	Page _____ of _____
AHO	BAROMETRIC PRESSURE [in Hg]	PROBE HTR SETTING	
	%H <sub>2</sub> O (Assumed)	DUCT X-SECTION	
	PROBE LENGTH [ft]	POSITION OF PORT A	
DATE	NOZZLE ID [inch]		
TIME	CALIBRATION FACTORS: delta H		
SAMPLE BOX	Y		
METER BOX	C(p)		
PITOT TUBE DESC	K		
OPERATOR(S)			

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [%]	CONTROL ROOM	
							inlet	outlet						O <sub>2</sub> [%]	DUCT TEMP [in °F]
1421	0-10	-17.11	318		0.035	246.00	46	47	140	420	NA	3	9.6		
Top	10-20		318		0.035	247.98	46	47	139	429		3	9.3		
	20-30		319		0.03	248.97	47	48	138	430		5.5			
Bottom	30-40	-14.38	324		0.03	249.79	47	48	139	429		5.5	9.6		
	40-50		322		0.03	250.65	48	51	139	439		8	9.1		
	50-60		322		0.025	251.57	49	51	140	440		11			
AVERAGE		-16.75	320.5		0.03	5.57	48.0		139.7				9.5		
REMARKS	Pre-Leak Check: <input checked="" type="checkbox"/> OK @ 8" H <sub>2</sub> O      Post-Leak Check: <input checked="" type="checkbox"/> OK @ 7" H <sub>2</sub> O														

CONDENSER Temp = 140°F	ALIQUOT / VOLUME	TITRATION (ml)	ppmv, act	ppmv, cor
Sampling Rate=3 lpm=0.1 ft <sup>3</sup> /min	PLUG-SO <sub>3</sub>			Gas Vol, dscf
	PROBE-SO <sub>3</sub>			
	CONDENSER-SO <sub>3</sub>			BaCl <sub>2</sub> NORMALITY
	BLANK			
	IMPINGER (H <sub>2</sub> O)-SO <sub>2</sub>			

O:\PdAppRes\STACK\data\sheet\SO3\SHEET 03/05/08





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT LOCATION DUCT DIMENSIONS DUCT AREA DATE TIME SAMPLE BOX METER BOX PITOT TUBE DESC OPERATOR(S)	GREENIDGE STACK TEST 4 3/13/18 Start: 1411 Stop: 1520 NuTech # 11-5 BS/A6	AMBIENT TEMP [°F] 35 BAROMETRIC PRESSURE [in Hg] 29.18 %H <sub>2</sub> O (Assumed) 9 PROBE LENGTH [ft] XXXX NOZZLE ID [inch] 1.827 CALIBRATION FACTORS: delta H Y 1.002 C(p) K XXXX	WATER BATH SETTING PROBE HTR SETTING DUCT X-SECTION POSITION OF PORT A
--	--	---	---

DRY MOLECULAR WEIGHT (Assumed) \_\_\_\_\_  
WET MOLECULAR WEIGHT (Assumed) \_\_\_\_\_

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	PITOT HEAD [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	WATER BATH TEMP [°F]	METER VACUUM [in Hg]	O <sub>2</sub> METER [ % ]	CONTROL ROOM O <sub>2</sub> [ % ]
							inlet	outlet						
	0 - 10		184	0.03	25	391.0	57	55	151	561	NA	6	7.8	
	10 - 20	-0.26	184	0.04	25	393.0	58	56	151	561		6	7.8	
	20 - 30		185	0.04	25	393.99	60	57	153	561		6	7.8	
	30 - 40		185	0.04	25	395.0	61	58	154	562		6	7.7	
	40 - 50	-0.50	185	0.04	25	396.0	61	58	154	562		6	7.8	
	50 - 60		185	0.04	25	397.0	62	59	154	562		6	7.7	
	60 - 70													
	70 - 80													
	80 - 90													
AVERAGE		-0.78	184.7	0.04		6.00	58.5		152.8				7.8	

Pre-Leak Check: 0.012 @ 10"  
Post-Leak Check: 0.012 @ 10"

CONDENSER Temp = 140°F Sampling Rate=3 lpm=0.1 ft <sup>3</sup> /min	ALLOQUOT / VOLUME	TITRATION (ml)	ppmv, act
PLUG--SO <sub>3</sub>			ppmv, cor
PROBE--SO <sub>3</sub>			
CONDENSER--SO <sub>3</sub>			
BLANK			
IMPINGER (H <sub>2</sub> O) <sub>2</sub> --SO <sub>2</sub>			



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 140 of 550

PLANT: Greentidge  
 LOCATION: Air Heater Outlet  
 DUCT DIMENSIONS: 9' x 12'  
 DUCT AREA: 108 ft<sup>2</sup>  
 DATE: 4-26-08  
 TIME: 13:44  
 SAMPLE BOX: Stop-6146  
 METER BOX: Stop-6146  
 PITOT TUBE DESC: 1  
 OPERATOR(S): KRC

AMBIENT TEMP [°F]: 30  
 BAROMETRIC PRESSURE [°Hg] (%H<sub>2</sub>O Assumed): 29.83  
 PROBE LENGTH [ft]: XXXX  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: Y  
 C(p): Y  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: rect?  
 POSITION OF PORT A: rect?

DRY MOLECULAR WEIGHT (Assumed):           
 WET MOLECULAR WEIGHT (Assumed):         

17.61 (Assumed= )

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [° H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [° Hg]	Meter Outlet		
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]	
	0 - 10		288	0.005	.12	172.53	60	58	142	523	6			
	10 - 20		289	0.005	.12	173.64	59	57	142	522	6			
	20 - 30		289	0.005	.12	174.69	59	57	142	525	6	7.2	13.1	
	30 - 40	-10.44	298	0.005	.12	175.71	60	58	142	549	6			
	40 - 50		299	0.005	.12	176.10	60	58	142	550	6	7.3	12.9	
	50 - 60		298	0.005	.12	177.40	60	58	142	550	6			
AVERAGE			293.5	0.005		5.99	58.7		142			7.2	13.0	
REMARKS	Pre-Leak Check: < 0.01 7												Post-Leak Check: 10.01 6	

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

SO<sub>3</sub> #1

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ ?  
 POSITION OF PORT A: rect ?

AMBIENT TEMP [°F]: 45  
 BAROMETRIC PRESSURE [° Hg]: 28.33  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]:  
 NOZZLE ID [inch]:  
 CALIBRATION FACTORS: delta H: Y  
 C(p): K

PLANT: Greenidge  
 LOCATION: Stack  
 DUCT DIMENSIONS: 13 ft  
 DUCT AREA: 132.732 ft<sup>2</sup>  
 DATE: 5-20-08  
 TIME: Start-12:40 Stop-  
 SAMPLE BOX: NuTech # N-3  
 METER BOX: BS, PR  
 PITOT TUBE DESC: OPERATOR(S)

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVRSE POINT [inch]	SAMPLE TIME [minutes]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [° H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft]	METER TEMP (Assumed=)		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [° Hg]	Meter Outlet	
							inlet [°F]	outlet [°F]				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10			0.10	70	531.60	57	57	147	556	5.0		
	10-20		177	0.10	70	533.60	57	57	147	557	5.0	7.5	
	20-30	-1.500		0.10	70	534.60	57	57	146	556	5.0		
	30-40			0.10	68	535.60	59	58	147	556	5.0		
	40-50		176	0.10	69	536.56	60	59	146	556	5.0	8.0	
	50-60	-1.495	177	0.10	72	537.60	60	59	147	557	5.0		
AVERAGE		-0.493	176.7	0.10		6.01	58.3		146.7			7.9	
REMARKS	Pre-Leak Check: OK												
	Post-Leak Check: OK												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

5032

Page      of     

WATER BATH SETTING	140
PROBE HTR SETTING	550
DUCT X-SECTION	circ ?
POSITION OF PORT A	rect ?

AMBIENT TEMP [°F]	52
BAROMETRIC PRESSURE [° Hg]	29.88
%H <sub>2</sub> O (Assumed)	
PROBE LENGTH [ft]	XXXX
NOZZLE ID [inchi]	XXXX
CALIBRATION FACTORS: delta H	Y
	C(p)
	K

PLANT	Greenidge
LOCATION	Air Heater Outlet
DUCT DIMENSIONS	9' x 12'
DUCT AREA	108 ft <sup>2</sup>
DATE	5-21-08
TIME	Start: 3:55 Stop: 4:15
SAMPLE BOX	
METER BOX	
PITOT TUBE DESC	
OPERATOR(S)	KRC

DRY MOLECULAR WEIGHT (Assumed)     

WET MOLECULAR WEIGHT (Assumed)     

TRAVRSE POINT [inchi]	SAMPLE TIME [minutes]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (AH) [° H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [° Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10		289	0.005	12	177.46	57	56	142	551	6	7.6	12.6
	10-20	-9.10	290	0.006	12	179.75	58	56	142	530	7	-	-
	20-30		290	0.006	12	180.79	59	57	142	530	7	7.3	12.9
	30-40		283	0.005	12	181.77	60	58	143	550	7	-	-
	40-50	-9.40	283	0.005	12	182.71	60	58	142	551	7	7.4	12.8
	50-60		283	0.005	12	183.70	61	59	141	530	7	7.3	12.9
AVERAGE		-9.25	286.3	0.003		6.24		53.3	142			7.4	12.8
REMARKS	Pre-Leak Check: < 0.01 6      Post-Leak Check: 0.01												

Condenser Temp = 140°F

Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

SO<sub>3</sub> #22

Greenidge  
Stack  
13 ft  
132.732 ft<sup>2</sup>  
DATE 5/21  
TIME Start: 4:35 Stop: 0:51:35  
METER BOX NuTech # 3  
PITOT TUBE DESC  
OPERATOR(S) BPS/PR

AMBIENT TEMP [°F] 74.5  
BAROMETRIC PRESSURE [in Hg] 28.823  
%H<sub>2</sub>O (Assumed)  
PROBE LENGTH [ft]  
NOZZLE ID [inches] XXXX  
CALIBRATION FACTORS: delta H Y  
C(p) K  
K XXXX

WATER BATH SETTING 140  
PROBE HTR SETTING 550  
DUCT X-SECTION circ? rect?  
POSITION OF PORT A

DRY MOLECULAR WEIGHT (Assumed)  
WET MOLECULAR WEIGHT (Assumed)

Page 140 of 550

PLANT LOCATION  
DUCT DIMENSIONS  
DUCT AREA  
DATE  
TIME  
SAMPLE BOX  
METER BOX  
PITOT TUBE DESC  
OPERATOR(S)

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (AH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10		172	0.10	70	537.70	61	60	147	548	10.0		
	10-20			0.10	70	538.68	61	60	147	555	10.0		8.2
	20-30			0.10	75	540.70	61	60	146	559	10.0		
	30-40		173	0.10	870	541.55	61	60	147	555	10.0		8.2
	40-50		177	0.10	880	542.59	63	61	147	555	10.0		8.3
	50-60		175	0.10	885	543.71	63	61	147	555	10.0		8.3
AVERAGE			174.3	0.10		6.01	61.0	61.0	147				8.3
REMARKS	Pre-Leak Check: OK      Post-Leak Check: <0.01												

Condenser Temp = 140°F  
Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

 CONSOL ENERGY

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT	Greenidge	AMBIENT TEMP [°F]	37
LOCATION	Air Heater Outlet	WATER BATH SETTING	140
DUCT DIMENSIONS	9" x 12"	PROBE HTR SETTING	550
DUCT AREA	108 ft <sup>2</sup>	DUCT X-SECTION	circ? <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">rect?</span>
DATE	5-21-08	POSITION OF PORT A	
TIME	12:30-1:10		
SAMPLE BOX	Start 23.00 Stop- 00:10	DRY MOLECULAR WEIGHT (Assumed)	
METER BOX	NuTech # 1	WET MOLECULAR WEIGHT (Assumed)	
PITOT TUBE DESC			
OPERATOR(S)	KKC		

BAROMETRIC PRESSURE [° Hg]	28.97
%H <sub>2</sub> O (Assumed)	
PROBE LENGTH [ft]	XXXX
NOZZLE ID [inch]	XXXX
CALIBRATION FACTORS: delta H	Y
	C(p)
	K

Page	140	of	
Water Bath Setting	140		
Probe Htr Setting	550		
Duct X-Section	circ?		
Position of Port A			

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (AH) [° H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [° Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10		277	0.04	-12	184.00	53	53	141	544	7	9.2	10.9
	10-20	-6.6	275	0.04	-12	185.70	56	54	142	542	10		
	20-30		275	0.04	-12	186.90	58	55	142	530	10		
						188.93	Re-6405						
		30.4	275	0.04	-12	189.93	59	57	142	533	7	9.4	10.9
		40.50	275	0.04	-12	190.94	60	58	142	533	6		
		50.6	274	0.04	-12	192.00	61	58	142	534	6	9.6	10.7
AVERAGE		-6.6	275.2	0.04		5.97	57.0		142			9.5	10.8
REMARKS	Pre-Leak Check: < 0.01      Post-Leak Check: < 0.01												

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

CONSOL ENERGY



# SO<sub>2</sub> FIELD SAMPLING DATA SHEET

Page 1 of 1

PLANT: Greentidge  
 LOCATION: Stack  
 DUCT DIMENSIONS: 13 ft  
 DUCT AREA: 132.732 ft<sup>2</sup>  
 DATE: 5/21/08 TEST 3  
 TIME: Start 3:00 Stop 3:40:00  
 SAMPLE BOX: NuTech # 3  
 METER BOX:   
 PITOT TUBE DESC:   
 OPERATOR(S): BS/PR

AMBIENT TEMP [°F]: 47  
 BAROMETRIC PRESSURE [° Hg]: 30.51  
 %H<sub>2</sub>O (Assumed):   
 PROBE LENGTH [ft]: XXXX  
 NOZZLE ID [in]: XXXX  
 CALIBRATION FACTORS: delta H: Y  
 C(p): K  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ?  
 POSITION OF PORT A: rect?

DRY MOLECULAR WEIGHT (Assumed):   
 WET MOLECULAR WEIGHT (Assumed):

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (AH) [° H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [° Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
						550.00							
	0-10		150	0.08	72	551.00	57	57	147	550	8.0		
	10-20	-1.464	173	0.08	72	552.00	58	58	147	550	8.0	10.1	
	20-30		177	0.08	72	553.00	58	58	147	555	8.0	10.0	
	30-40	-1.458	187	0.08	72	554.00	60	58	147	555	9.0		
	40-50		183	0.08	72	555.00	60	59	147	555	9.0		
	50-60		186	0.08	72	556.00	60	60	146	555	9.0	10.1	
AVERAGE		-1.461	176	0.08		6.00	58.8		147				6.1
REMARKS	Pre-Leak Check: <u>OK</u> < 0.01												
	Post-Leak Check:												



Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

# SO<sub>2</sub> FIELD SAMPLING DATA SHEET

Page 140 of 140  
 550  
 circ?  rect?

WATER BATH SETTING  
 PROBE HTR SETTING  
 DUCT X-SECTION  
 POSITION OF PORT A

AMBIENT TEMP [°F] 23  
 BAROMETRIC PRESSURE [° Hg] 29.82  
 %H<sub>2</sub>O (Assumed)  
 PROBE LENGTH [ft] XXXX  
 NOZZLE ID [incht] XXXX  
 CALIBRATION FACTORS: delta H  
 Y  
 C(p)  
 K

DRY MOLECULAR WEIGHT (Assumed)  
 WET MOLECULAR WEIGHT (Assumed)

PLANT: Greenidge  
 LOCATION: Air Heater Outlet  
 DUCT DIMENSIONS: 9' x 12'  
 DUCT AREA: 108 ft<sup>2</sup>  
 DATE: 5-22-08  
 TIME: Stop- 2:25  
 SAMPLE BOX: 1  
 METER BOX: 1  
 PITOT TUBE DESC: 1  
 OPERATOR(S): KRC

TRAVRSE POINT [inch]	SAMPLE TIME [minutes]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (AH) [° H <sub>2</sub> O]	ROTMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [° Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0 - 10		274	0.04	.12	192.50	59	57	142	531	6	9.7	10.5
	10 - 20	-6.7	274	0.04	.12	193.56	60	58	142	530	6	-	-
	20 - 30		275	0.04	.12	195.47	60	58	142	530	6	9.4	10.9
	30 - 40		273	0.04	.12	196.53	61	59	142	529	6	-	-
	40 - 50	-6.8	273	0.04	.12	197.42	62	59	142	527	6	9.4	10.9
	50 - 60		273	0.04	.12	198.39	62	59	142	530	6	-	-
AVERAGE		-6.8	273.7	0.04	.12	5.89	59.5		142			9.5	10.8
REMARKS	Pre-Leak Check: <u>&lt;0.01</u> <u>06</u> Post-Leak Check: <u>&lt;0.01</u> <u>07</u>												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min













Run

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 1 of 1

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ? rect?  
 POSITION OF PORT A: rect?

AMBIENT TEMP [°F]: 51.0  
 BAROMETRIC PRESSURE [in Hg]: 29.29  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: 10'  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: XXXX  
 Y: 95.70  
 C(p): 1.17  
 K: XXXX

PLANT: Greenidge  
 LOCATION: Economizer Outlet  
 DUCT DIMENSIONS:  
 DUCT AREA:  
 DATE: 11/01/08  
 TIME: Start: 1327 Stop: 1541  
 SAMPLE BOX: MR B-19  
 METER BOX: 5-2046 NA  
 PITOT TUBE DESC: 17  
 OPERATOR(S):

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

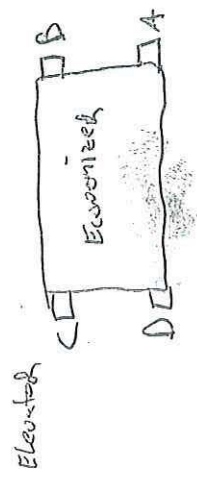
TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (AH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
1335 A	0-7:05	NA	634	2.0	0.55	693.932	107	107	146	553	4	6.5	13.5
1335 B	7:05-7:20		635	2.0	1.60	694.665	110	107	144	561	5	6.4	13.6
1415 B	15-20:00		615	1.9	0.60	695.560	112	110	149	568	7	6.8	13.2
1502.5 B	22:00-23:00		616	1.9	1.60	697.015	112	111	148	615.66	7	6.8	13.2
1518.5 C	30-37:35		609	2.0	0.60	697.750	112	110	149	548	7	5.6	15.3
1540 C	38:00-40:00		609	2.0	1.60	698.398	112	110	148	549	7	5.0	15.4
1533.5 C	40-45:00		608	2.0	1.60	699.022	111	110	149	549	9	4.7	16.2
1541 C	45-52:5		607	2.0	1.60	699.710	113	111	149	548	8	4.8	16.1
AVERAGE			616.6			5.778	117.3	147.8				5.8	14.6

Stack 1335  
 Stack 1440  
 → Port change C 1532  
 Stack 1511  
 510 of 1511

Pre-Leak Check: 0.00010" Hg  
 Post-Leak Check: 0.00011" Hg



Leak ✓ between port B & C → 0.00010" Hg  
 new OGM = 697.7077





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ?  
 POSITION OF PORT A: rect?


AMBIENT TEMP [°F]: 96  
 BAROMETRIC PRESSURE [in Hg]: 29.29  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: 3'  
 NOZZLE ID [inches]: XXXX  
 CALIBRATION FACTORS: delta H: XXXX  
 C(p): 1.002  
 K: XXXX

PLANT: Greentidge  
 LOCATION: Air Heater Inlet  
 DUCT DIMENSIONS: 9' x 12'  
 DUCT AREA:  
 DATE: 1-19-08  
 TIME: 13:27 Stop  
 SAMPLE BOX: 1730  
 METER BOX:  
 PITOT TUBE DESC:  
 OPERATOR(S): KRC

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

stopped at  
 13:35  
 Restart  
 17:40

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (AH) [in H <sub>2</sub> O]	ROTMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10		640	0.05	.12	66.00	98	98	140	567	4	5.0	15.1
	10-20		641	0.05	.12	66.00	99	98	140	559	4	5.0	15.1
	20-30		642	0.05	.12	66.20	104	102	141	569	4	5.0	15.1
	30-40		640	0.05	.12	66.30	104	102	140	547	4	5.0	15.1
	40-50		649	0.05	.12	66.21	104	104	141	569	4	4.4	15.6
	50-60		650	0.05	.12	66.20	104	104	140	566	5	4.4	15.6
AVERAGE			643.7	0.05		5.15	101.8		140			4.8	15.3
REMARKS	Pre-Leak Check: <0.01 @ 6      Post-Leak Check: 2.0 @ 17												

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min  


# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 140 of     

WATER BATH SETTING 140  
 PROBE HTR SETTING 550  
 DUCT X-SECTION circ ?  
 POSITION OF PORT A rect ?

AMBIENT TEMP [°F] 56.0  
 BAROMETRIC PRESSURE [in Hg] 29.24  
 %H<sub>2</sub>O (Assumed)       
 PROBE LENGTH [ft] XXXX  
 NOZZLE ID [inch] XXXX  
 CALIBRATION FACTORS: delta H Y  
 C(p) 0.996  
 K XXXX

DRY MOLECULAR WEIGHT (Assumed)       
 WET MOLECULAR WEIGHT (Assumed)     

PLANT Greenidge  
 LOCATION Air Heater Outlet  
 DUCT DIMENSIONS 9' x 12'  
 DUCT AREA 108 ft<sup>2</sup>  
 DATE 06-10-08  
 TIME Start: 1:25 Stop: 3:20  
 SAMPLE BOX       
 METER BOX       
 PITOT TUBE DESC       
 OPERATOR(S) KAVI S.

TRAVSE POINT [inch]	SAMPLE TIME [minutes]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10	-13.11	308	.03		205.600	91	88	146	506	3"	7.80	12.0
*	10-20	-12.80	309	.03		207.00	92	89	146	496	3"	8.3	11.8
	20-30	-12.36	311	.03		208.10	94	94	145	541	4"	7.4	12.7
	30-40		317	.04		209.10	97	95	145	547	4"	7.3	12.9
	40-50		316	.03		210.10	98	95	145	551	4"	7.2	13.0
	50-60		316	.03		211.10	98	95	145				
*1	18	-12.64	312	.03		207.4	97	94	146	534	4"	8.0	12.2
*2	32		317	.04		208.8	97	94	145	535	4"	7.9	12.3
*3	60		316	.03		211.6	98	95	145	550	4"	7.2	13.0
AVERAGE			313.6	0.03		6.000	94.6	94.6	145.6			7.6	12.5
REMARKS	Pre-Leak Check: <0.001 @ 10      Post-Leak Check: <0.001 @ 8												

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

\* 1 Initial Reading taken after the delay @ 18 min into the test

\* 2 Initial Reading after changing ports @ 32 min into the test

\* 3 Final Reading @ 60 min





Lost Power 13:38 "Stopped"  
Restart 14:40

SO<sub>2</sub> FIELD SAMPLING DATA SHEET

Page 1 of 1

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ?  
 POSITION OF PORT A: rect?

AMBIENT TEMP [°F]: 87  
 BAROMETRIC PRESSURE [in Hg]: 29.39  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]:  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: XXXX  
 Y: 1.062  
 C(p):  
 K: XXXX

PLANT: Greentidge  
 LOCATION: Stack  
 DUCT DIMENSIONS: 13 ft  
 DUCT AREA: 132.732 ft<sup>2</sup>  
 DATE: 10/10/08  
 TIME: Start 13:38 Stop 14:40  
 SAMPLE BOX: NuTech # 3  
 METER BOX: PR/BS  
 PITOT TUBE DESC: OPERATOR(S)

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (AH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10		172	.05	070	568.50	93	93	148	550	5.0		
	10-20	-0.40	174	.07	65	570.50	98	97	148	537	5.0	8.7	
	20-30		174	.07	68	571.49	99	98	149	542	5.0	8.5	
	30-40			.07	68	572.48	99	98	147	542	5.0	8.2	
	40-50	-0.70	175	.10	70	573.50	100	98	147	541	5.0	8.4	
	50-60	-0.36	174	0.10	69	574.49	101	99	146	542	5.0	8.3	
AVERAGE		-0.387	173.3	0.077		5.99	97.3		143				3.4
REMARKS	Pre-Leak Check: OK 2.0.01/min. Post-Leak Check:												



Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

Run 2

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 1 of 1

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ? rect?  
 POSITION OF PORT A: rect?

AMBIENT TEMP [°F]: 95  
 BAROMETRIC PRESSURE [in Hg]: 29.38  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: 12'  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: XXXX  
 Y: 7710  
 C(p): NA  
 K: XXXX

PLANT: Greenidge  
 LOCATION: Economizer Outlet  
 DUCT DIMENSIONS:  
 DUCT AREA:  
 DATE: 6-11-08  
 TIME: Start 8:00 Stop 10:25  
 SAMPLE BOX:  
 METER BOX: NitroTech # 7101  
 PITOT TUBE DESC: 3/4" x 1/2"  
 OPERATOR(S): J. J. [unclear]

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (AH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
A	0-10		640	0.20	60	702.793	98	97	141	144.545	5	5.9	15.0
A	10-20		724	0.20	60	703.535	98	97	142	143.351	5	5.9	15.0
B	15-20		685	0.20	60	704.480	98	97	143	143.550	6	6.8	14.1
b	20-30		710	0.20	60	705.320	94	97	144	144.556	6	6.8	14.1
C	20-30		687	0.20	60	705.720	104	102	143	143.558	6	15.4	14.1
C	30-40		619	0.03	60	707.640	107	106	142	142.550	6	18.3	
D	45-50		684	0.03	60	708.680	113	112	144	144.538	6	18.4	
D	52.5-60		687	0.03	60	707.585	115	113	145	145.551	6	17.0	
AVERAGE			680	0.03		6450 JPC			144			12.4	

stop 09:15  
 stop 09:35  
 STOP 09:48  
 stop 10:03  
 STOP 10:15  
 STOP 10:25

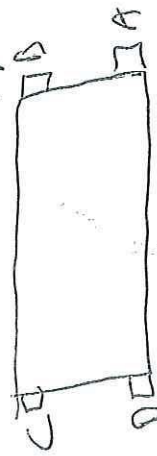
Pre-Leak Check: 0.00 @ 10' Hg

Post-Leak Check: 0.00 @ 10' Hg

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min  
 CONSOLENERGY

checked

Leak v. stop 1st port check  
 Leak = 0.00 @ 8'  
 Leak v. stop 2nd port = 0.00 @ 8'  
 new leak = 706.130  
 new leak = 707.820



\* good leak checks between ports, but O<sub>2</sub> it's over high



10

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 140 of 550

WATER BATH SETTING 140

PROBE HTR SETTING 550

DUCT X-SECTION circ ?

POSITION OF PORT A rect ?

AMBIENT TEMP [°F] 83

BAROMETRIC PRESSURE [° Hg] 29.38

%H<sub>2</sub>O (Assumed) 3

PROBE LENGTH [ft] 3

NOZZLE ID [inchi] XXXX

CALIBRATION FACTORS: delta H XXXX

Y 1002

C(p) XXXX

K XXXX

DRY MOLECULAR WEIGHT (Assumed)         

WET MOLECULAR WEIGHT (Assumed)         

PLANT Greenidge

LOCATION 1st Flr

DUCT DIMENSIONS 9' x 12'

DUCT AREA         

DATE 6-11-08

TIME Start 9:00 Stop

SAMPLE BOX NuTech # 4

METER BOX         

PITOT TUBE DESC         

OPERATOR(S) KRC

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [° H <sub>2</sub> O]	ROTMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [° Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0 - 10		624	0.05	12	663.40	84	84	140	555	4	5.6	14.5
	10 - 20		651	0.05	12	667.35	84	84	141	575	4	5.6	14.5
	20 - 30		651	0.05	12	668.70	87	86	140	561	5	5.5	14.6
	30 - 40		650	0.05	12	669.60	88	87	140	564	5	5.4	17.7
	40 - 50		657	0.05	12	670.53	88	87	140	579	5	4.8	15.2
	50 - 60		658	0.05	12	671.60	89	88	140	580	5	4.8	15.2
AVERAGE			649	0.05		5.95	86.3		140			5.3	
REMARKS	Pre-Leak Check: < 0.01 @ 6												
	Post-Leak Check: < 0.01 @ 7												



Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

SO<sub>3</sub>

Test # 2

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 140 of 550  
 WATER BATH SETTING 140  
 PROBE HTR SETTING 550  
 DUCT X-SECTION circ ?  
 POSITION OF PORT A rect ?

PLANT Greenidge  
 LOCATION Air Heater Outlet  
 DUCT DIMENSIONS 9' x 12'  
 DUCT AREA 108 ft<sup>2</sup>  
 DATE 06-11-08  
 TIME Start 09:00 Stop 10:02  
 SAMPLE BOX 1  
 METER BOX NuTech #  
 PITOT TUBE DESC KAVI C.  
 OPERATOR(S)

AMBIENT TEMP [°F] 73  
 BAROMETRIC PRESSURE [° Hg] 29.38  
 %H<sub>2</sub>O (Assumed) XXXX  
 PROBE LENGTH [ft] XXXX  
 NOZZLE ID [inch] 0.496  
 CALIBRATION FACTORS: delta H Y  
 C(p) K

DRY MOLECULAR WEIGHT (Assumed)           
 WET MOLECULAR WEIGHT (Assumed)         

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (AH) [° H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [° Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10	-13.62	306	.04		212.20	77	74	145	548	17	7.6	12.6
	10-20	-14.14	306	.04		213.70	77	75	145	547	8	7.5	12.7
	20-30	-15.18	307	.04		214.70	78	75	145	547	7	7.0	13.3
	30-40	-14.09	303	.05		215.69	79	76	145	550	8	6.9	13.3
	40-50	-13.90	302	.05		216.71	79	76	144	519	6	7.0	13.0
	50-60	-13.37	303	.04		217.70	80	77	144	489	8	7.0	13.2
	60	-13.38	304	.04		218.199	80	79	144	487	8	6.8	13.4
AVERAGE			304	0.04		5.999	77.8		145			7.1	

REMARKS Pre-Leak Check: < .001 ft<sup>3</sup> @ 10" Post-Leak Check: < .001 ft<sup>3</sup> @ 18"

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 140 of 550

WATER BATH SETTING 140  
 PROBE HTR SETTING 550  
 DUCT X-SECTION circ ?  
 POSITION OF PORT A rect ?

AMBIENT TEMP [°F] 80.6  
 BAROMETRIC PRESSURE [° Hg] 29.38  
 %H<sub>2</sub>O (Assumed)       
 PROBE LENGTH [ft] XXXX  
 NOZZLE ID [inch] XXXX  
 CALIBRATION FACTORS: delta H       
 Y 1.067  
 C(p)       
 K XXXX

Greenidge  
 Stack  
 13 ft  
 132.732 ft2  
 DATE 6/11/08  
 TIME TEST 2  
 SAMPLE BOX Start: 09:00 Stop: 10:00  
 METER BOX NuTech # 3  
 PITOT TUBE DESC       
 OPERATOR(S) PA/B5

DRY MOLECULAR WEIGHT (Assumed)       
 WET MOLECULAR WEIGHT (Assumed)     

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [° H <sub>2</sub> O]	ROTMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [° Hg]	Meter Outlet		
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]	
	0-10		175	0.02	68	574.60	82	81	142	525	5.0	8.0		
	10-20	-0.35		0.02	70	575.59	83	81	142	523	5.0	7.9		
	20-30		172	0.02	70	576.60	85	83	142	525	5.0			
	30-40	-0.40		0.04	76	577.60	85	84	142	526	5.0	7.8		
	40-50		176	0.05	70	578.61	86	84	142	526	5.0	7.7		
	50-60	-0.46		0.05	70	579.60	85	84	142	527	5.0	7.6		
AVERAGE			175	0.03		6.00	83.6		142			7.8		
REMARKS	Pre-Leak Check: OK <0.01/min												Post-Leak Check: OK <0.01/min	

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min



2023

SO<sub>2</sub> FIELD SAMPLING DATA SHEET

PLANT LOCATION: Greenidge Economizer Outlet

DUCT DIMENSIONS: DUCT AREA: 6-11-58

DATE TIME: Start: 11:49 Stop: 13:20

SAMPLE BOX: Meter # 444 (88)

PITOT TUBE DESC: 1/4" NPT

OPERATOR(S): J. N. P.

AMBIENT TEMP [°F]: 95

BAROMETRIC PRESSURE [in Hg]: 29.41

%H<sub>2</sub>O (Assumed):

PROBE LENGTH [ft]: 12.1

NOZZLE ID [inches]: XXXX

CALIBRATION FACTORS: delta H: XXXX

Y: 1.0000

C(p): N/A

K: XXXX

WATER BATH SETTING: 140

PROBE HTR SETTING: 550

DUCT X-SECTION: circ?

POSITION OF PORT A: rect?

DRY MOLECULAR WEIGHT (Assumed):

WET MOLECULAR WEIGHT (Assumed):

Page 7 of 1

TRAVRSE POINT [incht]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
D	8:35	683	0.03	60	462.665	115	114	148	551	6	4.6	16.3	
D	8:40	746	0.03	60	463.288	116	114	146	552	6	5.3	15.7	
C	8:45	669	0.03	60	464.010	115	114	149	568	8	5.8	11.1	
C	8:50	671	0.03	60	465.439	115	114	148	570	10	17.1	3.8	
B	8:55	682	0.03	60	466.27	114	113	146	577	6	7.3	13.6	
B	9:00	681	0.03	60	466.870	110	110	148	576	7	8.3	12.6	
A	9:05	672	0.03	60	467.410	109	109	146	575	10	11.5	9.4	
A	9:10	682	0.03	60	467.950	109	109	148	575	12	14.7	6.2	
AVERAGE		686	0.03		5.080			147				9.8	

5:00 1201  
5:00 1207  
5:00 1222  
5:00 1248  
5:00 1303  
5:00 1305  
5:00 1320

Pre-Leak Check: 0.00

Post-Leak Check: 0.00

REMARKS: Leak ✓ between port C & B  
0.00 @ 11:55 Hg After filling leak  
that occurred during port C  
New Den = 465.643

Condenser Temp = 140°F  
Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min







TEST # 3

### SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 140 of 550

WATER BATH SETTING 140  
 PROBE HTR SETTING 550  
 DUCT X-SECTION rect ?  
 POSITION OF PORT A rect ?

AMBIENT TEMP [°F] 75  
 BAROMETRIC PRESSURE [in Hg] 29.14  
 %H<sub>2</sub>O (Assumed) XXXX  
 PROBE LENGTH [in] XXXX  
 NOZZLE ID [in] XXXX  
 CALIBRATION FACTORS: delta H Y  
 C(p) K

DRY MOLECULAR WEIGHT (Assumed)           
 WET MOLECULAR WEIGHT (Assumed)         

PLANT Greenidge  
 LOCATION Air Heater Outlet  
 DUCT DIMENSIONS 9' x 12'  
 DUCT AREA 108 ft<sup>2</sup>  
 DATE 06-11-08  
 TIME Start: 11:45 Stop: 12:51  
 SAMPLE BOX           
 METER BOX           
 PITOT TUBE DESC           
 OPERATOR(S) RAVI S

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10	-13.93	313	.03		218.40	83	81	145	425	3	7.2	12.9
	10-20	-13.92	312	.03		219.90	84	81	144	418	3	6.9	13.2
	20-30	-13.82	310	.04		220.90	84	81	145	418	4	7.0	13.2
	30-40	-13.96	306	.04		221.90	84	82	143	423	4	6.9	13.3
	40-50	-13.87	306	.04		222.89	84	82	145	436	5	6.9	13.3
	50-60	-13.60	303	.04		223.90	85	83	144	444	5	6.8	13.4
	60	-13.59	306	.04		224.40	85	83	144	444	5	6.8	13.4
AVERAGE			308	0.04		6.000	83.0		144			6.9	
REMARKS	Pre-Leak Check: <u>5.001 @ 20"</u> Post-Leak Check: <u>&lt; 0.01 @ 20"</u>												



Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

EP → TP  
 \* 50 ~ 64



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 1 of 1

PLANT: Greenidge  
 LOCATION: Stack  
 DUCT DIMENSIONS: 13 ft  
 DUCT AREA: 132.732 ft<sup>2</sup>  
 DATE: 6/11/04  
 TIME: Test 3  
 SAMPLE BOX: Start: 11:50 Stop: 12:50  
 METER BOX: NuTech # 3  
 PITOT TUBE DESC: PR/B S  
 OPERATOR(S): PR/B S

AMBIENT TEMP [°F]: 50  
 BAROMETRIC PRESSURE [° Hg]: 29.41  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: XXXX  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: 1.062  
 Y: XXXX  
 C(p): XXXX  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ ?  
 POSITION OF PORT A: rect ?

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [° H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [° Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10	-0.48	174	0.05	70	580.70	86	85	143	527	5.0	7.5	
	10-20		173	0.05	70	582.70	87	86	142	522	5.0	7.5	
	20-30	-0.42	174	0.05	70	583.69	87	86	143	522	5.0	7.7	
	30-40		174	0.07	70	584.71	88	86	142	524	5.0	7.9	
	40-50	-0.40	174	0.07	70	585.70	89	87	143	522	5.0	7.7	
	50-60			0.07	70	586.71	89	87	141	522	5.0		
AVERAGE			174	0.06		6.01	86.9		142				7.7
REMARKS	Pre-Leak Check: <u>OK &lt; 0.01/min</u> Post-Leak Check: <u>OK &lt; 0.01/min</u>												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min  


Fun 41

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 140 of 1

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ?  
 POSITION OF PORT A: rect?

AMBIENT TEMP [°F]: 60  
 BAROMETRIC PRESSURE [in Hg]: 27.44  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: 1.2  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: XXXX  
 C(p): Y  
 K: 1.586

PLANT: Greenidge  
 LOCATION: Economizer Outlet  
 DUCT DIMENSIONS:  
 DUCT AREA:  
 DATE: 6-11-08  
 TIME: 12:00 Stop  
 SAMPLE BOX: Start-  
 METER BOX: Net Weight # Filter 083  
 PITOT TUBE DESC: N/A  
 OPERATOR(S): J. M. [Signature]

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

5/8 16 30  
 5/8 16 40  
 5/8 16 50

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
A	0-10		666	0.03	60	470.48	102	102	138	554	60	4.2	16.7
A	10-20		671	0.03	60	471.995	102	102	149	558	7	4.3	16.6
A	20-30		670	0.03	60	472.276	102	102	154	660	9	2.7	18.2
C	35-45		603	0.03	60	473.140	104	104	152	543	7	7.1	15.8
C	45-50		612	0.03	60	473.950	105	105	153	556	7	4.3	16.6
C	50-60		605	0.03	60	474.321	112	112	154	531	8	4.8	16.1
AVERAGE			635	0.03		3.856	104.5	150				4.2	

Post-Leak Check:

Pre-Leak Check: 0:0 @ 12" Hg



Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT	Greenidge	AMBIENT TEMP [°F]	95
LOCATION	Air Heater Inlet	BAROMETRIC PRESSURE [in Hg]	29.54
DUCT DIMENSIONS	9" x 12"	%H <sub>2</sub> O (Assumed)	
DUCT AREA		PROBE LENGTH [in]	3
DATE	6-11-08	NOZZLE ID [in]	XXXX
TIME	Start 15:07 Stop 16:35	CALIBRATION FACTORS: delta H	XXXX
SAMPLE BOX		Y	
METER BOX		Cip)	K
PITOT TUBE DESC			
OPERATOR(S)	KRC		

WATER BATH SETTING	140	Page	of
PROBE HTR SETTING	550		
DUCT X-SECTION	circ ?		
POSITION OF PORT A	rect ?		

DRY MOLECULAR WEIGHT (Assumed)	
WET MOLECULAR WEIGHT (Assumed)	

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (AH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0 - 10		640	0.05	12	678.90	96	96	140	382	6	5.1	15.0
	10 - 20		649	0.05	12	681.07	96	96	140	360	6	5.1	15.0
	20 - 30		650	0.05	12	682.25	96	96	140	364	6	5.1	15.0
	30 - 40		637	0.05	12	683.12	98	98	140	376	6	5.6	14.5
	40 - 50		642	0.05	12	684.07	98	98	140	359	6	5.5	14.6
	50 - 60		641	0.05	12	685.08	98	98	140	379	6	5.4	14.7
AVERAGE			643.2	0.05		6.03	97.1	97.1	140				5.3
REMARKS	Pre-Leak Check: <0.0107      Post-Leak Check: <0.0106												

Stopped  
15:32  
Re started  
16:05



Condenser Temp = 140°F  
Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

TEST # 4

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: Greenidge  
 LOCATION: Air Heater Outlet  
 DUCT DIMENSIONS: 9' x 12'  
 DUCT AREA: 108 ft<sup>2</sup>  
 DATE: 01/08  
 TIME: 3:00 Stop- 4:30  
 SAMPLE BOX: NuTech #  
 METER BOX: 1  
 PITOT TUBE DESC: 1  
 OPERATOR(S): B. A. V. C.

AMBIENT TEMP [°F]: 24.4  
 BAROMETRIC PRESSURE [in Hg]: 29.44  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: XXXX  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: Y  
 C(p):  
 K:

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ? rect?  
 POSITION OF PORT A:  
 DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

Page 1 of 1

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10	-13.24	306	.03		224.5	83	83	145	542	6	7.6	12.6
	10-20	-11.22	305	.04		226.0	86	84	145	547	8"	7.5	12.7
	20-30	-13.38	305	.04		227.0	86	84	145	550	8"	7.5	12.8
	30-40		310	.03		228.0	87	86	144	491	8"	6.6	
	40-50		307	.04		229.0	87	85	144	497	7"		
	50-60		310	.04		230.0	87	85	145	496	8"		
	60		310	.04		230.5	87	85	145	498	8"		
AVERAGE			308	0.04		6.000	85.5		145				7.3
REMARKS	Pre-Leak Check: 2.001 ft <sup>3</sup> (0.18") Post-Leak Check: (0.12")												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

- Bad O<sub>2</sub> meter after changing parts  
 - No static pressure readings (AG probe was bad)

TP → LP





STOPPED 15:31  
 RESTART 16:18 05

### SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Greenidge  
 Stack  
 13 ft  
 132.732 ft<sup>2</sup>  
 6/11/08  
 Start 15:00 Stop 16:37  
 NuTech # 3  
 PR/BS

AMBIENT TEMP [°F] 90  
 BAROMETRIC PRESSURE [in Hg] 29.44  
 %H<sub>2</sub>O (Assumed)  
 PROBE LENGTH [ft]  
 NOZZLE ID [inches] XXXX  
 CALIBRATION FACTORS: delta H Y 1.06  
 C(p) K XXXX

PLANT  
 LOCATION  
 DUCT DIMENSIONS  
 DUCT AREA  
 DATE  
 TIME  
 SAMPLE BOX  
 METER BOX  
 PITOT TUBE DESC  
 OPERATOR(S)

WATER BATH SETTING 140  
 PROBE HTR SETTING 550  
 DUCT X-SECTION circ ?  
 POSITION OF PORT A rect ?

DRY MOLECULAR WEIGHT (Assumed)  
 WET MOLECULAR WEIGHT (Assumed)

TRAVSE POINT [inches]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	MIETER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10	-0.52	173	0.05	75	586.80	90	89	142	512	6.0	7.6	
	10-20		173	0.05	70	588.81	92	91	142	525	6.0	7.8	
	20-30	-0.44	174	0.05	70	589.80	93	92	142	523	6.0	7.9	
	30-40		174	0.05	70	590.81	95	93	143	524	6.5	7.9	
	40-50			0.05	70	591.80	94	93	147	528	7.0		
	50-60			0.05	70	592.81	95	94	148	527	7.0		
AVERAGE			174	0.05		6.01	92.6				6.4	7.8	
REMARKS	Pre-Leak Check: OK <0.01/min Post-Leak Check: OK <0.01/min												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min



RUN 5

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 1 of 1

PLANT: Greenidge  
 LOCATION: Air Heater Outlet  
 DUCT DIMENSIONS: 9' x 12'  
 DUCT AREA: 108 ft<sup>2</sup>  
 DATE: 6-16-08  
 TIME: Start-1136 Stop-1232  
 SAMPLE BOX: NUTech # NUC-4  
 METER BOX: NA  
 PITOT TUBE DESC: 57.46  
 OPERATOR(S):

AMBIENT TEMP [°F]: 75.0  
 BAROMETRIC PRESSURE [in Hg]: 29.73  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: 8  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: Y  
 C(p): NA  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ? rect?  
 POSITION OF PORT A:

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
Lowest	0-10	-14.4	310	.02	70	827.327	82	79	141	542	5	7.5	13.4
↓	10-20	-14.9	310	.02	70	828.080	84	80	142	548	6	7.4	13.5
↑	20-30	-15.15	311	.02	70	827.980	84	80	140	545	6	7.3	13.6
↑	30-40	-15.3	311	.02	70	830.788	84	80	140	541	7	7.7	13.2
↑	40-50	-15.8	315	.02	70	831.625	84	80	140	547	7	7.2	13.7
↑	50-60	-15.5	314	.02	70	832.440	85	81	141	549	7	7.2	13.7
AVERAGE		-15.3	311.8	0.02		5.117	81.9		142.7			7.4	
REMARKS	Pre-Leak Check: 0.00 @ 10" Hg Post-Leak Check: 0.00 @ 12" Hg												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: Greenidge  
 LOCATION: Stack  
 DUCT DIMENSIONS: 13 ft  
 DUCT AREA: 132.732 ft<sup>2</sup>  
 DATE: 1/16  
 TIME: 12:30  
 SAMPLE BOX: TEST 5  
 METER BOX: Start: 11:30 Stop: 12:30  
 PITOT TUBE DESC: NUTech # 3  
 OPERATOR(S): PR/BS

AMBIENT TEMP [°F]: 75  
 BAROMETRIC PRESSURE [in Hg]: 29.23  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: XXXX  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: Y  
 C(p): K

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ? rect?  
 POSITION OF PORT A:

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

Page 140 of 140

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (AH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10		175	.02	75	593.50	87	83	145	553	6.0	8.0	
	10-20	-0.44	176	.02	75	594.56	86	84	146	553	6.0	8.0	
	20-30		176	.02	70	596.50	87	86	146	554	6.0	7.9	
	30-40	-0.44	175	.02	70	597.50	88	87	147	554	6.0	7.9	
	40-50	-0.48	176	.02	70	598.50	89	87	147	554	6.0	8.0	
	50-60	-0.40	176	.03	70	599.18	90	88	146	554	6.0	8.0	
AVERAGE		-0.44	175.7	0.02		598	86.6		146.2			8.0	
REMARKS	Pre-Leak Check: OK 20.01/min												Post-Leak Check: OK 20.01/min

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min  


Run 6

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 1 of 1

PLANT: Greentidge  
 LOCATION: Air Heater Outlet  
 DUCT DIMENSIONS: 9' x 12'  
 DUCT AREA: 108 ft<sup>2</sup>  
 DATE: 5-16-08  
 TIME: Start-1415 Stop-1515  
 SAMPLE BOX: NTC-4  
 METER BOX: JMA  
 PITOT TUBE DESC: JMA  
 OPERATOR(S): JMA

AMBIENT TEMP [°F]: 82  
 BAROMETRIC PRESSURE [inHg] (Assumed): 27.0  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: 81  
 NOZZLE ID [in]: XXXX  
 CALIBRATION FACTORS: delta H: XXXX  
 Y: 1.000  
 C(p): 1.000  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ? rect?  
 POSITION OF PORT A:

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTIOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
10000	0-10	-14.5	314	.02	70	832.542	86	84	140	549	6	7.2	13.7
↓	10-20	-14.5	314	.02	70	834.388	86	83	143	448	7	7.2	13.7
↓	20-30	-14.3	313	.02	70	835.115	86	83	137	443	7	7.3	13.6
↓	30-40	-15.8	312	.02	70	836.070	84	82	136	520	7	7.4	13.5
↓	40-50	-14.8	314	.02	70	836.766	84	81	126	551	8	7.5	13.4
↓	50-60	-14.7	315	.02	70	837.753	81	81	130	552	8	7.4	13.5
AVERAGE		-14.8	312.7	0.02		5.211	85.7		135.3			7.3	
REMARKS	Pre-Leak Check: 0.00 @ 11" Hg Post-Leak Check: 0.00 @ 9" Hg												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: Greenidge  
 LOCATION: Stack  
 DUCT DIMENSIONS: 13 ft  
 DUCT AREA: 132.732 ft<sup>2</sup>  
 DATE: 6/18/08  
 TIME: 10:58  
 SAMPLE BOX: Stop-  
 METER BOX: NuTech # 3  
 PITOT TUBE DESC: DR/B5  
 OPERATOR(S): DR/B5

AMBIENT TEMP [°F]: 77  
 BAROMETRIC PRESSURE [in Hg]: 29.91  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: XXXX  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: Y  
 C(p): 1.062  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ? rect?  
 POSITION OF PORT A:  
 DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10	174	174	0.01	70	599.60	84	84	147	541	6.0	8.2	
	10-20	176	176	0.01	70	601.60	86	85	147	554	6.0	8.5	
	20-30	175	175	0.01	70	602.60	86	85	147	555	6.0	8.5	
	30-40	173	173	0.01	70	603.60	86	84	146	555	6.0	8.5	
	40-50	174	174	0.01	70	604.60	86	85	147	555	6.0	8.5	
	50-60	176	176	0.01	70	605.60	87	86	147	554	6.0	8.2	
AVERAGE			174.7	0.01	70	6.00	85.3		146.8	552.3		8.40	
REMARKS	Pre-Leak Check: OK <0.01/min. Post-Leak Check: OK <0.01/min.												

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min  


7  
FON

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 1 of 1

PLANT: Greenidge  
 LOCATION: Air Heater Outlet  
 DUCT DIMENSIONS: 9' x 12'  
 DUCT AREA: 108 ft<sup>2</sup>  
 DATE: 8-16-03  
 TIME: Start 1421 Stop  
 SAMPLE BOX: NuTech # NCH  
 METER BOX: NAF  
 PITOT TUBE DESC: 371  
 OPERATOR(S):

AMBIENT TEMP [°F]: 80  
 BAROMETRIC PRESSURE [in Hg]: 29.74  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: 81  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: Y  
 C(p): NAF  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ? rect?  
 POSITION OF PORT A:

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (AH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
10' 02"	0-10	-14.8	316	102	80	837.783	83	81	150	425	7	7.5	13.4
↓	10-20	-15.0	316	102	80	838.735	83	81	150	435	7	7.4	13.5
↓	20-30	-14.8	313	102	80	840.860	83	80	145	469	8	7.3	13.7
↓	30-40	-15.3	310	102	80	841.700	83	81	140	478	8	7.4	13.5
↓	40-50	-15.3	313	102	80	842.840	84	81	135	543	8	7.3	13.6
↓	50-60	-15.3	314	102	80	843.555	84	81	132	548	8	7.2	13.7
AVERAGE			313.7	0.02		577.2	82.1		142.0	486.3		7.35	

REMARKS: Pre-Leak Check: 0.00 @ 11" Hg  
 Post-Leak Check: 0.00 @ 10" Hg

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 140 of 550

WATER BATH SETTING 140  
 PROBE HTR SETTING 550  
 DUCT X-SECTION rect?  
 POSITION OF PORT A rect?

AMBIENT TEMP [°F] 77  
 BAROMETRIC PRESSURE [in Hg] 29.2  
 %H<sub>2</sub>O (Assumed) XXXX  
 PROBE LENGTH [in] XXXX  
 NOZZLE ID [in] XXXX  
 CALIBRATION FACTORS: delta H 1.012  
 Y XXXX  
 C(p) XXXX  
 K XXXX

PLANT Greentidge  
 LOCATION Stack  
 DUCT DIMENSIONS 132.732 ft2  
 DUCT AREA 616.08  
 DATE 6/16/08  
 TIME 1857  
 SAMPLE BOX Start  
 METER BOX Stop  
 PITOT TUBE DESC 1720  
 OPERATOR(S) PRBS

DRY MOLECULAR WEIGHT (Assumed)           
 WET MOLECULAR WEIGHT (Assumed)         

TRAVSE POINT [inch]	SAMPLE TIME [minutes]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
						605.70							
	0-10		177	.03	70	606.70	92	146	554	6		7.7	
	10-20		177	.03	70	607.70	92	147	557	6		7.8	
	20-30		177	.03	70	608.68	92	146	554	7		7.8	
	30-40		177	.03	70	609.71	92	146	554	7		7.8	
	40-50		174	.03	70	610.70	92	146	555	7		7.8	
	50-60		174	.03	70	611.70	92	146	554	7		7.8	
AVERAGE			176.0	0.03		6.000	92.3	146.2	554.7			7.78	
REMARKS	Pre-Leak Check: OK <0.01 CF/min												
	Post-Leak Check: OK												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min



Run 8

SO<sub>2</sub> FIELD SAMPLING DATA SHEET

Page 1 of 1

PLANT: Greenidge  
 LOCATION: Air Heater Outlet  
 DUCT DIMENSIONS: 9' x 12'  
 DUCT AREA: 108 ft<sup>2</sup>  
 DATE: 6-17-08  
 TIME: Start-130 Stop-1230  
 SAMPLE BOX: NuTech # NJC 4  
 METER BOX: N/A  
 PITOT TUBE DESC: 57, 46  
 OPERATOR(S):

AMBIENT TEMP [°F]: 66  
 BAROMETRIC PRESSURE [in Hg]: 29.98  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [in]: 81  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: XXXX  
 Y: 1.002  
 C(p): N/A  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550 ?  
 DUCT X-SECTION: circ ?  
 POSITION OF PORT A: rect ?

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
Lowed	0-10	-15.3	303	.02	80	843.757	68	64	140	471	3	7.2	13.7
	10-20	-15.5	305	.02	80	846.057	68	65	144	470	3	7.1	13.8
	20-30	-14.4	304	.02	80	847.220	70	65	140	470	3	6.8	14.1
	30-40	-14.7	312	.02	80	848.320	70	66	143	492	3	7.3	13.6
	40-50	-14.7	311	.02	80	849.425	70	66	144	495	3	7.2	13.7
	50-60	-14.5	314	.02	80	850.510	71	67	144	501	3	7.1	13.8
AVERAGE			308.2	0.02		6.753	67.5		142.5			7.10	
REMARKS	Pre-Leak Check: 0.00 @ 10" H <sub>2</sub> O Post-Leak Check: 0.00 @ 12" H <sub>2</sub> O												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 15 of 15

PLANT: Greenidge  
 LOCATION: Stack  
 DUCT DIMENSIONS: 13 ft  
 DUCT AREA: 132.732 ft<sup>2</sup>  
 DATE: 10/17/08  
 TIME: 1:30 Stop-  
 SAMPLE BOX: Test 8  
 METER BOX: Start 130  
 PITOT TUBE DESC: NuTech # 3  
 OPERATOR(S): PR/BS

AMBIENT TEMP [°F]: 65.9  
 BAROMETRIC PRESSURE [in Hg]: 29.18  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [in]: XXXX  
 NOZZLE ID [in]: XXXX  
 CALIBRATION FACTORS: delta H: Y  
 C(p): 1.062  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ? rect?  
 POSITION OF PORT A:

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10			.01	70	612.10	75	74	147	554	6.0	8.3	
	10-20	-0.520	174	.01	70	614.10	75	74	147	554	6.0	8.3	
	20-30	-0.463	174	.01	70	615.10	77	75	147	554	6.0	8.2	
	30-40		174	.01	70	616.10	77	75	147	554	6.0	8.2	
	40-50	-0.554		.01	70	617.10	78	77	147	554	6.0	8.3	
	50-60		174	.01	70	618.10	78	77	147	554	6.0	8.2	
AVERAGE			174.0	0.01		6.00	76.0		147.0	554.0		8.25	
REMARKS	Pre-Leak Check: OK <0.01 CF/min Post-Leak Check: OK <0.01 CF/min												

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min  


ROD 9

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 1 of 1

PLANT: Greenidge  
 LOCATION: Air Heater Outlet  
 DUCT DIMENSIONS: 9' x 12'  
 DUCT AREA: 108 ft<sup>2</sup>  
 DATE: 6-17-08  
 TIME: Start-13:50 Stop-14:50  
 SAMPLE BOX: NuTech # NC-4  
 METER BOX: NA  
 PITOT TUBE DESC: 57, AG  
 OPERATOR(S):

AMBIENT TEMP [°F]: 66  
 BAROMETRIC PRESSURE [in Hg]: 29.98  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: 51  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: XXXX  
 Y: 1.002  
 C(p): NA  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ? rect?  
 POSITION OF PORT A:

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
Low	0-10	-14.5	302	.02	80	850.641	69	66	140	547	4	7.5	13.4
	10-20	-15.4	302	.02	80	852.98	69	66	142	524	4	7.2	13.7
	20-30	-15.0	303	.02	80	853.732	70	67	140	516	4	7.2	13.7
High	30-40	-14.9	308	.02	80	855.032	70	66	141	510	5	7.4	13.5
	40-50	-15.0	317	.02	80	856.175	71	66	140	504	5	7.3	13.6
	50-60	-14.7	313	.02	80	857.156	71	67	140	498	5	7.6	13.3
AVERAGE			307.5	.02		6.514	69.2		140.5				7.4
REMARKS	Pre-Leak Check: 0.00 @ 12:49      Post-Leak Check: 0.00 @ 1:14												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min  
 CONSOL ENERGY



# SO<sub>2</sub> FIELD SAMPLING DATA SHEET

Page 140 of 550

PLANT: Greenidge  
 LOCATION: Stack  
 DUCT DIMENSIONS: 13 ft  
 DUCT AREA: 132.732 ft<sup>2</sup>  
 DATE: 6/17/08  
 TIME: Test 9  
 SAMPLE BOX: Start 13:50 Stop-  
 METER BOX: NuTech # 3  
 PITOT TUBE DESC:   
 OPERATOR(S): PK/BS

AMBIENT TEMP [°F]: 66  
 BAROMETRIC PRESSURE [°Hg]: 29.15  
 %H<sub>2</sub>O (Assumed):   
 PROBE LENGTH [ft]: XXXX  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: 1.062  
 Y:  C(p):  K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ?  
 POSITION OF PORT A: rect?

DRY MOLECULAR WEIGHT (Assumed):   
 WET MOLECULAR WEIGHT (Assumed):

(Assumed= )

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [° H <sub>2</sub> O]	ROTMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [° Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10		174	.07	70	618.20	75	75	147	553	6.0	9.8	
	10-20	-526	174	.04	70	620.20	76	75	146	553	6.0	9.8	
	20-30	541	174	.04	70	621.20	78	77	147	554	6.0		
	30-40												
	40-50		174	.05	70	613.19	80	80	147	555	6.0	9.8	
	50-60		174	.06	70	624.11	80	79	147	554	6.0	9.4	
AVERAGE			174	0.076		5.91	77.5		146.8			9.7	

Pre-Leak Check: OK 20.01 CF/MIN  
 Post-Leak Check: OK DEAD STOP

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min



Run 10

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 1 of 1

PLANT: Greenidge  
 LOCATION: Air Heater Outlet  
 DUCT DIMENSIONS: 9' x 12'  
 DUCT AREA: 108 ft<sup>2</sup>  
 DATE: 6-17-08  
 TIME: Start-1545 Stop- 1645  
 SAMPLE BOX: N/A  
 METER BOX: N/A  
 PITOT TUBE DESC: N/A  
 OPERATOR(S): M. A. G.

AMBIENT TEMP [°F]: 28  
 BAROMETRIC PRESSURE [in Hg]: 21.19  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: 51  
 NOZZLE ID [in]: XXXX  
 CALIBRATION FACTORS: delta H: Y  
 C(p): 1.007  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ ?  
 POSITION OF PORT A: rect ?

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
✓	0-10		311	.02	80	857.174	71	69	140	549	6	7.8	13.1
	10-20		314	.02	80	852.140	70	68	140	464	6	7.6	13.3
	20-30		316	.02	80	860.075	69	66	141	441	8	7.6	13.3
W	30-40		307	.02	80	860.785	69	66	140	444	9	7.6	13.3
	40-50		311	.02	80	861.885	69	66	140	451	10	7.4	13.5
	50-60		312	.02	80	862.775	69	66	141	451	14	7.4	13.5
AVERAGE			312.7	0.02		5.601	68.7		140.3				7.6

REMARKS: Pre-Leak Check: 0.00 @ 1611 Hg Post-Leak Check: 0.00 @ 2011 Hg

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Run 10

Page 140 of     

WATER BATH SETTING 140

PROBE HTR SETTING 550

DUCT X-SECTION circ ?

POSITION OF PORT A rect ?

AMBIENT TEMP [°F] 69

BAROMETRIC PRESSURE [° Hg] 29.78

%H<sub>2</sub>O (Assumed)     

PROBE LENGTH [ft] XXXX

NOZZLE ID [inch] XXXX

CALIBRATION FACTORS: delta H     

Y     

C(p) 1.562

K XXXX

PLANT Greentidge

LOCATION Stack

DUCT DIMENSIONS 13 ft

DUCT AREA 132.732 ft<sup>2</sup>

DATE 6/17/08

TIME Test 10

SAMPLE BOX Start- 15.4 Stop-

METER BOX NuTech # 3

PITOT TUBE DESC PR/05

OPERATOR(S)     

DRY MOLECULAR WEIGHT (Assumed)     

WET MOLECULAR WEIGHT (Assumed)     

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [° H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [° Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0 - 10		174	.05	75	624.20	78	79	147	548	8.0	9.3	
	10 - 20		174	.05	75	626.20	79	79	147	554	8.0	9.0	
	20 - 30		174	.05	75	627.21	79	78	147	554	8.0	8.8	
	30 - 40		174	.03	75	628.20	80	79	147	555	8.0	8.8	
	40 - 50		174	.03	75	629.21	78	78	147	555	8.0	8.6	
	50 - 60		174	.03	75	630.10	78	77	148	555	8.0	8.7	
AVERAGE			174	0.04		6.00	78.5		147.2			8.9	
REMARKS	Pre-Leak Check: OK Dead Stop												Post-Leak Check: OK Dead Stop

Condenser Temp = 140°F

Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

 CONSOL ENERGY

RUN 11

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 140 of 550

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ? rect?  
 POSITION OF PORT A: rect?

AMBIENT TEMP [°F]: 66  
 BAROMETRIC PRESSURE [in Hg]: 29.18  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: 12.1  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: deltaH: XXXX  
 Y: 1.052  
 C(p): 1.052  
 K: XXXX

Greenidge  
 Air Heater Outlet  
 9' x 12'  
 108 ft<sup>2</sup>  
 6-18-08  
 Start-12:12 Stop-1:31  
 NuTech # N20-4  
 A/A  
 37,46

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
down	0-10	-16.3	302	.02	79	862.842	61	60	141	528	3	7.0	13.9
	10-20	-16.3	301	.02	79	864.705	62	61	140	530	4	6.8	14.1
	20-30	-16.0	302	.02	79	866.050	63	60	140	529	4.5	6.8	14.1
	30-40	-15.8	311	.02	75	867.010	63	61	140	527	4.5	7.3	13.6
	40-50	-15.8	310	.02	72	868.000	63	62	140	529	5.0	7.2	13.7
	50-60	-	310	.02	72	869.933	63	62	140	528	5.0	7.2	13.7
AVERAGE			306.0	0.02		7.131	61.8		140.2	528.5			
REMARKS	Pre-Leak Check: 0.00 @ 12" H <sub>2</sub> O      Post-Leak Check: 0.00 @ 17" H <sub>2</sub> O												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT: Greenidge  
 LOCATION: Stack  
 DUCT DIMENSIONS: 13 ft  
 DUCT AREA: 132.732 ft<sup>2</sup>  
 DATE: 6-18-08  
 TIME: 13:10  
 SAMPLE BOX: TEST 11  
 METER BOX: Start-13.10 Stop-13.10  
 PITOT TUBE DESC: NuTech # 2003  
 OPERATOR(S): BS, PR

AMBIENT TEMP [°F]: 65  
 BAROMETRIC PRESSURE [in Hg]: 29.83  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: XXXX  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: Y  
 C(p): 10.2  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ? rect?  
 POSITION OF PORT A:  
 DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

Page: of

TRAVRSE POINT [inch]	SAMPLE TIME [minutes]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10	175	175	0.03	80	130.40	74	73	146	555	8.0	7.4	
	10-20	175	175	0.03	78	632.38	74	74	148	554	9.0	7.4	
	20-30	175	175	0.03	80	633.42	75	74	147	554	9.0	7.3	
	30-40	175	175	0.03	80	634.39	75	75	146	554	9.0	-	
	40-50	175	175	0.04	80	635.40	76	75	146	554	9.0	-	
	50-60	175	175	0.05	80	636.40	77	76	146	554	9.0	7.4	
AVERAGE			175	0.035		6.00	74.8		146.5	554.2			7.38
REMARKS	Pre-Leak Check: OK Dead Stop												
	Post-Leak Check: OK Dead Stop												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min


  
 CONSOL ENERGY

Run 12

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

PLANT	Greenidge	AMBIENT TEMP [°F]	65.8
LOCATION	Air Heater Outlet	BAROMETRIC PRESSURE [in Hg]	27.18
DUCT DIMENSIONS	9" x 12"	%H <sub>2</sub> O (Assumed)	
DUCT AREA	108 ft <sup>2</sup>	PROBE LENGTH [ft]	8.1
DATE	6-18-08	NOZZLE ID [inches]	XXXX
TIME	Start-1400 Stop-1500	CALIBRATION FACTORS: delta H	XXXX
SAMPLE BOX		Y	
METER BOX	NuTech # NK-4	C(p)	WT
PITOT TUBE DESC	NA	K	XXXX
OPERATOR(S)	ST, JC		

WATER BATH SETTING	140
PROBE HTR SETTING	550
DUCT X-SECTION	circ ?
POSITION OF PORT A	rect ?

DRY MOLECULAR WEIGHT (Assumed)	
WET MOLECULAR WEIGHT (Assumed)	

Page 1 of 1

TRAVERSE POINT [inches]	SAMPLE TIME [minutes]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
lower	0-10	-15.7	301	.02	74	867.044	65	65	140	547	3	8.2	12.7
	10-20	-16.0	301	.02	74	871.65	65	64	140	552	4	8.2	12.7
	20-30	-14.9	302	.02	74	875.901	66	65	140	471	8	8.2	12.7
	30-40	-16.2	308	.02	74	872.815	66	65	140	501	7	8.2	12.7
	40-50	-15.4	307	.02	74	873.680	66	65	140	510	8	8.2	12.7
	50-60	-14.9	307	.02	74	874.401	66	65	140	520	9	7.7	13.2
AVERAGE		-15.5	304.3	.02		5557	65.3	65.3	140			8.1	
REMARKS	Pre-Leak Check: 0.10 @ 15" ft Post-Leak Check: 0.00 @ 18" ft												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min  
 CONSOL ENERGY

\* O<sub>2</sub> low ≈ 1.0% high this test no leaks were found during sampling. Final leak ✓ was good without making any adjustments. Jm



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

*12/17*

Page *1* of *1*

PLANT: Greenidge  
 LOCATION: Stack  
 DUCT DIMENSIONS: 13 ft  
 DUCT AREA: 132.732 ft<sup>2</sup>  
 DATE: 11/18/08  
 TIME: Test 12  
 SAMPLE BOX: Start: 14:00 Stop: 15:00  
 METER BOX: NuTech # N-3  
 PITOT TUBE DESC: PK/P.S.  
 OPERATOR(S):

AMBIENT TEMP [°F]: 65  
 BAROMETRIC PRESSURE [in Hg]: 29.18  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [in]: XXXX  
 NOZZLE ID [in]: XXXX  
 CALIBRATION FACTORS: delta H: Y  
 C(p): K

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ?  
 POSITION OF PORT A: rect?

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (AH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10	-0.424	175	.03	80	637.48	81	81	148	554	9.0	7.3	
	10-20	-0.403	175	.03	80	638.49	82	81	147	554	9.0	7.5	
	20-30		175	.03	80	639.58	82	81	147	554	9.0	7.4	
	30-40	-0.440	175	.03	80	640.50	82	81	147	554	9.0	7.3	
	40-50		175	.03	80	641.51	83	81	147	554	9.0	7.5	
	50-60		175	.03	80	642.50	83	81	146	554	9.0	7.4	
AVERAGE		-0.422	175	.03		640.00	81.6		147			7.4	
REMARKS	Pre-Leak Check: <i>OK Dead Stop</i> Post-Leak Check: <i>OK Dead Stop</i>												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min



R22 (3)

SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 140 of 550

PLANT Greenidge  
 LOCATION Air Heater Outlet  
 DUCT DIMENSIONS 9' x 12'  
 DUCT AREA 108 ft<sup>2</sup>  
 DATE 6-19-08  
 TIME Start-1355 Stop-1455  
 SAMPLE BOX NuTech # N24  
 PITOT TUBE DESC N/A  
 OPERATOR(S) JJA

AMBIENT TEMP [°F] 72  
 BAROMETRIC PRESSURE [inHg] 27.7  
 %H<sub>2</sub>O (Assumed)  
 PROBE LENGTH [ft] 8  
 NOZZLE ID [inch] XXXX  
 CALIBRATION FACTORS: delta H Y  
 C(p) 0.4  
 K XXXX

WATER BATH SETTING  
 PROBE HTR SETTING  
 DUCT X-SECTION circ? rect?  
 POSITION OF PORT A

DRY MOLECULAR WEIGHT (Assumed)  
 WET MOLECULAR WEIGHT (Assumed)

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
✓	0-10		300	0.02	80	874.655	69	66	141	538	6	7.9	13.0
✓	10-20		301	0.02	80	876.700	69	66	140	523	6	7.8	13.1
✓	20-30		300	0.02	80	877.670	69	67	140	501	6	7.7	13.2
✓	30-40		308	0.02	77	878.645	70	67	141	500	6	7.3	13.4
✓	40-50		308	0.02	77	877.625	71	68	139	497	6	7.4	13.5
✓	50-60		308	0.02	77	880.600	71	68	142	496	6	7.5	13.4
AVERAGE			303	0.02		874.5	68.4		140.5			7.6	
REMARKS	Pre-Leak Check: 0.00 @ 18" Hg Post-Leak Check: 0.00 @ 15" Hg												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ? rect?  
 POSITION OF PORT A: \_\_\_\_\_  
 DRY MOLECULAR WEIGHT (Assumed): \_\_\_\_\_  
 WET MOLECULAR WEIGHT (Assumed): \_\_\_\_\_

AMBIENT TEMP [°F]: 65  
 BAROMETRIC PRESSURE [in Hg]: 29.18  
 %H<sub>2</sub>O (Assumed): \_\_\_\_\_  
 PROBE LENGTH [ft]: \_\_\_\_\_  
 NOZZLE ID [in]: XXXX  
 CALIBRATION FACTORS: delta H: XXXX  
 Y: 1.062  
 Cp: \_\_\_\_\_  
 K: XXXX

Greentidge  
 Stack  
 13 ft  
 132.732 ft2  
 6-18-08 Test  
 Start-15:55 Stop-16:55  
 NuTech # 3  
 PR/BS

PLANT: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_  
 DUCT DIMENSIONS: \_\_\_\_\_  
 DUCT AREA: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 TIME: \_\_\_\_\_  
 SAMPLE BOX: \_\_\_\_\_  
 METER BOX: \_\_\_\_\_  
 PITOT TUBE DESC: \_\_\_\_\_  
 OPERATOR(S): \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP (Assumed=)		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10		175	.02	75	643.20	84	84	147	554	9.0		
	10-20		175	.02	75	645.18	84	84	147	554	9.0	9.3	
	20-30		175	.02	75	646.11	84	84	147	554	9.0	9.0	
	30-40		175	.03	80	647.22	86	86	147	555	9.0	8.9	
	40-50		175	.03	75	648.20	87	87	147	554	9.0	9.0	
	50-60		175	.04	78	649.21	88	88	147	555	9.0	8.9	
AVERAGE			175	0.022		6.01	85.7	85.7	147			9.0	
REMARKS	Pre-Leak Check: OK Dead Stop												Post-Leak Check: OK Dead Stop

Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min  


\* Don't think the MapS reads accurately at such a low flow rate  
 was using O<sub>2</sub> from the Acid Gas Train <sup>for</sup> ~~from~~ all previous tests  
 PR/BS

Run 14

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 1 of 1

PLANT: Greenidge  
 LOCATION: Air Heater Outlet  
 DUCT DIMENSIONS: 9' x 12'  
 DUCT AREA: 108 ft<sup>2</sup>  
 DATE: 6-18-08  
 TIME: Start-1:50 Stop- 12:50  
 SAMPLE BOX: NUTech # 214-4  
 METER BOX: N/A  
 PITOT TUBE DESC: 37, A6  
 OPERATOR(S):

AMBIENT TEMP [°F]: 60  
 BAROMETRIC PRESSURE [° Hg]: 29.73  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: 8.1  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: XXXX  
 Y: 1.02  
 C(p):  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ?  
 POSITION OF PORT A: rect?

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [° H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [° H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [° Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
low	0-10	-16.0	294	.02	75	880.723	66	65	140	545	3	7.4	11.5
↓	10-20	-16.3	296	.02	75	881.830	66	65	143	493	3	9.4	13.5
↓	20-30	-16.2	294	.02	75	883.710	68	65	141	485	3	7.2	13.7
↓	30-40	-16.3	302	.02	75	884.920	68	65	142	512	3	7.3	13.6
↓	40-50	-16.3	304	.02	75	885.885	68	66	140	546	3	7.3	13.6
↓	50-60	-16.2	305	.02	75	886.745	69	66	140	548	3	7.3	13.6
AVERAGE			299.2	0.02		6.072	66.3		141.0	519.8		7.30	
REMARKS	Pre-Leak Check: 0.00 @ 22:15 Post-Leak Check: 0.00 @ 7:14												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min  
 CONSOL ENERGY



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 1 of 1

PLANT: Greenidge  
 LOCATION: Stack  
 DUCT DIMENSIONS: 13 ft  
 DUCT AREA: 132.732 ft<sup>2</sup>  
 DATE: 6-15-08  
 TIME: 11:50 Stop-  
 SAMPLE BOX: TEST 14  
 METER BOX: N3  
 PITOT TUBE DESC: PR/BS  
 OPERATOR(S):

AMBIENT TEMP [°F]: 65  
 BAROMETRIC PRESSURE [in Hg]: 30.2  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: XXXX  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: Y  
 C(p): 1.06  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ?  
 POSITION OF PORT A: rect?

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10		182	.03	80	649.30	77	76	144	555	9.0	7.7	
	10-20	-1.507	183	.03	80	651.30	77	76	148	552	9.0	7.6	
	20-30	-1.424	180	.03	80	652.30	78	77	146	555	9.0	7.6	
	30-40		180	.03	80	653.30	78	77	148	554	9.0	7.5	
	40-50	-1.514	180	.03	80	654.30	78	77	147	555	9.0	7.6	
	50-60	-1.451	180	.03	80	655.31	79	78	147	551	9.0	7.6	
AVERAGE			180.8	0.03		6.01	77.3		146.7	553.7			7.60
REMARKS	Pre-Leak Check: OK Dead Stop												
	Post-Leak Check: OK Dead Stop												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min



Run 15

### SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 1 of 1

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ ?  
 POSITION OF PORT A: rect ?

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

AMBIENT TEMP [°F]: 65  
 BAROMETRIC PRESSURE [in Hg]: 27.76  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: 8  
 NOZZLE ID [in]: XXXX  
 CALIBRATION FACTORS: delta H: Y  
 C(p): NA  
 K: XXXX

Greenidge  
 Air Heater Outlet  
 9' x 12'  
 108 ft<sup>2</sup>  
 6-19-08  
 Start: 12:58 Stop: 12:58  
 NuTech # NA  
 NA  
 J. A. A.

TRAVRSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
Low	0-10		297	.02	75	886.850	67	67	140	539	5	7.4	13.5
	10-20		299	.02	75	887.955	67	67	142	482	5	7.4	13.5
	20-30		296	.02	75	888.140	68	68	140	493	5	7.3	13.6
Upper	30-40		306	.02	75	887.120	68	68	140	492	5	7.4	13.5
	40-50		307	.02	75	890.715	67	67	140	473	5	7.2	13.7
	50-60		305	.02	75	891.912	68	68	141	469	5	7.4	13.5
AVERAGE			299.2	0.02		6.05	67.8	67.8	140.5			7.4	
REMARKS	Pre-Leak Check: 0.00 @ 8:14 Post-Leak Check: 0.00 @ 8:14												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min

CONSOL ENERGY



# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 140 of 1

PLANT: Greenidge  
 LOCATION: Stack  
 DUCT DIMENSIONS: 13 ft  
 DUCT AREA: 132.732 ft<sup>2</sup>  
 DATE: 6-14-08  
 TIME: 14:56  
 SAMPLE BOX: TEST 15  
 METER BOX: Start 14:56 Stop 15:56  
 PITOT TUBE DESC: NuTech # N3  
 OPERATOR(S): PK

AMBIENT TEMP [°F]: 65  
 BAROMETRIC PRESSURE [in Hg]: 29.26  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: XXXX  
 NOZZLE ID [incht]: XXXX  
 CALIBRATION FACTORS: delta H: Y  
 C(p): K  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ ?  
 POSITION OF PORT A: rect ?

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVERSE POINT [incht]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
	0-10		180	.04	90	655.40	79	78	147	554	10		
	10-20		180	.03	80	657.40	80	78	147	555	10		
	20-30		179	.03	80	658.40	80	78	147	555	10		
	30-40		179	.03	80	659.40	80	78	147	555	10		
	40-50		178	.03	80	660.40	79	78	147	555	10		
	50-60		179	.03	80	661.40	79	78	147	555	10		7.3
AVERAGE			179.2	0.03		6.000	78.8		147				7.3
REMARKS	Pre-Leak Check: OK Deed Stop												
	Post-Leak Check: OK												



Condenser Temp = 140°F  
 Sampling Rate = 3 lpm = 0.1 ft<sup>3</sup>/min

22216

# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 1 of 1

PLANT: Greenidge  
 LOCATION: Air Heater Outlet  
 DUCT DIMENSIONS: 9' x 12'  
 DUCT AREA: 108 ft<sup>2</sup>  
 DATE: 6-19-08  
 TIME: Start: 1540 Stop: 1610  
 SAMPLE BOX: NuTech # NUC-4  
 METER BOX: NA  
 PITOT TUBE DESC: 57.46  
 OPERATOR(S):

AMBIENT TEMP [°F]: 70  
 BAROMETRIC PRESSURE [in Hg]: 29.16  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: 81  
 NOZZLE ID [inch]: XXXX  
 CALIBRATION FACTORS: delta H: Y, C(p): NA, K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ?  
 POSITION OF PORT A: rect?

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
Low	0-10	-15.1	298	0.02	75	872.913	69	69	140	503	6	7.2	13.7
	10-20	-15.0	294	0.02	75	874.720	70	68	140	470	8	7.1	13.8
	20-30	-15.3	306	0.02	75	875.725	70	68	140	470	10	7.1	13.8
	30-40	---	308	0.02	75	876.935	71	68	140	476	6	7.3	13.6
	40-50	---	305	0.02	75	877.420	71	68	141	454	6	7.3	13.6
	50-60	---	304	0.02	75	878.485	72	68	140	458	6	7.5	13.4
AVERAGE		-15.2	302.7	0.02		5.582	69.3		140			7.3	
REMARKS	Pre-Leak Check: 0.00 @ 10" H <sub>2</sub> O      Post-Leak Check: 0.00 @ 15" H <sub>2</sub> O												

→TAR 1616

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min





# SO<sub>3</sub> FIELD SAMPLING DATA SHEET

Page 1 of 1

PLANT: Greenidge  
 LOCATION: Stack  
 DUCT DIMENSIONS: 13 ft  
 DUCT AREA: 132.732 ft<sup>2</sup>  
 DATE: 1-21-08  
 TIME: 15:45 Stop - 16:40  
 SAMPLE BOX: TEST 16  
 METER BOX: NuTech # N13  
 PITOT TUBE DESC: RR  
 OPERATOR(S): RR

AMBIENT TEMP [°F]: 65  
 BAROMETRIC PRESSURE [in Hg]: 29.26  
 %H<sub>2</sub>O (Assumed):  
 PROBE LENGTH [ft]: XXXX  
 NOZZLE ID [inches]: XXXX  
 CALIBRATION FACTORS: delta H: Y  
 C(p): 1.062  
 K: XXXX

WATER BATH SETTING: 140  
 PROBE HTR SETTING: 550  
 DUCT X-SECTION: circ? rect?  
 POSITION OF PORT A:

DRY MOLECULAR WEIGHT (Assumed):  
 WET MOLECULAR WEIGHT (Assumed):

TRAVERSE POINT [inch]	SAMPLE TIME [minute]	STATIC PRESSURE [in H <sub>2</sub> O]	STACK TEMP [°F]	Meter Orifice (ΔH) [in H <sub>2</sub> O]	ROTOMETER SETTING	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		CONDENSER TEMP [°F]	PROBE TEMP [°F]	METER VACUUM [in Hg]	Meter Outlet	
							inlet	outlet				O <sub>2</sub> [%]	CO <sub>2</sub> [%]
						661.50							
	0-10		179	.05	80	662.50	80	78	145	551	10.0	7.5	
	10-20	-457	179	.05	80	663.50	81	80	147	554	10.0	7.6	
	20-30		179	.05	80	664.47	81	80	147	554	10.0		
	30-40		180	.05	80	665.50	81	80	147	555	10.0		
	40-50		180	.05	80	666.50	81	79	147	554	10.0		
	50-60		178	.06	80	667.44	81	80	147	554	10.0		
AVERAGE			179.2	0.05		5.99	80.0		146.7	553.7			7.55
REMARKS	Pre-Leak Check: OK Dead Stop - Post-Leak Check: OK												

Condenser Temp = 140°F  
 Sampling Rate=3 lpm=0.1 ft<sup>3</sup>/min



**APPENDIX H.5  
HYDROGEN CHLORIDE, HYDROGEN FLUORIDE,  
AND PARTICULATE MATTER TESTS**

- **Sampling Data Reduction Worksheets**
  - **Field Sampling Data Sheets**



**GREENIDGE**  
**PM Emission Summary**

Location	Stack	Stack	Stack			
Date	11/17/04	11/17/04	11/18/04			
Start Time	850	1452	1438			
Stop Time	1124	1728	1642			
Test Number	PM-#1	PM-#2	PM-#3	Average	SDEV	PRSD
<b>MEASURED TEST VARIABLES</b>						
Y factor of Dry Gas Meter	-	0.976	0.976	0.976		
Gas Volume	- ft <sup>3</sup>	54.58	55.15	55.15	54.96	0.33
delta H of Dry Gas Meter	- " H <sub>2</sub> O	1.670	1.670	1.670		0.6%
Meter Temperature	- ° F	62.0	66.9	66.1		
C Factor of Pitot Tube	-	0.838	0.838	0.838		
Nozzle Diameter	- inches	0.249	0.249	0.249		
Area of Nozzle	- ft <sup>2</sup>	0.00034	0.00034	0.00034		
Area of Stack	- ft <sup>2</sup>	132.73	132.73	132.73		
H <sub>2</sub> O Weight	- gm	84.0	81.5	84.3		
Sample Time	- minutes	80	80	80		
Barometric Pressure	- " Hg	29.60	29.56	29.40		
Static Pressure	- " H <sub>2</sub> O	-1.08	-1.06	-1.01	-1.05	0.04
% Oxygen	-	6.3	6.8	6.6	6.57	0.25
% Carbon Dioxide	-	13.8	13.4	13.6	13.60	0.20
% N <sub>2</sub> + CO	-	79.9	79.8	79.8	79.83	0.06
Stack Temp (Dry Bulb)	- ° F	309.1	307.1	309.4	308.53	1.25
Stack Temp (Wet Bulb)	- ° F	309.1	307.1	309.4	308.53	1.25
"S" Sample (rms vel head)	- " H <sub>2</sub> O	0.604	0.607	0.606	0.61	0.00
Dust Weight	- gm	0.9023	0.0675	0.1459	0.3719	0.4610
<b>CALCULATED TEST VARIABLES</b>						
Sample Volume	- dscf	53.51	53.49	53.28	53.43	0.12
Absolute Stack Pressure	- " Hg	29.52	29.48	29.33	29.44	0.10
Absolute Stack Temperature	- ° R	769	767	769	768.53	1.25
H <sub>2</sub> O - % by Volume	- vapor	212.5	209.1	214.5	212.04	2.70
H <sub>2</sub> O - % by Volume	- w/ droplets	6.9	6.7	6.9	6.84	0.13
Water Volume	- std ft <sup>3</sup>	3.96	3.84	3.97	3.92	0.07
Dry Molecular Weight	- lb/lb-mole	30.46	30.42	30.44	30.44	0.02
Wet Molecular Weight	- lb/lb-mole	29.60	29.58	29.58	29.59	0.01
% Excess Air	-	43	48	46	45.29	2.55
Mole Fraction of Dry Gas	-	0.931	0.933	0.931	0.93	0.00
Mole Fraction of Wet Gas	-	0.069	0.067	0.069	0.07	0.00
<b>STACK FLOW RATE</b>						
Gas Velocity, Direct	- ft/sec	52.23	52.34	52.53	52.37	0.15
ACFM	-	415980	416864	418307	417050	1174.66
DSCFM	-	262365	263799	261849	262671	1010.70
DSCFM (rounded)	-	262400	263800	261800	262667	1026.32
Excess Air Free DSCFM	-	183279	177970	179160	180136	2785.92
<b>CALCULATED FIRING RATE</b>						
Dry (F-Factor based)	- lb/min	1373	1331	1340	1347.68	21.97
Wet (F-Factor based)	- lb/min	1420	1382	1391	1397.40	19.82
Dry (F-Factor based)	- lb/hr	82351	79848	80382	80860.59	1318.14
Wet (F-Factor based)	- lb/hr	85179	82899	83453	83843.83	1189.08
Dry (F-Factor based)	- tons/hr	41.18	39.92	40.19	40.43	0.66
Wet (F-Factor based)	- tons/hr	42.59	41.45	41.73	41.92	0.59
<b>DRYER HEAT INPUT</b>						
MM Btu/hr (F-Factor based)	-	1136.9	1099.4	1106.7	1114.33	19.92
<b>PM LOADING</b>						
Grains/DSCF	-	0.260	0.019	0.042	0.107	0.133
lb/hr	-	585.4	44.0	94.8	241.45	299.00
lb/MM Btu	-	0.51	0.04	0.09	0.21	0.26
<b>ACID GASES</b>						
HCl, ppm in impingers	-	193	186	159	179	18.0
HCl, mg/dSCM	-	65	64	57	62	4.2
HCl, ppm in gas	-	43	42	38	41	2.8
HCl, lb/hr	-	64	63	56	61	4.3
HF, ppm in impingers	-	6.35	5.35	5.00	5.57	0.70
HF, mg/dSCM	-	2.2	1.9	1.8	2.0	0.2
HF, ppm in gas	-	2.6	2.3	2.2	2.4	0.2
HF, lb/hr	-	2.2	1.9	1.8	1.9	0.19
<b>ISOKINETICS</b>						
% Isokinetic	-	100.2	99.6	99.9	99.90	0.29

**AES GREENIDGE UNIT 4**  
**HCl, HF, & PM Emission Summary**  
**Guarantee Testing**

Location	AHO	Stack	AHO	Stack	AHO	Stack	
Date	03/29/07	03/29/07	03/29/07	03/29/07	03/29/07	03/29/07	
Start Time	1000	1005	1220	1222	1515	1516	
Stop Time	1115	1125	1335	1344	1630	1637	
Test Number	PM-#1	PM-#1	PM-#2	PM-#2	PM-#3	PM-#3	
<b>MEASURED TEST VARIABLES</b>							
Y factor of Dry Gas Meter	-	0.970	1.046	0.970	1.046	0.970	1.046
Gas Volume	- ft <sup>3</sup>	27.13	41.62	27.23	42.63	26.80	43.06
delta H of Dry Gas Meter	- " H <sub>2</sub> O	0.637	1.510	0.617	1.549	0.632	1.563
Meter Temperature	- ° F	45.2	45.3	53.0	55.9	52.8	56.2
C Factor of Pitot Tube	-	0.840	0.835	0.840	0.835	0.840	0.835
Nozzle Diameter	- inches	0.184	0.248	0.184	0.248	0.184	0.248
Area of Nozzle	- ft <sup>2</sup>	0.00018	0.00034	0.00018	0.00034	0.00018	0.00034
Area of Stack	- ft <sup>2</sup>	114.0	132.7	114.0	132.7	114.0	132.7
H <sub>2</sub> O Weight	- gm	45.5	116.0	48.1	120.4	47.9	115.4
Sample Time	- minutes	63	64	63	64	63	64
Barometric Pressure	- " Hg	30.06	30.06	30.03	30.03	29.97	29.97
Static Pressure	- " H <sub>2</sub> O	-13.05	-0.54	-13.38	-0.53	-13.24	-0.55
% Oxygen (see note)	-	7.1	9.2	7.1	8.5	7.3	8.9
% CO <sub>2</sub> (see note)	-	12.1	10.3	12.1	10.9	12.0	10.5
% N <sub>2</sub> + CO (calculated)	-	80.8	80.5	80.8	80.6	80.8	80.6
Stack Temp (Dry Bulb)	- ° F	293.1	173.9	297.4	174.0	297.9	174.6
Stack Temp (Wet Bulb)	- ° F						
"S" Sample (rms vel head)	- " H <sub>2</sub> O	0.792	0.569	0.764	0.582	0.786	0.587
Dust Weight	- gm	4.3945	0.0009	4.0666	0.0006	4.2243	0.0007
HCl mass	- mg	197.90	95.21	32.59	3.76	33.93	1.50
HF mass	- mg	<0.17	<0.14	<0.17	<0.17	<0.17	<0.15
<b>CALCULATED TEST VARIABLES</b>							
Sample Volume	- dscf	27.66	45.85	27.32	45.96	26.84	46.31
Sample Volume	- dscm	0.78	1.30	0.77	1.30	0.76	1.31
Absolute Stack Pressure	- " Hg	29.10	30.02	29.05	29.99	29.00	29.93
Absolute Stack Temperature	- ° R	753	634	757	634	758	635
H <sub>2</sub> O - % by Volume	- vapor						
H <sub>2</sub> O - % by Volume	- w/ droplets	7.2	10.6	7.7	11.0	7.8	10.5
Water Volume	- std ft <sup>3</sup>	2.14	5.46	2.27	5.67	2.26	5.44
Dry Molecular Weight	- lb/lb-mole	30.23	30.02	30.22	30.08	30.21	30.04
Wet Molecular Weight	- lb/lb-mole	29.35	28.74	29.29	28.75	29.26	28.78
% Excess Air	-	50	76	50	67	52	72
Mole Fraction of Dry Gas	-	0.928	0.894	0.923	0.890	0.922	0.895
Mole Fraction of Wet Gas	-	0.072	0.106	0.077	0.110	0.078	0.105
<b>STACK FLOW RATE</b>							
Gas Velocity, Direct	- ft/sec	60.01	46.16	59.23	46.69	60.17	46.95
ACFM	-	410498	367587	405123	371868	411584	373869
DSCFM	-	259793	274495	253174	276337	256339	278476
DSCFM (rounded)	-	259800	274500	253200	276300	256300	278500
Excess Air Free DSCFM	-	171538	153991	167168	163764	167295	159971
<b>CALCULATED FIRING RATE</b>							
Dry (F-Factor based)	- lb/min	1282	1151	1247	1221	1254	1199
Wet (F-Factor based)	- lb/min	1338	1202	1307	1280	1315	1257
Dry (F-Factor based)	- lb/hr	76936	69067	74801	73278	75264	71969
Wet (F-Factor based)	- lb/hr	80309	72094	78408	76811	78902	75448
Dry (F-Factor based)	- tons/hr	38.47	34.53	37.40	36.64	37.63	35.98
Wet (F-Factor based)	- tons/hr	40.15	36.05	39.20	38.41	39.45	37.72
<b>HEAT INPUT</b>							
MM Btu/hr (F-Factor based)	-	1068.9	959.5	1035.1	1014.0	1052.3	1006.3
<b>PM LOADING</b>							
Grains/DSCF	-	2.4511	0.0003	2.2971	0.0002	2.4283	0.0002
lb/hr	-	5460.10	0.71	4987.21	0.48	5336.55	0.56
lb/MM Btu	-	5.108	0.0007	4.818	0.0005	5.071	0.0006
<b>ACID GASES</b>							
HCl, ppmvd	-	166.58	48.35	27.78	1.91	29.43	0.75
HCl, ppmvd @ 3% O <sub>2</sub>	-	216.07	73.82	36.04	2.75	38.63	1.12
HCl, lb/hr	-	245.97	75.43	39.98	2.99	42.89	1.19
HF, ppmvd	-	<0.26	<0.13	<0.26	<0.16	<0.27	<0.14
HF, ppmvd @ 3% O <sub>2</sub>	-	<0.34	<0.20	<0.34	<0.23	<0.35	<0.21
HF, lb/hr	-	<0.21	<0.11	<0.21	<0.14	<0.21	<0.12
<b>ISOKINETICS</b>							
% Isokinetic	-	104.5	103.4	105.8	102.9	102.7	102.9

NOTE: The %O<sub>2</sub> at the air heater outlet was measured by CONSOL using a Teledyne Max 5 portable electrochemical analyzer, and the %CO<sub>2</sub> at the air heater outlet was calculated from the measured Q and coal composition. The %CO<sub>2</sub> at the stack was measured by the plant's stack CEM, and the %O<sub>2</sub> at the stack was calculated from the measured CO<sub>2</sub> and coal composition. HCl concentrations measured at both the air heater outlet and stack during Test #1 are invalid because the sampling train was contaminated with HCl.



**AES GREENIDGE UNIT 4**  
**HCl & HF Emission Summary**  
**Guarantee Testing**

Location	AHO	Stack	AHO	Stack	
Date	05/04/07	05/04/07	05/04/07	05/04/07	
Start Time	831	831	1015	1015	
Stop Time	931	940	1119	1130	
Test Number	AGI-#1	AGO-#1	AGI-#2	AGO-#2	
<b>MEASURED TEST VARIABLES</b>					
Y factor of Dry Gas Meter	-	0.991	0.970	0.991	0.970
Gas Volume	- ft <sup>3</sup>	36.61	45.96	42.76	44.87
delta H of Dry Gas Meter	- " H <sub>2</sub> O	1.920	1.770	1.960	1.673
Meter Temperature	- ° F	55.8	55.4	68.0	63.7
C Factor of Pitot Tube	-	0.840	0.839	0.840	0.839
Nozzle Diameter	- inches	0.248	0.250	0.248	0.250
Area of Nozzle	- ft <sup>2</sup>	0.00034	0.00034	0.00034	0.00034
Area of Stack	- ft <sup>2</sup>	114.0	132.7	114.0	132.7
H <sub>2</sub> O Weight	- gm	69.0	149.3	68.9	142.7
Sample Time	- minutes	55	64	60	64
Barometric Pressure	- " Hg	29.74	29.74	29.74	29.74
Static Pressure	- " H <sub>2</sub> O	-13.50	-0.46	-13.30	-0.40
% Oxygen (see note below)	-	7.9	8.1	7.3	8.0
% CO <sub>2</sub> (see note below)	-	11.4	11.2	11.9	11.2
% N <sub>2</sub> + CO (calculated)	-	80.7	80.7	80.8	80.7
Stack Temp (Dry Bulb)	- ° F	303.2	173.3	303.3	171.8
Stack Temp (Wet Bulb)	- ° F				
"S" Sample (rms vel head)	- " H <sub>2</sub> O	0.709	0.544	0.737	0.521
Dust Weight	- gm				
HCl mass	- mg	46.70	1.79	55.22	1.36
HF mass	- mg	<0.16	<0.12	<0.16	<0.12
<b>CALCULATED TEST VARIABLES</b>					
Sample Volume	- dscf	37.08	45.58	42.30	43.78
Sample Volume	- dscm	1.05	1.29	1.20	1.24
Absolute Stack Pressure	- " Hg	28.75	29.71	28.76	29.71
Absolute Stack Temperature	- ° R	763	633	763	632
H <sub>2</sub> O - % by Volume	- vapor				
H <sub>2</sub> O - % by Volume	- w/ droplets	8.1	13.4	7.1	13.3
Water Volume	- std ft <sup>3</sup>	3.25	7.03	3.25	6.72
Dry Molecular Weight	- lb/lb-mole	30.14	30.12	30.19	30.12
Wet Molecular Weight	- lb/lb-mole	29.16	28.50	29.33	28.50
% Excess Air	-	59	61	52	61
Mole Fraction of Dry Gas	-	0.919	0.866	0.929	0.867
Mole Fraction of Wet Gas	-	0.081	0.134	0.071	0.133
<b>STACK FLOW RATE</b>					
Gas Velocity, Direct	- ft/sec	57.70	45.76	58.65	44.72
ACFM	-	394643	364388	401146	356127
DSCFM	-	241184	261313	247742	256203
DSCFM (rounded)	-	241200	261300	247700	256200
Excess Air Free DSCFM	-	150019	160183	161684	157557
<b>CALCULATED FIRING RATE</b>					
Dry (F-Factor based)	- lb/min	1122	1198	1222	1191
Wet (F-Factor based)	- lb/min	1193	1274	1300	1267
Dry (F-Factor based)	- lb/hr	67320	71881	73325	71453
Wet (F-Factor based)	- lb/hr	71571	76421	77980	75990
Dry (F-Factor based)	- tons/hr	33.66	35.94	36.66	35.73
Wet (F-Factor based)	- tons/hr	35.79	38.21	38.99	38.00
<b>HEAT INPUT</b>					
MM Btu/hr (F-Factor based)	-	924.4	987.1	1009.1	983.3
<b>PM LOADING</b>					
Grains/DSCF	-				
lb/hr	-				
lb/MM Btu	-				
<b>ACID GASES</b>					
HCl, ppmvd	-	29.33	0.91	30.40	0.72
HCl, ppmvd @ 3% O <sub>2</sub>	-	40.38	1.28	39.89	1.01
HCl, lb/hr	-	40.20	1.36	42.80	1.05
HF, ppmvd	-	<0.18	<0.11	<0.16	<0.12
HF, ppmvd @ 3% O <sub>2</sub>	-	<0.25	<0.16	<0.21	<0.16
HF, lb/hr	-	<0.14	<0.09	<0.12	<0.09
<b>ISOKINETICS</b>					
% Isokinetic	-	95.1	106.2	96.8	104.1

NOTE: The %O<sub>2</sub> at the air heater outlet was measured by CONSOL using a Teledyne Max 5 portable electrochemical analyzer, and the % CO<sub>2</sub> at the air heater outlet was calculated from the measured Q and coal composition. The %CO<sub>2</sub> at the stack was measured by the plant's stack CEM, and the %Q at the stack was calculated from the measured CQ and coal composition.

**AES GREENIDGE UNIT 4**  
**HCl, HF, & PM Emission Summary**  
**Process Performance Testing - High-Sulfur Coal**

Location	AHO	Stack	AHO	Stack
Date	10/04/07	10/04/07	10/05/07	10/05/07
Start Time	1520	1520	840	840
Stop Time	1630	1637	948	959
Test Number	AGI-#1	AGO-#1	AGI-#2	AGO-#2
<b>MEASURED TEST VARIABLES</b>				
Y factor of Dry Gas Meter -	0.970	0.967	0.970	0.967
Gas Volume - ft <sup>3</sup>	32.20	47.73	31.17	44.72
delta H of Dry Gas Meter - " H <sub>2</sub> O	0.900	1.720	0.818	1.430
Meter Temperature - ° F	83.1	86.7	73.1	67.5
C Factor of Pitot Tube -	0.827	0.833	0.827	0.833
Nozzle Diameter - inches	0.194	0.248	0.194	0.248
Area of Nozzle - ft <sup>2</sup>	0.00021	0.00034	0.00021	0.00034
Area of Stack - ft <sup>2</sup>	114.0	132.7	114.0	132.7
H <sub>2</sub> O Weight - gm	64.7	151.2	63.6	154.7
Sample Time - minutes	63	64	63	64
Barometric Pressure - " Hg	29.59	29.59	29.68	29.68
Static Pressure - " H <sub>2</sub> O	-12.80	-0.40	-13.20	-0.42
% Oxygen -	6.9	7.0	7.0	7.2
% CO <sub>2</sub> (calculated) -	12.1	12.0	12.0	11.8
% N <sub>2</sub> + CO (calculated) -	81.0	81.0	81.0	81.0
Stack Temp (Dry Bulb) - ° F	310.3	177.3	303.1	175.3
Stack Temp (Wet Bulb) - ° F				
"S" Sample (rms vel head) - " H <sub>2</sub> O	0.970	0.605	0.867	0.603
Dust Weight - gm	5.9323	0.0008	5.0546	0.0009
HCl mass - mg	33.01	3.29	28.72	0.37
HF mass - mg	0.73	<0.14	0.67	<0.12
<b>CALCULATED TEST VARIABLES</b>				
Sample Volume - dscf	30.09	44.26	29.75	43.07
Sample Volume - dscm	0.85	1.25	0.84	1.22
Absolute Stack Pressure - " Hg	28.65	29.56	28.71	29.65
Absolute Stack Temperature - ° R	770	637	763	635
H <sub>2</sub> O - % by Volume - vapor				
H <sub>2</sub> O - % by Volume - w/ droplets	9.2	13.9	9.1	14.5
Water Volume - std ft <sup>3</sup>	3.05	7.12	3.00	7.29
Dry Molecular Weight - lb/lb-mole	30.21	30.20	30.20	30.18
Wet Molecular Weight - lb/lb-mole	29.09	28.51	29.09	28.42
% Excess Air -	48	49	49	51
Mole Fraction of Dry Gas -	0.908	0.861	0.909	0.855
Mole Fraction of Wet Gas -	0.092	0.139	0.091	0.145
<b>STACK FLOW RATE</b>				
Gas Velocity, Direct - ft/sec	66.94	48.15	62.93	48.01
ACFM -	457903	383438	430441	382329
DSCFM -	272896	270355	259635	269320
DSCFM (rounded) -	272900	270400	259600	269300
Excess Air Free DSCFM -	182801	179805	172676	176540
<b>CALCULATED FIRING RATE</b>				
Dry (F-Factor based) - lb/min	1354	1332	1286	1315
Wet (F-Factor based) - lb/min	1435	1411	1372	1402
Dry (F-Factor based) - lb/hr	81252	79921	77145	78871
Wet (F-Factor based) - lb/hr	86100	84689	82305	84147
Dry (F-Factor based) - tons/hr	40.63	39.96	38.57	39.44
Wet (F-Factor based) - tons/hr	43.05	42.34	41.15	42.07
<b>HEAT INPUT</b>				
MM Btu/hr (F-Factor based) -	1118.7	1100.4	1060.4	1084.1
<b>PM LOADING</b>				
Grains/DSCF -	3.0421	0.0003	2.6216	0.0003
lb/hr -	7118.44	0.65	5835.52	0.74
lb/MM Btu -	6.36	0.0006	5.50	0.0007
<b>ACID GASES</b>				
HCl, ppmvd -	25.55	1.73	22.48	0.20
HCl, ppmvd @ 3% O <sub>2</sub> -	32.66	2.23	28.95	0.26
HCl, lb/hr -	39.62	2.66	33.17	0.31
HF, ppmvd -	1.02	<0.13	0.96	<0.12
HF, ppmvd @ 3% O <sub>2</sub> -	1.31	<0.17	1.23	<0.15
HF, lb/hr -	0.87	<0.11	0.77	<0.10
<b>ISOKINETICS</b>				
% Isokinetic -	97.3	101.3	101.1	99.0



**AES GREENIDGE UNIT 4**  
**HCl, HF, & PM Emission Summary**  
**Process Performance Testing - Turbosorp Parametric Tests**

Location	AHO	Stack	AHO	Stack	AHO	Stack	
Date	10/08/07	10/08/07	10/09/07	10/09/07	10/10/07	10/10/07	
Start Time	1533	1530	1040	1040	1440	1445	
Stop Time	1640	1640	1147	1150	1548	1553	
Test Number	AGI-#3	AGO-#3	AGI-#4	AGO-#4	AGI-#5	AGO-#5	
<b>MEASURED TEST VARIABLES</b>							
Y factor of Dry Gas Meter	-	1.046	0.967	1.046	0.967	1.046	0.967
Gas Volume	- ft <sup>3</sup>	27.68	48.64	28.12	47.04	28.57	48.87
delta H of Dry Gas Meter	- " H <sub>2</sub> O	0.769	1.770	0.794	1.700	0.684	1.710
Meter Temperature	- ° F	87.3	94.4	76.6	72.0	85.3	74.9
C Factor of Pitot Tube	-	0.827	0.833	0.827	0.833	0.827	0.833
Nozzle Diameter	- inches	0.194	0.248	0.194	0.248	0.194	0.248
Area of Nozzle	- ft <sup>2</sup>	0.00021	0.00034	0.00021	0.00034	0.00021	0.00034
Area of Stack	- ft <sup>2</sup>	114.0	132.7	114.0	132.7	114.0	132.7
H <sub>2</sub> O Weight	- gm	88.3	166.6	61.6	156.0	54.7	152.6
Sample Time	- minutes	63	64	63	64	63	64
Barometric Pressure	- " Hg	29.26	29.26	29.26	29.26	29.09	29.09
Static Pressure	- " H <sub>2</sub> O	-14.50	-0.35	-15.34	-0.38	-15.70	-0.38
% Oxygen	-	6.8	7.2	7.0	7.4	6.9	7.2
% CO <sub>2</sub> (calculated)	-	12.2	11.9	12.0	11.7	12.1	11.8
% N <sub>2</sub> + CO (calculated)	-	81.0	80.9	81.0	80.9	81.0	80.9
Stack Temp (Dry Bulb)	- ° F	316.2	174.1	309.0	174.1	321.7	174.2
Stack Temp (Wet Bulb)	- ° F						
"S" Sample (rms vel head)	- " H <sub>2</sub> O	0.791	0.631	0.822	0.610	0.799	0.611
Dust Weight	- gm	4.5035	0.0010	4.8498	0.0004	4.5961	0.0001
HCl mass	- mg	31.30	3.80	30.16	0.93	31.43	2.04
HF mass	- mg	0.44	<0.16	0.55	<0.15	0.81	<0.14
<b>CALCULATED TEST VARIABLES</b>							
Sample Volume	- dscf	27.36	43.99	28.35	44.32	28.17	45.53
Sample Volume	- dscm	0.77	1.24	0.80	1.25	0.80	1.29
Absolute Stack Pressure	- " Hg	28.19	29.23	28.13	29.23	27.94	29.06
Absolute Stack Temperature	- ° R	776	634	769	634	782	634
H <sub>2</sub> O - % by Volume	- vapor						
H <sub>2</sub> O - % by Volume	- w/ droplets	13.2	15.1	9.3	14.2	8.4	13.6
Water Volume	- std ft <sup>3</sup>	4.16	7.85	2.90	7.35	2.58	7.19
Dry Molecular Weight	- lb/lb-mole	30.23	30.19	30.21	30.17	30.21	30.18
Wet Molecular Weight	- lb/lb-mole	28.62	28.35	29.07	28.44	29.19	28.52
% Excess Air	-	47	51	49	53	48	51
Mole Fraction of Dry Gas	-	0.868	0.849	0.907	0.858	0.916	0.864
Mole Fraction of Wet Gas	-	0.132	0.151	0.093	0.142	0.084	0.136
<b>STACK FLOW RATE</b>							
Gas Velocity, Direct	- ft/sec	61.67	49.48	62.15	48.58	61.88	48.69
ACFM	-	421849	394081	425133	386864	423230	387779
DSCFM	-	234720	272083	248974	269965	244547	270830
DSCFM (rounded)	-	234700	272100	249000	270000	244500	270800
Excess Air Free DSCFM	-	158352	178351	165586	174379	163811	177141
<b>CALCULATED FIRING RATE</b>							
Dry (F-Factor based)	- lb/min	1176	1324	1226	1291	1210	1309
Wet (F-Factor based)	- lb/min	1261	1420	1302	1371	1289	1394
Dry (F-Factor based)	- lb/hr	70553	79463	73579	77486	72614	78523
Wet (F-Factor based)	- lb/hr	75660	85215	78109	82257	77331	83624
Dry (F-Factor based)	- tons/hr	35.28	39.73	36.79	38.74	36.31	39.26
Wet (F-Factor based)	- tons/hr	37.83	42.61	39.05	41.13	38.67	41.81
<b>HEAT INPUT</b>							
MM Btu/hr (F-Factor based)	-	979.0	1102.6	1015.9	1069.9	1004.2	1086.0
<b>PM LOADING</b>							
Grains/DSCF	-	2.5400	0.0004	2.6397	0.0001	2.5173	0.0000
lb/hr	-	5111.56	0.82	5635.89	0.32	5277.49	0.08
lb/MM Btu	-	5.22	0.0007	5.55	0.0003	5.26	0.0001
<b>ACID GASES</b>							
HCl, ppmvd	-	26.64	2.01	24.77	0.49	25.98	1.04
HCl, ppmvd @ 3% O <sub>2</sub>	-	33.82	2.63	31.90	0.65	33.22	1.37
HCl, lb/hr	-	35.54	3.11	35.06	0.75	36.11	1.61
HF, ppmvd	-	0.68	<0.15	0.82	<0.14	1.21	<0.13
HF, ppmvd @ 3% O <sub>2</sub>	-	0.87	<0.20	1.05	<0.19	1.55	<0.17
HF, lb/hr	-	0.50	<0.13	0.63	<0.12	0.92	<0.11
<b>ISOKINETICS</b>							
% Isokinetic	-	102.9	100.1	100.5	101.6	101.7	104.0

**AES GREENIDGE UNIT 4**  
**HCl, HF, & PM Emission Summary**  
**Process Performance Testing - Biomass Co-Firing**

Location	AHO	Stack	AHO	Stack	AHO	Stack	AHO	Stack	
Date	03/10/08	03/10/08	03/13/08	03/13/08	03/13/08	03/13/08	03/13/08	03/13/08	
Start Time	1443	1457	902	915	1147	1155	1417	1425	
Stop Time	1609	1610	1034	1042	1259	1304	1530	1533	
Test Number	AGI-#1	AGO-#1	AGI-#2	AGO-#2	AGI-#3	AGO-#3	AGI-#4	AGO-#4	
<b>MEASURED TEST VARIABLES</b>									
Y factor of Dry Gas Meter	-	1.002	0.993	1.002	0.993	1.002	0.993	1.002	0.993
Gas Volume	- ft <sup>3</sup>	42.23	41.30	44.38	51.32	30.80	44.71	31.98	44.93
delta H of Dry Gas Meter	- " H <sub>2</sub> O	2.000	1.660	2.050	1.820	0.867	1.875	0.862	1.860
Meter Temperature	- ° F	44.4	44.0	39.6	38.3	42.1	41.2	46.1	48.3
C Factor of Pitot Tube	-	0.840	0.834	0.840	0.834	0.840	0.834	0.840	0.834
Nozzle Diameter	- inches	0.260	0.249	0.260	0.249	0.211	0.249	0.211	0.249
Area of Nozzle	- ft <sup>2</sup>	0.00037	0.00034	0.00037	0.00034	0.00024	0.00034	0.00024	0.00034
Area of Stack	- ft <sup>2</sup>	114.0	132.7	114.0	132.7	114.0	132.7	114.0	132.7
H <sub>2</sub> O Weight	- gm	80.6	134.3	102.8	159.0	64.1	141.9	63.7	144.0
Sample Time	- minutes	59	60	63	72	63	60	63	60
Barometric Pressure	- " Hg	29.74	29.74	29.38	29.38	29.29	29.29	29.18	29.18
Static Pressure	- " H <sub>2</sub> O	-15.94	-0.73	-16.47	-0.75	-16.54	-0.69	-16.60	-0.75
% Oxygen	-	7.4	7.5	7.1	7.9	7.2	7.9	7.1	7.8
% CO <sub>2</sub> (calculated)	-	11.8	11.7	12.1	11.4	12.0	11.4	12.1	11.5
% N <sub>2</sub> + CO (calculated)	-	80.8	80.8	80.8	80.7	80.8	80.7	80.8	80.7
Stack Temp (Dry Bulb)	- ° F	303.8	173.8	301.1	185.8	303.6	185.6	307.4	184.7
Stack Temp (Wet Bulb)	- ° F								
"S" Sample (rms vel head)	- " H <sub>2</sub> O	0.750	0.600	0.747	0.658	0.742	0.676	0.743	0.672
Dust Weight	- gm	8.6452	0.0004	10.5744	0.0002	7.0329	0.0012	6.9052	0.0011
HCl mass	- mg	64.17	2.92	59.81	2.23	47.60	1.04	52.51	1.06
HF mass	- mg	1.47	<0.14	0.98	<0.14	1.12	<0.13	1.23	<0.13
<b>CALCULATED TEST VARIABLES</b>									
Sample Volume	- dscf	44.23	42.86	46.37	53.24	31.83	45.98	32.66	45.39
Sample Volume	- dscm	1.25	1.21	1.31	1.51	0.90	1.30	0.92	1.28
Absolute Stack Pressure	- " Hg	28.57	29.69	28.17	29.32	28.07	29.24	27.96	29.12
Absolute Stack Temperature	- ° R	764	634	761	646	764	646	767	645
H <sub>2</sub> O - % by Volume	- vapor								
H <sub>2</sub> O - % by Volume	- w/ droplets	7.9	12.9	9.5	12.3	8.7	12.7	8.4	13.0
Water Volume	- std ft <sup>3</sup>	3.80	6.33	4.84	7.49	3.02	6.68	3.00	6.78
Dry Molecular Weight	- lb/lb-mole	30.18	30.17	30.22	30.14	30.21	30.14	30.22	30.15
Wet Molecular Weight	- lb/lb-mole	29.22	28.61	29.06	28.64	29.15	28.60	29.19	28.57
% Excess Air	-	53	54	50	59	51	59	50	58
Mole Fraction of Dry Gas	-	0.921	0.871	0.905	0.877	0.913	0.873	0.916	0.870
Mole Fraction of Wet Gas	-	0.079	0.129	0.095	0.123	0.087	0.127	0.084	0.130
<b>STACK FLOW RATE</b>									
Gas Velocity, Direct	- ft/sec	59.49	47.71	59.84	50.71	59.75	51.51	60.02	51.45
ACFM	-	406919	379976	409325	403876	408699	410210	410549	409718
DSCFM	-	247352	273686	242066	283729	242188	286250	241755	284175
DSCFM (rounded)	-	247400	273700	242100	283700	242200	286200	241800	284200
Excess Air Free DSCFM	-	159773	175473	159833	176482	158755	178050	159628	178119
<b>CALCULATED FIRING RATE</b>									
Dry (F-Factor based)	- lb/min	1211	1330	1230	1358	1222	1370	1229	1371
Wet (F-Factor based)	- lb/min	1325	1455	1346	1487	1337	1500	1345	1500
Dry (F-Factor based)	- lb/hr	72652	79791	73812	81501	73314	82225	73718	82257
Wet (F-Factor based)	- lb/hr	79471	87280	80784	89199	80239	89991	80680	90026
Dry (F-Factor based)	- tons/hr	36.33	39.90	36.91	40.75	36.66	41.11	36.86	41.13
Wet (F-Factor based)	- tons/hr	39.74	43.64	40.39	44.60	40.12	45.00	40.34	45.01
<b>HEAT INPUT</b>									
MM Btu/hr (F-Factor based)	-	983.6	1080.2	999.1	1103.2	992.4	1113.0	997.8	1113.4
<b>PM LOADING</b>									
Grains/DSCF	-	3.0161	0.0001	3.5190	0.0001	3.4097	0.0004	3.2622	0.0004
lb/hr	-	6398.13	0.34	7304.98	0.14	7080.96	0.99	6763.48	0.91
lb/MM Btu	-	6.51	0.0003	7.31	0.0001	7.14	0.0009	6.78	0.0008
<b>ACID GASES</b>									
HCl, ppmvd	-	33.79	1.59	30.04	0.98	34.83	0.53	37.44	0.54
HCl, ppmvd @ 3% O <sub>2</sub>	-	44.80	2.12	38.96	1.34	45.50	0.73	48.56	0.74
HCl, lb/hr	-	47.50	2.47	41.33	1.57	47.94	0.86	51.44	0.88
HF, ppmvd	-	1.41	<0.14	0.90	<0.11	1.49	<0.12	1.60	<0.12
HF, ppmvd @ 3% O <sub>2</sub>	-	1.87	<0.19	1.16	<0.15	1.95	<0.17	2.07	<0.17
HF, lb/hr	-	1.09	<0.12	0.68	<0.10	1.13	<0.11	1.20	<0.11
<b>ISOKINETICS</b>									
% Isokinetic	-	93.8	102.6	94.1	102.4	98.0	105.2	100.8	104.6



**AES GREENIDGE UNIT 4**  
**HCl, HF, & PM Emission Summary**  
**Process Performance Testing - Reduced Load**

Location	AHO	Stack	AHO	Stack	AHO	Stack	AHO	Stack	AHO	Stack
Date	05/21/08	05/21/08	05/21/08	05/21/08	05/21/08	05/21/08	05/22/08	05/22/08	05/22/08	05/22/08
Start Time	0044	0050	0350	0430	2300	2305	0129	0130	0413	0410
Stop Time	0151	0230	0456	0547	0008	0017	0236	0250	0521	0527
Test Number	AGI-#1	AGO-#1	AGI-#2	AGO-#2	AGI-#3	AGO-#3	AGI-#4	AGO-#4	AGI-#5	AGO-#5
<b>MEASURED TEST VARIABLES</b>										
Y factor of Dry Gas Meter	-	0.998	0.990	0.998	0.990	0.998	0.990	0.998	0.990	0.998
Gas Volume	- ft <sup>3</sup>	21.33	29.98	19.96	38.04	16.77	32.40	16.95	33.98	16.78
delta H of Dry Gas Meter	- " H <sub>2</sub> O	0.416	0.733	0.372	1.180	0.258	0.880	0.266	0.859	0.271
Meter Temperature	- ° F	55.3	55.7	55.2	57.2	53.0	56.9	52.8	56.8	48.7
C Factor of Pitot Tube	-	0.821	0.821	0.821	0.821	0.821	0.821	0.821	0.821	0.821
Nozzle Diameter	- inches	0.191	0.260	0.191	0.260	0.191	0.260	0.191	0.260	0.191
Area of Nozzle	- ft <sup>2</sup>	0.00020	0.00037	0.00020	0.00037	0.00020	0.00037	0.00020	0.00037	0.00020
Area of Stack	- ft <sup>2</sup>	114.0	132.7	114.0	132.7	114.0	132.7	114.0	132.7	114.0
H <sub>2</sub> O Weight	- gm	27.7	94.5	35.4	112.2	31.7	80.4	30.1	84.4	30.6
Sample Time	- minutes	63	64	63	64	63	64	63	64	63
Barometric Pressure	- " Hg	28.85	28.85	28.88	28.88	28.91	28.91	28.94	28.94	28.97
Static Pressure	- " H <sub>2</sub> O	-11.00	-0.49	-9.27	-0.50	-6.40	-0.48	-6.60	-0.47	-6.20
% Oxygen	-	7.5	7.9	7.2	8.2	9.5	10.0	9.3	10.2	9.7
% CO <sub>2</sub> (calculated)	-	11.6	11.3	11.9	11.0	9.9	9.4	10.0	9.2	9.7
% N <sub>2</sub> + CO (calculated)	-	80.9	80.8	80.9	80.8	80.6	80.6	80.7	80.6	80.5
Stack Temp (Dry Bulb)	- ° F	301.1	172.8	294.0	169.1	278.4	173.0	277.8	171.7	272.6
Stack Temp (Wet Bulb)	- ° F									
"S" Sample (rms vel head)	- " H <sub>2</sub> O	0.416	0.226	0.437	0.376	0.299	0.270	0.313	0.276	0.320
Dust Weight	- gm	4.4674	0.0016	4.4859	0.0009	2.7054	0.0011	3.2315	0.0003	3.0947
HCl mass	- mg	27.67	2.19	26.75	1.79	16.12	<0.17	12.24	<0.16	12.60
HF mass	- mg	0.36	<0.19	0.17	<0.15	<0.18	<0.16	<0.17	0.19	<0.14
<b>CALCULATED TEST VARIABLES</b>										
Sample Volume	- dscf	21.04	29.34	19.72	37.21	16.65	31.72	16.85	33.30	16.83
Sample Volume	- dscm	0.60	0.83	0.56	1.05	0.47	0.90	0.48	0.94	0.48
Absolute Stack Pressure	- " Hg	28.04	28.81	28.20	28.84	28.44	28.87	28.45	28.91	28.51
Absolute Stack Temperature	- ° R	761	633	754	629	738	633	738	632	733
H <sub>2</sub> O - % by Volume	- vapor									
H <sub>2</sub> O - % by Volume	- w/ droplets	5.8	13.2	7.8	12.4	8.2	10.7	7.8	10.7	7.9
Water Volume	- std ft <sup>3</sup>	1.30	4.45	1.67	5.28	1.49	3.79	1.42	3.98	1.44
Dry Molecular Weight	- lb/lb-mole	30.16	30.12	30.19	30.09	29.96	29.91	29.98	29.89	29.94
Wet Molecular Weight	- lb/lb-mole	29.45	28.52	29.24	28.59	28.97	28.64	29.05	28.62	29.00
% Excess Air	-	54	59	51	62	81	89	78	92	84
Mole Fraction of Dry Gas	-	0.942	0.868	0.922	0.876	0.918	0.893	0.922	0.893	0.921
Mole Fraction of Wet Gas	-	0.058	0.132	0.078	0.124	0.082	0.107	0.078	0.107	0.079
<b>STACK FLOW RATE</b>										
Gas Velocity, Direct	- ft/sec	43.46	29.28	44.37	37.59	36.33	31.91	37.10	32.22	37.37
ACFM	-	297272	233174	303501	299394	248509	254123	253763	256607	255640
DSCFM	-	181995	162687	184684	212111	155004	182746	159308	185115	161738
DSCFM (rounded)	-	182000	162700	184700	212100	155000	182700	159300	185100	161700
Excess Air Free DSCFM	-	116686	101193	121061	128890	84548	95308	88420	94772	86673
<b>CALCULATED FIRING RATE</b>										
Dry (F-Factor based)	- lb/min	883	766	916	975	641	723	671	719	657
Wet (F-Factor based)	- lb/min	938	813	973	1036	681	768	712	763	698
Dry (F-Factor based)	- lb/hr	52968	45935	54954	58508	38470	43365	40231	43121	39437
Wet (F-Factor based)	- lb/hr	56256	48787	58365	62140	40856	46055	42727	45796	41883
Dry (F-Factor based)	- tons/hr	26.48	22.97	27.48	29.25	19.23	21.68	20.12	21.56	19.72
Wet (F-Factor based)	- tons/hr	28.13	24.39	29.18	31.07	20.43	23.03	21.36	22.90	20.94
<b>HEAT INPUT</b>										
MM Btu/hr (F-Factor based)	-	705.3	611.7	731.8	779.1	517.4	583.2	541.1	579.9	530.4
<b>PM LOADING</b>										
Grains/DSCF	-	3.2755	0.0008	3.5107	0.0004	2.5074	0.0005	2.9587	0.0001	2.8370
lb/hr	-	5111.57	1.17	5559.92	0.68	3332.42	0.84	4041.34	0.22	3933.45
lb/MM Btu	-	7.25	0.0019	7.60	0.0009	6.44	0.0014	7.47	0.0004	7.42
<b>ACID GASES</b>										
HCl, ppmvd	-	30.62	1.74	31.59	1.12	22.55	<0.12	16.91	<0.11	17.43
HCl, ppmvd @ 3% O <sub>2</sub>	-	40.90	2.39	41.28	1.58	35.40	<0.20	26.10	<0.19	27.86
HCl, lb/hr	-	31.67	1.61	33.16	1.35	19.86	<0.13	15.31	<0.12	16.02
HF, ppmvd	-	0.73	<0.27	0.37	<0.17	<0.46	<0.21	<0.43	0.24	<0.35
HF, ppmvd @ 3% O <sub>2</sub>	-	0.97	<0.38	0.48	<0.24	<0.72	<0.35	<0.66	0.41	<0.56
HF, lb/hr	-	0.41	<0.14	0.21	<0.11	<0.22	<0.12	<0.21	0.14	<0.18
<b>ISOKINETICS</b>										
% Isokinetic	-	105.3	101.6	97.2	98.8	97.8	97.7	96.3	101.3	94.7

**AES GREENIDGE UNIT 4**  
**HCl, HF, & PM Emission Summary**  
**Follow-Up Testing**

Location	AHO	Stack	AHO	Stack	AHO	Stack	AHO	Stack	
Date	06/10/08	06/10/08	06/11/08	06/11/08	06/11/08	06/11/08	06/11/08	06/11/08	
Start Time	1327	1330	902	905	1145	1145	1457	1455	
Stop Time	1456	1528	1009	1025	1252	1300	1606	1610	
Test Number	AGI-#1	AGO-#1	AGI-#2	AGO-#2	AGI-#3	AGO-#3	AGI-#4	AGO-#4	
<b>MEASURED TEST VARIABLES</b>									
Y factor of Dry Gas Meter	-	0.985	0.990	0.985	0.990	0.985	0.990	0.985	0.990
Gas Volume	- ft <sup>3</sup>	21.10	49.96	26.03	49.44	26.50	50.40	26.17	50.00
delta H of Dry Gas Meter	- " H <sub>2</sub> O	0.575	1.844	0.700	1.890	0.620	1.930	0.600	1.850
Meter Temperature	- ° F	87.3	93.4	71.2	76.7	77.1	80.9	80.9	90.3
C Factor of Pitot Tube	-	0.821	0.821	0.821	0.821	0.821	0.821	0.821	0.821
Nozzle Diameter	- inches	0.191	0.260	0.191	0.260	0.191	0.260	0.191	0.260
Area of Nozzle	- ft <sup>2</sup>	0.00020	0.00037	0.00020	0.00037	0.00020	0.00037	0.00020	0.00037
Area of Stack	- ft <sup>2</sup>	114.0	132.7	114.0	132.7	114.0	132.7	114.0	132.7
H <sub>2</sub> O Weight	- gm	41.7	154.5	50.9	148.3	49.7	162.5	46.1	154.7
Sample Time	- minutes	53	64	63	64	63	64	63	64
Barometric Pressure	- " Hg	29.29	29.29	29.38	29.38	29.41	29.41	29.44	29.44
Static Pressure	- " H <sub>2</sub> O	-12.84	-0.39	-13.80	-0.40	-13.60	-0.42	-13.20	-0.39
% Oxygen	-	6.7	8.5	6.8	7.7	6.9	7.7	6.8	7.8
% CO <sub>2</sub> (calculated)	-	12.3	10.7	12.2	11.5	12.1	11.5	12.2	11.4
% N <sub>2</sub> + CO (calculated)	-	81.0	80.8	81.0	80.8	81.0	80.8	81.0	80.8
Stack Temp (Dry Bulb)	- ° F	319	174	310	175	317	173	313	170
Stack Temp (Wet Bulb)	- ° F								
"S" Sample (rms vel head)	- " H <sub>2</sub> O	0.648	0.559	0.692	0.570	0.700	0.590	0.680	0.560
Dust Weight	- gm	4.3776	0.0010	4.4461	0.0014	5.1110	0.0007	4.2657	0.0006
HCl mass	- mg	25.11	<0.18	35.27	<0.15	35.92	<0.15	33.76	<0.14
HF mass	- mg	<0.16	<0.15	<0.13	<0.14	<0.12	<0.14	<0.12	<0.15
<b>CALCULATED TEST VARIABLES</b>									
Sample Volume	- dscf	19.65	46.39	25.06	47.49	25.25	48.09	24.79	46.93
Sample Volume	- dscm	0.56	1.31	0.71	1.34	0.71	1.36	0.70	1.33
Absolute Stack Pressure	- " Hg	28.35	29.26	28.37	29.35	28.41	29.38	28.47	29.41
Absolute Stack Temperature	- ° R	779	634	770	635	777	633	773	630
H <sub>2</sub> O - % by Volume	- vapor								
H <sub>2</sub> O - % by Volume	- w/ droplets	9.1	13.6	8.7	12.8	8.5	13.7	8.1	13.4
Water Volume	- std ft <sup>3</sup>	1.96	7.28	2.40	6.98	2.34	7.65	2.17	7.29
Dry Molecular Weight	- lb/lb-mole	30.24	30.06	30.23	30.14	30.22	30.14	30.23	30.13
Wet Molecular Weight	- lb/lb-mole	29.13	28.42	29.16	28.58	29.18	28.47	29.24	28.50
% Excess Air	-	46	66	47	56	48	56	47	58
Mole Fraction of Dry Gas	-	0.909	0.864	0.913	0.872	0.915	0.863	0.919	0.866
Mole Fraction of Wet Gas	-	0.091	0.136	0.087	0.128	0.085	0.137	0.081	0.134
<b>STACK FLOW RATE</b>									
Gas Velocity, Direct	- ft/sec	54.90	45.82	56.33	46.10	56.85	46.90	55.77	45.53
ACFM	-	375492	364929	385311	367146	388841	373483	381457	362631
DSCFM	-	219094	256846	228611	261070	229611	263897	227954	258601
DSCFM (rounded)	-	219100	256800	228600	261100	229600	263900	228000	258600
Excess Air Free DSCFM	-	148858	152387	154230	164887	153807	166672	153787	162090
<b>CALCULATED FIRING RATE</b>									
Dry (F-Factor based)	- lb/min	1091	1117	1128	1206	1125	1219	1125	1185
Wet (F-Factor based)	- lb/min	1132	1158	1178	1259	1175	1273	1174	1238
Dry (F-Factor based)	- lb/hr	65456	67007	67673	72348	67487	73132	67478	71121
Wet (F-Factor based)	- lb/hr	67900	69510	70673	75556	70478	76374	70470	74274
Dry (F-Factor based)	- tons/hr	32.73	33.50	33.84	36.17	33.74	36.57	33.74	35.56
Wet (F-Factor based)	- tons/hr	33.95	34.75	35.34	37.78	35.24	38.19	35.23	37.14
<b>HEAT INPUT</b>									
MM Btu/hr (F-Factor based)	-	912.7	934.4	951.4	1017.2	948.8	1028.2	948.7	999.9
<b>PM LOADING</b>									
Grains/DSCF	-	3.4373	0.0003	2.7380	0.0005	3.1230	0.0002	2.6555	0.0002
lb/hr	-	6457.64	0.73	5366.81	1.02	6148.35	0.51	5191.46	0.44
lb/MM Btu	-	7.08	0.0008	5.64	0.0010	6.48	0.0005	5.47	0.0004
<b>ACID GASES</b>									
HCl, ppmvd	-	29.76	<0.09	32.78	<0.07	33.12	<0.07	31.72	<0.07
HCl, ppmvd @ 3% O <sub>2</sub>	-	37.51	<0.13	41.61	<0.10	42.35	<0.10	40.26	<0.09
HCl, lb/hr	-	37.05	<0.13	42.59	<0.11	43.23	<0.11	41.09	<0.10
HF, ppmvd	-	<0.35	<0.14	<0.22	<0.13	<0.20	<0.12	<0.21	<0.14
HF, ppmvd @ 3% O <sub>2</sub>	-	<0.44	<0.20	<0.28	<0.17	<0.26	<0.17	<0.26	<0.19
HF, lb/hr	-	<0.24	<0.11	<0.16	<0.10	<0.14	<0.10	<0.15	<0.11
<b>ISOKINETICS</b>									
% Isokinetic	-	97.1	101.7	99.8	102.4	100.1	102.6	99.0	102.2





# EPA METHOD 5 PARTICULATE SAMPLING FIELD DATA SHEET

TEST ID: \_\_\_\_\_ PLANT: AES Greentidge LOCATION: Unit 6 Stack DATE: 11-17-04 OPERATOR(S): BS, J, J, KC AMBIENT TEMP [°F]: ~48.0, KC BAR. PRESS. [in. Hg]: 29.60

METER BOX: N17-7 PITOT TUBE DESC: 8 PROBE LENGTH [in]: 8 NOZZLE ID [inch]: 8 %H<sub>2</sub>O (Assumed): 8 FILTER ID: #1 K FACTOR: 2.2

CAL. DATA: delta H: \_\_\_\_\_ Y: \_\_\_\_\_ C(p): \_\_\_\_\_ FILTER BOX SETTING: 325 PROBE HTR SETTING: 325 DUCT X-SECTION: circ? DUCT AREA: 13 ft<sup>2</sup> other: 132.732 ft<sup>2</sup>

Comments: 1742

Page \_\_\_\_\_ of \_\_\_\_\_

TRAVERSE POINT [port-inch]	CLOCK TIME [24-hr]	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST [% vol]	
								inlet	outlet					O <sub>2</sub>	CO <sub>2</sub>
B-5	0850	0					662.92			305	245	243	40	6.5	13.1
B-16-3/8"		5		.60	1.67	5.5	666.44	54	50	305	245	243	40	6.5	13.1
B-30-1/4"		10		.65	1.80	6	670.02	58	51	305	248	244	38	6.3	13.8
B-50-3/8"		15	-1.011	.62	1.72	5.5	673.48	61	52	306	246	244	41	6.3	13.8
		20		.62	1.72	5.5	676.90	64	53	306	249	244	45	6.3	13.8
							677.02*								
C-5		25		.62	1.72	5.5	680.51	63	55	308	247	245	45	6.3	13.8
C-16-3/8"	RESTART	30		.67	1.85	6	684.04	65	56	309	249	244	48	6.1	14.0
C-30-1/4"	1002 →	35	-1.113	.65	1.80	6	687.61	63	59	309	240	245	45	6.2	13.9
C-50-3/8"		40		.62	1.72	6	691.08	66	60	308	246	244	45	6.2	13.9
							691.20*								
D-5		45		.60	1.67	5	694.48	66	60	309	246	244	45	6.3	13.8
D-16-3/8"		50		.60	1.67	5.5	697.87	69	61	310	246	245	47	6.3	13.8
D-30-1/4"		55		.60	1.67	5.5	701.26	71	62	310	248	245	53	6.1	14.0
D-50-3/8"		60		.60	1.67	5.5	704.68	71	62	310	245	244	55	6.7	13.7
							704.80*								
A-5		65		.51	1.40	4.5	711.22	67	62	311	249	245	51	6.2	13.9
A-16-3/8"		70		.55	1.50	5	711.22	69	63	313	245	244	50	6.3	13.8
A-30-1/4"		75	-1.047	.58	1.60	5	714.53	72	64	313	246	245	52	6.2	13.9
A-50-3/8"		80		.58	1.60	5	717.86	72	64	313	245	246	53	6.4	13.7
	1124														
AVERAGE			-1.028	0.604	1.67		74.58	62.0		309.1				6.3	13.8

Sample Train: Pre-Test \_\_\_\_\_ Post-Test \_\_\_\_\_ in. Hg

Leak Checks: Pre-Test \_\_\_\_\_ Post-Test \_\_\_\_\_ in. Hg

Pilot Tube: Pre-Test \_\_\_\_\_ Post-Test \_\_\_\_\_ in. H<sub>2</sub>O

Leak Checks: Pre-Test \_\_\_\_\_ Post-Test \_\_\_\_\_ in. H<sub>2</sub>O

CONSOLIDATED TECHNOLOGY



EPA METHOD 5 PARTICULATE SAMPLING FIELD DATA SHEET

TEST ID: T20  
 PLANT: AES Greentidge  
 LOCATION: Unit 6 Stack  
 DATE: 11-17-04  
 OPERATOR(S): B.S. J.W. K.C.  
 AMBIENT TEMP [°F]: 54.0  
 BAR. PRESS. [in. Hg]: 29.56

METER BOX: 2-2  
 PITOT TUBE DESC: E-1  
 PROBE LENGTH [ft]: 8  
 NOZZLE ID [inch]: 1/4  
 %H<sub>2</sub>O (Assumed): 8  
 FILTER ID: # 2  
 K FACTOR: 2.79

CAL. DATA: delta H: 1956  
 Y: 0.576  
 C(p): 0.338  
 FILTER BOX SETTING: 325  
 PROBE HTR SETTING: 325  
 DUCT X-SECTION: circ  
 DUCT DIMENSIONS: 13 ft  
 rect?  other: 132.732 ft<sup>2</sup>

Comments: 81.5 mol  
 C. O. 27.7

Page \_\_\_ of \_\_\_

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
B-5	1452 START	0					727.90	62	60	306	277	275	47	6.5	13.7
B-16-3/8"		5		.58	1.60	3.5	731.31	67	61	307	278	273	47	6.6	13.6
B-30-1/4"		10		.65	1.80	4	734.89	67	61	307	278	278	48	6.7	13.5
B-50-3/8"		15	-1.087	.66	1.82	4	738.48	69	62	307	279	277	51	6.5	13.7
		20		.68	1.88	4	742.14								
		25		.7	1.30	3	745.35	68	63	307	278	276	48	6.3	13.8
C-5		30		.60	1.65	4	748.76	70	63	308	278	276	48	6.5	13.7
C-16-3/8"		35	-1.072	.60	1.65	4	752.10	72	64	309	279	277	50	6.5	13.7
C-30-1/4"	1543 STOP	40		.62	1.70	4	755.65	74	65	308	277	278	51	6.7	13.8
C-50-3/8"							755.80*								
D-5		45		.58	1.60	3.5	759.22	68	65	306	277	276	47	7.7	12.8
D-16-3/8"		50		.62	1.70	3.5	762.62	71	65	308	277	277	47	7.4	12.8
D-30-1/4"		55	-0.970	.62	1.70	3.5	766.19	73	66	308	279	276	47	7.0	13.2
D-50-3/8"		60		.62	1.70	3.5	769.60	74	66	307	277	276	49	7.0	13.2
							769.80*								
A-5		65		.58	1.60	3.5	773.23	69	66	306	278	276	50	7.0	13.2
A-16-3/8"		70		.60	1.65	3.5	776.62	70	65	306	277	276	48	7.0	13.2
A-30-1/4"		75	-1.059	.62	1.70	4	780.10	72	66	307	278	275	47	7.2	13.0
A-50-3/8"	STOP	80		.62	1.70	4	783.56	73	66	306	250	276	48	7.4	12.8
	1728														
AVERAGE			-1.06	0.607	1.67		55.15	66.9		307.1				6.8	13.4



Sample Train: Pre Test  Post Test   
 Leak Checks: Pre Test  Post Test   
 Pilot Tube: Pre Test  Post Test   
 Leak Checks: Pre Test  Post Test   
 in. H<sub>2</sub>O: 7 in. H<sub>2</sub>O



EPA METHOD 5 PARTICULATE SAMPLING FIELD DATA SHEET

TEST ID: PHREF      METER BOX: 2-2      CAL. DATA: delta H: 1.556      Comments: 84.346      Page      of     

PLANT: AES Greentidge      PITOT TUBE DESC: 8      Y: 0.576

LOCATION: Unit 6 Stack      PROBE LENGTH [ft]: 8      C(p): 325

DATE: 11-18-07      NOZZLE ID [inch]: 8      FILTER BOX SETTING: 325

OPERATOR(S): B.S. J.W.K.C.      %H<sub>2</sub>O (Assumed): 3      PROBE HTR SETTING: circ?

AMBIENT TEMP (°F): 29.40      FILTER ID: #3      DUCT X-SECTION: rect?

BAR. PRESS. [in. Hg]: 29.40      K FACTOR: 2.75      DUCT AREA: 132.732 ft<sup>2</sup>

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
B-5	1438	0					785.80	60	58	308	249	245	42	6.5	13.7
B-5	START	5		.58	1.60	5	793.20	60	58	308	249	245	42	6.6	13.6
B-16-3/8"		10		.62	1.70	5	796.64	62	58	308	249	247	40	6.6	13.6
B-30-1/4"		15	-1.005	.65	1.80	5.5	800.18	65	59	308	248	244	42	6.6	13.6
B-50-3/8"		20		.62	1.70	5.5	803.68	67	60	307	249	247	46	6.7	13.5
							803.80*								
C-5		25		.62	1.70	5.5	801.32	67	62	308	251	248	47	6.6	13.6
C-16-3/8"		30		.65	1.80	6	810.88	69	62	308	245	246	47	6.6	13.6
C-30-1/4"		35	-1.067	.68	1.88	6	814.52	71	62	308	244	247	49	6.6	13.6
C-50-3/8"		40		.62	1.70	5.5	818.01	72	62	308	249	246	51	6.6	13.6
							818.10*								
D-5		45		.60	1.65	4.5	821.54	68	63	310	246	245	46	6.8	13.4
D-16-3/8"		50		.60	1.65	4.5	824.50	70	63	311	249	247	45	6.7	13.5
D-30-1/4"		55	-0.9262	.58	1.60	5	828.36	73	64	311	249	247	46	6.6	13.6
D-50-3/8"		60		.58	1.60	5	831.75	73	65	311	251	246	47	6.6	13.6
							831.90*								
A-5		65		.52	1.45	4.5	835.14	71	65	311	248	247	45	6.8	13.4
A-16-3/8"		70		.58	1.60	5	838.50	73	66	311	246	246	44	6.7	13.5
A-30-1/4"		75		.60	1.65	5	841.90	75	67	312	251	247	45	6.6	13.6
A-50-3/8"	STOP	80		.60	1.65	5	845.31	76	67	311	252	246	48	6.5	13.7
							845.31								
AVERAGE			-1.01	0.606	1.67		55.15	76.1		309.4				6.6	13.6
Sample Train Leak Checks: Pre Test <u>0.15</u> ft <sup>3</sup> @ <u>10</u> in. Hg      Post Test <u>0.15</u> ft <sup>3</sup> @ <u>10</u> in. Hg								Pilot Tube Leak Checks: Pre Test <u>OK</u> @ <u>7</u> in. H <sub>2</sub> O      Post Test <u>OK</u> @ <u>7</u> in. H <sub>2</sub> O							





# ACID GAS / METHOD 5 PARTICULATE SAMPLING FIELD DATA SHEET

Page      of     

TEST ID	1	METER BOX	N-1	CAL. DATA: delta H	High negative vacuum
PLANT	GREENIDGE	PITOT TUBE DESC		Y	
LOCATION	AIR HEATER OUTLET	PROBE LENGTH [ft]	12	C(p)	
DATE	3/29/07	NOZZLE ID [inch]		FILTER BOX SETTING	10 min purge
OPERATOR(S)		%H <sub>2</sub> O (Assumed)		PROBE HTR SETTING	24 hr test
AMBIENT TEMP [°F]		FILTER ID	1029	DUCT X-SECTION	
BAR. PRESS. [° Hg]	30.00	K FACTOR	0.744	DUCT AREA	
				rect ?	
				circ ?	
				other:	
				DUCT DIMENSIONS	(3) (5)

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
1-2"	1000	7	-13.22	0.1	0.9007	1.0	43.50	41	40	292	283	160	38	7.0	13.2
1-6"		14	-12.70	0.94	0.70	5.0	48.31	42	40	243	283	161	38	7.0	13.2
1-10"		21	-12.86	0.66	0.72	5.5	51.57	46	41	299	289	148	38	6.6	13.6
2-2"		28	-13.39	0.57	0.27	3.0	54.38	47	42	288	279	173	39	7.6	12.7
2-6"		35	-13.00	0.81	0.60	6.0	58.31	48	43	294	283	176	39	7.1	13.1
2-10"		42	-13.16	1.4	1.04	8.0	66.03	50	43	296	279	173	40	6.6	13.6
3-2"		49	-13.07	1.05	0.74	10.0	65.07	50	45	283	285	171	41	7.7	12.5
3-6"		56	-13.24	0.94	0.72	6.0	48.27	52	45	295	284	174	42	7.0	12.9
3-10"		63	-12.02	1.1	0.83	7.0	71.69	53	46	296	289	176	43	7.0	13.1
AVERAGE			-13.05	0.790	0.687		21.13	45.2		293.1				7.1	13.1

Sample Train	Pre Test	Post Test	Pilot Tube	Pre Test	Post Test
Leak Checks:	≤ 0.01 ft <sup>3</sup>	≤ 0.01 ft <sup>3</sup>	Leak Checks:	OK	OK
	@ 10 in. Hg	@ 10 in. Hg		@ 8 in. H <sub>2</sub> O	@ 6 in. H <sub>2</sub> O





ACID GAS / METHOD 5 SAMPLING FIELD DATA SHEET

TEST ID: 02E      METER BOX: N-2      CAL. DATA: delta H: 1.895      Comments: \_\_\_\_\_  
 PLANT: Greenidge      PITOT TUBE DESC: E1      Y: 0.917  
 LOCATION: STACK      PROBE LENGTH [ft]: 8      C(p): \_\_\_\_\_  
 DATE: 3-29-07      NOZZLE ID [inch]: NA      FILTER BOX SETTING: \_\_\_\_\_  
 OPERATOR(S): K. CERAR & B. SLIFER      %H<sub>2</sub>O (Assumed): 10%      PROBE HTR SETTING: 250  
 AMBIENT TEMP [°F]: 36.0      FILTER ID: 79      DUCT X-SECTION: rect?      other: \_\_\_\_\_  
 BAR. PRESS. [° Hg]: 30.06      K FACTOR: 2.65      DUCT AREA: \_\_\_\_\_

TRAVERSE POINT [port-inch]	CLOCK TIME [24-hr]	SAMPLE TIME [minutes]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
1-5"	1005	0					910.60			173	242	184	36		
1-16.38"		4	1.16	.44	1.16	+	912.94	37	36	173	242	188	37	9.6	10.7
1-30.25"		8	1.16	.44	1.16	+	915.20	39	36	173	243	188	37	9.5	10.8
1-50.38"		12	1.32	.50	1.32	+	917.57	41	37	174	251	159	37	9.5	10.8
		16	1.32	.50	1.32	+	919.90	43	38	174	242	159	39	9.5	10.8
		20	L.C.		L.C.	OK →	920.00								
2-5"		20	1.43	.54	1.43	+	922.54	44	38	173	249	230	41		
2-16.38"		24	1.70	.64	1.70	5	925.30	46	39	174	249	232	43	9.6	10.7
2-30.25"		28	1.60	.57	1.60	5	927.98	50	40	174	236	235	47	9.6	10.7
2-50.38"		32	1.43	.54	1.43	+	930.52	52	41	174	241	237	52	9.5	10.8
		36	L.C.		L.C.	OK →	930.60								
3-5"		36	1.70	.64	1.70	5	933.37	51	42	174	240	243	51		
3-16.38"		40	1.85	.70	1.85	5.5	936.27	54	43	174	248	244	56	9.4	10.9
3-30.25"		44	1.85	.70	1.85	5.5	939.16	55	43	175	238	242	57	9.6	10.7
3-50.38"		48	1.60	.60	1.60	5	941.88	56	44	175	245	243	64	9.7	10.6
		52	L.C.		L.C.	OK →	942.00								
4-5"		52	1.48	.56	1.48	5	944.60	57	44	174	240	246	62		
4-16.38"		56	1.60	.60	1.60	5	947.60	58	45	174	238	248	65	9.4	10.9
4-30.25"		60	1.60	.60	1.60	5	949.97	56	48	174	238	248	66	9.6	10.7
4-50.38"		64	1.43	.54	1.43	5	952.52	57	47	174	242	244	67	9.6	10.7
AVERAGE										173.9				9.6	10.8

Sample Train: Pre Test OK ft<sup>3</sup> @ 10 in. Hg      Post Test OK ft<sup>3</sup> @ 10 in. Hg  
 Leak Checks: Pre Test OK      Post Test OK

Stack Checks: Pre Test OK      Post Test OK

Pilot Tube Leak Checks: Pre Test OK      Post Test OK

in. H<sub>2</sub>O      in. H<sub>2</sub>O



CONSOL ENERGY



# ACID GAS / METHOD 5 PARTICULATE SAMPLING FIELD DATA SHEET

TEST ID	2	METER BOX	0-1	CAL DATA: delta H		Comments: High negative vacuum	Page _____ of _____
PLANT	GREENIDGE	PITOT TUBE DESC	Y				
LOCATION	AIR HEATER OUTLET	PROBE LENGTH [ft]	12				
DATE	3/28/07	NOZZLE ID [inch]					
OPERATOR(S)		%H <sub>2</sub> O (Assumed)					
AMBIENT TEMP [°F]		FILTER ID	1030				
BAR. PRESS. [° Hg]		K FACTOR	0.144				
		R. ODA & D. OLSEN					
				rect ?		DUCT AREA	
				circ ?			
				other:			

10 max pressure tap

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minutes]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
1-2"	8:20	7	-13.10	0.10	0.07	1.0	78.40	48	48	294	287	185	40	7.6	12.3
1-6"		14	-13.15	0.74	0.55	2.5	82.79	49	48	300	283	137	40	7.0	13.2
1-10"		21	-13.43	1.0	0.74	4.0	86.08	52	48	303	284	150	40	6.8	13.4
2-2"		28	-13.34	0.4	0.29	1.5	86.70	53	49	289	294	148	40	7.1	13.5
2-6"		35	-13.90	0.68	0.66	3.0	91.83	53	49	298	290	152	41	7.0	13.2
2-10"		42	-13.87	1.4	0.10	5.0	95.49	55	50	301	296	153	42	6.6	13.7
3-2"		49	-13.97	0.82	0.42	2.0	95.97	50	50	291	285	144	41	7.5	12.8
3-6"		56	-13.85	0.96	0.72	4.0	102.18	56	51	300	289	149	43	7.5	12.8
3-10"		63	-13.80	1.1	0.83	5.0	105.03	58	51	301	293	149	45	7.2	13.1
AVERAGE			-13.38	0.76	0.617	27.23	87.23	53.0	49.3	297.4	288.4	147	41.3	7.14	13.1

Sample Train	Pre Test	Post Test	Pre Test	Post Test
Leak Checks:	Pre Test	Post Test	Pre Test	Post Test
	OK	OK	OK	OK









# ACID GAS / METHOD 5 PARTICULATE SAMPLING FIELD DATA SHEET

TEST ID	3	METER BOX	K-1	CAL DATA: delta H	Y	Comments: High negative vacuum	Page ____ of ____
PLANT	GREENIDGE	PITOT TUBE DESC					
LOCATION	AIR HEATER OUTLET	PROBE LENGTH [ft]	12				
DATE	3/29/07	NOZZLE ID [inch]					
OPERATOR(S)	ZYR	%H <sub>2</sub> O (Assumed)					
AMBIENT TEMP [°F]	29.77	FILTER ID	1031				
BAR. PRESS. [in. Hg]	R. ODA & D. OLSEN	K FACTOR	0.744				

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
1-2"	15:15	0	13.16	0.10	0.07	2.0	109.80	50	49	292	285	137	44	7.7	12.3
1-6"		14	-13.17	0.95	0.64	4.0	114.37	51	50	300	284	146	43	7.2	13.1
1-10"		21	-13.25	1.1	0.83	6.0	117.80	52	50	302	285	152	43	6.9	13.3
2-2"		7 28	-12.89	0.7	0.31	3.0	118.30	53	50	293	292	148	44	7.5	12.9
2-6"		14 35	-13.51	0.83	0.62	5.0	123.53	55	51	299	291	152	45	7.1	13.1
2-10"		21 42	-13.71	1.4	1.07	8.0	127.29	56	57	300	295	154	46	6.7	13.6
3-2"		7 49	-12.85	0.76	0.58	6.0	131.10	57	52	291	293	150	47	7.7	12.5
3-6"		14 56	-12.94	0.94	0.70	7.0	134.31	58	53	302	294	150	48	7.4	12.8
3-10"	16:30	21 63	-13.45	1.2	0.91	9.0	137.89	59	53	302	297	149	49	7.1	13.1
AVERAGE			-13.24	0.786	0.632	26.80	129.9	52.0						7.26	12.96



ACID GAS / METHOD 5 SAMPLING FIELD DATA SHEET

TEST ID: THREE  
 PLANT: Greentidge  
 LOCATION: STACK  
 DATE: 3-29-07  
 OPERATOR(S): K. CERAR & B. SLIFER  
 AMBIENT TEMP [°F]: 50  
 BAR. PRESS. [° Hg]: 29.97

METER BOX: 2-2  
 PITOT TUBE DESC: F1  
 PROBE LENGTH [ft]: 8  
 NOZZLE ID [inch]: 109/C  
 %H<sub>2</sub>O (Assumed): 81  
 FILTER ID: 2.65  
 K FACTOR: 2.65

CAL. DATA: delta H: 1.895  
 Y: 0.967  
 C(p): NA  
 FILTER BOX SETTING: 250  
 PROBE HTR SETTING: circ?  
 DUCT X-SECTION: rect?  
 DUCT DIMENSIONS: other

Comments:

Page \_\_\_ of \_\_\_

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER-BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
1-5"	1516	0		0.47	1.16	3.5	010.50	50	49	172	238	200	37	-	-
1-16.38"		4		0.48	1.27	4	013.26	51	49	174	251	206	36	9.3	11.0
1-30.25"		8					015.72	54	50	174	249	201	37	9.3	11.0
1-50.38"		12	-519	.50	1.32	4	018.20	55	50	175	247	201	38	9.3	11.0
		16		.56	1.48	4.5	020.82								
		20		.56	1.48	4.5	023.54	58	51	172	244	204	40	-	-
2-5"		24		.60	1.60	5	026.27	59	51	176	237	205	41	9.2	11.1
2-16.38"		28	-536	.60	1.60	5	029.00	61	52	176	236	201	44	9.1	11.2
2-30.25"		32		.67	1.70	5	031.80	62	53	175	251	204	46	9.1	11.2
2-50.38"		36		.70	1.85	5	034.50	61	54	172	242	197	50	-	-
3-5"		40		.77	1.95	5.5	037.50	63	54	175	239	202	51	9.2	11.1
3-16.38"		44	-640	.70	1.85	5.5	040.80	65	55	175	239	201	55	9.1	11.2
3-30.25"		48		.67	1.70	5	043.61	65	55	176	237	202	56	9.1	11.2
3-50.38"		52		.56	1.48	5	043.70	61	55	176	237	197	54	9.1	11.2
4-5"		56		.60	1.60	5	046.35	62	55	175	238	188	53	9.2	11.1
4-16.38"		60		.56	1.48	5	051.68	64	55	175	233	193	55	9.0	11.3
4-30.25"		64	-521	.56	1.48	5	054.33	67	55	175	252	190	57	9.0	11.3
4-50.38"	1637														
AVERAGE			5564	0.587	1.563		43.06	56.7	56.7	174.6				9.15	11.15

Sample Train: Pre Test OK ft<sup>3</sup> @ 10 in. Hg, Post Test OK ft<sup>3</sup> @ 10 in. Hg  
 Leak Checks: Pre Test OK @ 6 in. H<sub>2</sub>O, Post Test OK @ 6 in. H<sub>2</sub>O





EPA METHOD 5/26A PARTICULATE SAMPLING FIELD DATA SHEET

Page      of     

TEST ID	<u>Run One</u>	METER BOX	<u>N-5</u>	CAL DATA: delta H	<u>1.883</u>	Comments:	
PLANT	<u>GREENIDGE</u>	PITOT TUBE DESC	<u>E-3</u>	Y	<u>0.991</u>		
LOCATION	<u>AIR HEATER OUTLET</u>	PROBE LENGTH [ft]	<u>12</u>	C(p)	<u>0.840</u>		
DATE	<u>5/4/07</u>	NOZZLE ID [inch]	<u>4D 0.248</u>	NA			
OPERATOR(S)	<u>BPS + BWC</u>	%H <sub>2</sub> O (Assumed)	<u>0</u>	250			
AMBIENT TEMP [°F]	<u>45</u>	FILTER ID	<u>1042</u>	circ?			
BAR. PRESS. [° Hg]	<u>29.74</u>	K FACTOR	<u>2.52</u>	rect?			
				DUCT AREA			

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	PICTER BOX- [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
	<u>0831</u>	<u>0</u>					<u>909.400</u>								
A-18"	<u>0836</u>	<u>5</u>	<u>-13.2</u>	<u>0.1</u>	<u>0.25</u>	<u>0</u>	<u>910.7</u>	<u>47</u>	<u>49</u>	<u>293</u>	<u>247</u>	<u>240</u>	<u>42</u>	<u>8.1</u>	<u>12.1</u>
A-54"	<u>0841</u>	<u>10</u>		<u>0.57</u>	<u>1.4</u>	<u>4</u>	<u>913.6</u>	<u>47</u>	<u>49</u>	<u>307</u>	<u>246</u>	<u>246</u>	<u>40</u>	<u>7.6</u>	<u>12.6</u>
A-90"	<u>0846</u>	<u>15</u>	<u>-13.9</u>	<u>1.1</u>	<u>2.3</u>	<u>7</u>	<u>917.5</u>	<u>52</u>	<u>51</u>	<u>311</u>	<u>244</u>	<u>239</u>	<u>43</u>	<u>7.5</u>	<u>12.7</u>
A-126"	<u>0851</u>	<u>20</u>		<u>0.41</u>	<u>1.0</u>	<u>4</u>	<u>920.397</u>	<u>55</u>	<u>51</u>	<u>313</u>	<u>247</u>	<u>239</u>	<u>47</u>		
	<u>0854</u>														
B-18"	<u>0859</u>	<u>25</u>	<u>-13.0</u>	<u>0.30</u>	<u>0.75</u>	<u>2</u>	<u>922.7</u>	<u>56</u>	<u>54</u>	<u>298</u>	<u>244</u>	<u>240</u>	<u>47</u>		
B-54"	<u>0904</u>	<u>30</u>		<u>0.70</u>	<u>1.8</u>	<u>5</u>	<u>926.3</u>	<u>58</u>	<u>55</u>	<u>302</u>	<u>247</u>	<u>240</u>	<u>47</u>	<u>8.1</u>	<u>12.1</u>
B-90"	<u>0909</u>	<u>35</u>	<u>-14.0</u>	<u>1.1</u>	<u>2.3</u>	<u>8</u>	<u>929.3</u>	<u>60</u>	<u>55</u>	<u>307</u>	<u>249</u>	<u>240</u>	<u>51</u>	<u>7.8</u>	<u>12.4</u>
B-126"	<u>0914</u>	<u>40</u>		<u>1.5</u>	<u>3.7</u>	<u>14</u>	<u>935.012</u>	<u>65</u>	<u>57</u>	<u>312</u>	<u>245</u>	<u>240</u>	<u>56</u>	<u>7.0</u>	<u>13.2</u>
	<u>0916</u>			<u>0.65</u>	<u>1.6</u>	<u>7</u>									
C-18"	<u>0921</u>	<u>45</u>	<u>-13.4</u>	<u>0.65</u>	<u>1.6</u>	<u>7</u>	<u>937.6</u>	<u>63</u>	<u>57</u>	<u>294</u>	<u>252</u>	<u>239</u>	<u>59</u>		
C-54"	<u>0926</u>	<u>50</u>		<u>1.1</u>	<u>2.3</u>	<u>13</u>	<u>941.9</u>	<u>65</u>	<u>58</u>	<u>296</u>	<u>255</u>	<u>240</u>	<u>60</u>	<u>8.7</u>	<u>11.6</u>
C-90"	<u>0931</u>	<u>55</u>		<u>0.98</u>	<u>2.5</u>	<u>14</u>	<u>946.014</u>	<u>66</u>	<u>58</u>	<u>302</u>	<u>255</u>	<u>239</u>	<u>57</u>	<u>8.2</u>	<u>12.1</u>
C-126"		<u>60</u>													
AVERAGE		<u>55</u>	<u>-13.5</u>	<u>0.709</u>	<u>1.92</u>		<u>36.614</u>	<u>55.8</u>		<u>303.2</u>				<u>7.9</u>	<u>12.4</u>

Sample Train: Pre Test 0.001 ft<sup>3</sup> @ 10 in. Hg, Post Test 0.002 ft<sup>3</sup> @ 16 in. Hg  
 Leak Checks: Pre Test ✓ @ 7 in. H<sub>2</sub>O, Post Test ✓ @ 7 in. H<sub>2</sub>O









EPA METHOD 5/26A PARTICULATE SAMPLING FIELD DATA SHEET

TEST ID	PLANT	LOCATION	DATE	OPERATOR(S)	AMBIENT TEMP [°F]	BAR. PRESS. [in. Hg]
Run 101D	GREENIDGE	AIR HEATER OUTLET	5/4/07	BPS + BNG	48	29.74

METER BOX	PITOT TUBE DESC	PROBE LENGTH [in]	NOZZLE ID [inch]	%H <sub>2</sub> O (Assumed)	FILTER ID	K FACTOR
N-5	E-3	12	1/4" O.D. x 2.48	8	1043	2.52

CAL. DATA: delta H	Y	C(p)	FILTER BOX SETTING	PROBE HTR SETTING	DUCT X-SECTION	DUCT DIMENSIONS
1.893	0.991	0.840	NA	250	circ ?	rect ?

Comments: \_\_\_\_\_

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minutes]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	LAST IMP TEMP [°F]	METER EXHAUST		
								inlet	outlet				O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]	
B-18"	1015	0					955.014								
A-54"	1020	5		0.65	1.6	3	953.3	61	60	296	266	252	7.9	12.3	
A-90"	1025	10	-14.0	1.1	2.7	5	962.5	65	60	299	265	258	7.9	12.3	
A-126"	1030	15		1.0	2.5	5	966.7	70	61	303	265	260	7.3	12.9	
	1035	20	-13.0	1.1	2.7	7	970.9	74	63	305	269	270	7.3	12.9	
B-18"	1038														
B-54"	1043	25		0.35	0.90	3	973.7	72	65	300	273	268	7.8	12.5	
B-90"	1048	30	-13.1	0.70	1.7	4	977.1	72	65	307	276	270	7.3	12.9	
B-126"	1053	35	-13.4	1.1	2.7	7	981.2	75	66	307	271	270	6.9	13.3	
	1058	40		1.3	3.2	10	985.8	77	66	313	276	271	6.5	13.7	
A-18"	1059														
B-54"	1104	45	-13.2	0.37	0.92	6	989.0	75	66	297	276	273	6.9	13.3	
B-90"	1109	50		1.1	2.7	13	992.9	74	66	313	276	272	6.8	13.4	
B-126"	1114	55	-13.1	0.65	1.6	10	996.2	74	66	311	275	272	7.2	13.0	
	1119	60		0.10	0.25	3	997.770	73	66	289	273	272	7.9	12.3	
AVERAGE			-13.3	0.737	1.96		42.756	68.0		303.3			7.3	13.0	

Sample Train	Pre Test	0.004	ft <sup>3</sup> @	18	in. Hg
Leak Checks:	Post Test	0.003	ft <sup>3</sup> @	16	in. Hg

Pitot Tube	PreTest	✓	@	7	in. H <sub>2</sub> O
Leak Checks:	Post Test	✓	@	7	in. H <sub>2</sub> O





EPA METHOD 5/26A PARTICULATE SAMPLING FIELD DATA SHEET

TEST ID: 1715      METER BOX: N1      CAL. DATA: delta H: 1.524      Comments: \_\_\_\_\_  
 PLANT: GREENIDGE      PITOT TUBE DESC: E-1      Y: 0.070  
 LOCATION: STACK      PROBE LENGTH [ft]: 8      C(p): 0.334  
 DATE: 5-4-07      NOZZLE ID [inches]: 1/4 E 0.250      FILTER BOX SETTING: NA  
 OPERATOR(S): RB KC      %H<sub>2</sub>O (Assumed): 8      PROBE HTR SETTING: 250  
 AMBIENT TEMP [°F]: 59.74      FILTER ID: 8      DUCT X-SECTION: circ?      rect?  other: \_\_\_\_\_  
 BAR. PRESS. [in. Hg]: 29.74      K FACTOR: 7.26      DUCT AREA: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minutes]	STATIC PRES [in. Hg]	PITOT HEAD [in. Hg]	METER DIFF PRESSURE [in. Hg]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
A-5"	11:54	0	1.35	1.35	8	599.89	61	58	60	174	211	52	7.5	12.7	
A-16.4"	12:10	8	1.42	1.46	7	602.44	170	58	60	173	208	51	7.5	12.7	
A-30.3"	12:15	12	1.42	1.46	7	605.10	173	58	62	174	206	52	7.4	12.8	
A-50.4"	11:20	11	1.52	1.48	7	607.72	174	59	62	174	214	52	7.5	12.7	
B-5"	20	20	1.35	1.42	6	609.25	174	59	64	174	232	54	8.2	11.9	
B-16.4"	25	25	1.75	1.55	6	613.14	172	59	64	174	230	56	7.5	12.7	
B-30.3"	30	30	1.75	1.55	7	616.14	174	60	65	174	229	57	7.6	12.6	
B-50.4"	35	35	1.79	1.56	8	619.13	174	60	67	174	229	64	7.6	12.6	
C-5"	40	40	1.89	1.59	8	622.80	171	61	67	171	229	62	7.6	12.6	
C-16.4"	45	45	2.20	1.68	9	625.99	174	61	68	174	231	65	7.5	12.7	
C-30.3"	50	50	2.15	1.67	8	629.19	178	62	69	178	231	64	7.6	12.6	
C-50.4"	55	55	1.90	1.60	8	632.72	178	63	70	178	232	66	7.6	12.6	
D-5"	60	60	1.60	1.50	6	636.29	170	63	70	170	243	63	7.5	12.7	
D-16.4"	65	65	1.65	1.51	6	638.94	174	64	71	174	242	61	7.5	12.7	
D-30.3"	70	70	1.72	1.54	7	641.80	173	64	72	173	243	61	7.2	13.1	
D-50.4"	75	75	1.30	1.40	6	644.35	173	65	72	173	240	61	7.0	13.1	
AVERAGE	1130		1.67	1.52	7	637	171.8	63.7					7.5	12.7	

Sample Train: Pre Test 1.673 ft<sup>3</sup> @ \_\_\_\_\_ in. Hg      Post Test 1.673 ft<sup>3</sup> @ \_\_\_\_\_ in. Hg  
 Pitot Tube: Pre Test 5041 @ \_\_\_\_\_ in. H<sub>2</sub>O      Post Test \_\_\_\_\_ @ \_\_\_\_\_ in. H<sub>2</sub>O  
 Leak Checks: \_\_\_\_\_







EPA METHOD 5/26A PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

TEST ID: 44-5/26A A1  
 PLANT: AES Gretnidge  
 LOCATION: Stack  
 DATE: 10-4-07  
 OPERATOR(S): 171, 166  
 AMBIENT TEMP [°F]: 57.5  
 BAR. PRESS. [in. Hg]: 29.59

METER BOX: N-2  
 PITOT TUBE DESC: E-11  
 PROBE LENGTH [in]: 8  
 NOZZLE ID [inch]: 1.28  
 %H<sub>2</sub>O (Assumed): 8  
 FILTER ID: 111 (171)  
 K FACTOR: 2.82

CAL. DATA: delta H: 1.895  
 Y: 0.967  
 C(p): 0.833  
 FILTER BOX SETTING: NA  
 PROBE HTR SETTING: 250  
 DUCT X-SECTION: circle  
 DUCT DIMENSIONS: rect?  
 DUCT AREA: HS

Comments:  
 rect?   
 other: HS

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
2-1	1510	4	-	1.48	1.4	3	677.834	76	176	250	231	58	-	-	
2		8	-0.35	1.53	1.5	3	680.625	78	177	250	230	54	7.2	13.0	
3		12	-	1.53	1.5	3	683.712	77	178	251	236	51	7.2	13.0	
4	1536	16	-	1.60	1.7	3	686.700	78	177	250	233	54	-	-	
			-	1.60	1.7	3	689.688	83	177	250	233	54	-	-	
			-	1.60	1.7	3	692.676	88	178	250	231	63	-	-	
1-1	1541	20	-	1.58	1.6	4	695.664	81	177	250	232	64	7.1	13.1	
2		24	-	1.60	1.7	4	698.652	81	177	250	230	64	7.1	13.1	
3		28	-0.38	1.65	1.8	4	701.640	82	177	251	232	65	-	-	
4	1557	32	-	1.65	1.8	4	704.628	86	177	251	232	65	-	-	
			-	1.65	1.8	4	707.616	86	177	251	232	65	-	-	
			-	1.65	1.8	4	710.604	85	177	251	232	65	-	-	
			-	1.65	1.8	4	713.592	85	177	251	232	65	-	-	
			-	1.65	1.8	4	716.580	85	177	251	232	65	-	-	
C-1	1601	36	-	1.60	1.7	4	719.568	85	177	251	232	65	-	-	
2		40	-0.45	1.75	2.1	4	722.556	85	177	251	232	65	-	-	
3		44	-	1.73	2.1	4.5	725.544	86	177	251	232	65	-	-	
4	1617	48	-	1.73	2.1	4.5	728.532	86	177	251	232	65	-	-	
			-	1.73	2.1	4.5	731.520	86	177	251	232	65	-	-	
			-	1.73	2.1	4.5	734.508	86	177	251	232	65	-	-	
			-	1.73	2.1	4.5	737.496	86	177	251	232	65	-	-	
1-1	1621	52	-1.18	1.421	2.1	5.0	740.484	88	177	251	232	65	-	-	
2		56	-	1.55	1.6	5.0	743.472	88	177	251	232	65	-	-	
3		60	-	1.53	1.5	5.0	746.460	88	177	251	232	65	-	-	
4	1637	64	-0.40	1.60	1.7	5.0	749.448	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	752.436	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	755.424	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	758.412	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	761.400	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	764.388	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	767.376	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	770.364	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	773.352	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	776.340	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	779.328	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	782.316	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	785.304	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	788.292	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	791.280	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	794.268	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	797.256	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	800.244	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	803.232	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	806.220	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	809.208	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	812.196	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	815.184	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	818.172	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	821.160	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	824.148	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	827.136	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	830.124	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	833.112	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	836.100	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	839.088	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	842.076	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	845.064	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	848.052	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	851.040	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	854.028	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	857.016	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	860.004	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	863.992	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	866.980	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	869.968	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	872.956	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	875.944	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	878.932	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	881.920	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	884.908	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	887.896	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	890.884	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	893.872	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	896.860	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	899.848	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	902.836	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	905.824	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	908.812	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	911.800	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	914.788	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	917.776	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	920.764	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	923.752	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	926.740	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	929.728	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	932.716	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	935.704	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	938.692	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	941.680	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0	944.668	88	177	251	232	65	-	-	
			-	1.60	1.7	5.0									





EPA METHOD 5/26A PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

TEST ID	15-5764-12	METER BOX	A-2	Comments:	1.85
PLANT	AES Greentidge	PITOT TUBE DESC	E-11		0.967
LOCATION	Stack	PROBE LENGTH [ft]	8.1		0.833
DATE	05-07-11 10:51-07	NOZZLE ID [inch]	0.248		NA
OPERATOR(S)	W. L. C.	%H <sub>2</sub> O (Assumed)	8		250
AMBIENT TEMP [°F]		FILTER ID	112 (47mm)	rect?	
BAR. PRESS. [in. Hg]		K FACTOR	2.72	DUCT AREA	11.5 C.

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX-TEMP [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
0.1	08:40	4		1.57	1.60	4	729.620	61	59	175	250	225	51		
2		8		1.55	1.60	4	732.380	63	60	178	249	231	55	7.3	12.9
3		12		1.65	1.8	4	735.170	66	61	175	250	235	48	7.3	12.9
4	08:54	16		1.65	1.8	4	738.168	68	62	176	250	234	48		
1	09:01	20		3.109	6.8	5	741.208	68	500	704				14.6	25.8
2		24		1.72	2.0	5	744.570	67	63	178	250	231	62		
3		28		1.70	2.0	5	747.65	67	65	174	242	232	61	7.2	13.0
4	09:17	32		1.75	2.1	5	750.843	67	66	174	241	231	60	7.1	13.1
1	09:22	36		1.89	1.9	4.5	753.800	70	1055	1409				28.9	51.9
2		40		1.60	1.7	4.5	756.370	70	67	175	251	233	64		
3		44		1.63	1.8	4.5	758.870	70	68	178	251	221	60	7.0	13.2
4		48		1.63	1.8	4.5	762.755	71	69	174	249	238	60	7.0	13.2
1	09:43	52		1.731	1.736	4.5	762.755	71	69	175	249	238	63		
2		56		1.42	1.2	3.5	765.170	71	1559	2111				42.9	98.3
3		60		1.48	1.4	4.0	769.080	80	677	170	250	231	63		
4	09:59	64		1.35	1.5	4.0	771.056	82	672	175	250	231	60	7.2	13.0
				1.50	1.4	4.0		83	73	175	250	232	61		
				1.42	1.43		774.721		675	175.3				7.16	13.04

Sample Train Leak Checks: Pre Test 1.43 in. Hg Post Test 1.02 in. Hg

Pitot Tube Leak Checks: Pre Test 1.02 in. H<sub>2</sub>O Post Test 1.02 in. H<sub>2</sub>O

Operator: RMS-6028





EPA METHOD 5/26A PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

TEST ID	AG0-3	METER BOX	NZ
PLANT	AES Greendige	PITOT TUBE DESC	
LOCATION	Stack	PROBE LENGTH [ft]	8'
DATE	10/3/07	NOZZLE ID [inch]	142 0.248
OPERATOR(S)	BG & KC	%H <sub>2</sub> O (Assumed)	8
AMBIENT TEMP [°F]	58	FILTER ID	93
BAR. PRESS. [° Hg]		K FACTOR	2.82

CAL. DATA: delta H Y 1.875  
 Y 967  
 C(p) NA  
 FILTER BOX SETTING 250  
 PROBE HTR SETTING  
 DUCT X-SECTION  
 DUCT AREA

Comments: 2007 16666

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	-FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
A-1	1530	4		-.65	1.6	5	68.582	87	86	176	248	210	49	7.1	
A-2		8		-.68	1.9	5	74.5	89	86	174	248	208	48		
A-3		12		-.70	2.0	5	77.6	91	86	174	249	204	50		
A-4		16		-.70	2.0	5	80.7	91	86	175	250	206	50	7.1	
B-1		20	-.35	-.66	1.8	5	83.9	92	87	173	251	209	53		
B-2		24		-.65	1.8	6	87.5	94	88	175	250	212	52	7.3	
B-3		28		-.65	1.8	5	90.3	95	88	174	252	211	55	7.3	
B-4		32		-.70	2.0	6	92.8	96	88	175	254	211	55		
C-1		36		-.60	1.7	5	96.5	95	89	173	252	211	58	7.1	
C-2		40		-.55	1.5	4	99.4	96	89	173	251	212	56		
C-3		44		-.60	1.7	5	102.38	96	89	174	251	213	59	7.2	
C-4		48		-.60	1.7	5	105.3	97	90	174	251	212	59		
D-1		52		-.63	1.8	5	108.3	98	91	173	255	212	59		
D-2		56		-.61	1.7	5	111.7	98	91	174	255	214	59	7.2	
D-3		60		-.58	1.6	5	114.5	101	93	174	252	217	60		
D-4	1640	64		-.55	1.5	5	117.24	98	91	174	257	217	60	7.2	
			-.35	0.631	1.77		48.672	94.4		174.1				7.2	

Sample Train Pre Test 0.00 ft<sup>3</sup> @ 17 in. Hg Post Test 0.00 ft<sup>3</sup> @ 10 in. Hg  
 Leak Checks: Pre Test 0.00 ft<sup>3</sup> @ 10 in. Hg Post Test 0.00 ft<sup>3</sup> @ 10 in. Hg

PicTest ✓ @ 6 in. H<sub>2</sub>O  
 Post Test ✓ @ 6 in. H<sub>2</sub>O

Plot Tube Leak Checks: ✓ @ 6 in. H<sub>2</sub>O







EPA METHOD 5/26A PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

TEST ID	AG0-4	METER BOX	N-2	CAL. DATA: delta H	1.895	Comments:
PLANT	AES Greentidge	PITOT TUBE DESC		Y	-767	
LOCATION	Stack	PROBE LENGTH [ft]	8	C(p)		
DATE	10/9/07	NOZZLE ID [inch]	1/4 D	NA		
OPERATOR(S)	BC + KC	%H <sub>2</sub> O (Assumed)	8	250		
AMBIENT TEMP [°F]	70	FILTER ID	99	circ ?		
BAR. PRESS. [in. Hg]	29.26	K FACTOR	2.32	rect ?		
				DUCT AREA		

TRAVERSE POINT [port-inch]	CLOCK TIME [24-hr]	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [µV]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST			
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]		
D-1	1040	0					125.200										
1		4		.56	1.6	5	128.0	67	65	172	259	216	51				
2		8		.57	1.6	5	130.9	68	65	173	259	213	51		7.5		
3		12		.57	1.6	5	133.7	69	65	174	258	213	53				
4		16		.62	1.7	6	136.718	71	66	174	259	214	56		7.4		
		20		.52	1.4	5	139.6	73	67	174	257	214	60		7.4		
2		24		.54	1.5	5	142.6	74	68	174	252	215	60				
3		28		.61	1.7	6	146.032	76	69	174	252	216	62				
4		32		.67	1.9	6	148.032	77	69	175	253	218	63		7.4		
		36		.60	1.7	6	151.0	76	69	174	252	210	58		7.5		
2		40		.65	1.8	6	153.9	77	70	175	253	212	55				
3		44		.65	1.8	6	157.0	78	71	175	256	210	55		7.4		
4		48		.68	1.9	6	160.147	79	71	175	257	210	59				
		52		.58	1.6	6	163.2	77	72	172	255	213	54		7.3		
2		56		.63	1.7	6	166.3	78	72	175	254	210	52				
3		60		.60	1.7	6	169.0	79	72	175	256	208	52		7.3		
4	1150	64		.74	2.0	7	172.235	80	73	175	258	210	53				
				RAMS													
				.610	1.7		47.035			71.97	174.13				7.4		



Sample Train Pre Test 010 ft<sup>3</sup> @ 10 in. Hg Post Test 004 ft<sup>3</sup> @ 17 in. Hg

Leak Checks: Pre Test Y @ 6 in. H<sub>2</sub>O Post Test Y @ 6 in. H<sub>2</sub>O





EPA METHOD 5/26A PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

TEST ID	AG0	METER BOX	N-2	CAL. DATA: delta H	1.895	Comments:	
PLANT	AES Greentidge	PITOT TUBE DESC		Y	-967		
LOCATION	Stack	PROBE LENGTH [in]	3	CIP)			
DATE	10/10/07	NOZZLE ID [inch]	1/4 D				
OPERATOR(S)	RG + KC	%H <sub>2</sub> O (Assumed)	8	FILTER BOX SETTING	NA		
AMBIENT TEMP [°F]	72	FILTER ID	HS-117	PROBE HTR SETTING	250		
BAR. PRESS. [° Hg]	29.09	K FACTOR	2.52	DUCT X-SECTION	circ ?	rect ?	DUCT AREA
				DUCT DIMENSIONS			

TRAVERSE POINT [port-inch]	CLOCK TIME [24-hr]	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [° H <sub>2</sub> O]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
A-1	1445	4	-0.35	0.59	1.6	4	314.45	69	69	170	257	242	49	7.2	7.2
2		8		0.59	1.6	5	320.9	72	70	175	260	236	41		
3		12		0.70	2.0	6	324.5	73	70	175	260	236	41	7.3	7.3
4		16	-0.46	0.70	2.0	6	322.332	75	70	175	260	237	41		
B-1		20		0.64	1.8	6	330.6	77	71	173	254	250	45	7.3	7.3
2		24	-0.37	0.66	1.8	6	333.4	78	72	175	261	249	45		
3		28	-0.42	0.67	1.9	6	336.7	79	72	175	260	249	46	7.2	7.2
4		32		0.68	1.9	6	339.961	80	73	176	257	249	46		
C-1		36	-0.30	0.52	1.5	6	342.8	81	74	174	256	240	47		
2		40		0.54	1.5	5	346.1	81	74	174	259	240	45	7.2	7.2
3		44		0.58	1.6	5	348.8	80	75	173	259	240	45		
4		48	-0.39	0.62	1.7	6	352.0	79	75	174	260	242	45	7.2	7.2
D-1		52	-0.36	0.54	1.5	5	354.7	78	74	174	256	241	46		
2		56		0.56	1.6	5	357.6	76	73	174	260	241	46	7.2	7.2
3		60		0.60	1.7	5	360.7	79	74	175	260	242	47	7.2	7.2
4		64	-0.40	0.60	1.7	5	363.809	80	74	175	260	241	48		
	1553		-0.381	0.611	1.7		48.866	74.91	74.91	174.19				7.23	7.23



Sample Train Pre Test: 000 ft<sup>3</sup> @ 10 in. Hg Post Test: 000 ft<sup>3</sup> @ 10 in. Hg  
 Leak Checks: Pre Test:  Post Test:   
 Pitot Tube Pre Test:  Post Test:   
 Leak Checks: Pre Test:  Post Test:





# EPA METHOD 5/26A PARTICULATE SAMPLING FIELD DATA SHEET

TEST ID	#1	GREENIDGE	METER BOX	80913	CAL. DATA: delta H	1.846	Comments:	Page _____ of _____
PLANT		STACK	PITOT TUBE DESC	8-12	Y	0.993		
LOCATION			PROBE LENGTH [ft]	8'	C(p)	0.334		
DATE	3/16/08		NOZZLE ID [inches]	1/4" x 0.244		NA		
OPERATOR(S)	AWB BS		%H <sub>2</sub> O (Assumed)	8	DUCT X-SECTION	250	rect? <input type="checkbox"/>	other: _____
AMBIENT TEMP [°F]	2400		FILTER ID	127	DUCT DIMENSIONS			
BAR. PRESS. [in. Hg]	29.74		K FACTOR	2.77				

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
A-5"	1457	5	112	1.15	6	801.20	38	39	173	249	-	37			
A-16.4"	1505	10	0.55	1.50	10	804.1	40	40	174	250	-	39			
A-30.3"	1511	15	0.65	1.50	0.5	803.3	40	41	174	251	-	41	7.6		
A-50.4"		20	0.65	1.80	7.0	814.4	40	43	174	251	-	42			
B-5"		25	0.60	1.68	6.5	817.9	42	44	171	250	-	42			
B-16.4"		30:25	0.65	1.80	7.0	821.6	42	45	174	253	-	45	7.5		
B-30.3"		35:00	0.75	2.08	7.5	825.4	43	47	174	250	-	47			
B-50.4"		40:35	0.75	2.08	7.5	829.2	48	43	175	250	-	48			
C-5"		45	0.45	1.22	6.0	832.20	45	47	174	251	-	46	7.4		
C-16.4"		50	0.55	1.50	6.5	835.48	45	48	174	252	-	46			
C-30.3"		55:45	0.60	1.68	7.0	838.90	47	50	174	250	-	48			
C-50.4"		60:00	0.60	1.68	7.0	842.5	48	51	174	251	-	48			
D-5"		55													
D-16.4"		60													
D-30.3"															
D-50.4"															
AVERAGE			0.14	0.60	1.66	6.7	41.30	44.0	173.8	250.7		44.1	7.5		

Sample Train Leak Checks:	Pre Test	0.15	ft <sup>3</sup> @ 1.0	in. Hg	Post Test	0.15	ft <sup>3</sup> @ 1.0	in. Hg
Pilot Tube Leak Checks:	Pre Test	OK	@		Post Test	OK	@	
METER EXHAUST	Pre Test	44.1			Post Test	44.1		





EPA METHOD 5/26A PARTICULATE SAMPLING FIELD DATA SHEET

TEST ID: AGT PLANT: GREENIDGE METER BOX: N-4 CAL. DATA: delta H: 1.744 Comments:     

LOCATION: AIR HEATER OUTLET PITOT TUBE DESC:      Y: 1.002

DATE: 3/13/08 PROBE LENGTH [ft]: 10' C(p): 1.744

OPERATOR(S): STL RO NOZZLE ID [inch]: 8 FILTER BOX SETTING: NA PROBE HTR SETTING: 250

AMBIENT TEMP [°F]: 28.38 FILTER ID: 1101 DUCT X-SECTION: circ? rect?      other:     

BAR. PRESS. [° Hg]:      K FACTOR: 2.56 DUCT AREA: (3)

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
A-18" 24	06:30	7	0.40	2.3	6.5	338.01	35	32	233	232	218	31	7.4	10.8	
A-18" 72	06:30	10	1.0	2.6	9	344.00	33	30	301	246	222	38	6.4	13.7	
A-50" 120	06:30	24	1.0	2.6	12.5	349.46	47	35	303	243	227	42	6.4	13.1	
A-128"	06:30	20				1174									
	06:37				Changed to filter	350.02									
B-20" 24	06:37	75	0.77	4	4	353.55	41	35	249	232	271	39	9.5	12.7	
B-50" 72	06:37	16	2.3	6	6	358.84	44	36	300	232	230	39	9.2	19.0	
B-50" 120	06:37	25	3.6	10	10	364.92	44	37	303	224	230	43	7.0	13.2	
B-128"	06:37	48				365.10									
					Changed to filter	367.20									
C-18" 24	10:14	7	0.52	3	3	372.17	41	37	301	235	229	38	7.5	12.7	
C-50" 72	10:14	16	2.3	7	7	378.12	42	37	305	229	231	39	7.3	12.9	
C-50" 120	10:14	25	3.6	10	10	378.12	44	38	305	244	233	43	7.3	12.9	
C-128"	10:14	60													
AVERAGE			-16.47	0.747	2.05	44.38	39.6	30.1					7.1	13.1	

Sample Train:      Pre Test:      Post Test:      Leak Checks:     

Pilot Tube:      in. H<sub>2</sub>O Pre Test: OK Post Test: OK

Leak Checks:      in. H<sub>2</sub>O Pre Test: OK Post Test: OK



# ACID GAS TEST 2

## ONTARIO HYDRO ~~AG~~ SAMPLING AND SPECIATION FIELD DATA SHEET

TEST ID	TEST 2	METER BOX	80913	CAL. DATA: delta H	1846	Comments:	
PLANT	AES Greentidge	PITOT TUBE DESC	F1Z	Y	0.593		
LOCATION	Unit 4 Stack	PROBE LENGTH [ft]	8	Cip)			
DATE	3-13-08	NOZZLE ID [inch]	Y4"A	FILTER BOX SETTING	NA		
OPERATOR(S)	B5, AG	%H <sub>2</sub> O (Assumed)	8	PROBE HTR SETTING	-325	250	
AMBIENT TEMP [°F]	30.0	FILTER ID	131	DUCT X-SECTION	circ?		
BAR. PRESS. [° Hg]	29.38	K FACTOR	2.77	DUCT DIMENSIONS	13 ft	132.732 ft <sup>2</sup>	

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minutes]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER -BOX- [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
B-5	0915	0					258.40								
B-16-3/8"		8		.55	1.50	5.5	263.60	37	34	184	248	202	35		
B-30-1/4"		16		.60	1.68	6	269.13	38	35	184	248	204	36		
B-50-3/8"		24		.70	1.92	6.5	275.00	40	36	184	242	206	38		
		32		.65	1.80	6	280.68	40	36	186	241	210	40		
C-5		40													
C-16-3/8"		48													
C-30-1/4"		56													
C-50-3/8"		64													
D-5		72													
D-16-3/8"		80													
D-30-1/4"		88													
D-50-3/8"		96													
A-5		104													
A-16-3/8"		112													
A-30-1/4"		120													
A-50-3/8"		128													
AVERAGE															

Sample Train	Pre Test	Post Test	Pitot Tube	Pre Test	Post Test
Leak Checks: _____	Pre Test: 0.75	Post Test: 0.65	Leak Checks: _____	Pre Test: 0.15	Post Test: 0.15
	ft <sup>3</sup> @ _____	ft <sup>3</sup> @ _____		in. H <sub>2</sub> O	in. H <sub>2</sub> O

NOTE: Purge for 10 minutes at end of sampling.



CONSOL ENERGY



# ACID GAS TEST 2

## EPA METHOD 5/26A PARTICULATE SAMPLING FIELD DATA SHEET

Page 2 of 2

TEST ID <b>TEST 2</b>	METER BOX	CAL. DATA: delta H	Comments:
PLANT GREENIDGE	PITOT TUBE DESC	Y	
LOCATION STACK	PROBE LENGTH [ft]	C(p)	
DATE	NOZZLE ID [inch]	FILTER BOX SETTING	
OPERATOR(S)	%H <sub>2</sub> O (Assumed)	PROBE HTR SETTING	
AMBIENT TEMP [°F]	FILTER ID	DUCT X-SECTION	
BAR. PRESS. [in. Hg]	K FACTOR	rect? <input type="checkbox"/>	DUCT AREA

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	-FILTER -BOX- [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
A-5"		0					280.68								
A-16.4"		5		.60	1.68	6	284.16	35	187	187	242	210	38		
A-30.3"		10		.70	1.92	6.5	287.82	42	187	187	240	209	35	7.9	
A-50.4"		15		.77	1.92	6.5	291.43	41	186	186	240	208	40		
B-5"		20		.76	2.10	7	295.28	42	187	187	235	210	41		
B-16.4"		25		.60	1.68										
B-30.3"		30		.65	1.80		298.80	41	186	186	237	212	41		
B-50.4"		35		.70	1.92	6.5	302.36	42	186	186	235	212	41	7.8	
		40		.70	1.92	6.5	306.02	42	186	186	232	211	42		
		1042		.70	1.92	6.5	309.72	42	186	186	236	212	42	7.8	
C-5"															
C-16.4"															
C-30.3"		45													
C-50.4"		50													
D-5"		55													
D-16.4"		60													
D-30.3"															
D-50.4"															
AVERAGE															

Sample Train Leak Checks:	Pre Test	Post Test	in. Hg	in. H <sub>2</sub> O
			10	2
Pilot Tube Leak Checks:	Pre Test	Post Test	in. H <sub>2</sub> O	in. H <sub>2</sub> O
			0.15	0.15



# EPA METHOD 5/26A PARTICULATE SAMPLING FIELD DATA SHEET

Page      of     

TEST ID	AHD-3	METER BOX	NC-7	CAL. DATA: delta H	1.744	Comments:	
PLANT	GREENIDGE	PITOT TUBE DESC	E3A	Y	1.002		
LOCATION	AIR HEATER OUTLET	PROBE LENGTH [ft]	10ft	C(p)			
DATE	3/13/08	NOZZLE ID [inches]	7/32 C				
OPERATOR(S)	STL	%H <sub>2</sub> O (Assumed)	8	FILTER BOX SETTING	NA		
AMBIENT TEMP [°F]		FILTER ID	1178	PROBE HTR SETTING	250		
BAR. PRESS. [in. Hg]	29.29	K FACTOR	1.14	DUCT X-SECTION	circ?	rect?	other:
				DUCT DIMENSIONS			

TRAVERSE POINT	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
A-18" 24	11:07	0		0.46	1.1	4	378.50	39	40	347	233	224	39	7.3	10.8
A-54" 72		67		1.0	1.91	5	382.55	38	43	304	240	226	41	6.8	13.3
A-60" 120		160		1.0	1.1	6	390.35	38	46	305	245	226	44	6.6	17.5
A-126"		20													
B-18" 24	12:10	267		0.40	0.46	3	390.55								
B-54" 72		3014		0.90	1.0	5.5	397.73	44	44	302	229	226	42	7.3	10.8
B-60" 120		3621		1.0	1.1	7	396.90	45	45	303	238	226	43	7.3	10.8
B-126"		40		0			400.10	47	47	307	238	226	45	7.0	13.2
C-18" 24	12:20	4575		0.25	0.29	3	401.10								
C-54" 72		5014		1.0	1.1	6	403.06	46	46	347	225	228	43	7.7	12.5
C-60" 120		5621		0.48	0.55	5	406.70	46	41	308	238	228	44	7.4	12.8
C-126"		60					409.70	49	41	509	276	228	46	7.2	13.0
AVERAGE				0.742	0.867		398.0	42.1	42.1	303.6				7.2	13.0

Sample Train	Pre Test	ft <sup>3</sup> @	in. Hg	Pilot Tube	Pre Test	ft <sup>3</sup> @	in. H <sub>2</sub> O
Leak Checks:	Pre Test	Leak	10	Leak Checks:	Pre Test	Leak	0





EPA METHOD 5/26A PARTICULATE SAMPLING FIELD DATA SHEET

TEST ID: TEST3  
 PLANT: GREENIDGE  
 LOCATION: STACK  
 DATE: 5-13-08  
 OPERATOR(S): B. S. BAC  
 AMBIENT TEMP [°F]: 29.29  
 BAR. PRESS. [in. Hg]: 29.29

METER BOX: 80513  
 PITOT TUBE DESC: E12  
 PROBE LENGTH [in]: 8'  
 NOZZLE ID [inch]: 1/4" A  
 %H<sub>2</sub>O (Assumed): 8  
 FILTER ID: 133  
 K FACTOR: 2.77

CAL. DATA: delta H: 1.846  
 Y: 0.993  
 C(p): N/A  
 FILTER BOX SETTING: 250  
 PROBE HTR SETTING: circ?  
 DUCT X-SECTION: rect?  
 DUCT AREA: 14.1

Comments: 1.846 of 0.993

TRAVERSE POINT [port-inch]	CLOCK TIME [24-hr]	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	-FILTER-BOX- [°F]	LAST IMP TEMP [°F]	METER EXHAUST		
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]	
A-5"	1155	0					310.40			185	234	202	40			
A-16.4"		5	1.60	1.68	6	314.00	39	36	185	237	206	40				
A-30.3"		10	1.65	1.80	6.5	317.63	41	37	185	236	206	40			7.9	
A-50.4"		15	1.70	2.10	7	321.50	43	38	185	236	210	42				
		20	1.76	2.10	7	325.46	44	38	185	234	206	44			7.9	
B-5"																
B-16.4"		25	1.65	1.80	7	325.12	43	38	185	238	214	44				
B-30.3"		30	1.76	2.10	7.5	333.20	44	38	186	246	216	45				7.8
B-50.4"		35	1.65	2.10	7.5	336.93	45	39	186	246	208	48				
		40	1.70	1.92	7.5	340.72	45	39	186	249	206	49				7.7
C-5"																
C-16.4"																
C-30.3"		45	1.55	1.50	5.5	347.10	45	40	186	246	205	49				
C-50.4"		50	1.60	1.68	6	347.66	45	40	186	247	203	49				7.9
		55	1.71	1.70	7.5	351.47	45	40	186	243	202	51				
D-5"	1304	60	1.65	1.80	7.5	355.11	46	40	186	242	203	53				7.9
D-16.4"																
D-30.3"																
D-50.4"																
AVERAGE			1.875	1.875	10	44.71	41.2	185.6								7.9

Sample Train: Pro Test 0.15 ft<sup>3</sup> @ 1.0 in. Hg, Post Test 0.15 ft<sup>3</sup> @ 1.0 in. Hg  
 Leak Checks: Pre Test OK @ 7 in. H<sub>2</sub>O, Post Test OK @ 7 in. H<sub>2</sub>O  
 Pilot Tube Leak Checks: Pre Test OK @ 7 in. H<sub>2</sub>O, Post Test OK @ 7 in. H<sub>2</sub>O



# EPA METHOD 5/26A PARTICULATE SAMPLING FIELD DATA SHEET

TEST ID	AHO-4	METER BOX	NC-4	CAL. DATA: delta H	1.794	Comments:	1794
PLANT	GREENIDGE	PITOT TUBE DESC	70 F3A	Y	1.002		
LOCATION	AIR HEATER OUTLET	PROBE LENGTH [ft]	10 ft	C(p)			
DATE	3/13/08	NOZZLE ID [inch]	7/32 C				
OPERATOR(S)	STL	%H <sub>2</sub> O (Assumed)	8				
AMBIENT TEMP [°F]	27.18	FILTER ID	1174	rect ?			
BAR. PRESS. [in. Hg]		K FACTOR	1.14	DUCT AREA			
				DUCT DIMENSIONS			

TRAVERSE POINT [port-inch]	CLOCK TIME [24-hr]	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
A-10" 24	14:17	0					410.00								
A-10" 24	14:17	5	1.1	1.0	1.1	4.5	419.50	43	41	303	372	214	39	7.4	12.9
A-50" 72	14:17	10	1.1	1.0	1.1	5	418.35	46	41	310	374	213	41	6.8	13.3
A-90" 120	14:17	15	1.1	1.0	1.1	5	422.37	49	42	309	363	212	44	6.7	13.4
A-126"	14:17	20	0.91	0.45	0.91	3.5									
B-10" 24	14:17	25	0.91	0.45	0.91	3.5	422.40								
B-50" 72	14:17	30	1.1	0.80	1.1	5	435.28	48	43	305	350	213	45	7.4	12.8
B-90" 120	14:17	35	1.1	1.0	1.1	6	424.35	51	43	307	272	213	47	7.0	13.2
B-126"	14:17	40	1.1	1.0	1.1	6	433.35	52	44	310	232	215	50	7.0	13.2
C-10" 24	15:00	45	0.29	0.25	0.29	3	433.60								
C-50" 72	15:00	50	0.91	0.80	0.91	5	435.92	51	44	301	214	216	47	7.4	12.8
C-90" 120	15:00	55	0.55	0.48	0.55	5	439.20	51	45	310	219	217	48	7.3	12.9
C-126"	15:00	60				5	442.36	51	45	312	228	218	48	7.0	13.2
AVERAGE			-16.60	0.743	0.862		31.98	46.1		307.4				7.1	13.1

Sample Train	Pre Test	50.81	ft <sup>3</sup> @	1.0	in. Hg
Leak Checks:	Post Test	56.01	ft <sup>3</sup> @	1.0	in. Hg
Pilot Tube	Pre Test	OK	@	5	in. H <sub>2</sub> O
Leak Checks:	Post Test	OK	@	5	in. H <sub>2</sub> O





EPA METHOD 5/26A PARTICULATE SAMPLING FIELD DATA SHEET

TEST ID: TEST4  
 PLANT: GREENIDGE  
 LOCATION: STACK  
 DATE: 3-13-08  
 OPERATOR(S): BSAG  
 AMBIENT TEMP (°F): 2400  
 BAR. PRESS. (in. Hg): 29.18

METER BOX: 80913  
 PITOT TUBE DESC: F12  
 PROBE LENGTH (ft): 8.1  
 NOZZLE ID (inches): 1/4" A  
 %H<sub>2</sub>O (Assumed): 8  
 FILTER ID: 132  
 K FACTOR: 2.77

CAL. DATA: delta H: 1.846  
 Y: 0.993  
 C(p): NA  
 FILTER BOX SETTING: 250  
 PROBE HTR SETTING: circ?  
 DUCT X-SECTION: other:  
 DUCT AREA: H.L.

Comments: 1.846  
 0.993

Page \_\_\_ of \_\_\_

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER -BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST			
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]		
A-5"	1425	0					359.20										
A-16.4"		5		.60	1.68	6.5	362.78	44	42	184	252	198	44				
A-30.3"		10		.65	1.80	7	366.78	48	43	184	251	203	46			7.8	
A-50.4"		15		.76	1.80	7	370.12	51	45	184	250	197	48				
B-5"		20		.60	1.68	6.5	373.73	52	45	184	250	198	48			7.8	
B-16.4"		25		.65	1.80	7	377.40	51	45	185	249	208	46				
B-30.3"		30		.76	2.10	7.5	381.37	51	46	185	249	211	47			7.7	
B-50.4"		35		.80	2.10	7.5	385.33	52	46	185	250	212	48				
C-5"		40		.70	1.92	7	389.14	52	47	185	250	205	49			7.8	
C-16.4"		45		.55	1.50	6	392.53	51	46	185	242	206	46				
C-30.3"		50		.70	1.92	7	396.34	52	47	185	240	210	47			7.7	
C-50.4"		55		.70	2.10	8	399.50	53	47	185	241	209	48				
D-5"		60		.70	1.92	7.5	404.13	54	48	185	243	204	50			7.7	
D-16.4"	1533																
D-30.3"																	
D-50.4"																	
AVERAGE			-0.75	0.672	1.86		44.93		48.36	184.7						7.8	

Sample Train Pre Test 0.15 ft<sup>3</sup> @ 10 in. Hg Post Test 0.15 ft<sup>3</sup> @ 10 in. Hg  
 Leak Checks: Pre Test OK Post Test OK  
 Pitot Tube Leak Checks: Pre Test OK Post Test OK  
 in. H<sub>2</sub>O in. H<sub>2</sub>O







EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

TEST ID: AG0-1      METER BOX: N-5      CAL. DATA: delta H: 1.5223      Comments: \_\_\_\_\_  
 PLANT: Greenidge      PITOT TUBE DESC: E12A      Y: 0921  
 LOCATION: Stack      PROBE LENGTH [ft]: 8      C(P): 0221  
 DATE: 5-20-08      NOZZLE ID [inch]: 1/4" O 260      FILTER BOX SETTING: NA  
 OPERATOR(S): BSPP      %H<sub>2</sub>O (Assumed): 14      PROBE HTR SETTING: 250  
 AMBIENT TEMP [°F]: 24.50      FILTER ID: 144      DUCT X-SECTION: rect?      other: \_\_\_\_\_  
 BAR. PRESS. [° Hg]: 28.88      K FACTOR: 3.91      DUCT AREA: 132.732 ft<sup>2</sup>

TRANSVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-5.0	0050	0					541.10								
-5.0		4.0	.15	.46	.63	1.5	542.67	53	53	140	246	308	44		
-16.4		8.0	.20	.63	.63	1.5	544.47	53	53	177	251	308	43		7.9
-30.3		12.0	.20	.63	.63	1.5	546.20	54	53	177	249	308	43		
-50.4		16.0	.50	.20	.63	1.5	548.00	54	54	177	251	308	43		7.9
-5.0		20.0	.20	.63	.63	1.5	549.74	55	55	170	251	307	45		
-16.4		24.0	.23	.74	.74	1.5	551.70	55	55	176	243	307	46		
-30.3		28.0	.23	.74	.74	1.5	553.58	56	55	178	249	308	46		8.0
-50.4		32.0	.48	.20	.63	1.5	555.36	57	55	177	242	308	48		7.9
-5.0		36.0	.32	1.02	1.02	1.5	557.60	56	55	159	245	309	45		
-16.4		40.0	.30	.95	.95	1	559.73	57	56	176	242	309	43		
-30.3		44.0	.20	.63	.63	1	561.50	58	56	177	251	309	46		7.9
-50.4		48.0	.45	.15	.46	1	563.00	58	56	177	251	309	46		
-5.0		52.0	.40	1.25	1.25	1.5	565.40	59	56	177	247	309	46		
-16.4		56.0	.45	1.40	1.40	2	568.00	60	56	175	251	309	47		7.9
-30.3		60.0	.15	.46	.46	1	569.52	60	56	176	246	310	48		
-50.4	0230	64.0	.15	.46	.46	1	571.08	59	56	176	252	311	49		8.0
AVERAGE							29.93	53.7		172.3					7.9

Sample Train: Pre Test OK @ 10 in. Hg      Pitot Tube: Pre Test OK @ 1 in. H<sub>2</sub>O  
 Leak Checks: Post Test OK @ 10 in. Hg      Leak Checks: Post Test OK @ 1 in. H<sub>2</sub>O





EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

TEST ID: AGE-7      METER BOX: CAG      CAL DATA: delta H: Y      Page      of     

PLANT: Greenidge      PITOT TUBE DESC: B3A      Y:     

LOCATION: Air Heater Outlet      PROBE LENGTH [ft]: 12      C(p):     

DATE: 5/21      NOZZLE ID [inch]: 5/16      NA:     

OPERATOR(S): AKG BK      %H<sub>2</sub>O (Assumed): 8      250:     

AMBIENT TEMP [°F]: 52      FILTER ID: 12-12      DUCT X-SECTION: rect?      other:     

BAR. PRESS. [° Hg]: 28.88      K FACTOR: 0.80      DUCT AREA: 108 ft<sup>2</sup>

Comments: HL

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minutes]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [PF]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-24.0	0:35:0	0	-8.25	0.11	0.09	1.5	474.785	52	52	294	252	315	47	7.2	13.0
-72.0		7	-9.10	0.56	0.44	2.5	478.065	54	54	299	249	315	44	7.2	13.1
-120.0		14	-9.7	0.25	0.20	2.0	478.987	53	53	301	250	315	44		
		21													
		28													
-24.0		35	-8.91	0.18	0.14	1.7	480.365	55	54	292	251	315	45		
-72.0		42	-9.01	0.52	0.41	2.7	482.625	56	54	296	248	315	44	7.2	13.0
-120.0		49	-9.4	0.65	0.51	3.3	485.487	58	53	300	253	314	45		
		56													
		63													
-24.0		63	-9.64	0.69	0.55	3.9	493.963	61	55	291	249	313	50		
-72.0															
-120.0															
AVERAGE															

Sample Train: Pre Test 20.1      Pitot Tube: Pre Test @      in. H<sub>2</sub>O

Leak Checks: Post Test 20.1      Leak Checks: Post Test @      in. H<sub>2</sub>O

Consol Energy Logo









EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

TEST ID: AG0-3 PLANT: Greenidge LOCATION: Stack DATE: 5-21-08 OPERATOR(S): ASPR AMBIENT TEMP [°F]: -47.0 BAR. PRESS. [° Hg]: 28.91

METER BOX: 25 PITOT TUBE DESC: E12 PROBE LENGTH [ft]: 8 NOZZLE ID [inch]: 1/4" %H<sub>2</sub>O (Assumed): 14 FILTER ID: 147 K FACTOR: 3.07

CAL. DATA: delta H: 1.818 Y: 0.990 C(p): NA FILTER BOX SETTING: 250 PROBE HTR SETTING: circ? DUCT X-SECTION: rect? DUCT AREA: 132.732 ft<sup>2</sup>

Comments: H.L.

Page      of     

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	PITOT TEMP [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-5.0	1105	0					609.50			150	250	307	41		
-5.0		4.0		.25	.74	1	611.47	52	52	150	250	307	41		
-16.4		8.0		.25	.74	1	613.37	52	52	171	242	307	41		
-30.3		12.0		.28	.88	1	615.44	54	53	174	240	309	41	10.1	
-50.4		16.0		.27	.85	1	617.47	55	54	174	243	309	42	10.0	
-5.0		20.0		.25	.74	1	619.37	55	55	163	243	309	43		
-16.4		24.0		.25	.74	1	621.30	56	55	179	243	308	44	10.0	
-30.3		28.0		.28	.88	1		57	56	186	242	309	45		
-50.4		32.0		.28	.88	1	625.44	58	57	187	245	308	46	10.0	
-5.0		36.0		.25	.74	1	627.36	57	57	149	249	309	46		
-16.4		40.0		.28	.88	1	629.27	58	57	183	244	308	46		
-30.3		44.0		.30	.95	1.5	631.44	60	58	185	252	308	47	10.1	
-50.4		48.0		.30	.95	1.5	633.60	61	58	185	248	310	48	10.1	
-5.0		52.0		.25	.74	1	635.50	61	59	141	248	310	49		
-16.4		56.0		.27	.85	1.5	637.55	61	59	178	251	311	49	10.1	
-30.3		60.0		.30	.95	1.5	639.75	61	60	180	252	311	50	9.9	
-50.4	0017	64.0		.30	.95	1.5	641.90	62	60	183	252	311	51		
AVERAGE							32.40	56.9	173					10.0	

Sample Train: Pre Test 0.15 ft<sup>3</sup> @ 10 in. Hg Post Test 0.15 ft<sup>3</sup> @ 10 in. Hg

Leak Checks: Pre Test 0.15 ft<sup>3</sup> @ 10 in. Hg Post Test 0.15 ft<sup>3</sup> @ 10 in. Hg

Pilot Tube: Pre Test 0.15 ft<sup>3</sup> @ 10 in. Hg Post Test 0.15 ft<sup>3</sup> @ 10 in. Hg



# EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

Page \_\_\_\_\_ of \_\_\_\_\_

TEST ID <i>Acid Gas - 4</i>	METER BOX <i>CAE</i>	CAL. DATA: delta H <i>Y</i>	Comments:
PLANT <i>Greenidge</i>	PITOT TUBE DESC <i>E 3 A</i>		
LOCATION <i>Air Heater Outlet</i>	PROBE LENGTH [ft] <i>12</i>	C(p)	
DATE <i>5/7/22</i>	NOZZLE ID [inch] <i>3/16 B 0191</i>	NA	
OPERATOR(S) <i>ABO</i>	%H <sub>2</sub> O (Assumed) <i>8</i>	PROBE HTR SETTING <i>250</i>	
AMBIENT TEMP [°F] <i>53</i>	FILTER ID <i>1216</i>	DUCT X-SECTION <i>rect?</i>	other
BAR. PRESS. [° Hg] <i>28.914</i>	K FACTOR <i>0.80</i>	DUCT DIMENSIONS <i>9 ft x 12 ft</i>	DUCT AREA <i>108 ft<sup>2</sup></i>

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minutes]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-24.0	17229	0	-6.6	0.35	0.28	1.8	572.900	51	51	275	250	308	40		
-72.0		14	-6.1	0.50	0.40	2.0	517.325	53	51	280	252	311	39	9.3	11.0
-120.0		21	-6.7	0.50	0.40	2.1	579.788	54	51	280	250	313	40		
	1350														
	1352														
-24.00		28	-6.3	0.14	0.11	0.510	520.915	53	52	274	248	315	47		
-72.00		35	-6.5	0.36	0.28	1.0	522.170	584	52	277	249	314	41	9.3	11.0
-120.00		42	-6.6	0.50	0.40	2.3	525.152	56	52	278	250	314	41		
	0212														
	0215														
-24.00		49	-6.8	0.09	0.07	1.0	528.180	54	52	275	250	315	43		
-72.00		56	-6.8	0.39	0.31	2.0	528.330	55	53	280	250	315	41	9.3	11.0
-120.00		63	-6.6	0.18	0.14	1.5	529.85	55	52	281	252	314	42		
	0236														
AVERAGE			-6.6	0.313	0.266		16.751	52.8		277.8				9.3	11.0

Sample Train	Pre Test	Post Test	in. Hg
	50.01	50.01	15
Leak Checks:	Pre Test	Post Test	in. Hg
	20.01	20.01	15
Pitot Tube	Pre Test	Post Test	in. H <sub>2</sub> O
Leak Checks:	Pre Test	Post Test	in. H <sub>2</sub> O





EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

TEST ID: AG0-4      METER BOX: 25      CAL. DATA: delta H: 1.818      Comments: \_\_\_\_\_  
 PLANT: Greentidge      PITOT TUBE DESC: E12      Y: \_\_\_\_\_  
 LOCATION: Stack      PROBE LENGTH [ft]: 8      C(p): \_\_\_\_\_  
 DATE: 5-22-08      NOZZLE ID [inch]: 1/4" A      FILTER BOX SETTING: NA  
 OPERATOR(S): BS, PR      %H<sub>2</sub>O (Assumed): 14      PROBE HTR SETTING: 250  
 AMBIENT TEMP [°F]: ~450      FILTER ID: 148      DUCT X-SECTION: circ?      other: \_\_\_\_\_  
 BAR. PRESS. [° Hg]: 28.54      K FACTOR: 3.07      DUCT AREA: 132.732 ft<sup>2</sup>

TRAVERSE POINT [port-inch]	CLOCK TIME [24-hr]	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX TEMP [°F]	LAST IMP TEMP [°F]	METER EXHAUST		
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]	
	0130	0					672.00									
-5.0		4.0	.25	.74	2	674.00	52	52	163	245	302	46	—	—	—	—
-16.4		8.0	.28	.88	2.5	676.04	53	52	175	246	302	46	—	10.2	—	—
-30.3		12.0	.30	.95	3	678.20	54	52	176	242	302	46	—	—	—	—
-50.4		16.0	.49	.95	3	650.35	55	53	176	252	303	47	—	10.1	—	—
-5.0		20.0	.25	.74	2	652.26	55	54	160	246	303	46	—	—	—	—
-16.4		24.0	.27	.85	2.5	654.30	56	55	174	255	303	46	—	10.2	—	—
-30.3		28.0	.30	.95	3	656.48	57	56	175	243	304	47	—	—	—	—
-50.4		32.0	.47	.95	3	658.52	58	57	176	242	304	47	—	10.1	—	—
-5.0		36.0	.25	.74	2.5	660.45	58	57	160	242	300	47	—	—	—	—
-16.4		40.0	.27	.85	3	662.49	59	57	173	244	299	47	—	10.2	—	—
-30.3		44.0	.28	.88	3	664.59	60	58	176	243	299	48	—	10.1	—	—
-50.4		48.0	.47	.95	3	666.65	61	58	176	254	302	49	—	—	—	—
-5.0		52.0	.25	.74	2.5	668.60	61	58	160	241	300	50	—	—	—	—
-16.4		56.0	.27	.85	3	670.62	61	59	175	252	299	52	—	—	—	—
-30.3		60.0	.30	.95	3.5	672.79	61	59	176	248	299	53	—	10.2	—	—
-50.4	0250	64.0	.45	.95	4	675.58	61	59	176	248	303	54	—	10.2	—	—
AVERAGE			0.46	0.276	0.859	33.980	56.8	56.8	171.7						10.2	

Sample Train: Pre Test 0.15 ft<sup>3</sup> @ 10 in. Hg      Pitot Tube: Pre Test 0.15 @ 7 in. H<sub>2</sub>O  
 Leak Checks: Pre Test 0.15 ft<sup>3</sup> @ 10 in. Hg      Leak Checks: Post Test 0.15 @ 7 in. H<sub>2</sub>O







EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

Page      of     

TEST ID	AGO-5	METER BOX	NS	CAL. DATA: delta H	1.818	Comments:
PLANT	Greentidge	PITOT TUBE DESC	E12	Y	0.990	
LOCATION	Stack	PROBE LENGTH [ft]	8	C(p)		
DATE	5-22-08	NOZZLE ID [inch]	1/4" A	FILTER BOX SETTING	NA	
OPERATOR(S)	BSJPR	%H <sub>2</sub> O (Assumed)	14	PROBE HTR SETTING	250	
AMBIENT TEMP [°F]	~45	FILTER ID	145	DUCT X-SECTION	circ ?	other: rect 2
BAR. PRESS. [° Hg]	28.97	K FACTOR	3.07	DUCT DIMENSIONS	13 ft	132.732 ft <sup>2</sup>

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER %B <sub>2</sub> [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-5.0	0410	0					675.20								
-5.0		4.0		.25	.74	1	677.12	51	51	160	249	300	42		
-16.4		8.0		.27	.85	1	679.15	52	50	170	247	302	43		
-30.3		12.0		.27	.85	1	681.22	52	51	174	245	305	45	10.3	
-50.4		16.0		.25	.74	1	683.10	53	51	176	245	304	44		
-5.0		20.0		.25	.74	1	685.03	52	51	168	249	305	43		
-16.4		24.0		.25	.74	1	686.96	53	51	175	251	305	44		
-30.3		28.0		.27	.85	1	689.00	53	51	176	248	305	44		
-50.4		32.0		.27	.85	1	691.03	54	52	176	252	304	45		
							691.22	L.C	"OK"	RESTART					
-5.0		36.0		.25	.74	1	693.15	53	52	157	249	302	43		
-16.4		40.0		.28	.88	1	695.23	54	52	174	248	302	43		
-30.3		44.0		.27	.85	1	697.26	55	52	176	244	304	44		
-50.4		48.0		.30	.95	1.5	699.42	55	53	176	248	305	45		
-5.0		52.0		.25	.74	1	701.36	55	53	160	245	305	46		
-16.4		56.0		.28	.88	1.5	703.43	56	53	175	246	306	47		
-30.3		60.0		.30	.95	1.5	705.57	57	54	176	252	307	47		
-50.4	0527	64.0		.30	.95	1.5	707.73	57	54	176	252	300	48	10.4	
				44.5											
AVERAGE			-431	7.269	0.831		32.34	52.4		171.6					10.4

Sample Train	Pre Test	0.5 ft <sup>3</sup> @ 10 in. Hg	Pitot Tube	Pre Test	OK @ 1 in. H <sub>2</sub> O
Leak Checks:	Post Test	0.5 ft <sup>3</sup> @ 10 in. Hg	Leak Checks:	Post Test	OK @ 1 in. H <sub>2</sub> O







1335 LOST POWER "STOP"  
 1405 RESTART  
 1412

1405 RESTART EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

Page      of     

TEST ID	A60-1	METER BOX	N-5	CAL. DATA: delta H	1.813	Comments:
PLANT	Greentidge	PITOT TUBE DESC	E-12	Y	0.990	
LOCATION	Stack	PROBE LENGTH [ft]	8	C(p)	0.821	
DATE	6-10-08	NOZZLE ID [inch]	1/4" PRO-34	NA		
OPERATOR(S)	BS PR	%H <sub>2</sub> O (Assumed)	14	FILTER BOX SETTING	250	
AMBIENT TEMP [°F]	~87.0	FILTER ID	150	PROBE HTR SETTING	250	
BAR. PRESS. [° Hg]	29.25	K FACTOR	3.27	DUCT X-SECTION	circ?	
				DUCT AREA	132.732 ft <sup>2</sup>	
				DUCT DIMENSIONS	(7) 11.5 (7)	

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	-FILTER-TEMP [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-5.0	1330	0		1.43	1.41		709.90			174					
-16.4		4.0		1.45	1.47	3	715.57	90	90	174	254	310	63		8.5
-30.3		8.0	-383	1.50	1.64	3		90	90	174	254	310	58		
-50.4		12.0		1.50	1.64	3	721.36	91	91	174	255	310	55		8.4
		16.0													
-5.0		20.0		1.50	1.64	3	724.34	92	91	172	252	311	60		
-16.4		24.0		1.58	1.90	3.5	727.57	93	92	174	242	311	62		8.7
-30.3		28.0	-400	1.63	2.10	4	730.85	95	93	174	248	311	60		
-50.4		32.0		1.60	1.96	3.5	734.08	96	94	174	253	311	61		8.7
-5.0		36.0		1.55	1.80	3	737.13	95	94	173	245	311	61		
-16.4		40.0		1.60	1.96	3.5	740.35	96	95	175	243	311	58		8.2
-30.3		44.0	-400	1.63	2.10	4	743.72	95	94	175	246	311	58		
-50.4		48.0		1.60	1.96	4	747.25	95	93	175	243	310	60		8.4
-5.0		52.0		1.60	1.96	4	750.13	96	93	174	243	305	61		
-16.4		56.0		1.63	2.10	4	753.46	96	93	175	249	305	63		8.3
-30.3		60.0	-360	1.60	1.96	4	756.68	96	93	175	243	310	63		
-50.4	1528	64.0		1.58	1.90	4	759.86	96	93	175	251	310	64		8.4
AVERAGE			-386	0.559	1.844		49.96	93.4		174.2					8.5

Sample Train	Pre Test	0.15	ft <sup>3</sup>	@	10	in. Hg	Pitot Tube	PreTest	0.15	@	7	in. H <sub>2</sub> O
Leak Checks:	Post Test		ft <sup>3</sup>	@		in. Hg	Leak Checks:	Post Test		@		in. H <sub>2</sub> O





EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

TEST ID: A117 PLANT: Greentidge CAL. DATA: delta H: 1.779 Comments: \_\_\_\_\_  
 LOCATION: Air Heater Outlet Y: 0.985 C(p): \_\_\_\_\_  
 DATE: 6/11 FILTER BOX SETTING: NA FILTER BOX SETTING: NA  
 OPERATOR(S): JBL NOZZLE ID [inch]: 8 PROBE HTR SETTING: 280  
 AMBIENT TEMP [°F]: 73 FILTER ID: 1724 DUCT X-SECTION: rect? other: \_\_\_\_\_  
 EAR. PRESS. [° Hg]: 29.38 K FACTOR: 0.822 DUCT DIMENSIONS: 9 ft x 12 ft DUCT AREA: 108 ft<sup>2</sup>

Page 1 of 1

TRAVERSE POINT [port-inch]	CLOCK TIME [24-hr]	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-24.0	0902	0	-13.6	0.10	0.81	1.5	230.722	69	69	307	246	307	62	7.1	12.9
-72.0		14	0.9	0.74	0.74	3.5	242.750	71	69	315	245	308	53.9	6.6	
-120.0		21	74.1	0.46	0.70	2.5	245.436	71	69	314	245	308	57		
	start 0725														
-24.00		28	-13.2	0.32	0.26	2.3	247.470	72	70	307	251	308	61	7.0	13.2
-72.00		35	-14.1	0.85	0.70	4.0	250.590	72	70	310	246	307	62	6.8	13.5
-120.00		42	-13.90	0.77	0.70	4.7	254.220	73	71	313	249	307	63	6.3	
	end 0946														
		49	-13.4	0.92	0.76	4.0	257.865	73	71	303	249	307	61	6.9	
-24.00		56	-13.4	0.10	0.82	4.0	261.070	74	71	310	251	308	58	6.5	13.7
-72.00		63	-14.5	1.1	0.90	3.7	264.749	75	72	309	250	308	57	6.5	13.7
-120.00															
	end 1009														
				0.692											
AVERAGE			-13.805	0.70	0.70	1.9	260.037	71.2		310	249	308		6.8	

Sample Train: Pre Test 50.00 ft<sup>3</sup> @ 19 in. Hg Post Test 50.00 ft<sup>3</sup> @ 11 in. Hg  
 Leak Checks: Pre Test 0.00 ft<sup>3</sup> @ 11 in. Hg Post Test 0.00 ft<sup>3</sup> @ 11 in. Hg





EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

Page \_\_\_\_ of \_\_\_\_

TEST ID	A60-2	METER BOX	2-5	CAL DATA: delta H	1.818	Comments:
PLANT	Greenidge	PITOT TUBE DESC	E-12	Y	0.990	
LOCATION	Stack	PROBE LENGTH [ft]	8	C(p)	0.821	
DATE	6-11-08	NOZZLE ID [inch]	1/4"	FILTER BOX SETTING	NA	
OPERATOR(S)	BS-PR	%H <sub>2</sub> O (Assumed)	14	PROBE HTR SETTING	250	
AMBIENT TEMP [°F]	~80°	FILTER ID	151	DUCT X-SECTION	rect? <input type="checkbox"/>	
BAR. PRESS. [in. Hg]	29.38	K FACTOR	3.27	DUCT AREA	132.732 ft <sup>2</sup>	

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. Hg]	PITOT HEAD [in. Hg]	METER DIFF PRESSURE [in. Hg]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	LAST IMP TEMP [°F]	METER EXHAUST		
								inlet	outlet				O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]	
-5.0	0905	0					760.00								
-5.0		4.0		.45	1.47	3	762.77	71	71	173	256	311	57		
-16.4		8.0		.48	1.57	3	765.60	72	72	174	255	312	55	8.0	
-30.3		12.0		.50	1.64	3	768.47	74	72	175	247	313	54		
-50.4		16.0	-350	.56	1.83	4	771.50	75	73	175	242	313	57	7.9	
							771.63			"RE START"					
-5.0		20.0		.50	1.64	3	774.54	75	74	172	250	310	60		
-16.4		24.0		.56	1.83	4	777.56	76	74	175	248	310	62	1.8	
-30.3		28.0	-400	.63	2.06	4.5	780.77	78	75	175	252	311	66		
-50.4		32.0		.63	2.06	4.5	784.00	79	76	175	248	310	65	7.7	
-5.0		36.0		.50	1.64	3	786.92	80	76	176	248	310	64		
-16.4		40.0		.60	1.96	4	790.10	80	77	176	256	310	66	7.6	
-30.3		44.0	-460	.65	2.13	4.5	793.36	81	78	176	255	311	66		
-50.4		48.0		.63	2.06	4.5	796.60	81	78	175	247	311	67	7.7	
-5.0		52.0		.60	1.96	4	799.76	80	78	172	243	311	65		
-16.4		56.0		.65	2.13	4.5	803.02	81	79	175	242	310	65	7.5	
-30.3		60.0		.65	2.13	4.5	806.32	82	78	176	242	310	64		
-50.4		102.5		.63	2.06	4.5	809.57	81	77	176	246	309	65	7.5	
AVERAGE			-0.10	0.57	1.89		766.7			175	248	311		7.7	

Sample Train	Pre Test	OK	ft <sup>3</sup> @	10	in. Hg	Pitot Tube	Pre Test	OK	@	7	in. H <sub>2</sub> O
Leak Checks:	Post Test	OK	ft <sup>3</sup> @	10	in. Hg	Leak Checks:	Post Test	OK	@	7	in. H <sub>2</sub> O





EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

TEST ID: AHO A6-3  
 PLANT: Greenidge  
 LOCATION: Air Heater Outlet  
 DATE: 8/21/08  
 OPERATOR(S): JH  
 AMBIENT TEMP [°F]: 74  
 BAR. PRESS. [° Hg]: 29.41

METER BOX: N-2  
 PITOT TUBE DESC: 12  
 PROBE LENGTH [ft]: 8  
 NOZZLE ID [inch]: 8  
 %H<sub>2</sub>O (Assumed):  
 FILTER ID: 1725  
 K FACTOR: 0.822

CAL. DATA: delta H: 1.779  
 Y: 0.985  
 C(p): NA  
 FILTER BOX SETTING: 250  
 PROBE HTR SETTING: circ ?  
 DUCT X-SECTION: 9 ft x 12 ft  
 DUCT AREA: 108 ft<sup>2</sup>

Comments: rect ? other: 108 ft<sup>2</sup>

Page \_\_\_ of \_\_\_

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minutes]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-24.0	1145	0	-13.7	0.10	0.08	1.5	265.084	75	75	314	246	305	60	7.3	7.3
-72.0		14	-13.4	0.92	0.75	3.0	269.350	76	75	318	244	307	54		
-120.0		21	-13.5	0.45	0.37	4.7	271.855	78	76	320	249	309	57	6.6	13.6
	0852	1006													
	0901	1208													
-24.00		28	-13.4	0.35	0.29	2.2	274.015	78	77	357	247	307	60	7.0	13.2
-72.00		35	-13.4	0.82	0.67	5.5	276.990	77	77	320	250	307	59	7.0	13.2
-120.00		42	-14.0	1.10	0.90	4.5	280.763	77	76	307	249	307	59	6.8	13.4
	20091229														
	11/17/08														
-24.00		49	-13.6	0.9	0.74	3.7	284.175	78	77	305	249	308	64	7.1	13.1
-72.00		56	-13.9	1.10	0.90	4.5	287.860	81	79	314	250	308	62	6.7	13.5
-120.00		63	-13.7	1.10	0.90	5.3	291.544	79	77	314	248	308	64	6.8	13.4
	END 1757														
AVERAGE			-13.6	0.70	0.62	1.5	26.500	77.1	77.1	317	248	307		6.9	

Sample Train: Pro Test 4000 ft<sup>3</sup> @ 15 in. Hg  
 Leak Checks: Post Test 4000 ft<sup>3</sup> @ 10 in. Hg

Pitot Tube: Pre Test @  
 Leak Checks: Post Test @

Pre Test in. H<sub>2</sub>O: 6.9  
 Post Test in. H<sub>2</sub>O: 6.9

CONSOLE ENERGY



EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

Page      of     

TEST ID	AG0-3	METER BOX	2-5	CAL. DATA: delta H	1.818	Comments:
PLANT	Greentidge	PITOT TUBE DESC	E-12	Y	0.590	
LOCATION	Stack	PROBE LENGTH [ft]	8	C(p)	0.821	
DATE	6-11-08	NOZZLE ID [inch]	1/4"	NA		
OPERATOR(S)	BS PR	%H <sub>2</sub> O (Assumed)	14	FILTER BOX SETTING	250	
AMBIENT TEMP [°F]	~80°	FILTER ID	152	PROBE HTR SETTING		
BAR. PRESS. [° Hg]	29.41	K FACTOR	3.27	DUCT X-SECTION	rect? <u>    </u>	
				DUCT AREA	132.732 ft <sup>2</sup>	
				DUCT DIMENSIONS	11.5	

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minutes]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	-FILTER-BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-5.0	1145	0					809.70								
-5.0		4.0		.58	1.90	3	812.82	77	77	150	245	311	44		
-16.4		8.0		.60	1.96	4	816.00	78	78	174	248	309	43		
-30.3		12.0		.70	2.25	4	819.42	80	78	175	209	309	45		
-50.4		16.0		.480	1.96	4	822.58	81	79	175	229	309	46		
-5.0		20.0		.55	1.80	3	825.62	81	80	173	241	307	48		
-16.4		24.0		.60	1.96	4	828.80	82	80	174	240	307	47		
-30.3		28.0		.65	2.13	4	832.10	83	80	174	243	307	45		
-50.4		32.0		.420	1.96	4	835.25	83	80	175	244	308	50		
-5.0		36.0		.55	1.80	3	838.32	83	80	174	251	307	51		
-16.4		40.0		.63	2.06	4	841.60	84	80	174	243	308	52		
-30.3		44.0		.65	2.13	4	844.50	84	80	174	240	309	53		
-50.4		48.0		.400	2.06	4	848.14	84	80	174	245	308	54		
-5.0		52.0		.50	1.64	3	851.10	83	80	172	252	308	56		
-16.4		56.0		.50	1.64	3	854.00	84	80	174	245	308	56		
-30.3		60.0		.55	1.80	3.5	857.02	84	80	174	240	308	57		
-50.4	1300	64.0		.360	1.80	3.5	860.10	85	81	175	250	308	58		
AVERAGE				0.42	0.59	1.93	50.40	80.9		173	243	308			7.7

Sample Train	Pre Test	0.1K	ft <sup>3</sup>	@	10	in. Hg
Leak Checks:	Post Test	0.1K	ft <sup>3</sup>	@	10	in. Hg
Pitot Tube	Pre Test	OK	@	7	in. H <sub>2</sub> O	
Leak Checks:	Post Test	OK	@	7	in. H <sub>2</sub> O	





EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

TEST ID: AHO AG-4 PLANT: Greenidge COMMENTS: 1-779 Page      of     

LOCATION: Air Heater Outlet CAL DATA: delta H Y 0.985

DATE: 6/11 C(p) NA

OPERATOR(S): ASB FILTER BOX SETTING 250

AMBIENT TEMP [°F]: 29.44 PROBE HTR SETTING circ? rect? other: 108 ft2

BAR. PRESS. [° Hg]: 29.44 DUCT X-SECTION 9 ft x 12 ft DUCT AREA 108 ft2

METER BOX A-2 METER BOX DESC     

PITOT TUBE DESC      PITOT TUBE LENGTH [ft] 12

NOZZLE ID [inch]      NOZZLE ID [inch] 8

%H<sub>2</sub>O (Assumed)      FILTER ID 1224

K FACTOR 0.822

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-24.0	1457	0	-13.0	0.15	0.11	1.5	292.711	83	83	314	243	309	67	7.4	13.7
-72.0	1514	14	-13.2	0.95	0.78	3.5	297.305	80	84	319	244	309	65	6.9	13.7
-120.0	1514	21	-13.4	0.95	0.57	2.5	299.789	81	80	317	243	311	63	6.7	13.7
-24.0	Start 1541														
-24.0	1528	28	-13.7	0.33	0.26	2.0	301.580	80	79	311	242	309	66	7.0	13.7
-72.0	1535	35	-13.1	0.82	0.67	4.0	304.890	82	80	314	246	309	61	6.8	13.6
-120.0	1542	42	-13.8	1.1	0.90	6.5	308.506	82	80	317	250	309	60	6.6	13.6
-24.0	Start 1544														
-24.0	1552	49	-12.8	0.86	0.67	3.7	311.815	81	80	307	249	311	65	7.1	13.1
-72.0	1559	56	-13.5	0.96	0.79	4.0	315.300	82	80	312	247	311	62	6.5	13.7
-120.0	10010	63	-13.0	1.0	0.822	5.0	318.881	82	80	309	245	308	63	6.4	13.8
END	1606														
AVERAGE			-13.2	0.68	0.69		26.170	80.9	80.9	313	245	310		6.8	

Sample Train Pre Test 0.00 ft<sup>3</sup> @ 19 in. Hg Post Test 0.00 ft<sup>3</sup> @ 10 in. Hg

Leak Checks: Pre Test 0.00 ft<sup>3</sup> @ 10 in. Hg Post Test 0.00 ft<sup>3</sup> @ 10 in. Hg

Pitot Tube PreTest      PostTest     

in. H<sub>2</sub>O      in. H<sub>2</sub>O     





EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

Page      of     

TEST ID	AGO-4	METER BOX	2.5	CAL DATA: delta H	1.818	Comments:
PLANT	Greentide	PITOT TUBE DESC	F-12	Y	0.550	
LOCATION	Stack	PROBE LENGTH [ft]	8	C(p)	0.821	
DATE	6-11-08	NOZZLE ID [inch]	1/4"	FILTER BOX SETTING	NA	
OPERATOR(S)	RSBR	%H <sub>2</sub> O (Assumed)	14	PROBE HTR SETTING	250	
AMBIENT TEMP [°F]	~50.0	FILTER ID	153	DUCT X-SECTION	rect? <input checked="" type="checkbox"/>	
BAR. PRESS. [° Hg]	29.44	K FACTOR	3.27	DUCT AREA	132.732 ft <sup>2</sup>	
				DUCT DIMENSIONS	(L) 7 (W) 5 (H) 5 (D) 4	

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	PIPER-EGK [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-5.0	1455	0					820.30								
-5.0		4.0		.45	1.47	2.5	863.15	87	86	150	248	309	52		
-16.4		8.0		.48	1.57	2.5	866.10	85	87	173	240	310	46		
-30.3		12.0		.50	1.64	3	869.00	90	87	174	247	310	47		
-50.4		16.0	-320	.55	1.80	3	872.07	90	87	174	246	310	49		
-5.0		20.0		.58	1.90	3.5	875.22	91	88	173	248	310	52		
-16.4		24.0		.60	1.96	3.5	878.41	92	88	174	256	310	51		
-30.3		28.0		.65	2.13	4	881.78	93	89	174	253	310	52		
-50.4		32.0	-350	.60	1.96	3.5	885.00	94	89	174	243	310	53		
-5.0		36.0		.58	1.90	3.5	888.17	94	89	173	243	309	54		
-16.4		40.0		.58	1.90	3.5	891.33	95	89	174	251	310	55		
-30.3		44.0		.63	2.06	4	894.62	94	89	174	241	309	57		
-50.4		48.0	-400	.60	1.96	3.5	897.83	94	88	174	254	308	59		
-5.0		52.0		.50	1.64	3	900.80	93	88	170	242	311	60		
-16.4		56.0		.58	1.90	3.5	903.18	93	89	173	246	312	57		
-30.3		60.0	-440	.58	1.90	3.5	907.11	94	89	175	246	312	57		
-50.4	1610	64.0		.60	1.96	3.5	910.30	95	89	174	242	311	58		
AVERAGE			10.39	0.54	1.85		50.00	90.3		170.	247	310			7.8

Sample Train	Pre Test	OK	ft <sup>3</sup> @ 10K	in. Hg
Leak Checks:	Post Test	OK	ft <sup>3</sup> @ 10	in. Hg
Pitot Tube	PreTest	OK	@ 7	in. H <sub>2</sub> O
Leak Checks:	Post Test	OK	@ 7	in. H <sub>2</sub> O





# EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

TEST ID: AG-5      METER BOX: #1      CAL DATA: delta H: 1.967      Comments: \_\_\_\_\_  
 PLANT: Greentidge      PITOT TUBE DESC: \_\_\_\_\_      Y: 0.086      of \_\_\_\_\_  
 LOCATION: Air Heater Outlet      PROBE LENGTH [ft]: 12      C(p): 0.021  
 DATE: 6-16-06      NOZZLE ID [inch]: 3/16      NA      FILTER BOX SETTING: 250  
 OPERATOR(S): DL      %H<sub>2</sub>O (Assumed): 8      PROBE HTR SETTING: 250  
 AMBIENT TEMP [°F]: 80      FILTER ID: 1238      DUCT X-SECTION: circ?      other: \_\_\_\_\_  
 BAR. PRESS. [° Hg]: 29.73      K FACTOR: 0.85      DUCT DIMENSIONS: 9 ft x 12 ft      DUCT AREA: 108 ft<sup>2</sup>

TRAVEL POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-24.0	1:30	0	14.9	0.08	0.08	1.0	231.025	82	80	311	250	172	65		
-72.0		14	15.6	0.94	0.94	4.0	235.350	84	81	315	250	206	60	7.1	13.1
-120.0	1:51	21	15.4	1.58	1.58	5.0	238.557	85	82	314	251	204	59	7.0	
	1:54														
-24.00		28	15.9	0.36	0.31	2.5	240.530	85	82	312	250	205	62	7.1	
-72.00		35	15.3	1.0	0.85	4.0	244.125	85	82	312	250	204	59	6.9	
-120.00		42	15.8	1.4	1.2	5.0	248.213	86	82	313	250	205	63	6.6	
	1:27														
-24.00		49	15.2	0.89	0.75	4.0	251.625	86	82	314	250	205	64	7.1	
-72.00		56	15.9	1.1	0.94	5.0	255.485	86	83	321	250	204	64	7.0	
-120.00		63	15.7	1.5	1.1	5.5	259.305	87	83	319	250	204	65	6.6	
AVERAGE			15.53	0.79	0.839		238.280	83.5		314.6	250.1	204.7	62.3	6.93	

Sample Train: Pre Test 20.0 ft<sup>3</sup> @ 15 in. Hg      Pitot Tube: PreTest \_\_\_\_\_      in. H<sub>2</sub>O  
 Leak Checks: Post Test 20.0 ft<sup>3</sup> @ 10 in. Hg      Leak Checks: Post Test \_\_\_\_\_      in. H<sub>2</sub>O





EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

Page 1 of 1

TEST ID	AGO-5	METER BOX	N-5	CAL DATA: delta H	1.813	Comments:	
PLANT	Greenidge	PITOT TUBE DESC	E-12	Y	0.990		
LOCATION	Stack	PROBE LENGTH: [ft]	8	C(p)	0.821		
DATE	6-16-08	NOZZLE ID [inch]	1/4" - 0.265	Filter Box Setting	NA		
OPERATOR(S)	RS PR	%H <sub>2</sub> O (Assumed)	14	Probe HTR Setting	250		
AMBIENT TEMP [F]	27.50	Filter ID	158	DUCT X-SECTION	rect? <input type="checkbox"/>		
BAR. PRESS. [Hg]	29.23	K FACTOR	3.27	DUCT AREA	132.732 ft <sup>2</sup>		
				DUCT DIMENSIONS	① ② ③ ④		

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [H <sub>2</sub> O]	PITOT HEAD [H <sub>2</sub> O]	METER DIFF PRESSURE [H <sub>2</sub> O]	METER VACUUM [Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	-FILTER-BOX- [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-5.0	11:55	0					314.50	78	78	176	218	303	63	-	-
-16.4		4.0	.60	1.96	3	317.64	78	78	176	218	303	63	-	-	
-30.3		8.0	.65	2.13	3.5	321.00	78	78	176	220	305	58	-	-	
-50.4		12.0	.70	2.30	+	324.37	79	78	177	220	308	55	8.0	-	
		16.0	.70	2.25	+		80	78	178	220	308	60	-	-	
-5.0		20.0	.70	2.29	+	331.12	82	80	178	221	309	61	-	-	
-16.4		24.0	.70	2.25	+	334.62	83	81	178	224	311	63	7.5	-	
-30.3		28.0	.70	2.25	+	338.06	83	81	178	223	310	60	7.5	-	
-50.4		32.0	.65	2.13	3.5	341.38	84	81	177	232	311	60	-	-	
-5.0		36.0	.65	2.13	3.5	344.73	83	81	177	228	312	61	-	-	
-16.4		40.0	.73	2.39	+	348.23	87	80	178	230	312	58	8.0	-	
-30.3		44.0	.73	2.39	+	351.76	85	81	178	222	312	60	-	-	
-50.4		48.0	.75	2.45	4.5	355.33	86	81	178	217	312	61	7.5	-	
-5.0		52.0	.75	2.45	4.5	358.50	86	81	178	232	312	62	-	-	
-16.4		56.0	.75	2.45	4.5	362.50	87	81	178	231	312	63	8.1	-	
-30.3		60.0	.70	2.39	4.5		87	81	177	230	311	63	8.0	-	
-50.4	12:50	64.0	.65	2.13	+	369.36	86	81	177	228	311	65	-	-	
AVERAGE			70.43	30.696	2.278	54.860	81.7	177.4	224.8	309.9	61.1	7.97			

Sample Train	Pre Test	0.5 ft <sup>3</sup> @ 10 in. Hg	Pitot Tube	Pre Test	OK @ 7 in. H <sub>2</sub> O
Leak Checks:	Post Test	0.5 ft <sup>3</sup> @ 10 in. Hg	Leak Checks:	Post Test	OK @ 7 in. H <sub>2</sub> O





EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

TEST ID: AHO Ag-6 PLANT: Greenidge LOCATION: Air Heater Outlet DATE: 8/21/01 OPERATOR(S): SM AMBIENT TEMP [°F]: 82 BAR. PRESS. [° Hg]: 29.21

METER BOX: 12 PITOT TUBE DESC: 12 PROBE LENGTH [in]: 31.5 = 0.19 NOZZLE ID [in]: 8 %H<sub>2</sub>O (Assumed): 8 FILTER ID: 1239 K FACTOR: 0.85

CAL. DATA: delta H: Y C(p): NA FILTER BOX SETTING: 250 PROBE HTR SETTING: circ? DUCT X-SECTION: rect? DUCT AREA: 108 ft<sup>2</sup>

Comments: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> /hr]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-24.0	1415	0	14.5	0.10	0.85	2.0	251.155	85	83	313	251	222	65		
-72.0		14	14.5	1.1	0.94	4.0	264.940	86	84	317	250	217	58	7.3	
-120.0		21	14.4	0.55	0.47	3.0	267.732	87	84	316	250	213	57	6.9	
		Start													
		1436													
-24.00		28	14.8	0.33	0.28	2.5	269.875	86	84	312	250	225	63	7.2	
-72.00		35	15.8	1.1	0.94	4.5	275.670	86	84	312	250	227	60	7.1	
-120.00		42	15.5	1.3	1.1	5.0	277.658	86	83	313	251	227	58	7.0	
		Start													
		1503													
-24.00		49	14.9	1.1	0.94	4.5	281.485	86	83	317	250	231	62	7.3	
-72.00		56	15.0	1.1	0.94	5.0	285.290	87	83	321	250	230	60	7.1	
-120.00		63	15.3	1.1	0.94	5.5	289.094	87	83	322	250	230	62	7.0	
		End													
		1524													
AVERAGE			14.97	0.793	0.737		29.348	86.8		315.3				7.1	

Sample Train: Pre Test 20.001 ft<sup>3</sup> @ 15 in. Hg Post Test 20.001 ft<sup>3</sup> @ 10 in. Hg

Leak Checks: Pre Test 0.001 ft<sup>3</sup> @ 10 in. Hg Post Test 0.001 ft<sup>3</sup> @ 10 in. Hg

Pitot Tube: Pre Test 0.001 in. H<sub>2</sub>O Post Test 0.001 in. H<sub>2</sub>O

Leak Checks: Pre Test 0.001 in. H<sub>2</sub>O Post Test 0.001 in. H<sub>2</sub>O



CONSOL ENERGY



58-1

EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

Page \_\_\_ of \_\_\_

TEST ID  
PLANT  
LOCATION  
DATE  
OPERATOR(S)  
AMBIENT TEMP [°F]  
BAR. PRESS. [° Hg]

METER BOX  
PITOT TUBE DESC  
PROBE LENGTH [ft]  
NOZZLE ID [inch]  
%H<sub>2</sub>O (Assumed)  
FILTER ID  
K FACTOR

CAL. DATA: delta H  
Y  
C(p)  
FILTER BOX SETTING  
PROBE HTR SETTING  
DUCT X-SECTION  
DUCT DIMENSIONS

DUCT AREA  
DUCT AREA  
DUCT AREA

rect?  other:  
DUCT AREA

132.732 ft<sup>2</sup>

1.818  
0.590  
0.821  
NA  
250

Comments:

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	LAST IMP TEMP [°F]	METER EXHAUST		
								inlet	outlet				O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]	
	1420	0					365.80								
-5.0		4.0		.65	2.13	3	373.20	77	75	176	249	308	55		
-16.4		8.0		.70	2.29	4	376.65	78	76	177	243	308	50		
-30.3		12.0		.75	2.45	4		79	76	177	230	308	54	8.5	
-50.4		16.0	-475	.75	2.45	4	383.74	80	75	177	223	308	56		
-5.0		20.0		.73	2.39	4	387.27	80	74	177	251	308	58		
-16.4		24.0		.73	2.39	4	390.80	80	74	177	252	307	59	8.5	
-30.3		28.0	-414	.70	2.29	3.5	394.25	80	74	170	244	308	60	8.6	
-50.4		30.0		.60	1.96	3	396.00	78	74	173	242	310	62		
-5.0		36.0		.58	1.90	3	400.56	78	74	173	255	310	60		
-16.4		40.0		.65	2.13	3.5	403.87	80	76	176	251	310	60	8.3	
-30.3		44.0	-430	.73	2.39	4	407.37	82	77	177	246	311	62	8.1	
-50.4		48.0		.70	2.29	4	410.85	83	78	177	242	311	63		
-5.0		52.0		.70	2.29	4	414.30	84	79	177	256	312	63		
-16.4		56.0		.70	2.29	4	417.75	84	79	177	256	311	63	8.2	
-30.3		60.0	+380	.65	2.13	3.5	421.10	85	80	177	254	312	64	8.1	
-50.4	1533	64.0		.60	1.96	3.5	424.36	85	81	174	253	313	65		
AVERAGE			-0.425	0.681	2.233		54.56	78.6		175.8	246.7	309.7	59.6	8.33	

Pre Test OK Post Test OK @ 10 in. Hg  
Leak Checks: OK @ 10 in. Hg  
Pre Test OK Post Test OK @ 7 in. H<sub>2</sub>O  
Leak Checks: OK @ 7 in. H<sub>2</sub>O





EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

Page      of     

TEST ID	AHO A6 -1	METER BOX	1
PLANT	Greenidge	PITOT TUBE DESC	1
LOCATION	Air Heater Outlet	PROBE LENGTH [ft]	12
DATE	6/17/08	NOZZLE ID [inch]	8
OPERATOR(S)	ALB	%H <sub>2</sub> O (Assumed)	
AMBIENT TEMP [°F]	60	FILTER ID	1240
BAR PRESS. [° Hg]	27.15	K FACTOR	0.85

Comments:     

CAL. DATA: delta H      Y      C(p)      NA

FILTER BOX SETTING      NA

PROBE HTR SETTING      250

DUCT X-SECTION      rect?      other:     

DUCT DIMENSIONS      9 ft x 12 ft DUCT AREA      108 ft<sup>2</sup>

TRAVERSE POINT [loc-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-24.0	1729	0	-15.5	0.14	0.12	1.5	289.92	67	65	308	250	234	59		
-72.0		14	-14.6	1.1	0.94	3.5	294.58	68	66	308	250	231	55	6.7	
-120.0		21	-14.4	0.54	0.46	3.0	297.205	70	66	309	251	230	53	6.3	
	Stop 1153			0											
-24.00		28	-14.7	0.34	0.29	2.5	299.290	70	67	305	250	233	56	6.7	
-72.00		35	-14.7	1.0	0.85	4.0	302.670	71	67	307	250	231	52	6.6	
-120.00		42	-15.1	1.1	0.94	4.5	306.176	71	68	305	250	231	52		
	Stop 1216			0.96	0.82			72	68						
-24.00		49	-14.5	0.74	0.80	4.0	309.685	68	72	308	250	234	54	7.4	
-72.00		56	-15.4	1.1	0.94	4.5	313.420	72	69	320	250	234	54	6.6	
-120.00	1737	63	-15.4	1.0	0.85	5.0	316.968	73	69	317	250	234	54	6.4	
AVERAGE			-14.94	0.755	0.690		27.444	68.8		309.7	250.1	232.4	54.3	6.67	

Sample Train Leak Checks: Pre Test 2.001 ft<sup>3</sup> @ 15 in. Hg Post Test 2.001 ft<sup>3</sup> @ 10 in. Hg

Pitot Tube Leak Checks: Pre Test      in. H<sub>2</sub>O Post Test      in. H<sub>2</sub>O





EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

Page \_\_\_ of \_\_\_

TEST ID	AG0-7	METER BOX	2-5	CAL. DATA: delta H	1.818	Comments:
PLANT	Greenidge	PITOT TUBE DESC	E-12	Y	0.590	
LOCATION	Stack	PROBE LENGTH [ft]	8	C(p)	0.821	
DATE	6-17-08	NOZZLE ID [inch]	1/4" A.260	NA	NA	
OPERATOR(S)	BS, PR	%H <sub>2</sub> O (Assumed)	14	250	250	
AMBIENT TEMP [°F]	~69	FILTER ID	160	DUCT X-SECTION	rect? <input type="checkbox"/> other: <input type="checkbox"/>	
BAR. PRESS. [in. Hg]	29.18	K FACTOR	3.27	DUCT AREA	132.732 ft <sup>2</sup>	

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minutes]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	-80% -FILTER- [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-5.0	1132	0					424.60	66	66	160	242	305	57		
-16.4		4.0	.60	1.96	4	427.80	4	66	66	175	243	305	54		8.3
-30.3		8.0	.75	2.45	4.5	431.25	4.5	67	66	176	238	306	55		
-50.4		12.0	.75	2.45	4.5	434.74	4.5	68	66	176	252	310	55		8.0
		16.0	.520	2.29	4	438.13	4	69	67	176					
-5.0		20.0	.70	2.29	4	441.54	4	70	67	176	240	310	60		
-16.4		24.0	.75	2.45	4.5	445.07	4.5	71	67	176	244	310	62		8.2
-30.3		28.0	.763	2.29	4.5	448.50	4.5	72	69	175	253	310	64		8.3
-50.4		32.0	.63	2.06	4	451.74	4	72	69	170	252	309	65		
-5.0		36.0	.65	2.13	4	455.03	4	72	69	174	240	307	62		
-16.4		40.0	.75	2.45	4.5	458.57	4.5	72	69	176	240	307	57		8.2
-30.3		44.0	.80	2.62	5	462.15	5	74	69	176	243	307	57		
-50.4		48.0	.554	2.45	5	465.70	5	74	69	176	252	307	57		8.2
-5.0		52.0	.75	2.45	5	469.23	5	75	69	176	249	307	57		
-16.4		56.0	.80	2.62	5	471.91	5	75	70	176	249	307	57		8.2
-30.3		60.0	.502	2.29	5	474.50	5	75	70	176	250	307	58		
-50.4	1242	64.0	.70	2.29	5	479.60	5	75	70	176	240	307	58		8.2
AVERAGE			.7510	2.346		55.00		70.0		174.4	245.4	307.6	58.7		8.20

Sample Train	Pre Test	0.716	0.15	ft <sup>3</sup>	@	10	in. Hg
Leak Checks:	Pre Test	0.15	ft <sup>3</sup>	@	10	in. Hg	
Pitot Tube	Pre Test	0.15	in.	H <sub>2</sub> O	@	7	in. H <sub>2</sub> O
Leak Checks:	Post Test	0.15	in.	H <sub>2</sub> O	@	7	in. H <sub>2</sub> O







EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

TEST ID	AG-0-8	METER BOX	2-5	CAL. DATA: delta H	1.818	Comments:
PLANT	Greenidge	PITOT TUBE DESC	E-12	Y	0.990	
LOCATION	Stack	PROBE LENGTH [ft]	8	C(p)	0.821	
DATE	6-17-08	NOZZLE ID [inch]	1/4" A. 2.10	FILTER BOX SETTING	NA	
OPERATOR(S)	BS, PR	%H <sub>2</sub> O (Assumed)	14	PROBE HTR SETTING	250	
AMBIENT TEMP [°F]	26.60	FILTER ID	161	DUCT X-SECTION	circ ?	
BAR. PRESS. [° Hg]	29.15	K FACTOR	3.27	DUCT AREA	132.732 ft <sup>2</sup>	

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER -BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST		
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]	
	1350	0					475.80									
-5.0		4.0	.65	2.13	3	483.12	67	66	177	238	305	52				
-16.4		8.0	.70	2.29	3.5	486.57	68	66	176	242	310	48				
-30.3		12.0	.80	2.62	4	490.17	71	68	176	256	310	49		9.8		
-50.4		16.0	.75	2.45	4	493.70	72	69	177	255	310	50				
-5.0		20.0	.75	2.45	4	497.22	74	70	177	245	310	52				
-16.4		24.0	.80	2.62	4	500.87	75	71	177	255	310	54		9.7		
-30.3		28.0	.74	2.45	4	504.37	76	71	176	242	310	56		9.7		
-50.4		32.0	.65	2.13	3.5	507.71	75	71	176	253	310	58				
-5.0		36.0	.65	2.13	3.5	508.45	L.C. SUGHT LEAK AT HTO. LINE (FIXED)									
-16.4		40.0	.70	2.29	3.5	511.78	72	69	174	242	310	56		9.3		
-30.3		44.0	.70	2.29	3.5	515.21	74	69	176	248	310	56		9.2		
-50.4		48.0	.513	2.13	3.5	518.63	75	70	177	250	311	57				
						522.00	77	71	177	240	311	57				
-5.0		52.0	.65	2.13	3.5	525.30	78	71	177	242	311	57		9.4		
-16.4		56.0	.70	2.29	4	528.70	78	72	177	246	312	58				
-30.3		60.0	.70	2.29	4	532.13	79	74	177	240	311	55		9.2		
-50.4	1515	64.0	.427	2.13	3.5	535.50	80	74	177	240	311	60				
			Pass													
AVERAGE			-0.477	0.702	2.30	54.960	72.8		176.3					9.5		

Sample Train	Pre Test	OK	ft <sup>3</sup> @	10	in. Hg	Pilot Tube	Pre Test	OK	@	7	in. H <sub>2</sub> O
Leak Checks:	Post Test	OK	ft <sup>3</sup> @	10	in. Hg	Leak Checks:	Post Test	OK	@	7	in. H <sub>2</sub> O



CONSOL ENERGY

EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

Page \_\_\_ of \_\_\_

TEST ID: A10 A-01-9  
 PLANT: Greentidge  
 LOCATION: Air Heater Outlet  
 DATE: 10/18/08  
 OPERATOR(S): ARLO  
 AMBIENT TEMP [°F]: 66  
 BAR. PRESS. [° Hg]: 29.118

METER BOX #1  
 PITOT TUBE DESC: Y  
 PROBE LENGTH [ft]: 12  
 NOZZLE ID [inch]: 8  
 %H<sub>2</sub>O (Assumed):  
 FILTER ID: 1247  
 K FACTOR: 0.85

CAL. DATA: delta H  
 FILTER BOX SETTING: NA  
 PROBE HTR SETTING: 250  
 DUCT X-SECTION: circ ?  
 DUCT DIMENSIONS: 9 ft x 12 ft  
 DUCT AREA: 108 ft<sup>2</sup>

Comments:  
 rect ?  
 other:

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-24.0	11:55	0	-15.2	0.75	0.63	3.0	348.295	65	62	299	250	239	61	7.4	
-72.0		14	-15.8	1.1	0.94	4.0	357.850	67	63	307	250	238	55	7.3	
-120.0		21	-15.4	1.1	0.94	4.0	355.529	70	64	306	250	240	54	7.0	
-24.0	11:58	28	-15.0	0.87	0.32	2.5	357.650	71	65	297	250	241	56	7.1	
-72.0		35	-15.3	0.94	0.50	4.0	361.775	72	66	297	250	241	55	6.8	
-120.0		42	-16.6	1.3	1.1	5.0	369.937	73	67	297	250	241	57	6.6	
		start						72	68						
-24.0		49	-15.7	0.1	0.08	2.0	366.110	68	72	292	250	242	59	6.6	
-72.0		56	-16.0	0.92	0.78	4.0	369.575	73	68	298	250	242	57	6.8	
-120.0		63	-15.9	0.49	0.41	3.2	372.029	74	69	299	250	241	58	6.6	
AVERAGE			-15.66	0.734	0.667		26.880	68.3		299.1	250	240.6	56.9	6.91	

Sample Train: Pre Test 50.01 ft<sup>3</sup> @ 15 in. Hg  
 Leak Checks: Post Test 50.01 ft<sup>3</sup> @ 10 in. Hg  
 Pilot Tube: Pre Test @ in. H<sub>2</sub>O  
 Leak Checks: Post Test @ in. H<sub>2</sub>O





EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

TEST ID	AG0-9	METER BOX	2-5	CAL. DATA: delta H	1.818	Comments:
PLANT	Greentidge	PITOT TUBE DESC	F-12	Y	0.990	
LOCATION	Stack	PROBE LENGTH [ft]	8	C(p)	0.821	
DATE	6-18-08	NOZZLE ID [inch]	1/4" A 260	FILTER BOX SETTING	N/A	
OPERATOR(S)	BS PR	%H <sub>2</sub> O (Assumed)	14	PROBE HTR SETTING	250	
AMBIENT TEMP [°F]	26.20	FILTER ID	162	DUCT X-SECTION	rect? <input type="checkbox"/>	
BAR. PRESS. [in. Hg]	29.18	K FACTOR	3.27	DUCT AREA	132.732 ft <sup>2</sup>	

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	-FILTER- -90X- [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
	11:55	0					536.00								
-5.0		4.0		.65	2.13	4.5	539.30	63	62	170	240	307	44		
-16.4		8.0		.70	2.29	5	542.65	64	63	177	243	307	45		
-30.3		12.0		.75	2.45	5.5	546.13	65	62	177	245	307	52		
-50.4		16.0	-4.89	.70	2.29	5	548.50	66	63	177	241	308	58		
-5.0		20.0		.70	2.29	5	552.92	67	63	177	245	308	60		
-16.4		24.0		.75	2.45	5.5	556.40	69	64	177	254	308	62		
-30.3		28.0	-4.70	.70	2.3	5	559.73	70	64			308	64		
-50.4		32.0		.65	2.13	5	562.95	71	65	175	248	308	65		
-5.0		36.0		.60	1.96	4.5	566.00	72	65	176	252	309	66		
-16.4		40.0		.60	1.96	4.5	569.10	72	66	177	249	309	67		
-30.3		44.0	-4.71	.75	2.45	5.5	572.62	72	66	177	254	309	66		
-50.4		48.0		.70	2.29	5	576.10	72	67	178	246	309	63		
-5.0		52.0		.70	2.45	5	579.54	73	67	177	250	309	59		
-16.4		56.0		.75	2.73	5.5	583.08	73	67	178	251	309	57		
-30.3		60.0	-4.45	.65	2.13	5	586.40	74	68	178	252	310	55		
-50.4	12:40	64.0		.65	2.13	5	589.73	74	68	178	242	309	55		
AVERAGE			-4.46	0.687	2.349		53.730	67.4		176.6	247.7	308.4	58.6		

Sample Train	Pre Test	0.15 ft <sup>3</sup>	@	10	in. Hg
Leak Checks:	Post Test	0.15 ft <sup>3</sup>	@	10	in. Hg
Pitot Tube	PreTest	0.15 @		7	in. H <sub>2</sub> O
Leak Checks:	Post Test	0.15 @		7	in. H <sub>2</sub> O









EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

Page      of     

TEST ID	AGO-10	METER BOX	W-5	CAL. DATA: delta H	1.818	Comments:
PLANT	Greenidge	PITOT TUBE DESC	E-12	Y	0.990	
LOCATION	Stack	PROBE LENGTH [ft]	8	C(p)	0.821	
DATE	6-18-08	NOZZLE ID [inch]	1/4" A. 21.0	FILTER BOX SETTING	NA	
OPERATOR(S)	BS PB	%H <sub>2</sub> O (Assumed)	14	PROBE HTR SETTING	250	
AMBIENT TEMP [°F]	~45.8	FILTER ID	16.3	DUCT X-SECTION	circ ?	other:
BAR. PRESS. [° Hg]	29.18	K FACTOR	3.27	DUCT AREA	132.732 ft <sup>2</sup>	

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minutes]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	LAST IMP TEMP [°F]	METER EXHAUST		
								inlet	outlet				O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]	
-5.0	1355	0		.60	1.96	3	591.73	71	70	175	255	308	51	—	—
-16.4		4.0		.70	2.29	3.5	598.30	73	70	177	252	309	49	—	—
-30.3		8.0		.75	2.45	4	601.83	75	71	177	249	310	46	7.3	—
-50.4		12.0		.70	2.29	4	605.27	77	72	177	243	311	46	7.7	—
		16.0													
-5.0		20.0		.70	2.29	4	608.70	78	72	177	257	310	47	—	—
-16.4		24.0		.70	2.29	4	612.13	78	73	178	243	310	47	7.7	—
-30.3		28.0		.70	2.29	4	—	78	74	178	255	310	48	—	—
-50.4		32.0		.58	1.90	3	618.74	78	74	168	249	310	48	7.3	—
		36.0		.60	1.96	3	621.91	79	74	174	254	310	49	—	—
-5.0		40.0		.70	2.29	4	625.36	80	74	177	251	311	50	7.3	—
-16.4		44.0		.70	2.45	4.5	628.90	80	74	178	253	310	51	7.5	—
-30.3		48.0		.70	2.29	4	632.36	81	74	178	250	311	52	—	—
-50.4		52.0		.65	2.13	4	635.68	81	74	177	243	310	52	—	—
		56.0		.70	2.29	4	639.10	81	74	178	241	310	52	7.7	—
-5.0		60.0		.70	2.29	4	642.60	81	74	178	252	310	52	7.7	—
-16.4		64.0		.65	2.13	4	645.90	81	74	177	249	310	52	—	—
-30.3	1500														
-50.4															

AVERAGE							54.17	75.6	176.5					7.4	
Sample Train	Pre Test	Post Test	0.674	0.674	2.224	2.224	54.17	75.6	176.5	Pitot Tube	Pre Test	Post Test	OK @ 7	OK @ 7	in. H <sub>2</sub> O
Leak Checks:	Pre Test	Post Test	OK	OK	OK	OK	OK	OK	OK	Leak Checks:	Pre Test	Post Test	OK	OK	in. H <sub>2</sub> O





# EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

Page      of     

TEST ID	METER BOX	CAL. DATA: delta H	Comments:
PLANT	PITOT TUBE DESC	Y	
LOCATION	PROBE LENGTH [ft]	C(p)	
DATE	NOZZLE ID [inch]	FILTER BOX SETTING	
OPERATOR(S)	%H <sub>2</sub> O (Assumed)	PROBE HTR SETTING	
AMBIENT TEMP [°F]	FILTER ID	DUCT X-SECTION	
BAR. PRESS. [° Hg]	K FACTOR	DUCT DIMENSIONS	
		rect ?	other:
		9 ft x 12 ft	108 ft <sup>2</sup>

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER BOX [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-24.0		0					402.819					HL			
-72.0		7	-16.01	0.82	0.70	3.0	405.060	67	67	301	250	239	52		
-120.0		14	-16.4	1.1	0.94	4.0	407.770	70	67	309	250	237	50		
		21	-16.2	1.1	0.94	4.0	411.490	72	65	307	250	236	52		
	start 120														
-24.00		28	-15.3	0.42	0.36	2.5	413.830	73	69	296	250	239	56		
-72.00		35	-16.4	0.90	0.76	4.0	417.090	74	69	296	250	239	56		
-120.00		42	-16.3	1.3	1.1	4.5	421.002	75	70	296	250	241	57		
	start 133														
-24.00		49	-16.0	0.10	0.88	2.0	422.140	75	71	293	250	241	60		
-72.00		56	-15.9	0.94	0.80	4.0	425.545	75	71	298	250	240	59		
-120.00		63	-16.4	0.55	0.47	3.5	428.205	76	72	298	250	239	58		
AVERAGE			-16.10	0.745	0.683		27.486	71.2		297.3	250.0	239.0	55.6		6.99

Sample Train	Pre Test	Post Test	Pilot Tube	Pre Test	Post Test
Leak Checks:	ft <sup>3</sup> @ 19 in. Hg	ft <sup>3</sup> @ 10 in. Hg	Leak Checks:	in. H <sub>2</sub> O	in. H <sub>2</sub> O





EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

Page \_\_\_ of \_\_\_

TEST ID	A60-11	METER BOX	2-5	CAL. DATA: delta H	1.818	Comments:
PLANT	Greentidge	PITOT TUBE DESC	F-12	Y	0.990	
LOCATION	Stack	PROBE LENGTH [ft]	8	C(p)	0.821	
DATE	6-19-08	NOZZLE ID [inch]	1/4" A. 260	FILTER BOX SETTING	NA	
OPERATOR(S)	BS PR	%H <sub>2</sub> O (Assumed)	14	PROBE HTR SETTING	250	
AMBIENT TEMP [°F]	~65.0	FILTER ID	164	DUCT X-SECTION	rect ?	
BAR. PRESS. [° Hg]	29.23	K FACTOR	3.27	DUCT AREA	132.732 ft <sup>2</sup>	

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [° H <sub>2</sub> O]	PITOT HEAD [° H <sub>2</sub> O]	METER DIFF PRESSURE [° H <sub>2</sub> O]	METER VACUUM [° Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	-FILTER SOX- [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-5.0	1150	0					676.10	67	67	182	242	308	47		
-5.0		4.0		.65	2.13	4	649.47	67	67	182	242	308	47		
-16.4		8.0		.70	2.25	4	652.87	68	68	182	248	308	46		
-30.3		12.0	-.507	.75	2.45	4.5	656.40	69	68	182	253	308	47		
-50.4		16.0		.75	2.45	5	659.90	70	68	182	252	308	50		
-5.0		20.0		.70	2.25	4.5	663.35	71	68	182	246	308	52		
-16.4		24.0		.80	2.62	5	667.00	72	68	183	251	308	54		
-30.3		28.0	-.424	.75	2.45	5	670.55	72	68	182	253	309	55		
-50.4		32.0		.70	2.25	4.5	674.00	74	68	182	244	309	56		
-5.0		36.0		.65	2.13	4.5	677.32	74	69	181	254	310	57		
-16.4		40.0		.70	2.25	4.5	680.77	75	69	182	242	310	57		
-30.3		44.0	-.514	.75	2.45	5	684.28	75	70	183	248	310	58		
-50.4		48.0		.70	2.25	5	687.73	76	70	182	250	310	58		
-5.0		52.0		.70	2.25	5	691.16	76	70	182	248	310	59		
-16.4		56.0		.75	2.45	5	693.83	76	69	182	247	310	59		
-30.3		60.0	-.451	.70	2.25	5	698.15	76	69	182	253	309	60		
-50.4	1255	64.0		.65	2.13	4.5	701.50	75	69	182	247	310	60		
AVERAGE				70.47	2.331		55.40	70.8		182.1	248.6	309.1	54.7		

Sample Train	Pre Test	0.15 ft <sup>3</sup>	@	10 in. Hg
Leak Checks:	Post Test	0.15 ft <sup>3</sup>	@	10 in. Hg
Pitot Tube	PreTest	0.15 @		7 in. H <sub>2</sub> O
Leak Checks:	Post Test	0.15 @		7 in. H <sub>2</sub> O







1400 STOP AT AHO LINE FIRE.  
 1450 RESTART  
 EPA METHOD 5/26 PARTICULATE/ACID GAS SAMPLING FIELD DATA SHEET

TEST ID	AGO-12	METER BOX	2-5	CAL DATA: delta H	1.818	Comments:
PLANT	Greenidge	PITOT TUBE DESC	E-12	Y	0.950	
LOCATION	Stack	PROBE LENGTH [ft]	8	Cip)	0.821	
DATE	6-15-08	NOZZLE ID [inch]	1/4" A. 210	FILTER BOX SETTING	NA	
OPERATOR(S)	RS, PR	%H <sub>2</sub> O (Assumed)	14	PROBE HTR SETTING	250	
AMBIENT TEMP [°F]	~62.0	FILTER ID	165	DUCT X-SECTION	circ?	
BAR. PRESS. [in. Hg]	29.26	K FACTOR	3.27	DUCT AREA	132.732 ft <sup>2</sup>	

TRAVERSE POINT [port-inch]	CLOCK TIME (24-hr)	SAMPLE TIME [minute]	STATIC PRES [in. H <sub>2</sub> O]	PITOT HEAD [in. H <sub>2</sub> O]	METER DIFF PRESSURE [in. H <sub>2</sub> O]	METER VACUUM [in. Hg]	METER READING [ft <sup>3</sup> ]	METER TEMP [°F]		STACK TEMP [°F]	PROBE TEMP [°F]	FILTER -BOX- [°F]	LAST IMP TEMP [°F]	METER EXHAUST	
								inlet	outlet					O <sub>2</sub> [% vol]	CO <sub>2</sub> [% vol]
-5.0	1450	0	<del>7.0</del>	1.65	2.13	3.5	701.80	67	65	181	250	307	48	—	—
-16.4		4.0	7.0	1.70	2.29	3.5	705.16	68	66	181	254	308	46	—	—
-30.3		8.0	4.27	1.75	2.45	3.5	712.00	73	68	182	253	310	48	7.7	—
-50.4		16.0		1.80	2.62	4	715.63	74	68	182	252	310	48	7.5	—
-5.0		20.0		1.70	2.30	4	715.08	74	68	181	243	310	51	—	—
-16.4		24.0		1.70	2.30	4	722.50	74	69	182	235	310	53	7.6	—
-30.3		28.0	4.53	1.70	2.30	4	725.57	75	69	182	243	310	54	7.5	—
-50.4		32.0		1.65	2.13	4	729.27	76	70	181	240	311	56	—	—
-5.0		36.0		1.65	2.13	4	732.60	77	71	181	256	311	58	—	—
-16.4		40.0		1.75	2.45	4.5	736.12	77	71	182	257	310	59	7.7	—
-30.3		44.0	4.81	1.80	2.62	5	739.80	78	72	182	244	310	60	7.5	—
-50.4		48.0		1.75	2.45	4.5	743.32	78	72	182	242	310	61	—	—
-5.0		52.0		1.70	2.30	4	746.76	78	72	181	248	310	61	—	—
-16.4		56.0		1.70	2.30	4	750.22	79	72	182	251	310	62	7.6	—
-30.3		60.0	4.51	1.65	2.13	4	753.56	79	72	182	248	310	64	7.5	—
-50.4	1555	64.0		1.65	2.13	4	756.50	78	72	181	243	310	65	—	—
AVERAGE			-0.453	0.705	2.314		55.10	72.6	72.6	181.6				7.5	

Sample Train	Pre Test	OK	ft <sup>3</sup> @	10	in. Hg	Pilot Tube	Pre Test	OK	@	7	in. H <sub>2</sub> O
Leak Checks:	Post Test	OK	ft <sup>3</sup> @	10	in. Hg	Leak Checks:	Post Test	OK	@	7	in. H <sub>2</sub> O



**APPENDIX I  
LABORATORY ANALYSIS RESULTS  
FOR FLUE GAS SAMPLES**



# CONTENTS

- I.1 Ammonia Tests
- I.2 Mercury Tests (Ontario Hydro Method)
- I.3 Mercury Tests (U.S. EPA Method 30B)
- I.4 Sulfur Trioxide Tests
- I.5 Hydrogen Chloride and Hydrogen Fluoride Tests

**APPENDIX I.1  
AMMONIA TESTS**





**Unit:** AES Greenidge Unit 4  
**Method:** U.S. EPA CTM 027 - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 4/3/2007  
**Comments:** Guarantee Tests - March 2007

LAB SAMPLE ID	DESCRIPTION	mg as NH4+
20071759	IMPINGER 1 NH3-1	2.91
20071760	IMPINGER 2 NH3-1	< 0.03
20071761	IMPINGER 3 NH3-1	< 0.03
20071762	PROBE & IMPINGER 1 NH3-2	6.95
20071763	IMPINGER 2 NH3-2	< 0.03
20071764	IMPINGER 3 NH3-2	< 0.03
20071765	PROBE & IMPINGER 1 NH3-3	7.88
20071766	IMPINGER 2 NH3-3	< 0.03
20071767	IMPINGER 3 NH3-3	< 0.03



**Unit:** AES Greenidge Unit 4  
**Method:** U.S. EPA CTM 027 - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 5/8/2007  
**Comments:** Guarantee Tests - May 1, 2007

LAB SAMPLE ID	DESCRIPTION	mg as NH4+
1	AHI Test NH3-1 PROBE/LINE RINSE	1.19
2	AHI Test NH3-1 Impinger 1	0.80
3	AHI Test NH3-1 Impinger 2	0.07
4	AHI Test NH3-1 Impinger 3	< 0.03
5	SCRO Test NH3-1 PROBE/LINE RINSE	4.63
6	SCRO Test NH3-1 Impinger 1	0.56
7	SCRO Test NH3-1 Impinger 2	0.03
8	SCRO Test NH3-1 Impinger 3	< 0.03
9	AHI Test NH3-2 PROBE/LINE RINSE	1.35
10	AHI Test NH3-2 Impinger 1	1.18
11	AHI Test NH3-2 Impinger 2	0.10
12	AHI Test NH3-2 Impinger 3	< 0.03
13	SCRO Test NH3-2 PROBE/LINE RINSE	3.94
14	SCRO Test NH3-2 Impinger 1	0.28
15	SCRO Test NH3-2 Impinger 2	0.05
16	SCRO Test NH3-2 Impinger 3	< 0.03
17	AHI Test NH3-3 PROBE/LINE RINSE	1.42
18	AHI Test NH3-3 Impinger 1	0.74
19	AHI Test NH3-3 Impinger 2	0.10
20	AHI Test NH3-3 Impinger 3	< 0.03
21	SCRO Test NH3-3 PROBE/LINE RINSE	5.40
22	SCRO Test NH3-3 Impinger 1	0.99
23	SCRO Test NH3-3 Impinger 2	0.09
24	SCRO Test NH3-3 Impinger 3	< 0.03
25	AHI Test NH3-4 PROBE/LINE RINSE	1.57
26	AHI Test NH3-4 Impinger 1	0.67
27	AHI Test NH3-4 Impinger 2	0.09
28	AHI Test NH3-4 Impinger 3	< 0.03
29	SCRO Test NH3-4 PROBE/LINE RINSE	4.06
30	SCRO Test NH3-4 Impinger 1	0.41
31	SCRO Test NH3-4 Impinger 2	0.09
32	SCRO Test NH3-4 Impinger 3	< 0.03
33	Blank 0.1N H2SO4	< 0.03
34	Blank DI H2O	< 0.03





**Unit:** AES Greenidge Unit 4  
**Method:** U.S. EPA CTM 027 - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 6/6/2007  
**Comments:** Guarantee Tests - May 31-June 1, 2007

LAB SAMPLE ID	DESCRIPTION	mg as NH4+
20072968	AIR HTR IN TEST 1 PROBE	0.54
20072969	AIR HTR IN TEST 1 LINE	0.67
20072970	AIR HTR IN TEST 1 IMP #1	0.28
20072971	AIR HTR IN TEST 1 IMP #2	0.03
20072972	AIR HTR IN TEST 1 IMP #3	< 0.02
20072973	ECON OUT TEST 1 PROBE/LINE	6.40
20072974	ECON OUT TEST 1 IMP #1	48.83
20072975	ECON OUT TEST 1 IMP #2	4.99
20072976	ECON OUT TEST 1 IMP #3	0.09
20072977	AIR HTR IN TEST 2 PROBE	0.06
20072978	AIR HTR IN TEST 2 LINE	1.72
20072979	AIR HTR IN TEST 2 IMP #1	0.53
20072980	AIR HTR IN TEST 2 IMP #2	< 0.03
20072981	AIR HTR IN TEST 2 IMP #3	< 0.02
20072982	ECON OUT TEST 2 PROBE/LINE	8.44
20072983	ECON OUT TEST 2 IMP #1	39.64
20072984	ECON OUT TEST 2 IMP #2	2.77
20072985	ECON OUT TEST 2 IMP #3	0.04
20072986	AIR HTR IN TEST 3 PROBE	0.08
20072987	AIR HTR IN TEST 3 LINE	1.45
20072988	AIR HTR IN TEST 3 IMP #1	0.61
20072989	AIR HTR IN TEST 3 IMP #2	0.07
20072990	AIR HTR IN TEST 3 IMP #3	< 0.02
20072991	AIR HTR IN TEST 3 PROBE BLANK	< 0.01
20072992	AIR HTR IN TEST 3 LINE BLANK	< 0.01
20072993	ECON OUTTEST 3 PROBE/LINE	4.46
20072994	ECON OUT TEST 3 IMP #1	34.01
20072995	ECON OUT TEST 3 IMP #2	2.87
20072996	ECON OUT TEST 3 IMP #3	0.07
20072997	ZENO BLANK	< 0.02
20072998	0.1N H2SO4 BLANK	< 0.02
20072999	BLANK TRAIN IMP #1	< 0.01
20073000	BLANK TRAIN IMP #2	< 0.02
20073001	BLANK TRAIN IMP #3	< 0.01



**Unit:** AES Greenidge Unit 4  
**Method:** U.S. EPA CTM 027 - Ion Selective Electrode  
**Project Number:** 1621-85  
**Report Date:** 6/6/2007  
**Comments:** Guarantee Tests - May 31-June 1, 2007

LAB SAMPLE ID	DESCRIPTION	mg as NH4+
20072968	AIR HTR IN TEST 1 PROBE	0.429
20072969	AIR HTR IN TEST 1 LINE	0.658
20072970	AIR HTR IN TEST 1 IMP #1	0.177
20072971	AIR HTR IN TEST 1 IMP #2	0.152
20072972	AIR HTR IN TEST 1 IMP #3	0.083
20072973	ECON OUT TEST 1 PROBE/LINE	5.700
20072974	ECON OUT TEST 1 IMP #1	42.710
20072975	ECON OUT TEST 1 IMP #2	6.190
20072976	ECON OUT TEST 1 IMP #3	0.108
20072977	AIR HTR IN TEST 2 PROBE	0.024
20072978	AIR HTR IN TEST 2 LINE	1.810
20072979	AIR HTR IN TEST 2 IMP #1	0.150
20072980	AIR HTR IN TEST 2 IMP #2	0.027
20072981	AIR HTR IN TEST 2 IMP #3	0.003
20072982	ECON OUT TEST 2 PROBE/LINE	8.310
20072983	ECON OUT TEST 2 IMP #1	37.050
20072984	ECON OUT TEST 2 IMP #2	2.660
20072985	ECON OUT TEST 2 IMP #3	0.012
20072986	AIR HTR IN TEST 3 PROBE	0.014
20072987	AIR HTR IN TEST 3 LINE	1.450
20072988	AIR HTR IN TEST 3 IMP #1	0.268
20072989	AIR HTR IN TEST 3 IMP #2	0.064
20072990	AIR HTR IN TEST 3 IMP #3	0.008
20072991	AIR HTR IN TEST 3 PROBE BLANK	0.006
20072992	AIR HTR IN TEST 3 LINE BLANK	0.002
20072993	ECON OUTTEST 3 PROBE/LINE	3.580
20072994	ECON OUT TEST 3 IMP #1	31.960
20072995	ECON OUT TEST 3 IMP #2	2.790
20072996	ECON OUT TEST 3 IMP #3	0.019
20072997	ZENO BLANK	0.011
20072998	0.1N H2SO4 BLANK	0.010
20072999	BLANK TRAIN IMP #1	0.037
20073000	BLANK TRAIN IMP #2	0.026
20073001	BLANK TRAIN IMP #3	0.004





**Unit:** AES Greenidge Unit 4  
**Method:** U.S. EPA CTM 027 - Ion Selective Electrode  
**Project Number:** 1621-85  
**Report Date:** 6/21/2007  
**Comments:** Guarantee Tests - June 20-21, 2007

LAB SAMPLE ID	DESCRIPTION	mg as NH4+
1	Test 1 East Duct Imp #1	0.611
2	Test 1 East Duct Imp #2	0.051
3	Test 1 East Duct Imp #3	0.008
4	Test 1 East Duct Probe	0.043
5	Test 1 East Duct Line	0.910
6	Test 1 West Duct Imp #1	1.833
7	Test 1 West Duct Imp #2	0.150
8	Test 1 West Duct Imp #3	0.006
9	Test 1 West Duct Probe	0.163
10	Test 1 West Duct Line	2.798
11	Test 2 East Duct Imp #1	0.523
12	Test 2 East Duct Imp #2	0.114
13	Test 2 East Duct Imp #3	0.003
14	Test 2 East Duct Probe	0.057
15	Test 2 East Duct Line	1.240
16	Test 2 West Duct Imp #1	1.219
17	Test 2 West Duct Imp #2	0.105
18	Test 2 West Duct Imp #3	0.003
19	Test 2 West Duct Probe	0.015
20	Test 2 West Duct Line	0.351
21	Test 3 East Duct Imp #1	0.141
22	Test 3 East Duct Imp #2	0.037
23	Test 3 East Duct Imp #3	0.009
24	Test 3 East Duct Probe	0.011
25	Test 3 East Duct Line	0.611
26	Test 3 West Duct Imp #1	1.021
27	Test 3 West Duct Imp #2	0.096
28	Test 3 West Duct Imp #3	0.006
29	Test 3 West Duct Probe	0.112
30	Test 3 West Duct Line	0.488
31	Test 4 East Duct Imp #1	0.183
32	Test 4 East Duct Imp #2	0.039
33	Test 4 East Duct Imp #3	0.003
34	Test 4 East Duct Probe	0.030
35	Test 4 East Duct Line	0.368
36	Test 4 West Duct Imp #1	0.846
37	Test 4 West Duct Imp #2	0.230
38	Test 4 West Duct Imp #3	0.004
39	Test 4 West Duct Probe	0.128
40	Test 4 West Duct Line	0.402

LAB SAMPLE ID	DESCRIPTION	mg as NH4+
41	Test 5 West Duct Imp #1	1.267
42	Test 5 West Duct Imp #2	0.198
43	Test 5 West Duct Imp #3	0.005
44	Test 5 West Duct Probe	0.049
45	Test 5 West Duct Line	0.371
46	Test 5 East Duct Imp #1	0.249
47	Test 5 East Duct Imp #2	0.059
48	Test 5 East Duct Imp #3	0.003
49	Test 5 East Duct Probe	0.024
50	Test 5 East Duct Line	0.383





**Unit:** AES Greenidge Unit 4  
**Method:** U.S. EPA CTM 027 - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 10/17/2007  
**Comments:** Process Performance Tests - October 2007

LAB SAMPLE ID	DESCRIPTION	mg as NH4+
20076444	PROBE AHI TEST NH3-1 10/8/07	0.13
20076445	LINE AHI TEST NH3-1 10/8/07	0.71
20076446	IMP #1 AHI TEST NH3-1 10/8/07	0.90
20076447	IMP #2 AHI TEST NH3-1 10/8/07	0.21
20076448	IMP #3 AHI TEST NH3-1 10/8/07	< 0.01
20076449	PROBE AHI TEST NH3-2 10/9/07	< 0.01
20076450	LINE AHI TEST NH3-2 10/9/07	0.37
20076451	IMP #1 AHI TEST NH3-2 10/9/07	0.88
20076452	IMP #2 AHI TEST NH3-2 10/9/07	0.23
20076453	IMP #3 AHI TEST NH3-2 10/9/07	< 0.01
20076454	PROBE (RINSE 1) AHI TEST NH3-3 10/10/07	0.18
20076455	PROBE (RINSE 2) AHI TEST NH3-3 10/10/07	< 0.01
20076456	LINE (RINSE 1) AHI TEST NH3-3 10/10/07	0.88
20076457	LINE (RINSE 2) AHI TEST NH3-3 10/10/07	0.07
20076458	IMP #1 AHI TEST NH3-3 10/10/07	0.93
20076459	IMP #2 AHI TEST NH3-3 10/10/07	0.28
20076460	IMP #3 AHI TEST NH3-3 10/10/07	< 0.01
20076461	PROBE (H2O RINSE) AHI TEST NH3-3 10/11/07	0.03
20076462	PROBE (H2SO4 RINSE) AHI TEST NH3-3 10/11/07	0.21
20076463	LINE (H2O RINSE) AHI TEST NH3-3 10/11/07	0.53
20076464	LINE (H2SO4 RINSE) AHI TEST NH3-3 10/11/07	0.35
20076465	IMP #1 AHI TEST NH3-3 10/11/07	1.34
20076466	IMP #2 AHI TEST NH3-3 10/11/07	0.31
20076467	IMP #3 AHI TEST NH3-3 10/11/07	< 0.01



**Unit:** AES Greenidge Unit 4  
**Method:** U.S. EPA CTM 027 - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 12/18/2007  
**Comments:** Process Performance Tests - November 2007

LAB SAMPLE ID	DESCRIPTION	mg as NH4+
20077231	PROBE 11/13/07 TEST NH3-1	<0.01
20077232	PROBE (RINSE 2) 11/13/07 TEST NH3-1	<0.01
20077233	LINE 11/13/07 TEST NH3-1	0.05
20077234	LINE (RINSE 2) 11/13/07 TEST NH3-1	<0.01
20077235	IMP #1 11/13/07 TEST NH3-1	0.08
20077236	IMP #2 11/13/07 TEST NH3-1	<0.02
20077237	IMP #3 11/13/07 TEST NH3-1	<0.01
20077238	PROBE 11/14/07 TEST NH3-2	<0.01
20077239	LINE 11/14/07 TEST NH3-2	0.05
20077240	IMP #1 11/14/07 TEST NH3-2	0.05
20077241	IMP #2 11/14/07 TEST NH3-2	<0.02
20077242	IMP #3 11/14/07 TEST NH3-2	<0.01
20077243	PROBE 11/14/07 TEST NH3-3	<0.01
20077244	LINE 11/14/07 TEST NH3-3	0.08
20077245	IMP #1 11/14/07 TEST NH3-3	<0.02
20077246	IMP #2 11/14/07 TEST NH3-3	<0.02
20077247	IMP #3 11/14/07 TEST NH3-3	<0.01
20077248	H2SO4 BLANK 11/14/07 TEST BLANK	<0.01
20077249	PROBE 11/14/07 TEST NH3-4	0.11
20077250	LINE 11/14/07 TEST NH3-4	0.53
20077251	IMP #1 11/14/07 TEST NH3-4	0.87
20077252	IMP #2 11/14/07 TEST NH3-4	0.13
20077253	IMP #3 11/14/07 TEST NH3-4	<0.01
20077254	PROBE 11/15/07 TEST NH3-5	0.07
20077255	PROBE (RINSE 2) 11/15/07 TEST NH3-5	<0.01
20077256	LINE 11/15/07 TEST NH3-5	0.82
20077257	LINE (RINSE 2) 11/15/07 TEST NH3-5	0.10
20077258	IMP #1 11/15/07 TEST NH3-5	1.25
20077259	IMP #2 11/15/07 TEST NH3-5	0.33
20077260	IMP #3 11/15/07 TEST NH3-5	<0.01
20077261	PROBE 11/15/07 TEST NH3-6	0.11
20077262	LINE 11/15/07 TEST NH3-6	0.57
20077263	IMP #1 11/15/07 TEST NH3-6	1.23
20077264	IMP #2 11/15/07 TEST NH3-6	<0.01
20077265	IMP #3 11/15/07 TEST NH3-6	<0.01
20077266	PROBE 11/15/07 TEST NH3-7	0.17
20077267	LINE 11/15/07 TEST NH3-7	0.93
20077268	IMP #1 11/15/07 TEST NH3-7	1.20
20077269	IMP #2 11/15/07 TEST NH3-7	<0.02
20077270	IMP #3 11/15/07 TEST NH3-7	<0.01



LAB SAMPLE ID	DESCRIPTION	mg as NH4+
20077271	PROBE 11/16/07 TEST NH3-8	0.14
20077272	LINE 11/16/07 TEST NH3-8	0.88
20077273	IMP #1 11/16/07 TEST NH3-8	1.61
20077274	IMP #2 11/16/07 TEST NH3-8	0.33
20077275	IMP #3 11/16/07 TEST NH3-8	<0.01
20077276	PROBE 11/16/07 TEST NH3-9	0.10
20077277	LINE 11/16/07 TEST NH3-9	0.79
20077278	IMP #1 11/16/07 TEST NH3-9	1.46
20077279	IMP #2 11/16/07 TEST NH3-9	0.33
20077280	IMP #3 11/16/07 TEST NH3-9	<0.01
20077281	PROBE 11/16/07 TEST NH3-10	0.15
20077282	LINE 11/16/07 TEST NH3-10	0.80
20077283	IMP #1 11/16/07 TEST NH3-10	1.54
20077284	IMP #2 11/16/07 TEST NH3-10	0.38
20077285	IMP #3 11/16/07 TEST NH3-10	<0.01



**Unit:** AES Greenidge Unit 4  
**Method:** U.S. EPA CTM 027 - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 3/20/2008  
**Comments:** Process Performance Tests - March 2008

LAB SAMPLE ID	DESCRIPTION	mg as NH4+
20080929	Air Heater Inlet Test 1 Probe	0.29
20080930	Air Heater Inlet Test 1 Line	2.19
20080931	Air Heater Inlet Test 1 Imp #1	0.75
20080932	Air Heater Inlet Test 1 Imp #2	0.21
20080933	Air Heater Inlet Test 1 Imp #3	<0.01
20080934	Air Heater Inlet Test 2 Probe	0.35
20080935	Air Heater Inlet Test 2 Line	2.49
20080936	Air Heater Inlet Test 2 Imp #1	0.71
20080937	Air Heater Inlet Test 2 Imp #2	0.28
20080938	Air Heater Inlet Test 2 Imp #3	<0.01
20080939	Air Heater Inlet Test 3 Probe	0.18
20080940	Air Heater Inlet Test 3 Line	2.68
20080941	Air Heater Inlet Test 3 Imp #1	0.53
20080942	Air Heater Inlet Test 3 Imp #2	0.29
20080943	Air Heater Inlet Test 3 Imp #3	<0.01
20080944	Air Heater Inlet H2SO4 blank	<0.01
20080945	Air Heater Inlet Test 4 Probe	0.25
20080946	Air Heater Inlet Test 4 Line	2.14
20080947	Air Heater Inlet Test 4 Imp #1	0.46
20080948	Air Heater Inlet Test 4 Imp #2	0.25
20080949	Air Heater Inlet Test 4 Imp #3	<0.01





**Unit:** AES Greenidge Unit 4  
**Method:** U.S. EPA CTM 027 - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 6/4/2008  
**Comments:** Process Performance Tests - May 2008

LAB SAMPLE ID	DESCRIPTION	mg as NH4+
20082181	AIR HEATER INLET PROBE NH3-1	<0.01
20082182	AIR HEATER INLET LINE NH3-1	0.53
20082183	AIR HEATER INLET IMP #1 NH3-1	0.48
20082184	AIR HEATER INLET IMP #2 NH3-1	0.24
20082185	AIR HEATER INLET IMP #3 NH3-1	<0.01
20082186	AIR HEATER INLET PROBE NH3-2	0.17
20082187	AIR HEATER INLET LINE NH3-2	0.42
20082188	AIR HEATER INLET IMP #1 NH3-2	0.42
20082189	AIR HEATER INLET IMP #2 NH3-2	0.25
20082190	AIR HEATER INLET IMP #3 NH3-2	<0.01
20082191	AIR HEATER INLET PROBE NH3-3	0.14
20082192	AIR HEATER INLET LINE NH3-3	0.50
20082193	AIR HEATER INLET IMP #1 NH3-3	0.41
20082194	AIR HEATER INLET IMP #2 NH3-3	<0.03
20082195	AIR HEATER INLET IMP #3 NH3-3	<0.01
20082196	AIR HEATER INLET PROBE NH3-4	0.36
20082197	AIR HEATER INLET LINE NH3-4	0.31
20082198	AIR HEATER INLET IMP #1 NH3-4	<0.03
20082199	AIR HEATER INLET IMP #2 NH3-4	<0.03
20082200	AIR HEATER INLET IMP #3 NH3-4	<0.01
20082201	AIR HEATER INLET PROBE NH3-5	0.14
20082202	AIR HEATER INLET LINE NH3-5	0.73
20082203	AIR HEATER INLET IMP #1 NH3-5	0.59
20082204	AIR HEATER INLET IMP #2 NH3-5	0.30
20082205	AIR HEATER INLET IMP #3 NH3-5	<0.01
20082206	AIR HEATER INLET PROBE NH3-6	0.07
20082207	AIR HEATER INLET LINE NH3-6	0.54
20082208	AIR HEATER INLET IMP #1 NH3-6	<0.03
20082209	AIR HEATER INLET IMP #2 NH3-6	<0.03
20082210	AIR HEATER INLET IMP #3 NH3-6	<0.01
20082211	AIR HEATER INLET PROBE NH3-7	0.45
20082212	AIR HEATER INLET LINE NH3-7	0.48
20082213	AIR HEATER INLET IMP #1 NH3-7	0.27
20082214	AIR HEATER INLET IMP #2 NH3-7	<0.03
20082215	AIR HEATER INLET IMP #3 NH3-7	<0.01
20082216	AIR HEATER INLET PROBE NH3-8	<0.01
20082217	AIR HEATER INLET LINE NH3-8	0.06
20082218	AIR HEATER INLET IMP #1 NH3-8	<0.03
20082219	AIR HEATER INLET IMP #2 NH3-8	<0.03
20082220	AIR HEATER INLET IMP #3 NH3-8	<0.01

LAB SAMPLE ID	DESCRIPTION	mg as NH4+
20082221	AIR HEATER INLET PROBE NH3-9	<0.01
20082222	AIR HEATER INLET LINE NH3-9	0.06
20082223	AIR HEATER INLET IMP #1 NH3-9	<0.03
20082224	AIR HEATER INLET IMP #2 NH3-9	<0.03
20082225	AIR HEATER INLET IMP #3 NH3-9	<0.01
20082226	AIR HEATER INLET PROBE NH3-11	<0.01
20082227	AIR HEATER INLET LINE NH3-11	0.04
20082228	AIR HEATER INLET IMP #1 NH3-11	<0.03
20082229	AIR HEATER INLET IMP #2 NH3-11	<0.03
20082230	AIR HEATER INLET IMP #3 NH3-11	<0.01
20082231	BLANK 0.1N H2SO4	<0.01
20082232	BLANK ZENO WATER	<0.01





**Unit:** AES Greenidge Unit 4  
**Method:** U.S. EPA CTM 027 - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 6/23/2008  
**Comments:** Follow-Up Tests - June 2008

LAB SAMPLE ID	DESCRIPTION	mg as NH4+
20082743	AIR HEATER INLET NH3-1 PROBE	0.27
20082744	AIR HEATER INLET NH3-1 LINE	2.39
20082745	AIR HEATER INLET NH3-1 IMP #1	0.73
20082746	AIR HEATER INLET NH3-1 IMP #2	0.31
20082747	AIR HEATER INLET NH3-1 IMP #3	<0.01
20082748	AIR HEATER INLET NH3-2 PROBE	2.17
20082749	AIR HEATER INLET NH3-2 LINE	2.19
20082750	AIR HEATER INLET NH3-2 IMP #1	<0.03
20082751	AIR HEATER INLET NH3-2 IMP #2	<0.03
20082752	AIR HEATER INLET NH3-2 IMP #3	<0.01
20082753	AIR HEATER INLET NH3-3 PROBE	0.25
20082754	AIR HEATER INLET NH3-3 LINE	1.45
20082755	AIR HEATER INLET NH3-3 IMP #1	0.59
20082756	AIR HEATER INLET NH3-3 IMP #2	0.46
20082757	AIR HEATER INLET NH3-3 IMP #3	<0.01
20082758	AIR HEATER INLET NH3-4 PROBE	0.82
20082759	AIR HEATER INLET NH3-4 LINE	1.57
20082760	AIR HEATER INLET NH3-4 IMP #1	0.65
20082761	AIR HEATER INLET NH3-4 IMP #2	0.32
20082762	AIR HEATER INLET NH3-4 IMP #3	<0.01
20082763	BLANK 0.1N H2SO4	<0.01
20082764	BLANK ZENO WATER	<0.01

**APPENDIX I.2  
MERCURY TESTS  
(ONTARIO HYDRO METHOD)**



Project No	Test	Date	Loc.	Operator	Sample ID #	Task	Description	Anal No.	Hg
1621-85	1	11/23/04	STK	#VALUE!	1	1	PROBE & FILTER RINSE	20045669	1.1 ng/ml
1621-85	1	11/23/04	STK	#VALUE!	2	1	KCL IMPINGER	20045670	42.6 ng/ml
1621-85	1	11/23/04	STK	#VALUE!	3	1	HNO3/H2O2 IMPINGER	20045671	1.9 ng/ml
1621-85	1	11/23/04	STK	#VALUE!	4	1	KMNO4 IMPINGER	20045672	4.7 ng/ml
1621-85	1	11/23/04	STK	#VALUE!	5	1	KMNO4 ACID RINSE	20045673	1.5 ng/ml
1621-85	2	11/23/04	STK	#VALUE!	6	1	PROBE & FILTER RINSE	20045674	<1.0 ng/ml
1621-85	2	11/23/04	STK	#VALUE!	7	1	KCL IMPINGER	20045675	26.0 ng/ml
1621-85	2	11/23/04	STK	#VALUE!	8	1	HNO3/H2O2 IMPINGER	20045676	2.3 ng/ml
1621-85	2	11/23/04	STK	#VALUE!	9	1	KMNO4 IMPINGER	20045677	6.9 ng/ml
1621-85	2	11/23/04	STK	#VALUE!	10	1	KMNO4 ACID RINSE	20045678	1.3 ng/ml
1621-85	#VALUE!	11/23/04	#VALUE!	#VALUE!	11	#VALUE!	KCL BLANK	20045679	<0.2 ng/ml
1621-85	#VALUE!	11/23/04	#VALUE!	#VALUE!	12	#VALUE!	HNO3/H2O2 BLANK	20045680	<0.2 ng/ml
1621-85	#VALUE!	11/23/04	#VALUE!	#VALUE!	13	#VALUE!	KMNO4 BLANK	20045681	<0.2 ng/ml
1621-85	#VALUE!	11/23/04	#VALUE!	#VALUE!	14	#VALUE!	HNO3/HCL BLANK	20045682	<1.0 ng/ml
1621-85	3	11/23/04	STK	#VALUE!	15	1	PROBE & FILTER RINSE	20045683	<1.0 ng/ml
1621-85	3	11/23/04	STK	#VALUE!	16	1	KCL IMPINGER	20045684	28.3 ng/ml
1621-85	3	11/23/04	STK	#VALUE!	17	1	HNO3/H2O2 IMPINGER	20045685	2.7 ng/ml
1621-85	3	11/23/04	STK	#VALUE!	18	1	KMNO4 IMPINGER	20045686	14.3 ng/ml
1621-85	3	11/23/04	STK	#VALUE!	19	1	KMNO4 ACID RINSE	20045687	<1.0 ng/ml
1621-85	BLANK	11/23/04	STK	#VALUE!	20	1	KCL IMPINGER	20045688	<0.2 ng/ml
1621-85	BLANK	11/23/04	STK	#VALUE!	21	1	HNO3/H2O2 IMPINGER	20045689	<0.2 ng/ml
1621-85	BLANK	11/23/04	STK	#VALUE!	22	1	KMNO4 IMPINGER	20045690	<0.2 ng/ml
1621-85	BLANK	11/23/04	STK	#VALUE!	23	1	KMNO4 ACID RINSE	20045691	<1.0 ng/ml
1621-85	#VALUE!	11/23/04	#VALUE!	#VALUE!	24	#VALUE!	KMNO4 BLANK	20045692	<0.2 ng/ml

ANALNUM	SAMPLE	DATE	DESCR	Hg	units
20045697	STK-HG-1	11/17/04	HG FILTER 5	15.8	ng/filter
20045698	STK-HG-2	11/17/04	HG FILTER 6	82.2	ng/filter
20045699	STK-HG-3	11/18/04	HG FILTER 7	<5.0	ng/filter
20045700	STK-HG-1	11/17/04	FILTER SOLIDS FROM FILTER 5	1.38	ppm
20045701	STK-HG-2	11/17/04	FILTER SOLIDS FROM FILTER 6	3.13	ppm
20045702	STK-HG-3	11/18/04	FILTER SOLIDS FROM FILTER 7	<0.005	ppm
20045703	FIL-BLK-1	11/17/04	FILTER BLANK	<5.0	ng/filter





**Unit:** AES Greenidge Unit 4  
**Method:** Ontario Hydro - Cold Vapor Atomic Absorption Spectroscopy  
**Project Numl** 1621-85  
**Report Date:** 4/13/2007  
**Comments:** Guarantee Tests - March 2007

### Results - Impingers, Rinses, Blanks

Lab No.	Description	Comments	Sample	Hg (µg/L)
20071684	PROBE & FILTER RINSE	AHO-1-HG-1-RO/DO	2	1.15
20071685	SAMPLE LINE RINSE	AHO-1-HG-1-RO/DO	3	2.21
20071686	KCL IMPINGER	AHO-1-HG-1-RO/DO	4	5.59
			4a	0.38
20071687	HNO3/H2O2 IMPINGER	AHO-1-HG-1-RO/DO	5	< 1.40
20071688	KMNO4 IMPINGER	AHO-1-HG-1-RO/DO	6	1.99
20071689	KMNO4 ACID RINSE	AHO-1-HG-1-RO/DO	7	< 1.40
20071690	PROBE & FILTER RINSE/LINE	STK-1-HG-1-BS/KC	10	< 1.40
			9	< 1.40
20071691	KCL IMPINGER	STK-1-HG-1-BS/KC	11	< 0.28
20071692	HNO3/H2O2 IMPINGER	STK-1-HG-1-BS/KC	12	< 1.40
20071693	KMNO4 IMPINGER	STK-1-HG-1-BS/KC	13	< 0.28
20071694	KMNO4 ACID RINSE	STK-1-HG-1-BS/KC	14	< 1.40
20071695	PROBE & FILTER RINSE	AHO-1-HG-2-RO/DO	16	1.59
20071696	SAMPLE LINE RINSE	AHO-1-HG-2-RO/DO	17	6.78
20071697	KCL IMPINGER	AHO-1-HG-2-RO/DO	18	10.65
20071698	HNO3/H2O2 IMPINGER	AHO-1-HG-2-RO/DO	19	< 1.40
20071699	KMNO4 IMPINGER	AHO-1-HG-2-RO/DO	20	< 0.28
20071700	KMNO4 ACID RINSE	AHO-1-HG-2-RO/DO	21	< 1.40
20071701	PROBE & FILTER RINSE/LINE RINSE	STK-1-HG-2-BS/KC	24	< 1.40
			23	< 1.40
20071702	KCL IMPINGER	STK-1-HG-2-BS/KC	25	< 0.28
20071703	HNO3/H2O2 IMPINGER	STK-1-HG-2-BS/KC	26	< 1.40
20071704	KMNO4 IMPINGER	STK-1-HG-2-BS/KC	27	< 0.28
20071705	KMNO4 ACID RINSE	STK-1-HG-2-BS/KC	28	< 1.40
20071706	PROBE & FILTER RINSE	AHO-1-HG-3-RO/DO	30	< 1.40
20071707	SAMPLE LINE RINSE	AHO-1-HG-3-RO/DO	31	3.66
20071708	KCL IMPINGER	AHO-1-HG-3-RO/DO	32	7.85
20071709	HNO3/H2O2 IMPINGER	AHO-1-HG-3-RO/DO	33	< 1.40
20071710	KMNO4 IMPINGER	AHO-1-HG-3-RO/DO	34	1.16
20071711	KMNO4 ACID RINSE	AHO-1-HG-3-RO/DO	35	< 1.40
20071712	PROBE & FILTER RINSE/LINE RINSE	STK-1-HG-3-BS/KC	38	< 1.40
			37	< 1.40
20071713	KCL IMPINGER	STK-1-HG-3-BS/KC	39	< 0.28
20071714	HNO3/H2O2 IMPINGER	STK-1-HG-3-BS/KC	40	< 1.40
20071715	KMNO4 IMPINGER	STK-1-HG-3-BS/KC	41	< 0.28
20071716	KMNO4 ACID RINSE	STK-1-HG-3-BS/KC	42	< 1.40
20071717	KMNO4 BLANK		43	< 0.28
20071718	KCL BLANK		44	< 0.28
20071719	HNO3/H2O2 BLANK		45	< 1.40
20071720	HNO3/HCL BLANK		46	< 1.40
20071721	PROBE & FILTER RINSE	AHO-1-HG-4-RO/DO	90	< 1.40
20071722	SAMPLE LINE RINSE	AHO-1-HG-4-RO/DO	91	3.12
20071723	KCL IMPINGER	AHO-1-HG-4-RO/DO	92	8.86
20071724	HNO3/H2O2 IMPINGER	AHO-1-HG-4-RO/DO	93	< 1.40
20071725	KMNO4 IMPINGER	AHO-1-HG-4-RO/DO	94	< 0.28
20071726	KMNO4 ACID RINSE	AHO-1-HG-4-RO/DO	95	< 1.40
20071727	PROBE & FILTER RINSE/LINE	STK-1-HG-5-BS/KC	98	< 1.40
			97	< 1.40
20071728	KCL IMPINGER	STK-1-HG-5-BS/KC	99	< 0.28

Lab No.	Description	Comments	Sample	Hg (µg/L)
20071729	HNO3/H2O2 IMPINGER	STK-1-HG-5-BS/KC	100	< 1.40
20071730	KMNO4 IMPINGER	STK-1-HG-5-BS/KC	101	< 0.28
20071731	KMNO4 ACID RINSE	STK-1-HG-5-BS/KC	102	< 1.40
20071732	PROBE & FILTER RINSE	AHO-1-HG-5-RO/DO	104	< 1.40
20071733	SAMPLE LINE RINSE	AHO-1-HG-5-RO/DO	105	< 1.40
20071734	KCL IMPINGER	AHO-1-HG-5-RO/DO	106	8.45
20071735	HNO3/H2O2 IMPINGER	AHO-1-HG-5-RO/DO	107	< 1.40
20071736	KMNO4 IMPINGER	AHO-1-HG-5-RO/DO	108	0.40
20071737	KMNO4 ACID RINSE	AHO-1-HG-5-RO/DO	109	< 1.40
20071738	PROBE & FILTER RINSE/LINE	STK-1-HG-5-BS/KC	112	< 1.40
			111	< 1.40
20071739	KCL IMPINGER	STK-1-HG-5-BS/KC	113	< 0.28
20071740	HNO3/H2O2 IMPINGER	STK-1-HG-5-BS/KC	114	< 1.40
20071741	KMNO4 IMPINGER	STK-1-HG-5-BS/KC	115	0.37
20071742	KMNO4 ACID RINSE	STK-1-HG-5-BS/KC	116	< 1.40
20071743	PROBE & FILTER RINSE	AHO-1-HG-6-RO/DO	118	< 1.40
20071744	SAMPLE LINE RINSE	AHO-1-HG-6-RO/DO	119	< 1.40
20071745	KCL IMPINGER	AHO-1-HG-6-RO/DO	120	8.04
20071746	HNO3/H2O2 IMPINGER	AHO-1-HG-6-RO/DO	121	< 1.40
20071747	KMNO4 IMPINGER	AHO-1-HG-6-RO/DO	122	1.55
20071748	KMNO4 ACID RINSE	AHO-1-HG-6-RO/DO	123	< 1.40
20071749	PROBE & FILTER RINSE	STK-1-HG-6	126	< 1.40
			125	< 1.40
20071750	KCL IMPINGER	STK-1-HG-6	127	< 0.28
20071751	HNO3/H2O2 IMPINGER	STK-1-HG-6	128	< 1.40
20071752	KMNO4 IMPINGER	STK-1-HG-6	129	< 0.28
20071753	KMNO4 ACID RINSE	STK-1-HG-6	130	< 1.40
20071754	KMNO4 BLANK		131	< 0.28
20071755	KCL BLANK		132	< 0.28
20071756	HNO3/H2O2 BLANK		133	< 1.40
20071757	KMNO4 BLANK IMPINGER		134	< 0.28
20071758	HNO3/HCL BLANK		135	< 1.40

### Results - Filters/Blank Thimble

ANALNUM	DESCR	SAMPLE	Hg, ug/filter
20071671	FILTER/SOLIDS	8	< 0.007
20071673	FILTER/SOLIDS	22	< 0.007
20071675	FILTER/SOLIDS	36	< 0.007
20071677	FILTER/SOLIDS	96	< 0.007
20071679	FILTER/SOLIDS	110	< 0.007
20071681	FILTER/SOLIDS	124	< 0.007
20071682	47 MM FILTER BLANK	47	< 0.007
20071683	THIMBLE BLANK	48	< 0.007

### Results - Loose Particulate in the Thimble

ANALNUM	DESCR	SAMPLE	Hg, ug/g or ppm
20071670	FILTER/SOLIDS	1	0.724
20071672	FILTER/SOLIDS	15	0.563
20071674	FILTER/SOLIDS	29	0.688
20071676	FILTER/SOLIDS	89	0.598
20071678	FILTER/SOLIDS	103	0.661
20071680	FILTER/SOLIDS	117	0.623



Mercury Duplicate Analyses RPD (Limit of 10%)...Impingers, Rinses, Blanks

Lab No.	Description	Sample	Hg (µg/L)	Hg (µg/L)	Hg average (µg/L)	RPD, %
20071684	PROBE & FILTER RINSE	AHO-1-HG-1-RO/DO	1.11	1.19	1.15	7.0%
20071685	SAMPLE LINE RINSE	AHO-1-HG-1-RO/DO	2.40	2.01	2.21	17.7%
20071686	KCL IMPINGER	AHO-1-HG-1-RO/DO	5.64	5.54	5.59	1.8%
		4a	0.42	0.34	0.38	21.1%
20071687	HNO3/H2O2 IMPINGER	AHO-1-HG-1-RO/DO	< 1.40	< 1.40	< 1.40	0.0%
20071688	KMNO4 IMPINGER	AHO-1-HG-1-RO/DO	1.97	2.00	1.99	1.5%
20071689	KMNO4 ACID RINSE	AHO-1-HG-1-RO/DO	< 1.40	< 1.40	< 1.40	0.0%
20071690	PROBE & FILTER RINSE/LINE	STK-1-HG-1-BS/KC	< 1.40	< 1.40	< 1.40	0.0%
		9	< 1.40	< 1.40	< 1.40	0.0%
20071691	KCL IMPINGER	STK-1-HG-1-BS/KC	< 0.28	< 0.28	< 0.28	0.0%
20071692	HNO3/H2O2 IMPINGER	STK-1-HG-1-BS/KC	< 1.40	< 1.40	< 1.40	0.0%
20071693	KMNO4 IMPINGER	STK-1-HG-1-BS/KC	< 0.28	< 0.28	< 0.28	0.0%
20071694	KMNO4 ACID RINSE	STK-1-HG-1-BS/KC	< 1.40	< 1.40	< 1.40	0.0%
20071695	PROBE & FILTER RINSE	AHO-1-HG-2-RO/DO	1.52	1.65	1.59	8.2%
20071696	SAMPLE LINE RINSE	AHO-1-HG-2-RO/DO	6.97	6.58	6.78	5.8%
20071697	KCL IMPINGER	AHO-1-HG-2-RO/DO	10.53	10.76	10.65	2.2%
20071698	HNO3/H2O2 IMPINGER	AHO-1-HG-2-RO/DO	< 1.40	< 1.40	< 1.40	0.0%
20071699	KMNO4 IMPINGER	AHO-1-HG-2-RO/DO	0.98	0.99	0.99	1.0%
20071700	KMNO4 ACID RINSE	AHO-1-HG-2-RO/DO	< 1.40	< 1.40	< 1.40	0.0%
20071701	PROBE & FILTER RINSE/LINE RINSE	STK-1-HG-2-BS/KC	< 1.40	< 1.40	< 1.40	0.0%
		23	< 1.40	< 1.40	< 1.40	0.0%
20071702	KCL IMPINGER	STK-1-HG-2-BS/KC	< 0.28	< 0.28	< 0.28	0.0%
20071703	HNO3/H2O2 IMPINGER	STK-1-HG-2-BS/KC	< 1.40	< 1.40	< 1.40	0.0%
20071704	KMNO4 IMPINGER	STK-1-HG-2-BS/KC	< 0.28	< 0.28	< 0.28	0.0%
20071705	KMNO4 ACID RINSE	STK-1-HG-2-BS/KC	< 1.40	< 1.40	< 1.40	0.0%
20071706	PROBE & FILTER RINSE	AHO-1-HG-3-RO/DO	< 1.40	< 1.40	< 1.40	0.0%
20071707	SAMPLE LINE RINSE	AHO-1-HG-3-RO/DO	3.74	3.57	3.66	4.7%
20071708	KCL IMPINGER	AHO-1-HG-3-RO/DO	7.60	8.10	7.85	6.4%
20071709	HNO3/H2O2 IMPINGER	AHO-1-HG-3-RO/DO	< 1.40	< 1.40	< 1.40	0.0%
20071710	KMNO4 IMPINGER	AHO-1-HG-3-RO/DO	1.16	1.15	1.16	0.9%
20071711	KMNO4 ACID RINSE	AHO-1-HG-3-RO/DO	< 1.40	< 1.40	< 1.40	0.0%
20071712	PROBE & FILTER RINSE/LINE RINSE	STK-1-HG-3-BS/KC	< 1.40	< 1.40	< 1.40	0.0%
		37	< 1.40	< 1.40	< 1.40	0.0%
20071713	KCL IMPINGER	STK-1-HG-3-BS/KC	< 0.28	< 0.28	< 0.28	0.0%
20071714	HNO3/H2O2 IMPINGER	STK-1-HG-3-BS/KC	< 1.40	< 1.40	< 1.40	0.0%
20071715	KMNO4 IMPINGER	STK-1-HG-3-BS/KC	< 0.28	< 0.28	< 0.28	0.0%
20071716	KMNO4 ACID RINSE	STK-1-HG-3-BS/KC	< 1.40	< 1.40	< 1.40	0.0%
20071717	KMNO4 BLANK		< 0.28	< 0.28	< 0.28	0.0%
20071718	KCL BLANK		< 0.28	< 0.28	< 0.28	0.0%
20071719	HNO3/H2O2 BLANK		< 1.40	< 1.40	< 1.40	0.0%
20071720	HNO3/HCL BLANK		< 1.40	< 1.40	< 1.40	0.0%
20071721	PROBE & FILTER RINSE	AHO-1-HG-4-RO/DO	< 1.40	< 1.40	< 1.40	0.0%
20071722	SAMPLE LINE RINSE	AHO-1-HG-4-RO/DO	3.22	3.01	3.12	6.7%
20071723	KCL IMPINGER	AHO-1-HG-4-RO/DO	8.72	8.99	8.86	3.0%
20071724	HNO3/H2O2 IMPINGER	AHO-1-HG-4-RO/DO	< 1.40	< 1.40	< 1.40	0.0%
20071725	KMNO4 IMPINGER	AHO-1-HG-4-RO/DO	< 0.28	< 0.28	< 0.28	0.0%
20071726	KMNO4 ACID RINSE	AHO-1-HG-4-RO/DO	< 1.40	< 1.40	< 1.40	0.0%

Lab No.	Description	Sample	Hg (µg/L)	Hg (µg/L)	Hg average (µg/L)	RPD, %
20071727	PROBE & FILTER RINSE/LINE	STK-1-HG-5-BS/KC	< 1.40	< 1.40	< 1.40	0.0%
20071728	KCL IMPINGER		< 1.40	< 1.40	< 1.40	0.0%
20071729	HNO3/H2O2 IMPINGER	STK-1-HG-5-BS/KC	< 0.28	< 0.28	< 0.28	0.0%
20071730	KMNO4 IMPINGER	STK-1-HG-5-BS/KC	< 1.40	< 1.40	< 1.40	0.0%
20071731	KMNO4 ACID RINSE	STK-1-HG-5-BS/KC	< 0.28	< 0.28	< 0.28	0.0%
20071732	PROBE & FILTER RINSE	AHO-1-HG-5-RO/DO	< 1.40	< 1.40	< 1.40	0.0%
20071733	SAMPLE LINE RINSE	AHO-1-HG-5-RO/DO	< 1.40	< 1.40	< 1.40	0.0%
20071734	KCL IMPINGER	AHO-1-HG-5-RO/DO	8.32	8.57	8.45	3.0%
20071735	HNO3/H2O2 IMPINGER	AHO-1-HG-5-RO/DO	< 1.40	< 1.40	< 1.40	0.0%
20071736	KMNO4 IMPINGER	AHO-1-HG-5-RO/DO	0.37	0.42	0.40	12.7%
20071737	KMNO4 ACID RINSE	AHO-1-HG-5-RO/DO	< 1.40	< 1.40	< 1.40	0.0%
20071738	PROBE & FILTER RINSE/LINE	STK-1-HG-5-BS/KC	< 1.40	< 1.40	< 1.40	0.0%
20071739	KCL IMPINGER	STK-1-HG-5-BS/KC	< 1.40	< 1.40	< 1.40	0.0%
20071740	HNO3/H2O2 IMPINGER	STK-1-HG-5-BS/KC	< 1.40	< 1.40	< 1.40	0.0%
20071741	KMNO4 IMPINGER	STK-1-HG-5-BS/KC	0.42	0.31	0.37	30.1%
20071742	KMNO4 ACID RINSE	STK-1-HG-5-BS/KC	< 1.40	< 1.40	< 1.40	0.0%
20071743	PROBE & FILTER RINSE	AHO-1-HG-6-RO/DO	< 1.40	< 1.40	< 1.40	0.0%
20071744	SAMPLE LINE RINSE	AHO-1-HG-6-RO/DO	< 1.40	< 1.40	< 1.40	0.0%
20071745	KCL IMPINGER	AHO-1-HG-6-RO/DO	7.96	8.12	8.04	2.0%
20071746	HNO3/H2O2 IMPINGER	AHO-1-HG-6-RO/DO	< 1.40	< 1.40	< 1.40	0.0%
20071747	KMNO4 IMPINGER	AHO-1-HG-6-RO/DO	1.54	1.55	1.55	0.6%
20071748	KMNO4 ACID RINSE	AHO-1-HG-6-RO/DO	< 1.40	< 1.40	< 1.40	0.0%
20071749	PROBE & FILTER RINSE	STK-1-HG-6	< 1.40	< 1.40	< 1.40	0.0%
20071750	KCL IMPINGER	STK-1-HG-6	< 1.40	< 1.40	< 1.40	0.0%
20071751	HNO3/H2O2 IMPINGER	STK-1-HG-6	< 0.28	< 0.28	< 0.28	0.0%
20071752	KMNO4 IMPINGER	STK-1-HG-6	< 1.40	< 1.40	< 1.40	0.0%
20071753	KMNO4 ACID RINSE	STK-1-HG-6	< 0.28	< 0.28	< 0.28	0.0%
20071754	KMNO4 BLANK		< 1.40	< 1.40	< 1.40	0.0%
20071755	KCL BLANK		< 0.28	< 0.28	< 0.28	0.0%
20071756	HNO3/H2O2 BLANK		< 1.40	< 1.40	< 1.40	0.0%
20071757	KMNO4 BLANK IMPINGER		< 0.28	< 0.28	< 0.28	0.0%
20071758	HNO3/HCL BLANK		< 1.40	< 1.40	< 1.40	0.0%

**Mercury Duplicate Analyses RPD (Limit of 10%)..Filters/Blank Thimble**

Lab No.	Description	Sample	Hg, ug/filter	Hg, ug/filter	Hg, average, ug/filter	RPD, %
20071671	FILTER/SOLIDS	8	< 0.007	< 0.007	< 0.007	0.0%
20071673	FILTER/SOLIDS	22	< 0.007	< 0.007	< 0.007	0.0%
20071675	FILTER/SOLIDS	36	< 0.007	< 0.007	< 0.007	0.0%
20071677	FILTER/SOLIDS	96	< 0.007	< 0.007	< 0.007	0.0%
20071679	FILTER/SOLIDS	110	< 0.007	< 0.007	< 0.007	0.0%
20071681	FILTER/SOLIDS	124	< 0.007	< 0.007	< 0.007	0.0%
20071682	47 MM FILTER BLANK	47	< 0.007	< 0.007	< 0.007	0.0%
20071683	THIMBLE BLANK	48	< 0.007	< 0.007	< 0.007	0.0%



### Mercury Duplicate Analyses RPD (Limit of 10%)...Loose Particulate in Thimbles

ANALNUM	DESCR	SAMPLE	Hg, ug/g	Hg, ug/g	RPD, %
20071674	FILTER/SOLIDS	29	0.679	0.696	2.5%

Only 1 of 6 samples duplicated

### Mercury Triplicate Analyses RSD (Limit of 10%)...Impingers, Rinses, Blanks

Lab No.	Description	Sample	Hg (ug/L)	Hg (ug/L)	Hg (ug/L)	RSD, %
20071752	KMNO4 IMPINGER	129	< 0.28	< 0.28	< 0.28	0.0%
20071697	KCL IMPINGER	18	10.53	10.76	10.71	1.1%
20071705	KMNO4 ACID RINSE	28	< 1.40	< 1.40	< 1.40	0.0%
20071748	KMNO4 ACID RINSE	123	< 1.40	< 1.40	< 1.40	0.0%
20071690	PROBE & FILTER RINSE/LINE	10	< 1.40	< 1.40	< 1.40	0.0%
		37	< 1.40	< 1.40	< 1.40	0.0%
20071727	PROBE & FILTER RINSE/LINE	98	< 1.40	< 1.40	< 1.40	0.0%
20071704	KMNO4 IMPINGER	27	< 0.28	< 0.28	< 0.28	0.0%
20071730	KMNO4 IMPINGER	101	< 0.28	< 0.28	< 0.28	0.0%
20071723	KCL IMPINGER	92	8.72	8.99	9.02	1.9%
20071703	HNO3/H2O2 IMPINGER	26	< 1.40	< 1.40	< 1.40	0.0%
20071751	HNO3/H2O2 IMPINGER	128	< 1.40	< 1.40	< 1.40	0.0%

### Matrix (Standard Addition) Spikes (recovery of 90 - 110%)

The following samples were spiked with a standard solution of 2ppb.

Lab No.	Description	Sample	% Recovery
20071747	KMNO4 IMPINGER	122	105.5
20071700	KMNO4 ACID RINSE	21	96.5
20071753	KMNO4 ACID RINSE	130	95.5
		9	100
20071712	PROBE & FILTER RINSE/LINE RINSE	38	90.5
20071702	KCL IMPINGER	25	96
		97	93.5
20071749	PROBE & FILTER RINSE	126	98
20071713	KCL IMPINGER	39	95.5
20071698	HNO3/H2O2 IMPINGER	19	101
20071746	HNO3/H2O2 IMPINGER	121	106
20071699	KMNO4 IMPINGER	20	103.5
20071736	KMNO4 IMPINGER	108	101
20071673	FILTER/SOLIDS	22	103.5

the digestate of the filter was spiked prior to analysis with a standard solution of 2ppb.

### NIST SRM 1633B Fly Ash...Digested/Analyzed with Filters and Analyzed with Loose Particulate (90 -110% of Certified Value)

NIST SRM has a certified value of 141 ng/g.

Lab No.	Description	Sample	Results (ng/g)	% RECOVERY
SRM	NA	1633B		97.9%
SRM	NA	1633B		94.4%

analyzed with digestates of filters/blank thimble  
analyzed with loose particulate samples

### Digestion Duplicates and Digestion Spikes...Impingers

Digestion 1 and 2 results represent an average of duplicate analyses.

Lab No.	Description	Sample	Comments	Digestion 1	Digestion 2	RPD, %
20071691	KCL IMPINGER	STK-1-HG-1-BS/KC	11	< 0.28	< 0.28	0.0
20071715	KMNO4 IMPINGER	STK-1-HG-3-BS/KC	41	< 0.28	< 0.28	0.0
20071740	HNO3/H2O2 IMPINGER	STK-1-HG-5-BS/KC	114	< 1.40	< 1.40	0.0

The following samples were spiked with a standard solution of 2 ppb before digestion.

Lab No.	Description	Sample	% Recovery
20071691	KCL IMPINGER	11	104.5
20071715	KMNO4 IMPINGER	41	102.5
20071740	HNO3/H2O2 IMPINGER	114	106.5





**Unit:** AES Greenidge Unit 4  
**Method:** Ontario Hydro - Cold Vapor Atomic Fluorescence Spectroscopy  
**Project Number:** 1621-85  
**Report Date:** 11/6/2007  
**Comments:** Process Performance Tests - October 2007

Lab No.	Description	Comments	Sample	Inst Dilution	Digest Dilution	Hg (ppb, ppt, or ng)	Hg (ppb, ppt, or ng)	Hg (ppb, ppt, or ng)	Hg (ppb, ppt, or ng)	Units	Duplicate %RPD	Triplicate %RSD	Spike % Recovery
20076026	FILTER/SOLIDS		1			0.018	0.014	0.016	0.016	ug/g	25.0		
20076027	FILTER/SOLIDS		8			0.015	0.013	0.014	0.014	ug/g	14.3		
20076028	FILTER/SOLIDS		15			0.532	0.528	0.53	0.53	ug/g	0.8		
20076029	FILTER/SOLIDS (ug/filter)		22			1.48	1.51	1.5	0.0015	ug	2.0		
20076030	FILTER/SOLIDS		29			0.029	0.033	0.031	0.031	ug/g	12.9		
20076031	FILTER/SOLIDS		36			0.014	0.013	0.0135	0.0135	ug/g	7.4		
20076032	FILTER/SOLIDS		43/43A			0.679	0.625	0.652	0.652	ug/g	8.3		
20076033	FILTER/SOLIDS (ug/filter)		49			4.02	4.07	4.05	0.00405	ug	1.2		
20076034	FILTER/SOLIDS		56			0.015	0.015	0.015	0.015	ug/g	0.0		
20076035	FILTER/SOLIDS		63			0.017	0.015	0.016	0.016	ug/g	12.5		
20076036	FILTER/SOLIDS		70			0.721	0.694	0.708	0.708	ug/g	3.8		
20076037	FILTER/SOLIDS (ug/filter)		77	10	51 mL	1.77	1.7	1.74	0.00172	ug	4.0		
20076038	PROBE & FILTER RINSE	SCRI TEST 1 BG/KE/DL	2			0.46	0.45	0.455	0.455	ug/L	2.2		
20076039	HEATED LINE RINSE	SCRI TEST 1 BG/KE/DL	3			4.79	4.95	4.89	4.89	ug/L	3.3	1.8	
20076040	KCL IMPINGER	SCRI TEST 1 BG/KE/DL	4			5.15	5.2	5.18	5.18	ug/L	1.0		
20076040 rpt	HNO3/H2O2 IMPINGER	SCRI TEST 1 BG/KE/DL	5	50	2	2.19	2.25	2.22	2.22	ug/L	0.6		109
20076042	KMNO4 IMPINGER	SCRI TEST 1 BG/KE/DL	6			10.55	10.57	10.6	10.6	ug/L	0.2		
20076043	KMNO4 ACID RINSE	SCRI TEST 1 BG/KE/DL	7			0.65	0.65	0.65	0.65	ug/L	0.0		
20076044	PROBE & FILTER RINSE	SCRO TEST 1 BG/KE/DL	9			0.16	0.15	0.155	0.155	ug/L	6.5		
20076045	HEATED LINE RINSE	SCRO TEST 1 BG/KE/DL	10A			3.38	3.31	3.33	3.33	ug/L	1.3		
20076046	KCL IMPINGER	SCRO TEST 1 BG/KE/DL	11			2.24	2.17	2.21	2.21	ug/L	3.2		
20076047	HNO3/H2O2 IMPINGER	SCRO TEST 1 BG/KE/DL	12			10722	11369	12200	12200	ug/L	5.9		97
20076048 rpt	KMNO4 IMPINGER	SCRO TEST 1 BG/KE/DL	13	50	2	0.5	0.49	0.495	0.495	ug/L	2.0		
20076049	KMNO4 ACID RINSE	AHO TEST 1 BS/BH	14			1.73	1.76	1.75	1.75	ug/L	1.7		
20076050	PROBE & FILTER RINSE	AHO TEST 1 BS/BH	16			1.54	1.55	1.55	1.55	ug/L	0.6		
20076051	HEATED LINE RINSE	AHO TEST 1 BS/BH	17			11.32	11.12	11.2	11.2	ug/L	1.8		
20076052	KCL IMPINGER	AHO TEST 1 BS/BH	18			1.87	1.87	1.91	1.91	ug/L	3.7		
20076053	HNO3/H2O2 IMPINGER	AHO TEST 1 BS/BH	19			0.52	0.53	0.553	0.553	ug/L	1.9		8.9
20076054	KMNO4 IMPINGER	AHO TEST 1 BS/BH	20			1.94	1.87	1.91	1.91	ug/L	3.7		
20076055	KMNO4 ACID RINSE	AHO TEST 1 BS/BH	21			0.29	0.29	0.29	0.29	ug/L	0.0		110
20076056	PROBE & FILTER RINSE	STK TEST 1 KC/JM	23			0.43	0.4	0.415	0.415	ug/L	7.2		
20076057	HEATED LINE RINSE	STK TEST 1 KC/JM	24			1.27	1.27	1.27	1.27	ug/L	0.0		
20076058	KCL IMPINGER	STK TEST 1 KC/JM	25			0.15	0.16	0.155	0.155	ug/L	6.5		
20076059	HNO3/H2O2 IMPINGER	STK TEST 1 KC/JM	26			0.08	0.08	0.08	0.08	ug/L	0.0		
20076060	KMNO4 IMPINGER	STK TEST 1 KC/JM	27			0.52	0.53	0.525	0.525	ug/L	1.9		100
20076060D	KMNO4 IMPINGER	STK TEST 1 KC/JM	27			0.52	0.5	0.50	0.51	ug/L	3.9		
20076061	KMNO4 ACID RINSE	STK TEST 1 KC/JM	28			0.03	0.03	0.03	0.03	ug/L	0.0		
20076062	PROBE & FILTER RINSE	SCRI TEST 2 BG/KE/DL	30			0.13	0.13	0.13	0.13	ug/L	0.0		
20076063	HEATED LINE RINSE	SCRI TEST 2 BG/KE/DL	31			21.15	20.23	20.7	20.7	ug/L	4.4		
20076063 rpt	HEATED LINE RINSE	SCRI TEST 2 BG/KE/DL	31			21961	21916	21900	21900	ug/L	0.2		98
20076064	KCL IMPINGER	SCRI TEST 2 BG/KE/DL	32			0.51	0.46	0.485	0.485	ug/L	10.3		
20076065	HNO3/H2O2 IMPINGER	SCRI TEST 2 BG/KE/DL	33			2.06	1.99	2.02	2.02	ug/L	3.5		1.9
20076066	KMNO4 IMPINGER	SCRI TEST 2 BG/KE/DL	34			8.13	7.92	8.03	8.03	ug/L	2.6		92
20076067	KMNO4 ACID RINSE	SCRI TEST 2 BG/KE/DL	35			0.46	0.45	0.455	0.455	ug/L	2.2		
20076068	PROBE & FILTER RINSE	SCRO TEST 2 BG/KE/DL	37			0.12	0.12	0.12	0.12	ug/L	0.0		
20076069	HEATED LINE RINSE	SCRO TEST 2 BG/KE/DL	38			1.13	1.13	1.11	1.11	ug/L	0.0		2.6
20076070	KCL IMPINGER	SCRO TEST 2 BG/KE/DL	39			10.33	10.6	10.5	10.5	ug/L	2.6		101
20076071	HNO3/H2O2 IMPINGER	SCRO TEST 2 BG/KE/DL	40			10.48	10.4	10.4	10.4	ug/L	0.8		
20076071D	HNO3/H2O2 IMPINGER	SCRO TEST 2 BG/KE/DL	40			5	5.24	5.12	5.12	ug/L	4.7		
20076072	KMNO4 IMPINGER	SCRO TEST 2 BG/KE/DL	41							ug/L			

Lab No.	Description	Comments	Sample	Inst Dilution	Digest Dilution	Hg (ppb, ppt, or ng)	Hg (ppb, ppt, or ng)	Hg (ppb, ppt, or ng)	Hg (ppb, ppt, or ng)	Hg in Sample	Units	Duplicate %RPD	Triplicate %RSD	Spike % Recovery
20076073	KMNO4 ACID RINSE	SCRO TEST 2 BG/KE/DL	42			0.42	0.4		0.41	0.41	ug/L		4.9	
20076074	PROBE & FILTER RINSE	AHO TEST 2 BS/BH	44			4.38	4.48		4.43	4.43	ug/L		2.3	
20076075	KCL IMPINGER	AHO TEST 2 BS/BH	45			14.35	15.26		14.8	14.8	ug/L		6.1	
20076076	HNO3/H2O2 IMPINGER	AHO TEST 2 BS/BH	46			0.69	0.66		0.675	0.675	ug/L		4.4	
20076077	KMNO4 IMPINGER	AHO TEST 2 BS/BH	47			0.21	0.23		0.22	0.22	ug/L		9.1	
20076078	KMNO4 ACID RINSE	AHO TEST 2 BS/BH	78			0.15	0.14	0.14	0.143	0.143	ug/L		6.9	4.0
20076079	PROBE & FILTER RINSE	STK TEST 2 KC/JM	50	10	10	164	153		159	0.159	ug/L		6.9	93
20076080	HEATED LINE RINSE	STK TEST 2 KC/JM	51			0.15	0.19		0.19	0.19	ug/L		0.0	
20076081	KCL IMPINGER	STK TEST 2 KC/JM	52			0.55	0.5		0.525	0.525	ug/L		6.5	
20076082	HNO3/H2O2 IMPINGER	STK TEST 2 KC/JM	53			0.1	0.1		0.1	0.1	ug/L		0.0	
20076083	KMNO4 IMPINGER	STK TEST 2 KC/JM	54			93.14	92.84		93	0.093	ug/L		0.3	
20076084	KMNO4 ACID RINSE	STK TEST 2 KC/JM	55	10	10	513	527	520	520	0.52	ug/L		2.7	1.3
20076085	PROBE & FILTER RINSE	SCRI TEST 3 BG/KE/DL	57	10	10	1885	18697		18400	18.4	ug/L		2.8	94
20076086	HEATED LINE RINSE	SCRI TEST 3 BG/KE/DL	58	10	10	17759	18863		18300	18.3	ug/L		6.0	
20076086 rpt	HEATED LINE RINSE	SCRI TEST 3 BG/KE/DL	58	50	10	1885	18863		18300	18.3	ug/L		2.8	
20076087	KCL IMPINGER	SCRI TEST 3 BG/KE/DL	59	50	2	959	966		963	0.963	ug/L		0.7	
20076088	HNO3/H2O2 IMPINGER	SCRI TEST 3 BG/KE/DL	60	50	10	2282	2242		2250	2.25	ug/L		0.4	
20076089	KMNO4 IMPINGER	SCRI TEST 3 BG/KE/DL	61			4.15	4.15		4.15	4.15	ug/L		0.0	
20076090	KMNO4 ACID RINSE	SCRI TEST 3 BG/KE/DL	62	10	10	457	466		462	0.462	ug/L		2.0	
20076091	PROBE & FILTER RINSE	SCRO TEST 3 BG/KE/DL	64	10	10	341	340		341	0.341	ug/L		0.3	94
20076092	HEATED LINE RINSE	SCRO TEST 3 BG/KE/DL	65	10	10	2047	2062		2050	2.05	ug/L		0.7	
20076093	KCL IMPINGER	SCRO TEST 3 BG/KE/DL	66	50	10	4.8	4.93		4.87	4.9	ug/L		2.7	
20076094	HNO3/H2O2 IMPINGER	SCRO TEST 3 BG/KE/DL	67	50	10	2928	2986		2930	2.93	ug/L		0.3	
20076095	KMNO4 IMPINGER	SCRO TEST 3 BG/KE/DL	68			1.35	1.23		1.29	1.26	ug/L		9.3	
20076096	KMNO4 ACID RINSE	SCRO TEST 3 BG/KE/DL	69	10	10	362	350		356	0.356	ug/L		3.4	
20076097	PROBE & FILTER RINSE	AHO TEST 3 BS/BH	71	10	10	220	214		217	0.217	ug/L		2.8	
20076098	HEATED LINE RINSE	AHO TEST 3 BS/BH	72	10	10	921	951		936	0.936	ug/L		3.2	
20076099	KCL IMPINGER	AHO TEST 3 BS/BH	73	50	2	7542	7575		7560	7.56	ug/L		0.4	
20076100	HNO3/H2O2 IMPINGER	AHO TEST 3 BS/BH	74	50	10	618	607		613	0.613	ug/L		1.8	
20076101	KMNO4 IMPINGER	AHO TEST 3 BS/BH	75	50	2	342	342		342	0.342	ug/L		0.0	
20076102	KMNO4 ACID RINSE	AHO TEST 3 BS/BH	76	10	10	159	160	161	160	0.16	ug/L		0.6	95
20076103	PROBE & FILTER RINSE	STK TEST 3 KC/JM	78	10	10	156	157		157	0.157	ug/L		0.6	
20076104	HEATED LINE RINSE	STK TEST 3 KC/JM	79	10	10	146	139		143	0.143	ug/L		4.9	
20076105	KCL IMPINGER	STK TEST 3 KC/JM	80	50	2	143	142	140	142	0.142	ug/L		0.7	1.1
20076105D	KCL IMPINGER	STK TEST 3 KC/JM	80	50	2	140	137		139	0.139	ug/L		2.2	
20076105S	KCL IMPINGER	STK TEST 3 KC/JM	80	50	2	4151	4462		4310	4.31	ug/L		7.2	102
20076106	HNO3/H2O2 IMPINGER	STK TEST 3 KC/JM	81	10	10	141	146		144	0.144	ug/L		3.5	
20076107	KMNO4 IMPINGER	STK TEST 3 KC/JM	82	50	2	135	130		133	0.133	ug/L		3.8	
20076108	KMNO4 ACID RINSE	STK TEST 3 KC/JM	83	10	10	138	135		137	0.137	ug/L		2.2	
20076109	KMNO4 BLANK	STK TEST 3 KC/JM	84	10	10	59.5	57.9	56.44	57.9	0.0579	ug/L		2.7	2.6
20076110	KMNO4 BLANK		85	10	10	56.7	56.6		56.7	0.0567	ug/L		0.2	95
20076480	FILTER/SOLIDS	156				0.781	0.774		0.778	0.778	ug/g		0.9	
20076481	FILTER/SOLIDS (ug/filter)	170				1.7	1.74		1.72	0.00172	ug		2.3	
20076482	FILTER/SOLIDS	STK TEST 4	163	10	51 mL	0.782	0.784		0.783	0.783	ug/g		0.3	
20076483	FILTER/SOLIDS (ug/filter)	STK TEST 5	177	10	51 mL	1.38	1.39		1.39	0.00139	ug		0.7	
20076485	FILTER/SOLIDS	194								0.643	ug/g			
20076484	FILTER/SOLIDS (ug/filter)	STK TEST 6 BWG/KRC	187	10	51 mL	58.3	59.9	59.8	59.3	0.0593	ug		2.7	1.5
20076484 rpt	FILTER/SOLIDS (ug/filter)	STK TEST 6 BWG/KRC	187	10	51 mL	63.4	63.7	65.6	64.2	0.0642	ug		0.5	1.9
20076486	FILTER/SOLIDS	243				0.811	0.804		0.808	0.808	ug/g		0.9	
20076487	FILTER/SOLIDS (ug/filter)	STK TEST 7 BG/KC	250	10	51 mL	1.81	1.68		1.75	0.00175	ug		7.4	
20076488	FILTER/SOLIDS	274				0.98	0.964		0.972	0.972	ug		1.6	
20076489	FILTER/SOLIDS (ug/filter)	STK TEST 8 BG/KC	281	10	51 mL	2.4	2.31		2.36	0.00236	ug		3.8	
20076490	FILTER/SOLIDS	312				1.025	1.060		1.04	0.00122	ug		3.4	
20076491	FILTER/SOLIDS (ug/filter)	STK TEST 9 BG/KC	319	10	51 mL	1.22	1.22		1.22	0.00122	ug		0.0	
20076492	AHO TEST 4	AHO TEST 4	157	10	10	540	507		524	0.524	ug/L		6.3	
20076493	HEATED LINE RINSE	AHO TEST 4	158	10	10	552	535		544	0.544	ug/L		3.1	
20076494	KCL IMPINGER	AHO TEST 4	159	50	2	7354	7248		7300	7.3	ug/L		1.5	
20076495	HNO3/H2O2 IMPINGER	AHO TEST 4	160	10	10	123	119		121	0.121	ug/L		3.3	
20076496	KMNO4 IMPINGER	AHO TEST 4	161	50	2	540	545		543	0.543	ug/L		0.9	
20076497	KMNO4 ACID RINSE	AHO TEST 4	162	10	10	92.1	90.4		91.3	0.0913	ug/L		1.9	
20076498	PROBE & FILTER RINSE	STK TEST 4	164	2	10	50.4	48.7		49.6	0.0496	ug/L		3.4	
20076499	HEATED LINE RINSE	STK TEST 4	165	10	10	3057	3110		3080	3.08	ug/L		1.7	



Lab No.	Description	Comments	Sample	Inst Dilution	Digest Dilution	Hg (ppb, ppt, or ng)	Hg (ppb, ppt, or ng)	Hg (ppb, ppt, or ng)	Hg (ppb, ppt, or ng)	Hg in Sample	Units	Duplicate %RPD	Triplicate %RSD	Spike % Recovery
20076500	KCL IMPINGER	STK TEST 4	166	50	2	1278	1291		1280	1.28	ug/L	1.0		
20076501	HNO3/H2O2 IMPINGER	STK TEST 4	167	50	10	381	350	344	358	0.358	ug/L	8.5	5.5	
20076502	KMNO4 IMPINGER	STK TEST 4	168	50	2	298	292		295	0.295	ug/L	2.0		99
20076503	KMNO4 ACID RINSE	STK TEST 4	169	10	10	84.1	78		81.1	0.0811	ug/L	7.5		
20076504	PROBE & FILTER RINSE	AHO TEST 5	171	10	10	278	279		279	0.279	ug/L	0.4		
20076505	HEATED LINE RINSE	AHO TEST 5	172	10	10	716	702		709	0.709	ug/L	2.0		
20076506	KCL IMPINGER	AHO TEST 5	173	50	2	8832	9121		8980	8.98	ug/L	3.2		
20076507	HNO3/H2O2 IMPINGER	AHO TEST 5	174	10	10	192	187		190	0.19	ug/L	2.6		
20076508	KMNO4 IMPINGER	AHO TEST 5	175	50	2	1048	1037	92.2	1040	1.04	ug/L	1.1		98
20076510	PROBE & FILTER RINSE	STK TEST 5	178	10	10	111	111		111	0.111	ug/L	0.0		
20076511	HEATED LINE RINSE	STK TEST 5	179	10	10	847	802		825	0.825	ug/L	5.5		
20076512	KCL IMPINGER	STK TEST 5	180	50	2	575	582	589	582	0.582	ug/L	1.2	1.2	
20076513	HNO3/H2O2 IMPINGER	STK TEST 5	181	50	10	192	193		193	0.193	ug/L	0.5		103
20076514	KMNO4 IMPINGER	STK TEST 5	182	10	2	137	135		136	0.136	ug/L	1.5		
20076515	KMNO4 ACID RINSE	STK TEST 5	183	10	10	126	120		123	0.123	ug/L	4.9		
20076516	KMNO4 BLANK	STK TEST 5	184	10	10	47.7	46.4		47.1	0.0471	ug/L	2.8		
20076517	PROBE & FILTER RINSE	AHO TEST 6 BPS/RLO	188	10	10	785	804		795	0.795	ug/L	2.4		
20076518	HEATED LINE RINSE	AHO TEST 6 BPS/RLO	189	10	10	2022	1962		1990	1.99	ug/L	3.0		
20076519	KCL IMPINGER	AHO TEST 6 BPS/RLO	190	100	2	10444	10457		10500	10.5	ug/L	0.1		
20076520	HNO3/H2O2 IMPINGER	AHO TEST 6 BPS/RLO	191	10	10	157	138	342	148	0.148	ug/L	12.9		
20076521	KMNO4 IMPINGER	AHO TEST 6 BPS/RLO	192	50	2	357	337		345	0.345	ug/L	5.8	3.0	
20076522	KMNO4 ACID RINSE	AHO TEST 6 BPS/RLO	193	10	10	58	56.8		57.4	0.0574	ug/L	2.1		102
20076523	PROBE & FILTER RINSE	STK TEST 6 BWG/KRC	195	100	10	308	287		298	0.298	ug/L	7.1		
20076524	HEATED LINE RINSE	STK TEST 6 BWG/KRC	196	10	10	1111	1125		1120	1.12	ug/L	1.3		
20076525	KCL IMPINGER	STK TEST 6 BWG/KRC	197	50	2	907	930		919	0.919	ug/L	2.5		
20076526	HNO3/H2O2 IMPINGER	STK TEST 6 BWG/KRC	198	10	10	84.9	80.7		82.8	0.0828	ug/L	5.1		
20076526S	HNO3/H2O2 IMPINGER	STK TEST 6 BWG/KRC	198	10	10	2169	21589		21800	21.8	ug/L	1.7		109
20076527	KMNO4 IMPINGER	STK TEST 6 BWG/KRC	199	50	2	219	206	45.9	213	0.213	ug/L	6.1		
20076528	KMNO4 ACID RINSE	STK TEST 6 BWG/KRC	200	10	10	52.6	50.6		49.7	0.0497	ug/L	3.9	6.9	
20076529	PROBE & FILTER RINSE	AHO TEST 7 RO/BS	244	10	10	512	500		506	0.506	ug/L	2.4		94
20076530	HEATED LINE RINSE	AHO TEST 7 RO/BS	245	10	10	804	791		798	0.798	ug/L	1.6		
20076530 rpt	HEATED LINE RINSE	AHO TEST 7 RO/BS	245	10	10	759	759		759	0.759	ug/L	0.0		
20076531	KCL IMPINGER	AHO TEST 7 RO/BS	246	50	2	5794	5812		5800	5.8	ug/L	0.3		
20076532	HNO3/H2O2 IMPINGER	AHO TEST 7 RO/BS	247	10	10	109	99		104	0.104	ug/L	9.6		
20076533	KMNO4 IMPINGER	AHO TEST 7 RO/BS	248	50	2	229	230		230	0.23	ug/L	0.4		98
20076534 rpt	KMNO4 ACID RINSE	AHO TEST 7 RO/BS	249	5	10	34.4	34.3		34.4	0.0344	ug/L	0.3		
20076535	PROBE & FILTER RINSE	STK TEST 7 BG/KC	251	10	10	83.1	82.2		82.7	0.0827	ug/L	1.1		
20076536	HEATED LINE RINSE	STK TEST 7 BG/KC	252	10	10	623	619		621	0.621	ug/L	0.6		
20076537	KCL IMPINGER	STK TEST 7 BG/KC	253	50	2	244	247		246	0.246	ug/L	1.2		
20076537D	KCL IMPINGER	STK TEST 7 BG/KC	253	50	2	244	247		246	0.246	ug/L	1.2		
20076537S	KCL IMPINGER	STK TEST 7 BG/KC	253	50	2	4765	4682	4702	4720	4.72	ug/L	1.8	0.9	112
20076538	HNO3/H2O2 IMPINGER	STK TEST 7 BG/KC	254	50	10	334	347		341	0.341	ug/L	3.8		93
20076539	KMNO4 IMPINGER	STK TEST 7 BG/KC	255	50	2	77.4	67.5		72.5	0.0725	ug/L	13.7		
20076540	KMNO4 ACID RINSE	STK TEST 7 BG/KC	256	10	10	73.1	70.1		71.6	0.0716	ug/L	4.2		
20076541	KMNO4 BLANK	STK TEST 7 BG/KC	185	10	10	64.7	65.1		64.9	0.0649	ug/L	0.6		
20076542	KMNO4 BLANK	STK TEST 7 BG/KC	257	10	10	60.3	56.8		58.6	0.0586	ug/L	6.0		
20076543	KCL BLANK	STK TEST 7 BG/KC	258	10	10	77.6	78.8		78.2	0.0782	ug/L	1.5		
20076544 rpt	HNO3/H2O2 BLANK	STK TEST 7 BG/KC	259	5	10	109	107		108	0.108	ug/L	1.9		
20076545	HNO3/HCL BLANK	BLANK RO/BS	260	10	10	52	45.1		48.6	0.0486	ug/L	14.2		
20076546	KCL IMPINGER	BLANK RO/BS	263	50	2	122	121		122	0.122	ug/L	0.8		
20076547	HNO3/H2O2 IMPINGER	BLANK RO/BS	264	50	10	162	163		163	0.163	ug/L	0.6		
20076548	KMNO4 IMPINGER	BLANK RO/BS	265	50	2	17.7	17.5		17.6	0.0176	ug/L	1.1		
20076549	KMNO4 ACID RINSE	BLANK RO/BS	266	10	10	27.6	24.7	26.4	26.2	0.0262	ug/L	11.1	5.6	
20076550	PROBE & FILTER RINSE	AHO TEST 8 BS/RO	275	10	10	406	405		406	0.406	ug/L	0.2		107
20076551	HEATED LINE RINSE	AHO TEST 8 BS/RO	276	10	10	994	1026		1010	1.01	ug/L	3.2		
20076552	KCL IMPINGER	AHO TEST 8 BS/RO	277	50	2	7213	7299		7260	7.26	ug/L	1.2		
20076553	HNO3/H2O2 IMPINGER	AHO TEST 8 BS/RO	278	10	10	121	137		129	0.129	ug/L	12.4		
20076554	KMNO4 IMPINGER	AHO TEST 8 BS/RO	279	50	2	356	355		356	0.356	ug/L	0.3		
20076555	KMNO4 ACID RINSE	AHO TEST 8 BS/RO	280	10	10	47.6	42.1	48	45.9	0.0459	ug/L	12.3	7.2	
20076555S	KMNO4 ACID RINSE	AHO TEST 8 BS/RO	280	10	10	42	37.5		39.8	0.0398	ug/L	11.3		
20076556	PROBE & FILTER RINSE	STK TEST 8 BG/KC	282	10	10	41.1	38.7		39.9	0.0399	ug/L	6.0		98

Lab No.	Description	Comments	Sample	Inst Dilution	Digest Dilution	Hg (ppb, ppt, or ng)	Hg (ppb, ppt, or ng)	Hg (ppb, ppt, or ng)	Hg (ppb, ppt, or ng)	Hg in Sample	Units	Duplicate %RPD	Triplicate %RSD	Spike % Recovery
20076557	HEATED LINE RINSE	STK TEST 8 BG/KC	283	10	10	550	353			552	ug/L	0.52		
20076558	KCL IMPINGER	STK TEST 8 BG/KC	284	50	2	87.5	82.5			85	ug/L	5.9		
20076559	HNO3/H2O2 IMPINGER	STK TEST 8 BG/KC	285	10	10	103	97.1			100	ug/L	5.9		
20076560	KMNO4 IMPINGER	STK TEST 8 BG/KC	286	50	2	43.1	45.7			44.4	ug/L	5.9		
20076561	KMNO4 ACID RINSE	STK TEST 8 BG/KC	287	10	10	40	36.1	38.4		38.2	ug/L	10.2	5.1	
20076562	KMNO4 BLANK	STK TEST 8 BG/KC	288	10	10	25.2	23.1			24.2	ug/L	8.7		
20076563	PROBE & FILTER RINSE	AHO TEST 9 BS/RO	313	10	10	237	241	249		249	ug/L	6.4		93
20076564	HEATED LINE RINSE	AHO TEST 9 BS/RO	314	10	10	452	424			438	ug/L	6.4		
20076565	KCL IMPINGER	AHO TEST 9 BS/RO	315	50	2	5744	5629			5690	ug/L	2.0		
20076566	HNO3/H2O2 IMPINGER	AHO TEST 9 BS/RO	316	50	10	394	403	376		391	ug/L	2.3	3.5	
20076567	KMNO4 IMPINGER	AHO TEST 9 BS/RO	317	50	2	173	164			169	ug/L	5.3		
20076568	KMNO4 ACID RINSE	AHO TEST 9 BS/RO	318	10	10	102	98.5			100	ug/L	3.5		
20076569	PROBE & FILTER RINSE	STK TEST 9 BG/KC	320	10	10	93.2	90.7			92	ug/L	2.7		
20076570	HEATED LINE RINSE	STK TEST 9 BG/KC	321	50	2	336	343			340	ug/L	2.1		
20076571	KCL IMPINGER	STK TEST 9 BG/KC	322	50	2	64.3	60.3			62.3	ug/L	6.4		
20076572	HNO3/H2O2 IMPINGER	STK TEST 9 BG/KC	323	50	10	43.4	33.6			38.5	ug/L	25.5		
20076573	KMNO4 IMPINGER	STK TEST 9 BG/KC	324	50	2	42.9	42.7	44.54		43.4	ug/L	0.5	2.3	
20076574	KMNO4 ACID RINSE	STK TEST 9 BG/KC	325	10	10	51.35	50.76			51.1	ug/L	1.2		
20076575	KMNO4 BLANK	STK TEST 9 BG/KC	326	10	10	32.1	25.3			28.7	ug/L	23.7		
20076576	THIMBLE BLANK (ug/filter)		269	10	51 mL	2.72	2.71			2.72	ug	0.4		
20076577	47-MM FILTER BLANK (ug/filter)		270			0.63	0.64			0.635	ug	1.6		





**Unit:** AES Greenidge Unit 4  
**Method:** Ontario Hydro - Cold Vapor Atomic Fluorescence Spectroscopy  
**Project Number:** 1621-85  
**Report Date:** 1/23/2008  
**Comments:** Process Performance Tests - November 2007

Lab No.	Description	Comments	Sample	Inst Dilution	Digest Dilution	Hg (ppt or ng)	Hg (ppt or ng)	Hg (ppt or ng)	Avg Hg (ppt or ng)	Hg in Sample	Units	Duplicate %RPD	Triplicate %RSD	Spike % Recovery
20077452	FILTER/SOLIDS		1	50	0.051 L	72.2	72.94	72.6	72.6	0.004	ug	1.0		
20077453	FILTER/SOLIDS		8	50	0.051 L	59.98	59.75	58.29	59.3	0.003	ug	0.4		
20077454	FILTER/SOLIDS		65	50	0.051 L	41.23	41.61	41.4	41.4	0.002	ug	0.9	1.5	96
20077455	FILTER/SOLIDS		72	50	0.051 L	91.29	92.17	91.7	91.7	0.005	ug	1.0		
20077456	47-MM FILTER BLANK		136	50	0.051 L	27.91	26.62	27.3	27.3	0.001	ug	4.7		
20077457	FILTER/SOLIDS		141	AMA 254						1.670	ug/g			
20077458	FILTER/SOLIDS		148							0.004	ug	11.2		
20077459	PROBE & FILTER RINSE	STK TEST 1 KC, BH	2	10		34.5	33.6	34.1	34.1	0.034	ug/L	2.6		
20077460	HEATED LINE RINSE	STK TEST 1 KC, BH	3	10		205	201	203	203	0.203	ug/L	2.0		
20077461	KCL IMPINGERS	STK TEST 1 KC, BH	4	50	2	98.5	89.3	93.9	93.9	0.094	ug/L	9.8		
20077462	HNO3/H2O2 IMPINGER	STK TEST 1 KC, BH	5	50	10	177	162	170	170	0.170	ug/L	8.8		
20077463	KMNO4 IMPINGER	STK TEST 1 KC, BH	6	50	2	106	101	104	104	0.104	ug/L	4.8		
20077464	KMNO4 ACID RINSE	STK TEST 1 KC, BH	7	10		58.8	58.0	58.4	58.4	0.058	ug/L	1.4		
20077465	PROBE & FILTER RINSE	STK TEST 2 KC, BH	9	10		57.2	52.6	54.9	54.9	0.055	ug/L	8.4		
20077466	HEATED LINE RINSE	STK TEST 2 KC, BH	10	10		446	442	444	444	0.444	ug/L	0.9		
20077467	KCL IMPINGER	STK TEST 2 KC, BH	11	50	2	70.9	69	70	70	0.070	ug/L	2.7		
20077468	HNO3/H2O2 IMPINGER	STK TEST 2 KC, BH	12	50	10	162	155	159	159	0.159	ug/L	4.4		
20077469	KMNO4 IMPINGER	STK TEST 2 KC, BH	13	50	2	328	316	322	322	0.322	ug/L	3.7		
20077470	KMNO4 ACID RINSE	STK TEST 2 KC, BH	14	10		97.6	98.6	95	97.1	0.097	ug/L	1.0	1.9	
20077471	KMNO4 BLANK	STK TEST 2 KC, BH	15	10		5.75	4.80	5.28	5.28	0.005	ug/L	18.0		
20077472	PROBE & FILTER RINSE	STK TEST 3 KC, BH	66	10		23.4	26.7	25.1	25.1	0.025	ug/L	13.2		
20077473	HEATED LINE RINSE	STK TEST 3 KC, BH	67	10		184	184	182	183	0.183	ug/L	0.0	0.6	
20077474	KCL IMPINGER	STK TEST 3 KC, BH	68	50	2	51.5	49.6	50.6	50.6	0.051	ug/L	3.8		
20077475	HNO3/H2O2 IMPINGER	STK TEST 3 KC, BH	69	50	10	131	120	123	125	0.125	ug/L	8.8		
20077476	KMNO4 IMPINGER	STK TEST 3 KC, BH	70	50	2	9.85	9.79	8.86	9.5	0.010	ug/L	0.6		98.8
20077476S	KMNO4 IMPINGER	STK TEST 3 KC, BH	70	50	2	4648	4687	4670	4670	4.670	ug/L	0.8		
20077477	KMNO4 ACID RINSE	STK TEST 3 KC, BH	71	10		22	23.5	22.8	22.8	0.023	ug/L	6.6		
20077478	PROBE & FILTER RINSE	STK TEST 4 KC, BH	73	10		17	15.4	16.2	16.2	0.016	ug/L	9.9		
20077479	HEATED LINE RINSE	STK TEST 4 KC, BH	74	10		192	194	193	193	0.193	ug/L	1.0		100
20077480	KCL IMPINGER	STK TEST 4 KC, BH	75	50	2	22.3	26.0	24.4	24.4	0.024	ug/L	15.3		
20077480D	KCL IMPINGER	STK TEST 4 KC, BH	75	50	2	24.0	22.0	23	23	0.023	ug/L	8.7	7.8	105
20077480S	KCL IMPINGER	STK TEST 4 KC, BH	75	50	2	4522	4724.0	4620	4620	4.620	ug/L	4.4	3.1	106
20077481	HNO3/H2O2 IMPINGER	STK TEST 4 KC, BH	76	50	10	129	109	119	119	0.119	ug/L	16.8		
20077482	KMNO4 IMPINGER	STK TEST 4 KC, BH	77	50	2	48.4	53.2	50.8	50.8	0.051	ug/L	9.4		
20077483	KMNO4 ACID RINSE	STK TEST 4 KC, BH	78	10		38.9	35.8	37.4	37.4	0.037	ug/L	8.3		
20077484	KCL IMPINGER	STK BLANK TRAIN	79	50	2	57.7	54.9	56.3	56.3	0.056	ug/L	5.0		
20077485	HNO3/H2O2 IMPINGER	STK BLANK TRAIN	80	50	10	197	176	176	176	0.176	ug/L	11.3		
20077485D	HNO3/H2O2 IMPINGER	STK BLANK TRAIN	80	50	10	168	154	161	161	0.161	ug/L	8.7		
20077485S	HNO3/H2O2 IMPINGER	STK BLANK TRAIN	80	50	10	23701	24403	24100	24100	24.100	ug/L	2.9		103
20077486	KMNO4 IMPINGER	STK BLANK TRAIN	81	50	2	18	11.3	14.7	14.7	0.015	ug/L	45.7		
20077487	KMNO4 ACID RINSE	STK BLANK TRAIN	82	10		51.9	48.5	50.2	50.2	0.050	ug/L	6.8		
20077488	KCL BLANK	STK BLANK TRAIN	137	10		7.1	9.82	8.46	8.46	0.008	ug/L	32.2		90.7
20077489	HNO3/H2O2 BLANK		138	10		198	152	175	175	0.175	ug/L	26.3		
20077490	KMNO4 BLANK		139	10		5	5	5	5	0.005	ug/L	0.0		
20077491	HNO3/HCL BLANK		140	10		20.7	17.4	19.1	19.1	0.019	ug/L	17.3		100.5
20077492	PROBE & FILTER RINSE	AHO TEST 1	142	50	10	1975	1974	1970	1970	1.970	ug/L	0.1		

Lab No.	Description	Comments	Sample	Inst Dilution	Digest Dilution	Hg (ppt or ng)	Hg (ppt or ng)	Hg (ppt or ng)	Avg Hg (ppt or ng)	Hg in Sample	Units	Duplicate %RPD	Triplicate %RSD	Spike % Recovery
20077493	HEATED LINE RINSE	AHO TEST 1	143	50	10	11591	11507	11500	11500	11.500	ug/L	0.7		
20077494	KCL IMPINGER	AHO TEST 1	144	200	2	9377	9782	9580	9580	9.580	ug/L	4.2		
20077495	HNO3/H2O2 IMPINGER	AHO TEST 1	145	50	10	442	311	377	377	0.377	ug/L	34.8		
20077496	KMNO4 IMPINGER	AHO TEST 1	146	50	2	1133	1162	1150	1150	1.150	ug/L	2.5		
20077497	KMNO4 ACID RINSE	AHO TEST 1	147	10	10	40.3	32.9	36.6	36.6	0.037	ug/L	20.2		
20077498	PROBE & FILTER RINSE	STK TEST 5	149	10	10	23.4	22.2	22.8	22.8	0.023	ug/L	5.3		
20077499	HEATED LINE RINSE	STK TEST 5	150	10	10	275	238	257	257	0.257	ug/L	14.4		
20077500	KCL IMPINGER	STK TEST 5	151	50	2	36.2	36.5	37.4	37.4	0.037	ug/L	4.6		
20077501	HNO3/H2O2 IMPINGER	STK TEST 5	152	50	10	168	155	162	162	0.162	ug/L	8.0		
20077502	KMNO4 IMPINGER	STK TEST 5	153	50	2	26.3	28.1	27.2	27.2	0.027	ug/L	6.6		
20077503	KMNO4 ACID RINSE	STK TEST 5	154	10	10	10.4	11.3	10.9	10.9	0.011	ug/L	8.3		
20077504	KMNO4 BLANK		162	10	10	5	5	5	5	0.005	ug/L	0.0		
20078216	BLANK THIMBLE			50	0.051L	96.84	96.23	96.5	96.5	0.005	ug	0.6		





**Unit:** AES Greenidge Unit 4  
**Method:** Ontario Hydro - Cold Vapor Atomic Fluorescence Spectroscopy  
**Project Number:** 1621-85  
**Report Date:** 4/22/2008  
**Comments:** Process Performance Tests - March 2008

Lab No.	Description	Sample	Inst Dilution	Digest Dilution	Hg Conc (ppt or ng)	Hg Conc (ppt or ng)	Hg Conc (ppt or ng)	Avg Hg (ppt or ng)	Hg in Sample	Units	Duplicate %RPD	Triplicate %RSD	Spike % Recovery
20081154	FILTER/SOLIDS ECON OUT TEST 1	1							0.005	ug/g			
20081155	FILTER/SOLIDS AHI TEST 1	8							0.005	ug/g			
20081156	FILTER/SOLIDS AHO TEST 1	15							0.674	ug/g			
20081157	FILTER/SOLIDS STK TEST 1	22	10	0.051	2.50	2.47	2.49	2.49	0.00249	ug	1.0		
20081158	FILTER/SOLIDS ECON OUT TEST 2	29							0.006	ug/g			
20081159	FILTER/SOLIDS AHI TEST 2	36							0.034	ug/g			
20081160	FILTER/SOLIDS AHO TEST 2	43							0.805	ug/g			
20081161	FILTER/SOLIDS STK TEST 2	50	10	0.051	3.06	2.98	3.02	3.02	0.00302	ug	2.7		
20081162	FILTER/SOLIDS ECON OUT TEST 3	62							0.005	ug/g			
20081163	FILTER/SOLIDS AHI TEST 3	69							0.012	ug/g			
20081164	FILTER/SOLIDS AHO TEST 3	76							1.062	ug/g			
20081165	FILTER/SOLIDS STK TEST 3	83	10	0.051	1.82	1.81	1.83	1.83	0.00183	ug	0.3	1.9	
20081166	FILTER/SOLIDS ECON OUT TEST 4	90							0.003	ug/g			
20081167	FILTER/SOLIDS AHI TEST 4	97							0.014	ug/g			
20081168	FILTER/SOLIDS AHO TEST 4	104							1.279	ug/g			
20081169	FILTER/SOLIDS STK TEST 4	111	10	51	1499	1505	1.5	1.5	0.00150	ug	0.3		
20081170	PROBE & FILTER RINSE ECON OUT TEST 1	2	50	10	3586	3674	3630	3630	3.630	ug/L	2.4		
20081171	HEATED LINE RINSE ECON OUT TEST 1	3	50	10	20890	20640	20800	20800	20.800	ug/L	1.2		
20081172	KCL IMPINGER ECON OUT TEST 1	4	200	2	10401	10683	10500	10500	10.500	ug/L	2.7		
20081173	HNO3/H2O2 IMPINGER ECON OUT TEST 1	5	50	10	11060	11320	11200	11200	11.200	ug/L	2.3		
20081174	KMNO4 IMPINGER ECON OUT TEST 1	6	10	2	56.2	56.0	57.6	56.6	0.057	ug/L	0.4	1.5	
20081174	KMNO4 IMPINGER ECON OUT TEST 1	6	10	2	56.8	57.6	57.2	57.2	0.057	ug/L	1.3		
20081175	KMNO4 ACID RINSE ECON OUT TEST 1	7	10	10	529	517	523	523	0.523	ug/L	2.3		
20081176	PROBE & FILTER RINSE AHI TEST 1	9	50	10	815	787	801	801	0.801	ug/L	3.5		
20081177	HEATED LINE RINSE AHI TEST 1	10	50	10	6220	6120	6170	6170	6.170	ug/L	1.6		
20081178	KCL IMPINGER AHI TEST 1	11	200	2	19555	20246	19900	19900	19.900	ug/L	3.5		
20081178	KCL IMPINGER AHI TEST 1	11	200	2	18280	18768	18500	18500	18.500	ug/L	2.6		
20081178	KCL IMPINGER AHI TEST 1	11	200	2	19556	20246	19900	19900	19.900	ug/L	3.5		
20081179	HNO3/H2O2 IMPINGER AHI TEST 1	12	50	10	2309	2328	2320	2320	2.320	ug/L	0.8		
20081180	KMNO4 IMPINGER AHI TEST 1	13	5	2	8.82	8.54	8.85	8.85	0.009	ug/L	3.2	3.6	
20081181	KMNO4 ACID RINSE AHI TEST 1	14	10	10	1012	1016	1010	1010	1.010	ug/L	0.4		
20081182	PROBE & FILTER RINSE AHO TEST 1	16	10	10	768	760	764	764	0.764	ug/L	1.0	99	
20081183	HEATED LINE RINSE AHO TEST 1	17	50	10	2680	2660	2670	2670	2.670	ug/L	0.7		
20081184	KCL IMPINGER AHO TEST 1	18	200	2	23548	24580	24100	24100	24.100	ug/L	4.3		
20081185	HNO3/H2O2 IMPINGER AHO TEST 1	19	50	10	438	431	426	426	0.426	ug/L	1.6	3.7	
20081185	HNO3/H2O2 IMPINGER AHO TEST 1	19	50	10	365	342	353	353	0.353	ug/L	6.6		
20081186	KMNO4 IMPINGER AHO TEST 1	20	10	2	4.88	4.66	4.77	4.77	0.005	ug/L	4.6		
20081187	KMNO4 ACID RINSE AHO TEST 1	21	10	10	328	327	328	328	0.328	ug/L	0.3		
20081188	PROBE & FILTER RINSE STK TEST 1	23	10	10	114	108	111	111	0.111	ug/L	5.4		
20081189	HEATED LINE RINSE STK TEST 1	24	50	10	366	364	365	365	0.365	ug/L	0.4		105
20081190	KCL IMPINGER STK TEST 1	25	10	2	49.2	48.2	48.7	48.7	0.049	ug/L	2.1		
20081191	HNO3/H2O2 IMPINGER STK TEST 1	26	10	10	91.0	85.0	88	88	0.088	ug/L	6.8		101
20081192	KMNO4 IMPINGER STK TEST 1	27	5	2	109	109	109	109	0.109	ug/L	0.6		
20081192	KMNO4 IMPINGER STK TEST 1	27	5	2	106	110	108	108	0.108	ug/L	3.0		

Lab No.	Description	Sample	Inst Dilution	Digest Dilution	Hg Conc (ppt or ng)	Hg Conc (ppt or ng)	Hg Conc (ppt or ng)	Avg Hg (ppt or ng)	Hg in Sample	Units	Duplicate %RPD	Triplicate %RSD	Spike % Recovery
20081193	KMNO4 ACID RINSE STK TEST 1	28	10	10	1462	1528	1500	1500	1,500	ug/L	4.4		
20081194	PROBE & FILTER RINSE ECON OUT TEST 2	30	50	10	16360	16850	16600	16600	16,600	ug/L	3.0		
20081195	HEATED LINE RINSE ECON OUT TEST 2	31	50	10	2202	2248	2230	2230	2.23	ug/L	2.1		
20081196	KCL IMPINGER ECON OUT TEST 2	32	1000	2	5534	5771	5650	5650	5.65	ug/L	4.2		
20081197	HNO3/H2O2 IMPINGER ECON OUT TEST 2	33	10	10	3695	3720	3588	3670	3.67	ug/L	0.7	1.9	
20081198	KMNO4 IMPINGER ECON OUT TEST 2	34	500	2	10726	10702	10700	10700	10.70	ug/L	0.2		
20081199	KMNO4 ACID RINSE ECON OUT TEST 2	35	10	10	1156	1192	1170	1170	1.17	ug/L	3.1		
20081200	PROBE & FILTER RINSE AHI TEST 2	37	10	10	1213	1213	1212	1212	1.21	ug/L	0.1		
20081201	HEATED LINE RINSE AHI TEST 2	38	50	10	4283	4402	4340	4340	4.34	ug/L	2.7		
20081202	KCL IMPINGER AHI TEST 2	39	200	2	20480	20282	20400	20400	20.40	ug/L	1.0		
20081203	KCL IMPINGER AHI TEST 2	39	200	2	18268	19266	18900	18900	18.90	ug/L	5.3	3.0	
20081203	HNO3/H2O2 IMPINGER AHI TEST 2	40	50	10	1406	1433	1420	1420	1.42	ug/L	1.9		
20081204	KMNO4 IMPINGER AHI TEST 2	41	10	2	9.60	9.00	9.3	9.3	0.01	ug/L	6.5		
20081205	KMNO4 ACID RINSE AHI TEST 2	42	10	10	559	546	553	553	0.55	ug/L	2.4		
20081206	PROBE & FILTER RINSE AHO TEST 2	44	10	10	511	494	503	503	0.50	ug/L	3.4		
20081207	HEATED LINE RINSE AHO TEST 2	45	50	10	4850	4970	4910	4910	4.91	ug/L	2.4		
20081208	KCL IMPINGER AHO TEST 2	46	200	2	25837	28407	25600	25600	25.60	ug/L	1.7		
20081209	HNO3/H2O2 IMPINGER AHO TEST 2	47	10	10	530	521	526	526	0.53	ug/L	1.7	11.4	
20081210	HNO3/H2O2 IMPINGER AHO TEST 2	47	10	10	544	529	537	537	0.54	ug/L	2.8		
20081210	KMNO4 IMPINGER AHO TEST 2	48	10	2	7.64	6.8	7.22	7.22	0.007	ug/L	11.6		
20081211	KMNO4 ACID RINSE AHO TEST 2	49	10	10	333	327	330	330	0.330	ug/L	1.8		
20081212	PROBE & FILTER RINSE STK TEST 2	51	10	10	96.0	103	99.5	99.5	0.100	ug/L	7.0		
20081213	HEATED LINE RINSE STK TEST 2	52	50	10	263	257	260	260	0.260	ug/L	2.3		
20081213	HEATED LINE RINSE STK TEST 2	52	50	10	201	206	203	203	0.203	ug/L	2.5		
20081214	KCL IMPINGER STK TEST 2	53	50	2	228	207	218	218	0.218	ug/L	9.3		99
20081215	HNO3/H2O2 IMPINGER STK TEST 2	54	10	10	125	128	127	127	0.127	ug/L	2.4		
20081216	KMNO4 IMPINGER STK TEST 2	55	10	2	9.60	8.40	9	9	0.009	ug/L	13.3		
20081218	HNO3/H2O2 BLANK	56	10	10	249	232	241	241	0.241	ug/L	7.1		
20081218	KCL BLANK	57	10	10	677	666	672	672	0.672	ug/L	1.6		
20081219	KCL BLANK	58	10	2	8.26	9.86	9.06	9.06	0.009	ug/L	17.7		99
20081219	KCL BLANK	58	10	2	14.06	13.86	14	14	0.014	ug/L	1.4		98
20081220	HNO3/HCL BLANK	59	10	10	442	420	431	431	0.431	ug/L	5.1		
20081221	KMNO4 BLANK	221	10	2	3.40	4.80	2.20	3.47	0.003	ug/L	34.1	37.5	
20081222	KMNO4 BLANK	61	5	2	2.78	3.30	3.04	3.04	0.003	ug/L	17.1		
20081223	PROBE & FILTER RINSE ECON OUT TEST 3	63	10	10	1246	1253	1250	1250	1.250	ug/L	0.6		
20081224	HEATED LINE RINSE ECON OUT TEST 3	64	50	10	21247	21704	21500	21500	21.5	ug/L	2.1		
20081225	KCL IMPINGER ECON OUT TEST 3	65	200	2	4806	4980	4890	4890	4.890	ug/L	3.6		
20081226	HNO3/H2O2 IMPINGER ECON OUT TEST 3	66	10	10	3418	3353	3390	3390	3.39	ug/L	1.9		91
20081227	KMNO4 IMPINGER ECON OUT TEST 3	67	500	2	7004	7246	7202	7202	7.20	ug/L	3.4	2.5	
20081228	KMNO4 ACID RINSE ECON OUT TEST 3	68	10	10	398	393	390	394	0.394	ug/L	1.3	1.0	
20081229	PROBE & FILTER RINSE AHI TEST 3	70	10	10	1491	1462	1480	1480	1.48	ug/L	2.0		
20081230	HEATED LINE RINSE AHI TEST 3	71	50	10	12280	12540	12400	12400	12.4	ug/L	2.1		
20081231	KCL IMPINGER AHI TEST 3	72	200	2	16825	16458	16600	16600	16.600	ug/L	2.2		
20081231	KCL IMPINGER AHI TEST 3	72	200	2	15256	14992	15100	15100	15.100	ug/L	1.7		109
20081231	KCL IMPINGER AHI TEST 3	72	200	2	16824	16458	16600	16600	16.600	ug/L	2.2		
20081232	HNO3/H2O2 IMPINGER AHI TEST 3	73	50	10	1919	1871	1900	1900	1.900	ug/L	2.5		
20081233	KMNO4 IMPINGER AHI TEST 3	74	10	2	9.00	9.40	9.2	9.2	0.009	ug/L	4.3		
20081234	KMNO4 ACID RINSE AHI TEST 3	75	10	10	1861	1897	1935	1900	1.900	ug/L	1.9	2.0	
20081235	PROBE & FILTER RINSE AHO TEST 3	77	10	10	1275	1262	1270	1270	1.27	ug/L	1.0		
20081236	HEATED LINE RINSE AHO TEST 3	78	50	10	4280	4310	4300	4300	4.30	ug/L	0.7		
20081237	KCL IMPINGER AHO TEST 3	79	200	2	19685	20818	20300	20300	20.30	ug/L	5.6		
20081238	HNO3/H2O2 IMPINGER AHO TEST 3	80	50	10	392	389	390	390	0.390	ug/L	0.6		94
20081239	KMNO4 IMPINGER AHO TEST 3	81	10	2	3.94	3.36	3.65	3.65	0.004	ug/L	15.9		
20081240	KMNO4 ACID RINSE AHO TEST 3	82	10	10	570	559	565	565	0.565	ug/L	1.9		
20081241	PROBE & FILTER RINSE STK TEST 3	84	10	10	77.0	76.0	76.0	76.0	0.077	ug/L	1.3		
20081242	HEATED LINE RINSE STK TEST 3	85	50	10	226	229	228	228	0.228	ug/L	1.3		



Lab No.	Description	Sample	Inst Dilution	Digest Dilution	Hg Conc (ppt or ng)	Hg Conc (ppt or ng)	Hg Conc (ppt or ng)	Hg Conc (ppt or ng)	Avg Hg (ppt or ng)	Hg in Sample	Units	Duplicate %RPD	Triplicate %RSD	Spike % Recovery
20081243	KCL IMPINGER STK TEST 3	86	10	2	49.4	48.1	48.8	0.05	48.8	0.05	ug/L	2.7		
20081244	HNO3/H2O2 IMPINGER STK TEST 3	87	10	10	87.0	95.0	91	0.09	91	0.09	ug/L	8.8		
20081245	KMNO4 IMPINGER STK TEST 3	88	10	2	6.72	6.66	5.70	0.01	6.36	0.01	ug/L	0.9	9.0	
20081246	KMNO4 ACID RINSE STK TEST 3	89	10	10	377	344	361	0.36	361	0.36	ug/L	9.2		
20081247	PROBE & FILTER RINSE ECON OUT TEST 4	91	10	10	2202	2182	2190	2.19	2190	2.19	ug/L	0.9		
20081248	HEATED LINE RINSE ECON OUT TEST 4	92	50	10	14959	15073	15087	15.0	15000	15.0	ug/L	0.8	0.5	
20081249	KCL IMPINGER ECON OUT TEST 4	93	200	2	6069	5774	5920	5.92	5920	5.92	ug/L	5.0		
20081250	HNO3/H2O2 IMPINGER ECON OUT TEST 4	94	10	10	6392	6430	6410	6.41	6410	6.41	ug/L	0.6		
20081251	KMNO4 IMPINGER ECON OUT TEST 4	95	500	2	12430	13088	12800	12.80	12800	12.80	ug/L	5.2		
20081251	KMNO4 IMPINGER ECON OUT TEST 4	95	100	2	10566	10682	10600	10.60	10600	10.60	ug/L	1.1		
20081252	KMNO4 ACID RINSE ECON OUT TEST 4	96	10	10	819	815	817	0.82	817	0.82	ug/L	0.5		99
20081253	PROBE & FILTER RINSE AHI TEST 4	98	10	10	782	776	788	0.78	782	0.78	ug/L	0.8	0.8	
20081254	HEATED LINE RINSE AHI TEST 4	99	50	10	11240	11130	11160	11.2	11160	11.2	ug/L	1.0	0.6	
20081255	KCL IMPINGER AHI TEST 4	100	200	2	11863	11921	11900	11.90	11900	11.90	ug/L	0.5		
20081255	KCL IMPINGER AHI TEST 4	100	200	2	10826	11396	11100	11.10	11100	11.10	ug/L	5.1		
20081256	HNO3/H2O2 IMPINGER AHI TEST 4	101	50	10	2145	2178	2160	2.16	2160	2.16	ug/L	1.5		
20081257	KMNO4 IMPINGER AHI TEST 4	102	10	2	71.0	70.8	70.9	0.071	70.9	0.071	ug/L	0.3		
20081258	KMNO4 ACID RINSE AHI TEST 4	103	10	10	744	707	726	0.73	726	0.73	ug/L	5.1		101
20081259	PROBE & FILTER RINSE AHO TEST 4	105	10	10	4246	4270	4260	4.26	4260	4.26	ug/L	0.6		
20081260	HEATED LINE RINSE AHO TEST 4	106	50	10	704	691	698	0.70	698	0.70	ug/L	1.9		107
20081261	KCL IMPINGER AHO TEST 4	107	200	2	20961	20664	20800	20.80	20800	20.80	ug/L	1.4		120
20081261D	KCL IMPINGER AHO TEST 4	107	200	2	20596	21152	20900	20.90	20900	20.90	ug/L	2.7		
20081262	HNO3/H2O2 IMPINGER AHO TEST 4	108	10	10	434	423	428	0.43	428	0.43	ug/L	2.7		
20081263	KMNO4 IMPINGER AHO TEST 4	109	10	2	12.8	9.60	11.2	0.011	11.2	0.011	ug/L	28.6		
20081263D	KMNO4 IMPINGER AHO TEST 4	109	10	2	7.78	6.74	7.26	0.007	7.26	0.007	ug/L	14.3		
20081264	KMNO4 ACID RINSE AHO TEST 4	110	10	10	610	600	605	0.605	605	0.605	ug/L	1.7		
20081265	PROBE & FILTER RINSE STK TEST 4	112	10	10	73.7	73.0	73.4	0.07	73.4	0.07	ug/L	1.0		
20081266	HEATED LINE RINSE STK TEST 4	113	50	10	156	156	156	0.156	156	0.156	ug/L	0.0		
20081267	KCL IMPINGER STK TEST 4	114	50	2	69.2	87.2	78.2	0.08	78.2	0.08	ug/L	23.0		
20081268	HNO3/H2O2 IMPINGER STK TEST 4	115	10	10	89.0	106	97.5	0.10	97.5	0.10	ug/L	17.4		
20081269	KMNO4 IMPINGER STK TEST 4	116	10	2	4.84	4.08	4.46	0.00	4.46	0.00	ug/L	17.0		100
20081270	KMNO4 ACID RINSE STK TEST 4	117	10	2	84.0	85.4	84.7	0.08	84.7	0.08	ug/L	1.7		
20081271	KMNO4 BLANK	15	10	2	6.60	7.00	6.8	0.01	6.8	0.01	ug/L	5.9		
20081278	KCL IMP BLANK TRAIN	118	10	2	6.54	7.02	6.78	0.01	6.78	0.01	ug/L	7.1		
20081279	HNO3/H2O2 BLANK TRAIN	119	10	10	135	124	134	0.13	134	0.13	ug/L	8.2	7.5	
20081280	KMNO4 BLANK TRAIN	120	10	2	2.80	2.80	2.8	0.0028	2.8	0.0028	ug/L	0.0		
20081281	HCL RINSE BLANK TRAIN	121	10	10	1172	1212	1190	1.19	1190	1.19	ug/L	3.4		
	Blank Filter		10	0.051	0.38	0.33	0.358	0.00036	0.358	0.00036	ug	13.0		



**Unit:** AES Greenidge Unit 4  
**Method:** Ontario Hydro - Cold Vapor Atomic Fluorescence Spectroscopy  
**Project Number:** 1621-85  
**Report Date:** 6/2/2008  
**Comments:** Process Performance Tests - May 2008

Lab No.	Description	Sample	Inst Dilution	Digest Dilution	Hg Conc (ppt or ng)	Hg Conc (ppt or ng)	Hg Conc (ppt or ng)	Avg Hg (ppt or ng)	Hg in Sample	Units	Duplicate %RPD	Triplicate %RSD	Spike % Recovery
20082412	FILTER/SOLIDS ECON OUT TEST 1	1							0.005	ug/g			
20082413	FILTER/SOLIDS AHI TEST 1	8							0.005	ug/g			
20082414	FILTER/SOLIDS STACK TEST 1	15	10	51	6.15	6.35	6.25		0.006	ug	3.3		
20082415	FILTER/SOLIDS ECON OUT TEST 2	22							0.005	ug/g			
20082416	FILTER/SOLIDS AHI TEST 2	29							0.005	ug/g			
20082417	FILTER/SOLIDS STACK TEST 2	36	10	51	3.63	3.51	3.57		0.004	ug	3.3		
20082418	47-MM FILTER BLANK	51	10	51	0.60	0.59	0.59		0.001	ug	2.6		
20082419	THIMBLE BLANK	52	10	51	1.16	1.13	1.14		0.001	ug	2.7		
20082420	PROBE & FILTER RINSE ECON OUT TEST 1	2	50	10	1604	1588	1600		1.600	ug/L	1.0		97
20082421	HEATED LINE RINSE ECON OUT TEST 1	3	50	10	5091	5223	5160		5.160	ug/L	2.6		
20082422	KCL IMPINGER ECON OUT TEST 1	4	200	2	18748	19174	19000		19.000	ug/L	2.2		
20082423	HNO3/H2O2 IMPINGER ECON OUT TEST 1	5	50	10	2582	2553	2570		2.570	ug/L	1.1		
20082424	KMNO4 IMPINGER ECON OUT TEST 1	6	50	2	7006	7122	7060		7.060	ug/L	1.7		
20082425	KMNO4 ACID RINSE ECON OUT TEST 1	7	50	10	256	252	254		0.254	ug/L	1.6		
20082426	PROBE & FILTER RINSE AHI TEST 1	9	50	10	623	584	609		0.609	ug/L	4.8		
20082427	HEATED LINE RINSE AHI TEST 1	10	50	10	7703	7702	7700		7.700	ug/L	0.0		
20082428	KCL IMPINGER AHI TEST 1	11	200	2	27430	28029	27700		27.700	ug/L	2.2		
20082429	HNO3/H2O2 IMPINGER AHI TEST 1	12	50	10	1339	1304	1320		1.320	ug/L	2.6		
20082430	HNO3/H2O2 IMPINGER AHI TEST 1	12	50	10	1351	1311	1330		1.330	ug/L	3.0		
20082431	HNO3/H2O2 IMPINGER AHI TEST 1	12	50	10	23015	22794	22900		22.900	ug/L	1.0		108
20082432	KMNO4 IMPINGER AHI TEST 1	13	50	2	1355	1357	1360		1.360	ug/L	0.1		
20082433	KMNO4 ACID RINSE AHI TEST 1	14	50	10	119	124	122		0.122	ug/L	4.1		
20082434	PROBE & FILTER RINSE STACK TEST 1	16	2	10	31	30.5	30.8		0.031	ug/L	1.6		
20082435	HEATED LINE RINSE STACK TEST 1	17	50	10	141	129	135		0.135	ug/L	8.9		
20082436	KCL IMPINGER STACK TEST 1	18	10	2	139	141	140		0.140	ug/L	1.1		
20082437	KCL IMPINGER STACK TEST 1	18	10	2	142	143	143		0.143	ug/L	0.8		
20082438	KCL IMPINGER STACK TEST 1	18	50	2	4617	4660	4640		4.640	ug/L	0.9		112
20082439	HNO3/H2O2 IMPINGER STACK TEST 1	19	10	10	90.6	88.5	89.6		0.090	ug/L	2.3		103
20082440	KMNO4 IMPINGER STACK TEST 1	20	50	2	200	184	192		0.192	ug/L	7.9		100
20082441	KMNO4 ACID RINSE STACK TEST 1	21	10	10	40	41	40.5		0.041	ug/L	2.5		
20082442	PROBE & FILTER RINSE ECON OUT TEST 2	23	10	10	161	152	157		0.157	ug/L	5.8		107
20082443	PROBE & FILTER RINSE ECON OUT TEST 2	23	10	10	168	164	166		0.166	ug/L	2.7		
20082444	HEATED LINE RINSE ECON OUT TEST 2	24	50	10	602	593	598		0.598	ug/L	1.5		
20082445	PROBE & FILTER RINSE ECON OUT TEST 2	23	10	10	620	630	625		0.625	ug/L	1.6		
20082446	KCL IMPINGER ECON OUT TEST 2	25	500	2	18752	19357	19100		19.100	ug/L	3.2		
20082447	HNO3/H2O2 IMPINGER ECON OUT TEST 2	26	50	10	1870	1745	1810		1.810	ug/L	6.9		
20082448	KMNO4 IMPINGER ECON OUT TEST 2	27	50	2	7305	7486	7400		7.400	ug/L	2.5		
20082449	KMNO4 IMPINGER ECON OUT TEST 2	27	50	2	7514	7440	7471		7.471	ug/L	1.0	0.5	
20082450	KMNO4 IMPINGER ECON OUT TEST 2	27	50	2	11572	11809	11700		11.700	ug/L	2.0		107



Lab No.	Description	Sample	Inst Dilution	Digest Dilution	Hg Conc (ppt or ng)	Hg Conc (ppt or ng)	Hg Conc (ppt or ng)	Avg Hg (ppt or ng)	Hg in Sample	Units	Duplicate %RPD	Triplicate %RSD	Spike % Recovery
20082443	KMNO4 ACID RINSE ECON OUT TEST 2	28	50	10	212	217	215	0.215	0.215	ug/L	2.3		
20082444	PROBE & FILTER RINSE AHI TEST 2	30	50	10	259	247	253	0.253	0.253	ug/L	4.7		
20082445	HEATED LINE RINSE AHI TEST 2	31	50	10	5186	5301	5240	5.240	5.240	ug/L	2.2		
20082446	KCL IMPINGER AHI TEST 2	32	200	2	21095	20722	20900	20.900	20.900	ug/L	1.8		
20082447	HNO3/H2O2 IMPINGER AHI TEST 2	33	50	10	1624	1622	1620	1.620	1.620	ug/L	0.1		
20082448	KMNO4 IMPINGER AHI TEST 2	34	50	2	8535	8371	8450	8.450	8.450	ug/L	1.9		
20082449	KMNO4 ACID RINSE AHI TEST 2	35	50	10	546	548	547	0.547	0.547	ug/L	0.4		
20082450	PROBE & FILTER RINSE STACK TEST 2	37	10	10	103	109	106	0.106	0.106	ug/L	5.7		92
20082451	HEATED LINE RINSE STACK TEST 2	38	10	10	124	119	119	0.121	0.121	ug/L	4.1	2.4	
20082452	KCL IMPINGER STACK TEST 2	39	10	2	149	143	146	0.146	0.146	ug/L	4.1		
20082453	HNO3/H2O2 IMPINGER STACK TEST 2	40	10	10	119	118	119	0.119	0.119	ug/L	0.8		
20082454	KMNO4 IMPINGER STACK TEST 2	41	50	2	260	247	254	0.254	0.254	ug/L	5.4		
20082455	KMNO4 ACID RINSE STACK TEST 2	42	10	10	90.0	85.0	87.5	0.088	0.088	ug/L	5.7		
20082456	KCL IMPINGER	43	10	2	39.1	36.8	37.9	0.038	0.038	ug/L	6.1		
20082457	HNO3/H2O2 IMPINGER	44	2	10	29.8	29.4	29.6	0.030	0.030	ug/L	1.4		
20082458	KMNO4 IMPINGER	45	10	2	4.36	4.46	4.41	0.004	0.004	ug/L	2.3		104
20082459	KMNO4 ACID RINSE	46	10	10	42.0	39.0	40.5	0.041	0.041	ug/L	7.4		
20082460	KCL BLANK	47	2	2	1.26	1.36	1.31	0.001	0.001	ug/L	7.6		
20082461	HNO3/H2O2 BLANK	61	10	10	112	104	108	0.108	0.108	ug/L	7.4		
20082462	KMNO4 BLANK	50	10	2	5.42	5.30	5.40	0.005	0.005	ug/L	2.2	1.2	
20082463	HNO3/HCL BLANK	49	2	10	4.70	3.60	4.15	0.004	0.004	ug/L	26.5		



**Unit:** AES Greenidge Unit 4  
**Method:** Ontario Hydro - Cold Vapor Atomic Fluorescence Spectroscopy  
**Project Number:** 1621-85  
**Report Date:** 7/2/2008  
**Comments:** Follow-Up Tests - June 2008

Lab No.	Description	Sample	Inst Dilution	Digest Dilution	Hg Conc (ppt or ng)	Hg Conc (ppt or ng)	Hg Conc (ppt or ng)	Avg Hg (ppt or ng)	Hg in Sample	Units	Duplicate %RPD	Triplicate %RSD	Spike % Recovery
20083223	FILTER/SOLIDS ECON OUT TEST 1	1							0.005	ug/g			
20083224	FILTER/SOLIDS AHI TEST 1	8							0.005	ug/g			
20083225	FILTER/SOLIDS STK TEST 1	15	50	0.051	4.29	4.24	4.27	4.27	0.00427	ug	1.2		
20083226	FILTER/SOLIDS ECON OUT TEST 2	22							0.005	ug/g			
20083227	FILTER/SOLIDS AHI TEST 2	29							0.005	ug/g			
20083228	FILTER/SOLIDS STK TEST 2	36	25	0.051	3.23	3.20	3.21	3.21	0.00321	ug	1.0		101
20083229	FILTER/SOLIDS ECON OUT TEST 3	43							0.005	ug/g			
20083230	FILTER/SOLIDS AHI TEST 3	50							0.005	ug/g			
20083231	FILTER/SOLIDS STK TEST 3	57	5	0.051	2.95	2.86	2.91	2.91	0.00291	ug	3.1		103
20083232	FILTER/SOLIDS ECON OUT TEST 4	64							0.005	ug/g			
20083233	FILTER/SOLIDS AHI TEST 4	71							0.005	ug/g			
20083234	FILTER/SOLIDS STK TEST 4	78	25	0.051	2.29	2.18	2.23	2.23	0.00223	ug	4.8		
20083235	47-MM FILTER BLANK	85	50	0.051	0.66	0.66	0.66	0.66	0.00066	ug	0.5		
20083236	THIMBLE BLANK	96	5	0.051	1.59	1.53	1.56	1.56	0.00156	ug	3.5		
20083237	PROBE & FILTER RINSE ECON OUT TEST 1	2	10	10	874	896	885	885	0.885	ug/L	2.5		
20083238	HEATED LINE RINSE ECON OUT TEST 1	3	10	10	406	398	402	402	0.402	ug/L	2.0		
20083239	KCL IMPINGER ECON OUT TEST 1	4	400	2	2880	2884	2880	2880	2.88	ug/L	0.1		107
20083239R	KCL IMPINGER ECON OUT TEST 1	4	400	2	2746	2806	2780	2780	2.78	ug/L	2.2		
20083240	HN03/H2O2 IMPINGER ECON OUT TEST 1	5	50	10	1420	1340	1380	1380	1.38	ug/L	5.8		
20083241	HMNO4 IMPINGER ECON OUT TEST 1	6	50	2	1902	1888	1900	1900	1.90	ug/L	0.7		
20083242	HMNO4 ACID RINSE ECON OUT TEST 1	7	10	10	121	116	119	119	0.119	ug/L	4.2		
20083243	PROBE & FILTER RINSE AHI TEST 1	9	10	10	60.7	61.4	61.1	61.1	0.061	ug/L	1.1		
20083244	HEATED LINE RINSE AHI TEST 1	10	10	10	1963	1879	1920	1920	1.92	ug/L	4.4		
20083245	KCL IMPINGER AHI TEST 1	11	1000	2	14518	14492	14500	14500	14.5	ug/L	0.2		
20083245D	KCL IMPINGER AHI TEST 1	11	1000	2	15234	15278	15300	15300	15.3	ug/L	0.3		
20083245S	KCL IMPINGER AHI TEST 1	11	1000	2	17962	18406	18200	18200	18.2	ug/L	2.4		93
20083246	HN03/H2O2 IMPINGER AHI TEST 1	12	10	10	1050	1020	1040	1040	1.04	ug/L	2.9		
20083247	HMNO4 IMPINGER AHI TEST 1	13	50	2	1478	1458	1470	1470	1.47	ug/L	1.4		
20083247D	HMNO4 IMPINGER AHI TEST 1	13	50	2	1418	1386	1400	1400	1.40	ug/L	2.3		
20083247S	HMNO4 IMPINGER AHI TEST 1	13	50	2	6358	6254	6310	6310	6.31	ug/L	1.6		81
20083248	HMNO4 ACID RINSE AHI TEST 1	14	10	10	223	221	222	222	0.222	ug/L	1.1		
20083249	PROBE & FILTER RINSE STK TEST 1	16	10	10	446	433	440	440	0.440	ug/L	3.0		
20083250	HEATED LINE RINSE STK TEST 1	17	10	10	112	110	111	111	0.111	ug/L	1.2		
20083251	KCL IMPINGER STK TEST 1	18	10	2	146	146	146	146	0.146	ug/L	0.1		
20083252	HN03/H2O2 IMPINGER STK TEST 1	19	10	10	67.2	67.8	67.5	67.5	0.068	ug/L	0.9		
20083253	HMNO4 IMPINGER STK TEST 1	20	10	2	15.8	14.7	15.2	15.2	0.015	ug/L	7.6		
20083254R	HMNO4 ACID RINSE STK TEST 1	21	5	10	45.3	41.4	43.4	43.4	0.043	ug/L	9.0	6.4	
20083255	PROBE & FILTER RINSE ECON OUT TEST 2	23	10	10	257	242	250	250	0.250	ug/L	6.1		
20083256	HEATED LINE RINSE ECON OUT TEST 2	24	10	10	212	210	211	211	0.211	ug/L	0.9		
20083257	KCL IMPINGER ECON OUT TEST 2	25	400	2	4004	3762	3880	3880	3.88	ug/L	6.2		
20083257R	KCL IMPINGER ECON OUT TEST 2	25	400	2	3528	3402	3470	3470	3.47	ug/L	3.6		
20083258	HN03/H2O2 IMPINGER ECON OUT TEST 2	26	50	10	2000	1960	1980	1980	1.98	ug/L	2.0		
20083259	HMNO4 IMPINGER ECON OUT TEST 2	27	50	2	2384	2428	2410	2410	2.41	ug/L	1.8		104
20083260	HMNO4 ACID RINSE ECON OUT TEST 2	28	10	10	160	153	156	156	0.156	ug/L	4.0		
20083261	PROBE & FILTER RINSE AHI TEST 2	30	10	10	553	530	542	542	0.542	ug/L	4.2		



Lab No.	Description	Sample	Inst Dilution	Digest Dilution	Hg Conc (ppt)	Hg Conc (ppt)	Hg Conc (ppt)	Avg Hg (ppt for Impingers)	Hg in Sample	Units	Duplicate %RPD	Triplicate %RSD	Spike % Recovery
20083262	HEATED LINE RINSE AHI TEST 2	31	10	10	6870	6670		6820	6.82	ug/L	4.4		
20083263	KCL IMPINGER AHI TEST 2	32	100	2	11648	11712		11700	11.7	ug/L	0.5		
20083264	HNO3/H2O2 IMPINGER AHI TEST 2	33	10	10	925	932		929	0.929	ug/L	0.8		
20083266R	KMNO4 IMPINGER AHI TEST 2	34	200	2	872	888		880	0.880	ug/L	1.8		
20083266	KMNO4 ACID RINSE AHI TEST 2	35	5	10	263	273		278	0.278	ug/L	3.6		
20083268R	KMNO4 ACID RINSE AHI TEST 2	35	5	10	252	263		258	0.258	ug/L	4.2		102
20083267	PROBE & FILTER RINSE STK TEST 2	37	10	10	290	285		287	0.287	ug/L	1.9		
20083268R	HEATED LINE RINSE STK TEST 2	38	5	10	43.3	42.4		42.9	0.043	ug/L	2.1		
20083269	KCL IMPINGER STK TEST 2	39	10	2	322	326		324	0.324	ug/L	1.2		
20083270	HNO3/H2O2 IMPINGER STK TEST 2	40	10	10	58.6	58.8		58.7	0.059	ug/L	0.3		
20083271	KMNO4 IMPINGER STK TEST 2	41	10	2	18.4	18.0		18.2	0.018	ug/L	2.4		
20083272	KMNO4 ACID RINSE STK TEST 2	42	10	10	40.4	38.1		39.3	0.039	ug/L	5.9		
20083273	PROBE & FILTER RINSE ECON OUT TEST 3	44	10	10	178	175		176	0.176	ug/L	1.6		107
20083274	HEATED LINE RINSE ECON OUT TEST 3	45	10	10	253	247		250	0.250	ug/L	2.6		
20083275	KCL IMPINGER ECON OUT TEST 3	46	400	2	7148	7166		7160	7.16	ug/L	0.3		
20083276R	KCL IMPINGER ECON OUT TEST 3	46	400	2	6832	6852		6840	6.84	ug/L	0.3		
20083276	HNO3/H2O2 IMPINGER ECON OUT TEST 3	47	50	10	1090	1050		1070	1.07	ug/L	3.7		104
20083278	KMNO4 ACID RINSE ECON OUT TEST 3	49	10	10	377	380		379	0.379	ug/L	0.8		
20083279	PROBE & FILTER RINSE AHI TEST 3	51	200	10	84.4	77.6		81.0	0.081	ug/L	8.4	5.9	
20083280	HEATED LINE RINSE AHI TEST 3	52	10	10	3106	3095		3100	3.10	ug/L	0.3		
20083281	KCL IMPINGER AHI TEST 3	53	200	2	13034	12934		13000	13.0	ug/L	0.8		
20083282	HNO3/H2O2 IMPINGER AHI TEST 3	54	10	10	787	779		783	0.783	ug/L	1.0	0.7	
20083283	KMNO4 IMPINGER AHI TEST 3	55	200	2	904	888		896	0.896	ug/L	1.8		
20083284	KMNO4 ACID RINSE AHI TEST 3	56	10	10	128	120		124	0.124	ug/L	6.1		
20083285	PROBE & FILTER RINSE STK TEST 3	58	10	10	331	327		329	0.329	ug/L	1.4		
20083286	HEATED LINE RINSE STK TEST 3	59	10	10	104	103		104	0.104	ug/L	1.0		
20083287	KCL IMPINGER STK TEST 3	60	10	2	63.2	63.0		63.2	0.063	ug/L	0.3		
20083288	HNO3/H2O2 IMPINGER STK TEST 3	61	10	10	54.2	57.2		55.7	0.056	ug/L	5.4		
20083289	KMNO4 IMPINGER STK TEST 3	62	10	2	21.3	21.0		21.2	0.021	ug/L	1.3		
20083290R	KMNO4 ACID RINSE STK TEST 3	63	5	10	40.7	38.9		39.8	0.040	ug/L	4.5		
20083291	PROBE & FILTER RINSE ECON OUT TEST 4	65	10	10	143	132		138	0.138	ug/L	8.4		102
20083292	HEATED LINE RINSE ECON OUT TEST 4	66	10	243	237	230		240	0.240	ug/L	2.5		
20083293	KCL IMPINGER ECON OUT TEST 4	67	400	2	6466	6330		6400	6.400	ug/L	2.1		
20083293R	HNO3/H2O2 IMPINGER ECON OUT TEST 4	67	400	2	6218	5888		6050	6.05	ug/L	5.5		
20083294	KMNO4 IMPINGER ECON OUT TEST 4	68	50	10	2440	2330		2390	2.39	ug/L	4.6		
20083296	HNO3/H2O2 IMPINGER ECON OUT TEST 4	69	1000	2	27612	26840		27200	27.2	ug/L	2.8		105
20083296	KMNO4 ACID RINSE ECON OUT TEST 4	70	10	10	876	839		858	0.858	ug/L	4.3		
20083297	PROBE & FILTER RINSE AHI TEST 4	72	10	10	133	133		133	0.133	ug/L	0.2		
20083298	HEATED LINE RINSE AHI TEST 4	73	10	10	887	855		871	0.871	ug/L	3.7		
20083299	KCL IMPINGER AHI TEST 4	74	200	2	14632	14078		14400	14.4	ug/L	3.9		
20083300	HNO3/H2O2 IMPINGER AHI TEST 4	75	50	10	1890	1820		1860	1.86	ug/L	3.8		
20083300R	HNO3/H2O2 IMPINGER AHI TEST 4	75	50	10	1800	1840		1820	1.82	ug/L	2.2		
20083300S	HNO3/H2O2 IMPINGER AHI TEST 4	75	50	10	50790	50750		50800	50.8	ug/L	0.1		98
20083301	KMNO4 IMPINGER AHI TEST 4	76	50	2	4720	4630		4680	4.68	ug/L	1.9		
20083302	KMNO4 ACID RINSE AHI TEST 4	77	10	10	321	298		310	0.310	ug/L	7.4		
20083303	PROBE & FILTER RINSE STK TEST 4	79	10	10	372	357		364	0.364	ug/L	4.0		
20083304	HEATED LINE RINSE STK TEST 4	80	10	10	31.4	31.4		31.4	0.031	ug/L	0.0		
20083305	KCL IMPINGER STK TEST 4	81	10	2	129	129		129	0.129	ug/L	0.6		
20083306	HNO3/H2O2 IMPINGER STK TEST 4	82	10	10	44.5	42.8		43.7	0.044	ug/L	3.9		104
20083306R	HNO3/H2O2 IMPINGER STK TEST 4	82	10	10	45.4	42.8		44.1	0.044	ug/L	5.9		104
20083307	KMNO4 IMPINGER STK TEST 4	83	10	2	51.9	52.4		52.2	0.052	ug/L	1.0		102
20083308R	KMNO4 ACID RINSE STK TEST 4	84	5	10	26.7	26.6		26.6	0.027	ug/L	0.4		107
20083309	KCL IMPINGER BLANK TRAIN	86	5	2	23.8	23.6		23.7	0.024	ug/L	0.8		
20083310	HNO3/H2O2 IMPINGER BLANK TRAIN	87	10	10	85.0	81.8		83.4	0.083	ug/L	3.8		
20083311	KMNO4 IMPINGER BLANK TRAIN	88	10	2	28.6	27.7		28.1	0.028	ug/L	3.1		
20083312	KMNO4 ACID RINSE BLANK TRAIN	89	10	2	52.5	53.1		52.8	0.053	ug/L	1.1		105
20083313	KCL BLANK	92	10	2	4.82	4.62		4.72	0.005	ug/L	4.2		
20083314	HNO3/H2O2 BLANK	93	10	10	132	132		132	0.132	ug/L	0.4		
20083315R	KMNO4 BLANK	94	5	2	9.52	9.10		9.31	0.009	ug/L	4.5		
20083316R	KMNO4 BLANK	95	5	2	3.88	4.10		3.99	0.004	ug/L	5.5		
20083317R	HNO3/HCL BLANK	91	5	10	12.8	13.2	13.0	13.0	0.013	ug/L	3.1	1.5	

**APPENDIX I.3  
MERCURY TESTS  
(U.S. EPA METHOD 30B)**





**Unit:** AES Greenidge Unit 4  
**Method:** U.S. EPA Method 30B - Cold Vapor Atomic Fluorescence Spectroscopy  
**Project Number:** 1621-85  
**Report Date:** 8/19/2008  
**Comments:** Process Performance and Follow-Up Tests - June 2008

Lab Number	Site code	Company	Plant	Unit	Trap No.	Other	Section	Total Hg (ng)
800278	GR-004	AES	Greenidge	4	1677	A side	Front	2.55
800279	GR-004	AES	Greenidge	4	1677	A side	Back	2.67
800280	GR-004	AES	Greenidge	4	1678	B side	Front	1.65
800281	GR-004	AES	Greenidge	4	1678	B side	Back	2.33
800282	GR-004	AES	Greenidge	4	1670	A side	Front	2.52
800283	GR-004	AES	Greenidge	4	1670	A side	Back	3.14
800284	GR-004	AES	Greenidge	4	1673	B side	Front	4.05
800285	GR-004	AES	Greenidge	4	1673	B side	Back	3.08
800286	GR-004	AES	Greenidge	4	1681	A side	Front	4.03
800287	GR-004	AES	Greenidge	4	1681	A side	Back	11.3
800288	GR-004	AES	Greenidge	4	1682	B side	Front	10.5
800289	GR-004	AES	Greenidge	4	1682	B side	Back	3.60
800290	GR-004	AES	Greenidge	4	1674	A side	Front	3.19
800291	GR-004	AES	Greenidge	4	1674	A side	Back	1.40
800292	GR-004	AES	Greenidge	4	1683	B side	Front	1.05
800293	GR-004	AES	Greenidge	4	1683	B side	Back	1.48
800294 (Blank)	GR-004	AES	Greenidge	4	1672	A side	Front	1.61
800295 (Blank)	GR-004	AES	Greenidge	4	1672	A side	Back	4.45
800296 (Blank)	GR-004	AES	Greenidge	4	1680	B side	Front	1.92
800297 (Blank)	GR-004	AES	Greenidge	4	1680	B side	Back	2.90
800298	GR-004	AES	Greenidge	4	1669	A side	Front	14.1
800299	GR-004	AES	Greenidge	4	1669	A side	Back	3.23
800300	GR-004	AES	Greenidge	4	1675	B side	Front	8.65
800301	GR-004	AES	Greenidge	4	1675	B side	Back	4.49
800302	GR-004	AES	Greenidge	4	1241	A side	Front	15.5
800303	GR-004	AES	Greenidge	4	1241	A side	Back	3.10
800304	GR-004	AES	Greenidge	4	1277	B side	Front	9.00
800305	GR-004	AES	Greenidge	4	1277	B side	Back	4.74
800306	GR-004	AES	Greenidge	4	1206	A side	Front	3.79
800307	GR-004	AES	Greenidge	4	1206	A side	Back	0.71
800308	GR-004	AES	Greenidge	4	1259	B side	Front	3.88
800309	GR-004	AES	Greenidge	4	1259	B side	Back	0.65
800310	GR-004	AES	Greenidge	4	1671	A side	Front	9.30
800311	GR-004	AES	Greenidge	4	1671	A side	Back	<0.25
800312	GR-004	AES	Greenidge	4	1676	B side	Front	7.54
800313	GR-004	AES	Greenidge	4	1676	B side	Back	<0.25

**APPENDIX I.4**  
**SULFUR TRIOXIDE TESTS**



**AES Greenidge Unit 4  
Baseline Testing - November 2004  
Controlled Condensation Titration Data**

	11/17/04	11/17/04	11/17/04	11/17/04	11/17/04	11/17/04	11/17/04	11/18/04	11/18/04	11/18/04	11/18/04	11/18/04
DATE	11/17/04	11/17/04	11/17/04	11/17/04	11/17/04	11/17/04	11/17/04	11/18/04	11/18/04	11/18/04	11/18/04	11/18/04
START TIME	1116	1116	853	1500	1500	1453	400	520	1438	1439	1436	1436
END TIME	1152	1156	943	1530	1540	1543	440	600	1508	1529	1536	1536
RUN	AHI-1	AHO-1	STK-1	AHI-2	AHO-2	STK-2	AHO-3	AHO-4	AHI-3	AHO-5	STK-3	STK-3
<b>Titration Information:</b>												
<b>FILTER PLUG:</b>												
NORMALITY	0.0103	0.0103	0.0103	0.0103	0.0103	0.0103	0.0103	0.0103	0.0103	0.0103	0.0103	0.0103
VOLUME	50	50	50	50	50	50	50	50	50	50	50	50
ALIQOT	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
TITRANT	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.10	0.05	0.10	0.08
<b>PROBE:</b>												
NORMALITY	0.0103	0.0103	0.0103	0.0103	0.0103	0.0103	0.0103	0.0103	0.0103	0.0103	0.0103	0.0103
VOLUME	100	100	100	50	50	100	100	100	50	50	100	100
ALIQOT	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
TITRANT	0.20	0.23	0.08	0.18	0.28	0.05	0.38	0.25	0.15	0.18	0.10	0.10
<b>CONDENSER:</b>												
VOLUME	50	50	50	50	50	50	50	50	50	50	50	50
ALIQOT	10	10	10	10	10	10	10	10	10	10	10	10
TITRANT	0.55	0.20	0.20	0.25	0.15	0.43	0.83	0.63	0.18	0.35	0.80	0.80
<b>SO2 IMPINGERS:</b>												
VOLUME	250	250	250	250	250	250	250	250	250	250	250	250
ALIQOT	1	1	1	1	1	1	1	1	1	1	1	1
TITRANT	3.83	4.73	5.95	3.68	4.63	5.93	3.70	3.55	3.18	4.08	7.10	7.10

**AES Greenidge Unit 4  
 Guarantee Testing - March 2007  
 Controlled Condensation Titration Data  
 (INVALID)**

DATE	03/29/07	03/29/07	03/29/07	03/29/07	03/29/07	03/29/07
START TIME	1000	1003	1220	1240	1515	1517
END TIME	1040	1103	1300	1330	1555	1617
RUN	AHO-1	STK-1	AHO-2	STK-2	AHO-3	STK-3
<b>Titration Information:</b>						
FILTER PLUG:						
NORMALITY	0.0095	0.0095	0.0095	0.0095	0.0095	0.0095
VOLUME	100	100	100	100	100	100
ALIQUOT	10.0	10.0	10.0	10.0	10.0	10.0
TITRANT	0.20	0.10	0.20	0.10	0.15	0.10
PROBE:						
NORMALITY	0.0095	0.0095	0.0095	0.0095	0.0095	0.0095
VOLUME	100	100	100	100	100	100
ALIQUOT	10.0	10.0	10.0	10.0	10.0	10.0
TITRANT	0.15	0.10	0.20	0.10	0.20	0.10
CONDENSER:						
VOLUME	100	100	100	100	100	100
ALIQUOT	10.0	10.0	10.0	10.0	10.0	10.0
TITRANT	0.30	0.15	0.35	0.10	0.28	0.13

DATE	03/30/07	03/30/07	03/30/07	03/30/07	03/30/07	03/30/07
START TIME	1137	1137	1333	1333	1552	1552
END TIME	1217	1218	1414	1414	1632	1632
RUN	SCRI-1	SCRO-1	SCRI-2	SCRO-2	SCRI-3	SCRO-3
<b>Titration Information:</b>						
FILTER PLUG:						
NORMALITY	0.0095	0.0095	0.0095	0.0095	0.0095	0.0095
VOLUME	100	100	100	100	100	100
ALIQUOT	10.0	10.0	10.0	10.0	10.0	10.0
TITRANT	0.08	0.10	0.05	0.40	0.10	0.10
PROBE:						
NORMALITY	0.0095	0.0095	0.0095	0.0095	0.0095	0.0095
VOLUME	100	100	100	100	100	100
ALIQUOT	10.0	10.0	10.0	10.0	10.0	10.0
TITRANT	0.05	0.25	0.08	0.33	0.10	0.38
CONDENSER:						
VOLUME	100	100	100	100	100	100
ALIQUOT	10.0	10.0	10.0	10.0	10.0	10.0
TITRANT	0.15	0.23	0.20	0.10	0.10	0.25





**Unit:** AES Greenidge Unit 4  
**Method:** Controlled Condensation - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 5/11/2007  
**Comments:** Guarantee Tests - May 2007

LAB SAMPLE ID	DESCRIPTION	mg as SO4 2-
72427	plug	3.02
72428	probe	2.29
72429	condenser	9.06
72432	plug/probe	0.81
72433	condenser	0.24
72436	plug	2.27
72437	probe	4.29
72438	condenser	8.69
72441	plug	0.03
72442	probe	0.17
72443	condenser	0.38
72446	plug	3.39
72447	probe	2.06
72448	condenser	9.92
72451	plug	0.11
72452	probe	0.16
72453	condenser	0.31
72456	Condenser Blank	0.03
72457	H2O2 blank	0.02
72458	DI Blank	0.01



**Unit:** AES Greenidge Unit 4  
**Method:** Controlled Condensation - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 10/24/2007  
**Comments:** Process Performance Tests - October 2007

LAB SAMPLE ID	DESCRIPTION	mg as SO4 2-
20076193	SO3 PLUG	1.01
20076194	SO3 PROBE	0.45
20076195	SO3 CONDENSER	1.69
20076196	SO3 LINE RINSE	3.10
20076197	SO3 IMPINGER	516.70
20076198	SO3 PLUG	0.62
20076199	SO3 PROBE	5.06
20076200	SO3 CONDENSER	3.50
20076201	SO3 LINE RINSE	3.80
20076202	SO3 IMPINGER	552.10
20076203	SO3 PLUG	3.41
20076204	SO3 PROBE	8.30
20076205	SO3 CONDENSER	6.06
20076206	SO3 LINE RINSE	4.02
20076207	SO3 IMPINGER	1241.90
20076208	SO3 PLUG	0.13
20076209	SO3 PROBE	0.16
20076210	SO3 CONDENSER	0.35
20076211	SO3 LINE RINSE	0.55
20076212	SO3 IMPINGER	43.00
20076213	SO3 PLUG	0.14
20076214	SO3 PROBE	3.23
20076215	SO3 CONDENSER	3.69
20076216	SO3 LINE RINSE	0.90
20076217	SO3 IMPINGER	1379.49
20076218	SO3 PLUG	1.13
20076219	SO3 PROBE	6.28
20076220	SO3 CONDENSER	5.74
20076221	SO3 LINE RINSE	0.35
20076222	SO3 IMPINGER	1078.87
20076223	SO3 PLUG	1.97
20076224	SO3 PROBE	2.25
20076225	SO3 CONDENSER	2.73
20076226	SO3 LINE RINSE	1.29
20076227	SO3 IMPINGER	1069.15
20076228	SO3 PLUG	0.20
20076229	SO3 PROBE	0.17
20076230	SO3 CONDENSER	0.26
20076231	SO3 LINE RINSE	0.72
20076232	SO3 IMPINGER	23.40



LAB SAMPLE ID	DESCRIPTION	mg as SO4 2-
20076233	SO3 PLUG	1.11
20076234	SO3 PROBE	1.12
20076235	SO3 CONDENSER	0.75
20076236	SO3 LINE RINSE	0.57
20076237	SO3 IMPINGER	186.50
20076238	SO3 PLUG	2.30
20076239	SO3 PROBE	3.44
20076240	SO3 CONDENSER	5.77
20076241	SO3 LINE RINSE	0.86
20076242	SO3 IMPINGER	1295.25
20076243	SO3 PLUG	0.61
20076244	SO3 PROBE	2.73
20076245	SO3 CONDENSER	3.12
20076246	SO3 LINE RINSE	1.23
20076247	SO3 IMPINGER	1256.20
20076248	SO3 PLUG	1.55
20076249	SO3 PROBE	2.98
20076250	SO3 CONDENSER	5.26
20076251	SO3 LINE RINSE	51.15
20076252	SO3 IMPINGER	1167.20
20076253	3% H2O2 BLANK	0.02
20076319	SO3 PLUG	3.90
20076320	SO3 PROBE	2.00
20076321	SO3 CONDENSER	2.47
20076322	SO3 LINE RINSE	5.14
20076323	SO3 IMPINGER	639.05
20076324	SO3 PLUG	0.08
20076325	SO3 PROBE	0.07
20076326	SO3 CONDENSER	0.16
20076327	SO3 LINE RINSE	0.48
20076328	SO3 IMPINGER	10.30
20076335	SO3 PLUG	3.01
20076336	SO3 PROBE	3.08
20076337	SO3 CONDENSER	0.94
20076338	SO3 LINE RINSE	1.62
20076339	SO3 IMPINGER	684.85
20076340	SO3 PLUG	0.04
20076341	SO3 PROBE	0.07
20076342	SO3 CONDENSER	0.21
20076343	SO3 LINE RINSE	0.62
20076344	SO3 IMPINGER	79.40
20076351	SO3 PLUG	3.58
20076352	SO3 PROBE	1.69
20076353	SO3 CONDENSER	1.97
20076354	SO3 LINE RINSE	2.24
20076355	SO3 IMPINGER	881.60
20076356	SO3 PLUG	0.10
20076357	SO3 PROBE	0.07
20076358	SO3 CONDENSER	0.73
20076359	SO3 LINE RINSE	0.50

LAB SAMPLE ID	DESCRIPTION	mg as SO4 2-
20076360	SO3 IMPINGER	81.16
20076696	3% H2O2 BLANK	0.02
20076697	SO3 PLUG	2.23
20076698	SO3 PROBE	2.70
20076699	SO3 CONDENSER	2.30
20076700	SO3 LINE RINSE	0.88
20076701	SO3 IMPINGER	888.30
20076702	SO3 PLUG	0.04
20076703	SO3 PROBE	0.06
20076704	SO3 CONDENSER	0.26
20076705	SO3 LINE RINSE	0.91
20076706	SO3 IMPINGER	78.28
	filter blank	0.17





**Unit:** AES Greenidge Unit 4  
**Method:** Controlled Condensation - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 1/8/2008  
**Comments:** Process Performance Tests - November 2007

LAB SAMPLE ID	DESCRIPTION	mg as SO4 2-
20077348	SO3 PLUG TEST AHO-1	2.28
20077349	SO3 PROBE TEST AHO-1	1.18
20077350	SO3 CONDENSER TEST AHO-1	0.55
20077351	SO3 LINE RINSE TEST AHO-1	3.31
20077352	SO3 IMPINGER 1 TEST AHO-1	634.10
20077353	SO3 IMPINGER 2 TEST AHO-1	51.50
20077354	SO3 IMPINGER 3 TEST AHO-1	2.09
20077355	SO3 PLUG TEST STK-1	0.01
20077356	SO3 PROBE TEST STK-1	0.05
20077357	SO3 CONDENSER TEST STK-1	0.44
20077358	SO3 LINE RINSE TEST STK-1	0.44
20077359	SO3 IMPINGERS TEST STK-1	44.79
20077360	SO3 PLUG TEST AHO-2	2.58
20077361	SO3 PROBE TEST AHO-2	2.54
20077362	SO3 CONDENSER TEST AHO-2	0.98
20077363	SO3 LINE RINSE TEST AHO-2	4.79
20077364	SO3 IMPINGERS TEST AHO-2	804.76
20077365	SO3 PLUG TEST STK-2	0.10
20077366	SO3 PROBE TEST STK-2	0.05
20077367	SO3 CONDENSER TEST STK-2	0.43
20077368	SO3 LINE RINSE TEST STK-2	0.56
20077369	SO3 IMPINGERS TEST STK-2	25.46
20077370	SO3 PLUG TEST AHO-3	2.36
20077371	SO3 PROBE TEST AHO-3	3.23
20077372	SO3 CONDENSER TEST AHO-3	1.94
20077373	SO3 LINE RINSE TEST AHO-3	7.82
20077374	SO3 IMPINGERS TEST AHO-3	750.25
20077375	SO3 PLUG TEST STK-3	0.02
20077376	SO3 PROBE TEST STK-3	0.05
20077377	SO3 CONDENSER TEST STK-3	0.16
20077378	SO3 LINE RINSE TEST STK-3	0.78
20077379	SO3 IMPINGERS TEST STK-3	55.65
20077380	SO3 3% H2O2 BLANK	0.02
20077381	SO3 PLUG TEST AHO-4	2.30
20077382	SO3 PROBE TEST AHO-4	1.05
20077383	SO3 CONDENSER TEST AHO-4	1.42
20077384	SO3 LINE RINSE TEST AHO-4	7.87
20077385	SO3 IMPINGERS TEST AHO-4	904.99
20077386	SO3 PLUG TEST STK-4	0.07
20077387	SO3 PROBE TEST STK-4	0.06

LAB SAMPLE ID	DESCRIPTION	mg as SO4 2-
20077388	SO3 CONDENSER TEST STK-4	0.07
20077389	SO3 LINE RINSE TEST STK-4	0.64
20077390	SO3 IMPINGERS TEST STK-4	32.05
20077391	SO3 PLUG TEST AHO-5	1.17
20077392	SO3 PROBE TEST AHO-5	1.74
20077393	SO3 CONDENSER TEST AHO-5	2.11
20077394	SO3 LINE RINSE TEST AHO-5	8.00
20077395	SO3 IMPINGERS TEST AHO-5	960.26
20077396	SO3 PLUG TEST STK-5	0.09
20077397	SO3 PROBE TEST STK-5	0.12
20077398	SO3 CONDENSER TEST STK-5	0.34
20077399	SO3 LINE RINSE TEST STK-5	0.70
20077400	SO3 IMPINGERS TEST STK-5	19.07
20077401	SO3 PLUG TEST AHO-6	2.43
20077402	SO3 PROBE TEST AHO-6	2.01
20077403	SO3 CONDENSER TEST AHO-6	2.70
20077404	SO3 LINE RINSE TEST AHO-6	8.41
20077405	SO3 IMPINGERS TEST AHO-6	854.10
20077406	SO3 PLUG TEST STK-6	0.06
20077407	SO3 PROBE TEST STK-6	0.17
20077408	SO3 CONDENSER TEST STK-6	0.66
20077409	SO3 LINE RINSE TEST STK-6	0.62
20077410	SO3 IMPINGERS TEST STK-6	54.80
20077411	SO3 3% H2O2 BLANK	0.02
20077412	SO3 PLUG TEST AHO-7	1.71
20077413	SO3 PROBE TEST AHO-7	3.21
20077414	SO3 CONDENSER TEST AHO-7	3.02
20077415	SO3 LINE RINSE TEST AHO-7	14.21
20077416	SO3 IMPINGERS TEST AHO-7	916.78
20077417	SO3 PLUG TEST STK-7	0.03
20077418	SO3 PROBE TEST STK-7	0.08
20077419	SO3 CONDENSER TEST STK-7	0.19
20077420	SO3 LINE RINSE TEST STK-7	0.66
20077421	SO3 IMPINGERS TEST STK-7	8.36
20077422	SO3 PLUG TEST AHO-8	2.59
20077423	SO3 PROBE TEST AHO-8	2.32
20077424	SO3 CONDENSER TEST AHO-8	1.01
20077425	SO3 LINE RINSE TEST AHO-8	12.71
20077426	SO3 IMPINGERS TEST AHO-8	932.83
20077427	SO3 PLUG TEST STK-8	0.12
20077428	SO3 PROBE TEST STK-8	0.07
20077429	SO3 CONDENSER TEST STK-8	0.10
20077430	SO3 LINE RINSE TEST STK-8	0.68
20077431	SO3 IMPINGERS TEST STK-8	28.52
20077432	SO3 3% H2O2 BLANK	0.02





**Unit:** AES Greenidge Unit 4  
**Method:** Controlled Condensation - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 3/28/2008  
**Comments:** Process Performance Tests - March 2008

LAB SAMPLE ID	DESCRIPTION	mg as SO4 2-
20081068	SO3 PLUG ECO-1	2.31
20081069	SO3 PROBE ECO-1	0.96
20081070	SO3 CONDENSER ECO-1	0.84
20081071	SO3 LINE RINSE ECO-1	0.83
20081072	SO3 IMPINGERS ECO-1	337.25
20081073	SO3 PLUG AHI-1	3.57
20081074	SO3 PROBE AHI-1	7.52
20081075	SO3 CONDENSER AHI-1	4.86
20081076	SO3 LINE RINSE AHI-1	1.19
20081077	SO3 IMPINGERS AHI-1	919.65
20081078	SO3 PLUG AHO-1	7.17
20081079	SO3 PROBE AHO-1	2.82
20081080	SO3 CONDENSER AHO-1	1.55
20081081	SO3 LINE RINSE AHO-1	3.26
20081082	SO3 IMPINGERS AHO-1	779.60
20081083	SO3 PLUG STK-1	0.16
20081084	SO3 PROBE STK-1	0.16
20081085	SO3 CONDENSER STK-1	0.23
20081086	SO3 LINE RINSE STK-1	1.89
20081087	SO3 IMPINGERS STK-1	45.50
20081088	SO3 PLUG ECO-2	2.55
20081089	SO3 PROBE ECO-2	1.55
20081090	SO3 CONDENSER ECO-2	1.96
20081091	SO3 LINE RINSE ECO-2	0.82
20081092	SO3 IMPINGERS ECO-2	497.42
20081093	SO3 PLUG AHI-2	0.10
20081094	SO3 PROBE AHI-2	2.32
20081095	SO3 CONDENSER AHI-2	8.61
20081096	SO3 LINE RINSE AHI-2	2.45
20081097	SO3 IMPINGERS AHI-2	836.80
20081098	SO3 PLUG AHO-2	2.63
20081099	SO3 PROBE AHO-2	1.48
20081100	SO3 CONDENSER AHO-2	0.92
20081101	SO3 LINE RINSE AHO-2	0.80
20081102	SO3 IMPINGERS AHO-2	628.83
20081103	SO3 PLUG STK-2	0.18
20081104	SO3 PROBE STK-2	0.17
20081105	SO3 CONDENSER STK-2	0.30
20081106	SO3 LINE RINSE STK-2	2.19
20081107	SO3 IMPINGERS STK-2	42.43

LAB SAMPLE ID	DESCRIPTION	mg as SO4 2-
20081108	SO3 PLUG ECO-3	1.95
20081109	SO3 PROBE ECO-3	3.18
20081110	SO3 CONDENSER ECO-3	2.20
20081111	SO3 LINE RINSE ECO-3	0.74
20081112	SO3 IMPINGER ECO-3	671.56
20081113	SO3 PLUG AHI-3	0.09
20081114	SO3 PROBE AHI-3	4.00
20081115	SO3 CONDENSER AHI-3	6.33
20081116	SO3 LINE RINSE AHI-3	3.54
20081117	SO3 IMPINGERS AHI-3	847.82
20081118	SO3 PLUG AHO-3	2.04
20081119	SO3 PROBE AHO-3	1.90
20081120	SO3 CONDENSER AHO-3	0.88
20081121	SO3 LINE RINSE AHO-3	0.48
20081122	SO3 IMPINGERS AHO-3	544.47
20081123	SO3 PLUG STK-3	0.09
20081124	SO3 PROBE STK-3	0.09
20081125	SO3 CONDENSER STK-3	0.21
20081126	SO3 LINE RINSE STK-3	1.98
20081127	SO3 IMPINGERS STK-3	43.50
20081128	SO3 PLUG ECO-4	2.14
20081129	SO3 PROBE ECO-4	1.04
20081130	SO3 CONDENSER ECO-4	0.93
20081131	SO3 LINE RINSE ECO-4	0.43
20081132	SO3 IMPINGERS ECO-4	400.14
20081133	SO3 PLUG AHI-4	0.82
20081134	SO3 PROBE AHI-4	3.60
20081135	SO3 CONDENSER AHI-4	4.05
20081136	SO3 LINE RINSE AHI-4	0.81
20081137	SO3 IMPINGERS AHI-4	797.84
20081138	SO3 PLUG AHO-4	1.37
20081139	SO3 PROBE AHO-4	1.99
20081140	SO3 CONDENSER AHO-4	1.35
20081141	SO3 LINE RINSE AHO-4	0.42
20081142	SO3 IMPINGERS AHO-4	656.15
20081143	SO3 PLUG STK-4	0.12
20081144	SO3 PROBE STK-4	0.11
20081145	SO3 CONDENSER STK-4	0.25
20081146	SO3 LINE RINSE STK-4	1.49
20081147	SO3 IMPINGERS STK-4	38.11
20081148	3% H2O2 BLANK	0.18
	filter paper blank	0.02





**Unit:** AES Greenidge Unit 4  
**Method:** Controlled Condensation - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 6/18/2008  
**Comments:** Process Performance Tests - May 2008

LAB SAMPLE ID	DESCRIPTION	mg as SO4 2-
20082283	SO3 PLUG AHO-1	0.13
20082284	SO3 PROBE AHO-1	6.19
20082285	SO3 CONDENSER AHO-1	4.10
20082286	SO3 LINE RINSE AHO-1	110.97
20082287	SO3 IMPINGERS AHO-1	788.19
20082288	SO3 PLUG STK-1	0.39
20082289	SO3 PROBE STK-1	0.11
20082290	SO3 CONDENSER STK-1	0.17
20082291	SO3 LINE RINSE STK-1	0.10
20082292	SO3 IMPINGERS STK-1	20.64
20082293	SO3 PLUG AHO-2	0.75
20082294	SO3 PROBE AHO-2	3.89
20082295	SO3 CONDENSER AHO-2	4.68
20082296	SO3 LINE RINSE AHO-2	2.74
20082297	SO3 IMPINGERS AHO-2	1073.37
20082298	SO3 PLUG STK-2	0.13
20082299	SO3 PROBE STK-2	0.05
20082300	SO3 CONDENSER STK-2	0.08
20082301	SO3 LINE RINSE STK-2	0.15
20082302	SO3 IMPINGERS STK-2	46.51
20082303	SO3 PLUG AHO-3	1.65
20082304	SO3 PROBE AHO-3	0.57
20082305	SO3 CONDENSER AHO-3	1.87
20082306	SO3 LINE RINSE AHO-3	126.81
20082307	SO3 IMPINGERS AHO-3	663.40
20082308	SO3 PLUG STK-3	0.20
20082309	SO3 PROBE STK-3	0.04
20082310	SO3 CONDENSER STK-3	0.11
20082311	SO3 LINE RINSE STK-3	0.10
20082312	SO3 IMPINGERS STK-3	124.58
20082313	SO3 PLUG AHO-4	1.70
20082314	SO3 PROBE AHO-4	1.63
20082315	SO3 CONDENSER AHO-4	4.29
20082316	SO3 LINE RINSE AHO-4	4.78
20082317	SO3 IMPINGERS AHO-4	857.62
20082318	SO3 PLUG STK-4	0.13
20082319	SO3 PROBE STK-4	0.03
20082320	SO3 CONDENSER STK-4	0.07
20082321	SO3 LINE RINSE STK-4	0.15
20082322	SO3 IMPINGERS STK-4	15.75

LAB SAMPLE ID	DESCRIPTION	mg as SO4 2-
20082323	SO3 PLUG AHO-5	1.79
20082324	SO3 PROBE AHO-5	0.73
20082325	SO3 CONDENSER AHO-5	2.49
20082326	SO3 LINE RINSE AHO-5	2.14
20082327	SO3 IMPINGERS AHO-5	863.43
20082328	SO3 PLUG STK-5	0.11
20082329	SO3 PROBE STK-5	0.04
20082330	SO3 CONDENSER STK-5	0.10
20082331	SO3 LINE RINSE STK-5	0.04
20082332	SO3 IMPINGERS STK-5	34.94
20082333	3% H2O2 BLANK	0.07
20082334	ZENO WATER BLANK	0.02
	Filter Blank	0.01





**Unit:** AES Greenidge Unit 4  
**Method:** Controlled Condensation - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 7/3/2008  
**Comments:** Follow-Up Tests - June 2008

LAB SAMPLE ID	DESCRIPTION	mg as SO4 2-
20082835	SO3 PLUG	1.03
20082836	SO3 PROBE ECON-1	1.44
20082837	SO3 CONDENSER ECON-1	3.24
20082838	SO3 LINE RINSE ECON-1	1.20
20082839	SO3 IMPINGERS ECON-1	864.48
20082840	SO3 PLUG AHI-1	0.07
20082841	SO3 PROBE AHI-1	7.62
20082842	SO3 CONDENSER AHI-1	8.97
20082843	SO3 LINE RINSE AHI-1	1.27
20082844	SO3 IMPINGERS AHI-1	1196.37
20082845	SO3 PROBE AHO-1	2.97
20082846	SO3 CONDENSER AHO-1	4.03
20082847	SO3 LINE RINSE AHO-1	2.23
20082848	SO3 IMPINGERS AHO-1	946.29
20082849	SO3 PLUG STK-1	0.09
20082850	SO3 PROBE STK-1	0.03
20082851	SO3 CONDENSER STK-1	0.17
20082852	SO3 LINE RINSE STK-1	0.08
20082853	SO3 IMPINGERS STK-1	12.55
20082854	SO3 PLUG ECON-2	0.01
20082855	SO3 PROBE ECON-2	1.49
20082856	SO3 CONDENSER ECON-2	1.70
20082857	SO3 LINE RINSE ECON-2	1.01
20082858	SO3 IMPINGERS ECON-2	250.83
20082859	SO3 PLUG AHI-2	0.88
20082860	SO3 PROBE AHI-2	3.91
20082861	SO3 CONDENSER AHI-2	7.16
20082862	SO3 LINE RINSE AHI-2	3.03
20082863	SO3 IMPINGERS AHI-2	1013.84
20082864	SO3 PLUG AHO-2	1.35
20082865	SO3 PROBE AHO-2	1.73
20082866	SO3 CONDENSER AHO-2	5.71
20082867	SO3 LINE RINSE AHO-2	2.37
20082868	SO3 IMPINGERS AHO-2	1067.47
20082869	SO3 PLUG STK-2	0.12
20082870	SO3 PROBE STK-2	0.07
20082871	SO3 CONDENSER STK-2	0.24
20082872	SO3 LINE RINSE STK-2	0.09
20082873	SO3 IMPINGERS STK-2	36.43
20082874	SO3 PLUG ECON-3	0.53

LAB SAMPLE ID	DESCRIPTION	mg as SO4 2-
20082875	SO3 PROBE ECON-3	2.07
20082876	SO3 CONDENSER ECON-3	2.13
20082877	SO3 LINE RINSE ECON-3	1.82
20082878	SO3 IMPINGERS ECON-3	498.15
20082879	SO3 PLUG AHI-3	1.17
20082880	SO3 PROBE AHI-3	3.36
20082881	SO3 CONDENSER AHI-3	8.87
20082882	SO3 LINE RINSE AHI-3	34.47
20082883	SO3 IMPINGERS AHI-3	1104.06
20082884	SO3 PLUG AHO-3	1.43
20082885	SO3 PROBE AHO-3	2.68
20082886	SO3 CONDENSER AHO-3	5.79
20082887	SO3 LINE RINSE AHO-3	1.48
20082888	SO3 IMPINGERS AHO-3	1026.93
20082889	SO3 PLUG STK-3	0.06
20082890	SO3 PROBE STK-3	0.51
20082891	SO3 CONDENSER STK-3	0.11
20082892	SO3 LINE RINSE STK-3	0.10
20082893	SO3 IMPINGERS STK-3	41.63
20082894	SO3 PLUG ECON-4	0.15
20082895	SO3 PROBE ECON-4	2.76
20082896	SO3 CONDENSER ECON-4	3.20
20082897	SO3 LINE RINSE ECON-4	1.99
20082898	SO3 IMPINGERS ECON-4	748.16
20082899	SO3 PLUG AHI-4	2.60
20082900	SO3 PROBE AHI-4	3.84
20082901	SO3 CONDENSER AHI-4	8.95
20082902	SO3 LINE RINSE AHI-4	2.98
20082903	SO3 IMPINGERS AHI-4	1168.44
20082904	SO3 PLUG AHO-4	0.78
20082905	SO3 PROBE AHO-4	1.88
20082906	SO3 CONDENSER AHO-4	4.90
20082907	SO3 LINE RINSE AHO-4	1.15
20082908	SO3 IMPINGERS AHO-4	986.13
20082909	SO3 PLUG STK-4	0.06
20082910	SO3 PROBE STK-4	0.02
20082911	SO3 CONDENSER STK-4	0.08
20082912	SO3 LINE RINSE STK-4	0.09
20082913	SO3 IMPINGERS STK-4	29.43
20082914	3% H2O2 BLANK	0.03
20082915	ZENO WATER BLANK	<0.01





**Unit:** AES Greenidge Unit 4  
**Method:** Controlled Condensation - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 7/29/2008  
**Comments:** Process Performance Tests - June 2008

LAB SAMPLE ID	DESCRIPTION	mg as SO4 2-
83102	SO3 PLUG 2082 AHO-5	0.30
83103	SO3 PROBE 2083 AHO-5	1.46
83104	SO3 CONDENSER 2084 AHO-5	8.71
83105	SO3 LINE RINSE 2085 AHO-5	2.02
83106	SO3 IMPINGERS 2086 AHO-5	915.69
83107	SO3 PLUG 2087 STK-5	0.05
83108	SO3 PROBE 2088 STK-5	0.02
83109	SO3 CONDENSER 2089 STK-5	0.05
83110	SO3 LINE RINSE 2090 STK-5	0.43
83111	SO3 IMPINGERS 2091 STK-5	81.13
83112	SO3 PLUG 2092 AHO-6	0.28
83113	SO3 PROBE 2093 AHO-6	0.65
83114	SO3 CONDENSER 2094 AHO-6	9.02
83115	SO3 LINE RINSE 2095 AHO-6	0.85
83116	SO3 IMPINGERS 2096 AHO-6	944.93
83117	SO3 PLUG 2097 STK-6	0.10
83118	SO3 PROBE 2098 STK-6	0.03
83119	SO3 CONDENSER 2099 STK-6	0.15
83120	SO3 LINE RINSE 2100 STK-6	0.32
83121	SO3 IMPINGERS 2101 STK-6	84.38
83122	SO3 PLUG 2102 AHO-7	0.26
83123	SO3 PROBE 2103 AHO-7	0.84
83124	SO3 CONDENSER 2104 AHO-7	9.96
83125	SO3 LINE RINSE 2105 AHO-7	0.44
83126	SO3 PLUG 2107 STK-7	0.12
83127	SO3 PROBE 2108 STK-7	0.51
83128	SO3 CONDENSER 2109 STK-7	0.21
83129	SO3 LINE RINSE 2110 STK-7	0.55
83130	SO3 IMPINGERS 2111 STK-7	94.45
83131	SO3 PLUG 2112 AHO-8	0.70
83132	SO3 PROBE 2113 AHO-8	0.97
83133	SO3 CONDENSER 2114 AHO-8	9.28
83134	SO3 LINE RINSE 2115 AHO-8	2.02
83135	SO3 IMPINGERS 2116 AHO-8	1145.12
83136	SO3 PLUG 2117 STK-8	0.10
83137	SO3 PROBE 2118 STK-8	0.12
83138	SO3 CONDENSER 2119 STK-8	0.24
83139	SO3 LINE RINSE 2120 STK-8	0.22
83140	SO3 IMPINGERS 2121 STK-8	63.20
83141	SO3 PLUG 2122 AHO-9	0.57

LAB SAMPLE ID	DESCRIPTION	mg as SO4 2-
83142	SO3 PROBE 2123 AHO-9	0.49
83143	SO3 CONDENSER 2124 AHO-9	9.39
83144	SO3 LINE RINSE 2125 AHO-9	1.16
83145	SO3 IMPINGERS 2126 AHO-9	989.96
83146	SO3 PLUG 2127 STK-9	0.17
83147	SO3 PROBE 2128 STK-9	0.12
83148	SO3 CONDENSER 2129 STK-9	0.20
83149	SO3 LINE RINSE 2130 STK-9	0.25
83150	SO3 IMPINGERS 2131 STK-9	39.76
83151	SO3 PLUG 2132 AHO-10	0.53
83152	SO3 PROBE 2133 AHO-10	2.51
83153	SO3 CONDENSER 2134 AHO-10	10.25
83154	SO3 LINE RINSE 2135 AHO-10	0.85
83155	SO3 IMPINGERS 2136 AHO-10	925.29
83156	SO3 PLUG 2137 STK-10	0.10
83157	SO3 PROBE 2138 STK-10	0.12
83158	SO3 CONDENSER 2139 STK-10	0.19
83159	SO3 LINE RINSE 2140 STK-10	0.22
83160	SO3 IMPINGERS 2141 STK-10	47.74
83161	SO3 PLUG 2142 AHO-11	0.58
83162	SO3 PROBE 2143 AHO-11	2.34
83163	SO3 CONDENSER 2144 AHO-11	5.38
83164	SO3 LINE RINSE 2145 AHO-11	1.20
83165	SO3 IMPINGERS 2146 AHO-11	957.00
83166	SO3 PLUG 2147 STK-11	0.14
83167	SO3 PROBE 2148 STK-11	0.10
83168	SO3 CONDENSER 2149 STK-11	0.17
83169	SO3 LINE RINSE 2150 STK-11	0.29
83170	SO3 IMPINGERS 2151 STK-11	26.49
83171	SO3 PLUG 2152 AHO-12	0.59
83172	SO3 PROBE 2153 AHO-12	0.61
83173	SO3 CONDENSER 2154 AHO-12	4.34
83174	SO3 LINE RINSE 2155 AHO-12	0.81
83175	SO3 IMPINGERS 2156 AHO-12	787.70
83176	SO3 PLUG 2157 STK-12	0.20
83177	SO3 PROBE 2158 STK-12	0.15
83178	SO3 CONDENSER 2159 STK-12	0.21
83179	SO3 LINE RINSE 2160 STK-12	0.22
83180	SO3 IMPINGERS 2161 STK-12	20.62
83181	SO3 PLUG 2162 AHO-13	0.80
83182	SO3 PROBE 2163 AHO-13	0.61
83183	SO3 CONDENSER 2164 AHO-13	7.24
83184	SO3 LINE RINSE 2165 AHO-13	1.40
83185	SO3 IMPINGERS 2166 AHO-13	1047.88
83186	SO3 PLUG 2167 STK-13	0.14
83187	SO3 PROBE 2168 STK-13	0.14
83188	SO3 CONDENSER 2169 STK-13	0.15
83189	SO3 LINE RINSE 2170 STK-13	0.22
83190	SO3 IMPINGERS 2171 STK-13	35.09
83191	SO3 PLUG 2172 AHO-14	1.02



LAB SAMPLE ID	DESCRIPTION	mg as SO4 2-
83192	SO3 PROBE 2173 AHO-14	1.28
83193	SO3 CONDENSER 2174 AHO-14	4.95
83194	SO3 LINE RINSE 2175 AHO-14	1.77
83195	SO3 IMPINGERS 2176 AHO-14	1142.14
83196	SO3 PLUG 2177 STK-14	0.12
83197	SO3 PROBE 2178 STK-14	0.13
83198	SO3 CONDENSER 2179 STK-14	0.17
83199	SO3 LINE RINSE 2180 STK-14	0.21
83200	SO3 IMPINGERS 2181 STK-14	69.75
83201	SO3 PLUG 2182 AHO-15	0.10
83202	SO3 PROBE 2183 AHO-15	0.43
83203	SO3 CONDENSER 2184 AHO-15	7.35
83204	SO3 LINE RINSE 2185 AHO-15	1.76
83205	SO3 IMPINGERS 2186 AHO-15	1106.14
83206	SO3 PLUG 2187 STK-15	0.11
83207	SO3 PROBE 2188 STK-15	0.13
83208	SO3 CONDENSER 2189 STK-15	0.22
83209	SO3 LINE RINSE 2190 STK-15	0.24
83210	SO3 IMPINGERS 2191 STK-15	75.74
83211	SO3 PLUG 2192 AHO-16	1.42
83212	SO3 PROBE 2193 AHO-16	1.01
83213	SO3 CONDENSER 2194 AHO-16	7.05
83214	SO3 LINE RINSE 2195 AHO-16	0.89
83215	SO3 IMPINGERS 2196 AHO-16	947.74
83216	SO3 PLUG 2197 STK-16	0.16
83217	SO3 PROBE 2198 STK-16	0.10
83218	SO3 CONDENSER 2199 STK-16	0.28
83219	SO3 LINE RINSE 2200 STK-16	0.36
83220	SO3 IMPINGERS 2201 STK-16	54.49
83221	BLANK H2O2 2202 BLANK	0.16
83222	SO3 IMPINGERS 2106 AHO-7	984.87

**APPENDIX I.5**  
**HYDROGEN CHLORIDE AND HYDROGEN FLUORIDE**  
**TESTS**



CONSOL ENERGY INC.  
RESEARCH & DEVELOPMENT  
ANALYTICAL LABORATORY  
SOUTH PARK, PENNSYLVANIA 15129

TO: J. WITHUM/J. LOCKE

PROJECT NUMBER 1621-85 -

DATE LOGGED 11/24/04  
DATE COMPLETED 12/17/04

DESCRIPTION HCL-HF-1  
COMMENTS STK-M26-1  
SAMPLE NUMBER TEST 1  
ANALYTICAL NUMBER 045693

ANALYSIS	----- WATER ANALYSIS -----			
	UNITS	VALUE	VALUE	DUP AVG
Chloride	ppm	227		
FLUORIDE	ppm	8.10		

Note: All units mg/L unless specified

CONSOL ENERGY INC.  
RESEARCH & DEVELOPMENT  
ANALYTICAL LABORATORY  
SOUTH PARK, PENNSYLVANIA 15129

TO: J. WITHUM/J. LOCKE

PROJECT NUMBER 1621-85 -

DATE LOGGED 11/24/04  
DATE COMPLETED 12/17/04

DESCRIPTION HCL-HF-2  
COMMENTS STK-M26-2  
SAMPLE NUMBER TEST 2  
ANALYTICAL NUMBER 045694

ANALYSIS	----- WATER ANALYSIS -----			
	UNITS	VALUE	VALUE	DUP AVG
Chloride	ppm	220		
FLUORIDE	ppm	7.10		

Note: All units mg/L unless specified



CONSOL ENERGY INC.  
RESEARCH & DEVELOPMENT  
ANALYTICAL LABORATORY  
SOUTH PARK, PENNSYLVANIA 15129

TO: J. WITHUM/J. LOCKE

PROJECT NUMBER 1621-85 -

DATE LOGGED 11/24/04  
DATE COMPLETED 12/17/04

DESCRIPTION HCL-HF-3  
COMMENTS STK-M26-3  
SAMPLE NUMBER TEST 3  
ANALYTICAL NUMBER 045695

----- WATER ANALYSIS -----				
ANALYSIS	UNITS	VALUE	VALUE	DUP AVG
Chloride	ppm	192	193	193
FLUORIDE	ppm	7.20	6.30	6.75

Note: All units mg/L unless specified

CONSOL ENERGY INC.  
RESEARCH & DEVELOPMENT  
ANALYTICAL LABORATORY  
SOUTH PARK, PENNSYLVANIA 15129

TO: J. WITHUM/J. LOCKE

PROJECT NUMBER 1621-85 -

DATE LOGGED 11/24/04  
DATE COMPLETED 12/17/04

DESCRIPTION HCL-HF-BLANK  
COMMENTS STK-M26-B  
SAMPLE NUMBER BLANK  
ANALYTICAL NUMBER 045696

ANALYSIS	----- WATER ANALYSIS -----			
	UNITS	VALUE	VALUE	DUP AVG
Chloride	ppm	34.0		
FLUORIDE	ppm	1.75		

Note: All units mg/L unless specified





**Unit:** AES Greenidge Unit 4  
**Method:** EPA Method 26A - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 4/5/2007  
**Comments:** Guarantee Tests - March 2007

LAB SAMPLE ID	DESCRIPTION	mg Cl- as HCl	mg F- as HF
20071771	AHO ACID GAS AGI-1 PROBE & LINE RINSE RUN 1	38.15	< 0.06
20071772	AHO ACID GAS AGI-1 IMPINGER SOLUTION	159.75	< 0.11
20071773	STACK ACID GAS AGO-1 PROBE RINSE	6.88	< 0.03
20071774	STACK ACID GAS AGO-1 IMPINGER SOLUTION	88.34	< 0.11
20071775	AHO ACID GAS AGI-2 PROBE RINSE	2.53	0.07
20071776	AHO ACID GAS AGI-2 IMPINGER SOLUTION	30.07	< 0.10
20071777	STACK ACID GAS AGO-2 PROBE RINSE	2.17	< 0.03
20071778	STACK ACID GAS AGO-2 IMPINGER SOLUTION	1.59	0.14
20071779	AHO ACID GAS AGI-3 PROBE RINSE	2.15	0.06
20071780	AHO ACID GAS AGI-3 IMPINGER SOLUTION	31.78	< 0.11
20071781	STACK ACID GAS AGO-3 PROBE RINSE	0.70	< 0.03
20071782	STACK ACID GAS AGO-3 IMPINGER SOLUTION	0.80	< 0.12
20071783	0.1 N H2SO4 BLANK SOLUTION	< 0.03	< 0.03



**Unit:** AES Greenidge Unit 4  
**Method:** EPA Method 26A - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 5/14/2007  
**Comments:** Guarantee Tests - May 2007

LAB SAMPLE ID	DESCRIPTION	mg Cl- as HCl	mg F- as HF
20072458	ACID GAS PROBE AHO TEST 1	0.22	0.05
20072459	ACID GAS IMPINGERS AHO TEST 1	46.48	< 0.11
20072460	ACID GAS PROBE STK TEST 1	0.31	< 0.01
20072461	ACID GAS IMPINGERS STK TEST 1	1.48	< 0.11
20072462	ACID GAS PROBE AHO TEST 2	0.16	0.06
20072463	ACID GAS IMPINGERS AHO TEST 2	55.06	< 0.10
20072464	ACID GAS PROBE STK TEST 2	0.13	< 0.02
20072465	ACID GAS IMPINGER STK TEST 2	1.23	< 0.10
20072466	ACID GAS 0.1N H2SO4 BLANK	< 0.02	< 0.02
20072467	ACID GAS DI H2O BLANK	< 0.06	< 0.06





**Unit:** AES Greenidge Unit 4  
**Method:** EPA Method 26A - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 11/8/2007  
**Comments:** Process Performance Tests - October 2007

LAB SAMPLE ID	DESCRIPTION	mg Cl- as HCl	mg F- as HF
20076254	PROBE/LINE RINSE	0.09	<0.05
20076255	IMPINGER SOLUTION	32.92	0.70
20076256	PROBE/LINE RINSE	0.37	<0.03
20076257	IMPINGER SOLUTION	2.92	<0.11
20076258	PROBE/LINE RINSE	0.28	<0.04
20076259	IMPINGER SOLUTION	28.44	0.65
20076260	PROBE/LINE RINSE	0.21	<0.02
20076261	IMPINGER SOLUTION	0.16	<0.10
20076262	0.1N H2SO4 BLANK	<0.02	0.03
20076329	PROBE RINSE	0.05	<0.02
20076330	LINE RINSE	0.22	<0.02
20076331	IMPINGER SOLUTION	31.03	0.42
20076332	PROBE RINSE	0.44	<0.02
20076333	LINE RINSE	0.17	<0.03
20076334	IMPINGER SOLUTION	3.19	<0.11
20076345	PROBE RINSE	0.03	<0.02
20076346	LINE RINSE	0.58	<0.03
20076347	IMPINGER SOLUTION	29.55	0.52
20076348	PROBE RINSE	0.15	<0.02
20076349	LINE RINSE	0.09	<0.02
20076350	IMPINGER SOLUTION	0.69	<0.11
20076361	PROBE RINSE	0.12	<0.02
20076362	LINE RINSE	0.92	<0.03
20076363	IMPINGER SOLUTION	30.39	0.78
20076364	PROBE RINSE	0.24	<0.02
20076365	LINE RINSE	0.15	<0.01
20076366	IMPINGER SOLUTION	1.65	<0.11



**Unit:** AES Greenidge Unit 4  
**Method:** EPA Method 26A - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 3/26/2008  
**Comments:** Process Performance Tests - March 2008

LAB SAMPLE ID	DESCRIPTION	mg Cl- as HCl	mg F- as HF
80964	AHO, PROBE RINSE	0.97	<0.02
80965	AHO, LINE RINSE	3.74	0.09
80966	AHO, 0.1N H2SO4 IMPINGER SOLUTION	59.46	1.37
80968	STK, PROBE RINSE	1.10	<0.02
80969	STK, LINE RINSE	0.89	<0.02
80970	STK, 0.1N H2SO4 IMPINGER SOLUTION	0.93	<0.10
80972	Blank, 0.1N H2SO4	<0.04	<0.02
80974	AHO, PROBE RINSE	0.56	<0.01
80975	AHO, LINE RINSE	2.83	0.05
80976	AHO, 0.1N H2SO4 IMPINGER SOLUTION	56.42	0.92
80978	STK, PROBE RINSE	0.79	<0.02
80979	STK, LINE RINSE	0.11	<0.03
80980	STK, 0.1N H2SO4 IMPINGER SOLUTION	1.33	<0.09
80982	AHO, PROBE RINSE	1.62	0.04
80983	AHO, LINE RINSE	5.71	0.13
80984	AHO, 0.1N H2SO4 IMPINGER SOLUTION	40.27	0.95
80986	STK, PROBE RINSE	0.14	<0.02
80987	STK, LINE RINSE	0.07	<0.02
80988	STK, 0.1N H2SO4 IMPINGER SOLUTION	0.83	<0.09
80990	AHO, PROBE RINSE	2.13	0.07
80991	AHO, LINE RINSE	6.03	0.15
80992	AHO, 0.1N H2SO4 IMPINGER SOLUTION	44.35	1.01
80994	STK, PROBE RINSE	0.07	<0.02
80995	STK, LINE RINSE	0.08	<0.02
80996	STK, 0.1N H2SO4 IMPINGER SOLUTION	0.91	<0.09





**Unit:** AES Greenidge Unit 4  
**Method:** EPA Method 26A - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 6/11/2008  
**Comments:** Process Performance Tests - May 2008

LAB SAMPLE ID	DESCRIPTION	mg Cl- as HCl	mg F- as HF
20082245	PROBE RINSE AHO AG1-1	2.82	0.10
20082246	LINE RINSE AHO AGI-1	2.45	0.21
20082247	0.1N H2SO4 IMPINGER SOLUTION AHO AGI-1	22.4	<0.09
20082248	PROBE RINSE STK AGO-1	0.52	<0.03
20082249	LINE RINSE STK AGO-1	0.28	0.06
20082250	01N H2SO4 IMPINGER SOLUTION STK AGO-1	1.39	<0.1
20082251	PROBE RINSE AHO AGI-2	1.83	0.07
20082252	LINE RINSE AHO AGI-2	0.72	0.05
20082253	0.1N H2SO4 IMPINGER SOLUTION AHO AGI-2	24.2	<0.09
20082254	PROBE RINSE STK AGO-2	0.22	<0.01
20082255	LINE RINSE STK AGO-2	0.13	0.03
20082256	0.1N H2SO4 IMPINGER SOLUTION STK AGO-2	1.44	<0.11
20082257	PROBE RINSE AHO AGI-3	1.16	<0.03
20082258	LINE RINSE AHO AGI-3	0.96	0.06
20082259	0.1N H2SO4 IMPINGER SOLUTION AHO AGI-3	14.0	<0.09
20082260	PROBE RINSE STK AGO-3	0.03	<0.01
20082261	LINE RINSE STK AGO-3	0.04	0.05
20082262	0.1N H2SO4 IMPINGER SOLUTION STK AGO-3	<0.1	<0.10
20082263	PROBE RINSE AHO AGI-4	0.66	<0.03
20082264	LINE RINSE AHO AGI-4	2.05	0.05
20082265	0.1N H2SO4 IMPINGER SOLUTION AHO AGI-4	9.53	<0.09
20082266	PROBE RINSE STK AGO-4	0.05	<0.02
20082267	LINE RINSE STK AGO-4	<0.01	0.13
20082268	0.1N H2SO4 IMPINGER SOLUTION STK AGO-4	<0.1	<0.10
20082269	PROBE RINSE AHO AGI-5	1.85	0.02
20082270	LINE RINSE AHO AGI-5	2.54	0.03
20082271	0.1N H2SO4 IMPINGER SOLUTION AHO AGI-5	8.21	<0.09
20082272	PROBE RINSE STK AGO-5	0.65	<0.02
20082273	LINE RINSE STK AGO-5	0.16	<0.02
20082274	0.1N H2SO4 IMPINGER SOLUTION STK AGO-5	1.54	<0.11
20082275	0.1N H2SO4 IMPINGER SOLUTION BLANK	<0.1	<0.02
20082276	ZENO WATER BLANK	<0.02	<0.02



**Unit:** AES Greenidge Unit 4  
**Method:** EPA Method 26A - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 9/12/2008  
**Comments:** Follow-Up Tests - June 2008

LAB SAMPLE ID	DESCRIPTION	mg Cl- as HCl	mg F- as HF
20082765	AHO PROBE RINSE AGI-1	0.39	<0.03
20082766	AHO LINE RINSE AGI-1	0.07	<0.02
20082767	AHO 0.1N H2SO4 IMPINGER SOLUTION AGI-1	24.65	<0.11
20082768	STK PROBE RINSE AGO-1	0.05	<0.02
20082769	STK LINE RINSE AGO-1	0.02	0.02
20082770	STK 0.1N H2SO4 IMPINGER SOLUTION AGO-1	<0.11	<0.11
20082771	AHO PROBE RINSE AGI-2	1.86	<0.02
20082772	AHO LINE RINSE AGI-2	0.74	0.02
20082773	AHO 0.1N H2SO4 IMPINGER SOLUTION AGI-2	32.67	<0.09
20082774	STK PROBE RINSE AGO-2	0.04	<0.02
20082775	STK LINE RINSE AGO-2	<0.01	<0.01
20082776	STK 0.1N H2SO4 IMPINGER SOLUTION AGO-2	<0.10	<0.11
20082777	AHO PROBE RINSE AGI-3	1.91	0.03
20082778	AHO LINE RINSE AGI-3	0.47	0.01
20082779	AHO 0.1N H2SO4 IMPINGER SOLUTION AGI-3	33.54	<0.08
20082780	STK PROBE RINSE AGO-3	<0.02	<0.02
20082781	STK LINE RINSE AGO-3	<0.02	<0.02
20082782	STK 0.1N H2SO4 IMPINGER SOLUTION AGO-3	<0.11	<0.10
20082783	AHO PROBE RINSE AGI-4	0.13	<0.02
20082784	AHO LINE RINSE AGI-4	0.07	<0.02
20082785	AHO 0.1N H2SO4 IMPINGER SOLUTION AGI-4	33.56	<0.08
20082786	STK PROBE RINSE AGO-4	0.03	<0.02
20082787	STK LINE RINSE AGO-4	0.02	<0.02
20082788	STK 0.1N H2SO4 IMPINGER SOLUTION AGO-4	<0.09	<0.10
20082789	0.1N H2SO4 IMPINGER SOLUTION BLANK	<0.04	0.03
20082790	ZENO WATER BLANK	<0.02	<0.02





**Unit:** AES Greenidge Unit 4  
**Method:** EPA Method 26A - Ion Chromatography  
**Project Number:** 1621-85  
**Report Date:** 9/12/2008  
**Comments:** Process Performance Tests - June 2008

LAB SAMPLE ID	DESCRIPTION	mg Cl- as HCl	mg F- as HF
82973	AHO AGI-5 PROBE RINSE 1027	0.75	<0.03
82974	AHO AGI-5 LINE RINSE 1028	1.99	0.03
82975	AHO AGI-5 0.1 N H2SO4 IMPINGER 1029	36.45	<0.07
82976	STK AGO-5 PROBE RINSE 1030	1.86	<0.03
82977	STK AGO-5 LINE RINSE 1031	0.22	<0.02
82978	STK AGO-5 0.1 N H2SO4 IMPINGER 1032	4.35	<0.11
82979	AHO AGI-6 PROBE RINSE 1033	1.02	0.01
82980	AHO AGI-6 LINE RINSE 1034	7.99	0.16
82981	AHO AGI-6 0.1 N H2SO4 IMPINGER 1035	31.91	<0.08
82982	STK AGO-6 PROBE RINSE 1036	0.27	<0.01
82983	STK AGO-6 LINE RINSE 1037	0.17	<0.01
82984	STK AGO-6 0.1 N H2SO4 IMPINGER 1038	2.64	<0.10
82985	AHO AGI-7 PROBE RINSE 1039	2.96	0.03
82986	AHO AGI-7 LINE RINSE 1040	4.12	0.16
82987	AHO AGI-7 0.1 N H2SO4 IMPINGER 1041	33.60	<0.08
82988	STK AGO-7 PROBE RINSE 1042	0.30	<0.01
82989	STK AGO-7 LINE RINSE 1043	0.17	<0.01
82990	STK AGO-7 0.1 N H2SO4 IMPINGER 1044	1.72	<0.10
82991	AHO AGI-8 PROBE RINSE 1045	2.69	0.03
82992	AHO AGI-8 LINE RINSE 1046	1.46	0.11
82993	AHO AGI-8 0.1 N H2SO4 IMPINGER 1047	26.69	<0.08
82994	STK AGO-8 PROBE RINSE 1048	0.17	<0.01
82995	STK AGO-8 LINE RINSE 1049	0.04	<0.01
82996	STK AGO-8 0.1 N H2SO4 IMPINGER 1050	1.41	<0.10
82997	AHO AGI-9 PROBE RINSE 1051	1.37	0.01
82998	AHO AGI-9 LINE RINSE 1052	3.03	0.10
82999	AHO AGI-9 0.1 N H2SO4 IMPINGER 1053	28.42	<0.08
83000	STK AGO-9 PROBE RINSE 1054	0.21	<0.01
83001	STK AGO-9 LINE RINSE 1055	0.06	<0.01
83002	STK AGO-9 0.1 N H2SO4 IMPINGER 1056	2.59	<0.10
83003	AHO AGI-10 PROBE RINSE 1057	2.31	0.02
83004	AHO AGI-10 LINE RINSE 1058	5.55	0.06
83005	AHO AGI-10 0.1 N H2SO4 IMPINGER 1059	28.08	<0.08
83006	STK AGO-10 PROBE RINSE 1060	0.18	<0.02
83007	STK AGO-10 LINE RINSE 1061	0.08	<0.01
83008	STK AGO-10 0.1 N H2SO4 IMPINGER 1062	1.23	<0.10
83009	AHO AGI-11 PROBE RINSE 1063	1.76	0.02
83010	AHO AGI-11 LINE RINSE 1064	2.26	0.05
83011	AHO AGI-11 0.1 N H2SO4 IMPINGER 1065	30.28	<0.09
83012	STK AGO-11 PROBE RINSE 1066	0.19	<0.01
83013	STK AGO-11 LINE RINSE 1067	0.02	<0.01
83014	STK AGO-11 0.1 N H2SO4 IMPINGER 1068	1.00	<0.09
83015	AHO AGI-12 PROBE RINSE 1069	1.51	0.02
83016	AHO AGI-12 LINE RINSE 1070	0.16	0.01
83017	AHO AGI-12 0.1 N H2SO4 IMPINGER 1071	32.07	<0.08

LAB SAMPLE ID	DESCRIPTION	mg Cl- as HCl	mg F- as HF
83018	STK AGO-12 PROBE RINSE 1072	0.18	<0.02
83019	STK AGO-12 LINE RINSE 1073	<0.02	<0.02
83020	STK AGO-12 0.1 N H2SO4 IMPINGER 1074	1.02	<0.10



**APPENDIX J**  
**SOLID AND LIQUID PROCESS SAMPLE**  
**ANALYSIS RESULTS**

# CONTENTS

- J.1 Baseline Tests – November 2004
- J.2 Guarantee Tests – March 2007
- J.3 Guarantee Tests – May 2007
- J.4 Guarantee Tests – June 2007
- J.5 Process Performance Tests – October 2007
- J.6 Process Performance Tests – November 2007
- J.7 Process Performance Tests – March 2008
- J.8 Process Performance Tests – May 2008
- J.9 Process Performance and Follow-Up Tests – June 2008



**APPENDIX J.1  
BASELINE TESTS  
NOVEMBER 2004**

## Results of Analyses of Coal Samples

Sample ID	Coal - Test W1	Coal - Test W3	Coal - Test T2
Analytical Number	20045931	20045932	20045933
Description	CONSOL Test #1	CONSOL Test #2	CONSOL Test #3
Sample Date	11/17/2004	11/17/2004	11/18/2004
Total Moisture (%)	4.49	3.91	5.26
As determined Moisture (%)	1.61	1.75	1.65
VM (% , dry)	37.11	36.76	37.37
Ash (% , dry)	8.43	8.27	8.35
Carbon (% , dry)	77.32	77.37	77.44
Hydrogen (% , dry)	4.82	4.77	4.84
Nitrogen (% , dry)	1.46	1.45	1.47
Total Sulfur (% , dry)	1.89	1.96	2.11
HHV (Btu/lb, dry)	13,813	13,891	13,898
Chlorine (% , dry)	0.09	0.09	0.09
Hg (ppm, as det'd)	0.120	0.145	0.128
Major Ash Elements (% , dry)			
SiO <sub>2</sub>	48.66	48.13	48.18
Al <sub>2</sub> O <sub>3</sub>	24.23	24.22	24.15
TiO <sub>2</sub>	1.15	1.07	1.07
Fe <sub>2</sub> O <sub>3</sub>	17.28	17.81	17.62
CaO	2.99	3.08	3.08
MgO	0.82	0.81	0.81
Na <sub>2</sub> O	0.52	0.55	0.50
K <sub>2</sub> O	1.85	1.88	1.83
P <sub>2</sub> O <sub>5</sub>	0.52	0.51	0.51
SO <sub>3</sub>	2.72	2.99	2.84



### Results of Analyses of Bottom Ash Samples

Sample ID	Bottom Ash W-1	Bottom Ash W-3	Bottom Ash W-2	Bottom Ash T-2
Analytical Number	20045934	20045936	20045935	20045937
Description	CONSOL Test #1	CONSOL Test #2	CONSOL Test #2	CONSOL Test #3
Sample Date	11/17/2004	11/17/2004	11/17/2004	11/18/2004
Moisture (%)	0.09	0.28	0.12	0.51
Ash (% , dry)	99.40	96.80	96.70	89.64
Carbon (% , dry)	0.96	3.22	3.79	10.28
Total Sulfur (% , dry)	0.06	0.11	0.12	0.22
Chlorine (% , dry)	0.003	0.007	0.007	0.011
Hg (ppm, as det'd)	0.008	0.007	0.007	0.011
Major Ash Elements (% , dry)				
SiO <sub>2</sub>	46.61	44.66	44.05	40.12
Al <sub>2</sub> O <sub>3</sub>	22.16	21.80	21.31	19.32
TiO <sub>2</sub>	1.06	1.05	1.00	0.89
Fe <sub>2</sub> O <sub>3</sub>	24.09	23.75	25.36	24.90
CaO	2.42	2.50	2.43	2.32
MgO	0.66	0.65	0.62	0.57
Na <sub>2</sub> O	0.41	0.38	0.35	0.32
K <sub>2</sub> O	1.48	1.43	1.38	1.24
P <sub>2</sub> O <sub>5</sub>	0.30	0.33	0.30	0.30
SO <sub>3</sub>	0.16	0.27	0.30	0.55

## Results of Analysis of Economizer Ash Sample

Sample ID	Economizer Ash 07:00 AM
Sample Date	11/18/2004
Analytical Number	20045938
Moisture (%)	0.03
Ash (% dry)	81.90
Carbon (% dry)	18.12
Total Sulfur (% dry)	0.24
Chlorine (% dry)	0.002
Hg (ppm, as det'd)	0.048
Major Ash Elements (% dry)	
SiO <sub>2</sub>	37.90
Al <sub>2</sub> O <sub>3</sub>	17.98
TiO <sub>2</sub>	0.83
Fe <sub>2</sub> O <sub>3</sub>	21.75
CaO	2.43
MgO	0.55
Na <sub>2</sub> O	0.28
K <sub>2</sub> O	1.12
P <sub>2</sub> O <sub>5</sub>	0.28
SO <sub>3</sub>	0.60



## Results of Analyses of ESP Hopper Ash Samples

Sample ID	ESP-W1-9	ESP-W1-10	ESP-W1-11	ESP-W1-12	ESP-W1-13	ESP-W1-14	ESP-W1-15
Analytical Number	20045939	20045940	20045941	20045942	20045943	20045944	20045945
Description	ESP ASH CONSOL TEST #1						
Sample Date	11/17/2004						
Moisture (%)	0.06	0.21	0.19	0.17	0.32	0.26	0.18
Ash (% dry)	85.81	85.84	90.72	88.44	66.88	71.07	78.80
Carbon (% dry)	13.96	13.98	8.78	10.87	32.22	28.17	19.82
Total Sulfur (% dry)	0.25	0.24	0.24	0.26	0.36	0.36	0.48
Chlorine (% dry)	0.003	0.002	0.002	0.002	0.005	0.007	0.003
Hg (ppm, as det'd)	0.79	0.46	0.38	0.46	1.37	1.22	0.96
Major Ash Elements (% dry)							
SiO <sub>2</sub>	44.49	43.80	45.88	44.42	32.54	34.14	39.23
Al <sub>2</sub> O <sub>3</sub>	21.48	21.27	21.95	21.24	16.18	16.98	19.86
TiO <sub>2</sub>	1.07	1.06	1.10	1.07	0.85	0.89	1.08
Fe <sub>2</sub> O <sub>3</sub>	12.42	11.77	13.29	14.42	11.76	12.62	10.28
CaO	2.37	2.38	2.47	2.51	1.94	2.05	2.27
MgO	0.73	0.72	0.75	0.73	0.59	0.61	0.74
Na <sub>2</sub> O	0.47	0.46	0.47	0.45	0.36	0.38	0.50
K <sub>2</sub> O	1.61	1.60	1.62	1.56	1.17	1.26	1.54
P <sub>2</sub> O <sub>5</sub>	0.45	0.46	0.45	0.45	0.44	0.46	0.58
SO <sub>3</sub>	0.63	0.59	0.61	0.65	0.91	0.89	1.20

Sample ID	ESP-W3-9	ESP-W3-10	ESP-W3-11	ESP-W3-12	ESP-W3-13	ESP-W3-14	ESP-W3-15
Analytical Number	20045946	20045947	20045948	20045949	20045950	20045951	20045952
Description	CONSOL TEST #2 (First Hour)						
Sample Date	11/17/2004						
Moisture (%)	0.11	0.20	0.14	0.16	0.23	0.01	0.01
Ash (% dry)	88.87	89.37	90.65	89.07	64.53	67.91	73.37
Carbon (% dry)	10.60	10.06	8.91	10.21	35.65	29.14	24.26
Total Sulfur (% dry)	0.23	0.23	0.23	0.23	0.35	0.35	0.40
Chlorine (% dry)	0.003	0.002	0.001	0.001	0.004	0.004	0.004
Hg (ppm, as det'd)	0.49	0.40	0.38	0.41	1.28	1.26	1.07
Major Ash Elements (% dry)							
SiO <sub>2</sub>	45.01	46.07	45.41	44.61	29.69	31.87	35.63
Al <sub>2</sub> O <sub>3</sub>	21.24	21.58	21.46	21.09	14.61	15.61	17.85
TiO <sub>2</sub>	1.09	1.10	1.12	1.09	0.78	0.84	0.99
Fe <sub>2</sub> O <sub>3</sub>	13.17	13.28	13.85	14.13	12.56	13.47	10.50
CaO	2.48	2.49	2.57	2.53	1.89	2.02	2.12
MgO	0.72	0.72	0.73	0.72	0.52	0.56	0.66
Na <sub>2</sub> O	0.43	0.43	0.43	0.43	0.32	0.34	0.42
K <sub>2</sub> O	1.56	1.55	1.53	1.51	1.03	1.11	1.35
P <sub>2</sub> O <sub>5</sub>	0.44	0.42	0.45	0.44	0.41	0.42	0.50
SO <sub>3</sub>	0.57	0.57	0.58	0.58	0.88	0.87	1.01

## Results of Analyses of ESP Hopper Ash Samples (continued)

Sample ID	ESP-W2-9	ESP-W2-10	ESP-W2-11	ESP-W2-12	ESP-W2-13	ESP-W2-14	ESP-W2-15
Analytical Number	20045953	20045954	20045955	20045956	20045957	20045958	20045959
Description	CONSOL TEST #2 (Second Hour)						
Sample Date	11/17/2004						
Moisture (%)	0.09	0.01	0.07	0.24	0.18	0.15	0.08
Ash (% dry)	90.16	87.80	90.41	89.00	72.46	68.35	64.01
Carbon (% dry)	8.83	11.15	8.60	10.10	25.07	29.01	32.82
Total Sulfur (% dry)	0.22	0.23	0.22	0.24	0.41	0.38	0.34
Chlorine (% dry)	0.001	0.003	0.002	0.002	0.004	0.004	0.004
Hg (ppm, as det'd)	0.38	0.47	0.38	0.41	1.15	1.16	1.23
Major Ash Elements (% dry)							
SiO <sub>2</sub>	44.93	43.54	44.76	43.97	35.15	32.12	28.91
Al <sub>2</sub> O <sub>3</sub>	21.19	20.47	20.90	20.57	17.45	15.78	14.04
TiO <sub>2</sub>	1.11	1.08	1.13	1.10	0.99	0.89	0.76
Fe <sub>2</sub> O <sub>3</sub>	13.47	13.98	13.61	13.91	10.66	11.69	14.79
CaO	2.52	2.48	2.61	2.50	2.12	2.05	1.95
MgO	0.72	0.70	0.73	0.70	0.66	0.58	0.50
Na <sub>2</sub> O	0.42	0.41	0.42	0.41	0.40	0.34	0.28
K <sub>2</sub> O	1.53	1.45	1.47	1.46	1.29	1.14	0.96
P <sub>2</sub> O <sub>5</sub>	0.43	0.42	0.43	0.42	0.51	0.43	0.37
SO <sub>3</sub>	0.54	0.57	0.55	0.59	1.02	0.94	0.85

Sample ID	ESP-T2-9	ESP-T2-10	ESP-T2-11	ESP-T2-12	ESP-T2-13	ESP-T2-14	ESP-T2-15
Analytical Number	20045960	20045961	20045962	20045963	20045964	20045965	20045966
Description	CONSOL TEST #3						
Sample Date	11/18/2004						
Moisture (%)	0.01	0.01	0.07	0.04	0.14	0.23	0.12
Ash (% dry)	90.55	89.85	88.94	88.42	64.82	69.68	60.77
Carbon (% dry)	8.85	9.16	10.45	10.97	33.23	28.86	36.49
Total Sulfur (% dry)	0.25	0.26	0.28	0.28	0.44	0.44	0.45
Chlorine (% dry)	0.002	0.001	0.001	0.002	0.004	0.003	0.003
Hg (ppm, as det'd)	0.23	0.24	0.34	0.23	0.92	0.81	1.00
Major Ash Elements (% dry)							
SiO <sub>2</sub>	44.60	43.84	43.50	45.40	28.45	32.34	28.40
Al <sub>2</sub> O <sub>3</sub>	20.94	20.50	20.54	22.63	14.97	16.91	14.99
TiO <sub>2</sub>	1.07	1.05	1.08	1.06	0.71	0.81	0.72
Fe <sub>2</sub> O <sub>3</sub>	14.71	15.55	14.35	15.43	17.47	16.18	15.45
CaO	2.71	2.69	2.80	2.84	2.25	2.38	2.09
MgO	0.71	0.69	0.72	0.75	0.52	0.59	0.53
Na <sub>2</sub> O	0.41	0.39	0.40	0.50	0.34	0.40	0.36
K <sub>2</sub> O	1.46	1.41	1.43	1.73	1.09	1.29	1.13
P <sub>2</sub> O <sub>5</sub>	0.41	0.41	0.46	0.46	0.40	0.43	0.41
SO <sub>3</sub>	0.63	0.66	0.71	0.69	1.10	1.11	1.12



**APPENDIX J.2  
GUARANTEE TESTS  
MARCH 2007**

## Coal Sample Analysis Results

Analytical Number	20071795	20071796	20071797	20071798	20071814	20071815	20071816	20071829	20071830	20071831
Test Identification	TEST 1	TEST 2	TEST 3	TEST 3	TEST 1	TEST 2	TEST 3	TEST 1 <sup>b</sup>	TEST 2 <sup>c</sup>	TEST 3 <sup>d</sup>
Date & Time <sup>a</sup>	3/28/2007 09:00-10:00	3/28/2007 13:00-14:00	3/28/2007 16:15	3/28/2007 18:25	3/29/2007 9:30	3/29/2007 13:30	3/29/2007 16:30	3/30/2007 9:05-10:35	3/30/2007 12:45-14:00	3/28/2007 15:45-16:45
Total Moisture, %	6.62	6.28	6.54	6.71	4.20	4.60	4.61	6.66	4.97	4.87
As Determined Moisture, %	1.31	1.29	1.43	1.41	1.75	1.61	1.70	1.30	1.69	1.50
Volatile Matter, % dry	39.95	39.95	39.92	40.20	39.78	40.36	39.66	40.30	40.32	40.45
Ash, % dry	8.58	8.36	7.99	8.00	8.08	8.54	7.99	7.92	8.18	8.23
Carbon, % dry	76.14	75.66	75.86	76.58	76.59	76.62	76.23	76.02	76.41	76.35
Hydrogen, % dry	5.12	5.04	5.01	5.01	4.86	4.93	4.97	4.98	4.83	4.91
Nitrogen, % dry	1.41	1.45	1.44	1.46	1.41	1.50	1.46	1.48	1.40	1.42
Sulfur, % dry	2.68	2.69	2.57	2.68	2.79	2.50	2.66	2.61	2.65	2.65
Chlorine, % dry	0.069	0.075	0.074	0.071	0.072	0.073	0.076	0.075	0.075	0.070
Mercury, ppm dry	0.101	0.113	0.097	0.094	0.116	0.097	0.108	0.097	0.090	0.089
Fluorine, ppm dry	66.77	67.07	70.61	65.52	63.51	63.83	66.23	59.27	69.47	67.51
Selenium, ppm dry	1.26	1.15	1.25	1.12	1.10	1.04	1.12	1.01	1.02	0.99
HHV, Btu/lb dry	13768	13799	13916	13939	13893	13838	13982	14015	13956	13948
Major Ash Elements, % of ash										
SiO <sub>2</sub>	44.98	42.69	44.62	42.22	42.34	41.41	43.52	41.81	42.67	42.38
Al <sub>2</sub> O <sub>3</sub>	20.75	20.16	22.46	21.80	20.94	20.78	21.48	20.75	20.97	20.88
TiO <sub>2</sub>	0.92	0.88	0.99	0.92	0.90	0.86	0.91	0.87	0.90	0.89
Fe <sub>2</sub> O <sub>3</sub>	20.51	22.46	20.52	20.84	23.67	18.98	23.20	21.95	21.39	21.46
CaO	4.98	5.29	4.59	5.71	4.59	8.19	4.28	6.42	5.59	4.99
MgO	0.85	0.85	0.92	1.36	1.12	1.06	0.86	0.95	0.98	0.94
Na <sub>2</sub> O	0.80	0.76	0.81	0.86	0.81	0.82	0.83	0.87	0.84	0.86
K <sub>2</sub> O	1.46	1.39	1.57	1.57	1.58	1.51	1.61	1.53	1.46	1.71
P <sub>2</sub> O <sub>5</sub>	0.36	0.38	0.48	0.37	0.34	0.37	0.40	0.37	0.38	0.37
SO <sub>3</sub>	4.81	4.97	3.78	5.31	4.29	5.83	3.83	5.14	4.92	4.82

<sup>a</sup>If a range of times is listed, result is for a composite of samples collected at the beginning and end of the range. <sup>b</sup>Mercury Test #4. <sup>c</sup>Mercury Test #5. <sup>d</sup>Mercury Test #6.



**Turbosorp® Hopper Ash Sample Analysis Results**

Analytical Number	20071805	20071806	20071807	20071835	20071836	20071837
Test Identification	TEST 1 MARCH 28 11:30	TEST 2 MARCH 28 16:00	TEST 3 MARCH 28 20:00	TEST 1 <sup>a</sup> MARCH 30 10:00	TEST 2 <sup>b</sup> MARCH 30 13:45	TEST 3 <sup>c</sup> MARCH 30 16:45
Date & Time						
As Determined Moisture, %	0.10	0.09	0.12	0.06	0.08	0.35
Ash, % dry	81.48	82.45	79.20	74.83	82.78	81.88
Carbon, % dry	19.10	17.99	21.20	26.38	16.36	17.48
Chlorine, % dry	0.027	0.018	0.016	0.023	0.016	0.018
Mercury, ppm dry	0.134	0.123	0.141	0.139	0.105	0.107
Fluorine, ppm dry	58.16	59.55	57.27	53.13	53.34	53.39
Major Ash Elements, % dry						
SiO <sub>2</sub>	25.86	25.48	26.31	26.34	26.73	26.05
Al <sub>2</sub> O <sub>3</sub>	11.66	10.36	11.96	12.01	12.18	11.73
TiO <sub>2</sub>	0.46	0.46	0.47	0.45	0.48	0.46
Fe <sub>2</sub> O <sub>3</sub>	37.54	40.28	32.91	29.96	34.00	34.54
CaO	4.91	7.06	5.10	5.46	8.09	7.04
MgO	0.46	0.54	0.49	0.48	0.54	0.52
Na <sub>2</sub> O	0.38	0.31	0.38	0.42	0.42	0.40
K <sub>2</sub> O	0.69	0.54	0.70	0.71	0.71	0.68
P <sub>2</sub> O <sub>5</sub>	0.28	0.35	0.32	0.28	0.26	0.25
SO <sub>3</sub>	1.50	2.10	1.52	1.47	2.38	2.46

<sup>a</sup>Mercury test #4. <sup>b</sup>Mercury test #5. <sup>c</sup>Mercury test #6.

**Turbosorp® Product Ash Sample Analysis Results**

Analytical Number	20071799	20071800	20071801	20071802	20071803	20071804
Test Identification	TEST 1	TEST 1	TEST 2	TEST 2	TEST 3	TEST 3
Date & Time	MARCH 28 10:00	MARCH 28 11:00	MARCH 28 14:00	MARCH 28 15:50	MARCH 28 17:15	MARCH 28 19:20
As Determined Moisture, %	0.79	0.91	0.65	0.80	0.75	0.84
Ash, % dry	84.57	84.58	84.37	84.77	84.78	84.75
Carbon, % dry	8.05	8.18	8.13	7.67	7.61	7.47
Chlorine, % dry	0.276	0.296	0.291	0.268	0.278	0.296
Mercury, ppm dry	0.346	0.347	0.360	0.367	0.363	0.372
Fluorine, ppm dry	80.74	92.54	83.95	83.06	87.36	91.17
Major Ash Elements, % dry						
SiO <sub>2</sub>	12.28	12.18	11.85	11.65	11.82	11.37
Al <sub>2</sub> O <sub>3</sub>	6.08	6.06	5.93	5.85	5.94	5.71
TiO <sub>2</sub>	0.26	0.26	0.25	0.25	0.26	0.25
Fe <sub>2</sub> O <sub>3</sub>	4.55	4.55	4.40	4.29	4.35	4.23
CaO	37.53	37.78	38.14	38.06	37.77	37.47
MgO	0.64	0.65	0.64	0.64	0.63	0.63
Na <sub>2</sub> O	0.32	0.32	0.30	0.31	0.30	0.30
K <sub>2</sub> O	0.45	0.45	0.43	0.43	0.43	0.44
P <sub>2</sub> O <sub>5</sub>	0.14	0.12	0.12	0.13	0.11	0.11
SO <sub>3</sub>	22.79	22.79	23.11	23.16	23.16	22.62

**Turbosorp® Product Ash Sample Analysis Results (continued)**

Analytical Number	20071817	20071818	20071819	20071832	20071833	20071834
Test Identification	TEST 1	TEST 2	TEST 3	TEST 1 <sup>a</sup>	TEST 2 <sup>b</sup>	TEST 3 <sup>c</sup>
Date & Time	MARCH 29 9:30	MARCH 29 13:30	MARCH 29 16:30	MARCH 30 11:15	MARCH 30 13:45	MARCH 30 16:45
As Determined Moisture, %	0.98	0.98	0.66	0.56	0.63	0.51
Ash, % dry	83.72	84.23	83.30	83.24	83.64	83.69
Carbon, % dry	8.23	8.07	7.96	8.34	8.16	8.12
Chlorine, % dry	0.270	0.249	0.261	0.213	0.270	0.280
Mercury, ppm dry	0.369	0.377	0.395	0.379	0.349	0.352
Fluorine, ppm dry	79.58	76.45	72.58	91.81	82.12	80.31
Major Ash Elements, % dry						
SiO <sub>2</sub>	12.41	12.06	12.03	12.93	12.59	12.12
Al <sub>2</sub> O <sub>3</sub>	6.17	6.05	6.06	6.61	6.28	6.06
TiO <sub>2</sub>	0.26	0.26	0.26	0.29	0.27	0.26
Fe <sub>2</sub> O <sub>3</sub>	4.62	4.49	4.33	4.52	4.73	4.57
CaO	38.84	38.45	38.18	37.10	38.21	38.77
MgO	0.66	0.65	0.63	0.65	0.66	0.66
Na <sub>2</sub> O	0.32	0.31	0.31	0.33	0.33	0.33
K <sub>2</sub> O	0.46	0.45	0.44	0.48	0.48	0.47
P <sub>2</sub> O <sub>5</sub>	0.11	0.13	0.14	0.13	0.13	0.12
SO <sub>3</sub>	21.14	21.90	21.91	20.92	21.57	21.84

<sup>a</sup>Mercury test #4. <sup>b</sup>Mercury test #5. <sup>c</sup>Mercury test #6.



**Pebble Lime Sample Analysis Results**

Analytical Number	20071811	20071812	20071813	20071826	20071827	20071828	20071841	20071842	20071843
Test Identification	TEST 1	TEST 2	TEST 3	TEST 1	TEST 2	TEST 3	TEST 1 <sup>a</sup>	TEST 2 <sup>b</sup>	TEST 3 <sup>c</sup>
Date & Time	3/28/2007 10:00	3/28/2007 14:30	3/28/2007 17:15	3/29/2007 9:30	3/29/2007 13:30	3/29/2007 16:30	3/30/2007 10:00	3/30/2007 13:45	3/30/2007 16:45
As Determined Moisture, %	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ash, % dry	97.74	95.88	98.69	97.87	97.51	96.01	97.95	98.11	99.08
Carbon, % dry	0.37	1.36	0.14	0.31	0.30	0.38	0.62	0.48	0.31
Mercury, ppm dry	<0.005	<0.005	<0.005				0.005	0.004	0.004
Available Lime, % as CaO	89.38 <sup>d,g</sup>			88.07 <sup>e,g</sup>			92.57 <sup>f,g</sup>		
Slaking Rate, temperature rise in 30 sec., °C	32.0 <sup>d,g</sup>			30.0 <sup>e,g</sup>			33.0 <sup>f,g</sup>		
Slaking Rate, temperature rise in 3 min., °C	52.0 <sup>d,g</sup>			50.5 <sup>e,g</sup>			52.0 <sup>f,g</sup>		
Slaking Residue, %	0.97 <sup>d,g</sup>			3.79 <sup>e,g</sup>			2.06 <sup>f,g</sup>		
Major Ash Elements, % dry									
SiO <sub>2</sub>	1.06	1.07	0.98	1.03	1.61	1.33	0.65	1.81	2.34
Al <sub>2</sub> O <sub>3</sub>	0.48	0.49	0.48	0.54	0.49	0.43	0.44	0.46	0.46
TiO <sub>2</sub>	0.02	0.02	0.02	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Fe <sub>2</sub> O <sub>3</sub>	0.20	0.25	0.21	0.23	0.21	0.19	0.18	0.18	0.18
CaO	95.22	91.37	96.28	95.21	96.64	95.51	96.09	95.10	95.17
MgO	1.11	2.88	1.04	1.04	1.05	0.10	0.96	0.95	0.99
Na <sub>2</sub> O	0.08	0.06	0.08	0.05	0.09	0.08	0.06	0.05	0.06
K <sub>2</sub> O	0.07	0.06	0.06	<0.03	0.07	0.06	0.04	0.03	<0.03
P <sub>2</sub> O <sub>5</sub>	0.01	0.01	0.01	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
SO <sub>3</sub>	0.16	0.18	0.17	0.14	0.15	0.17	0.09	0.10	0.12

<sup>a</sup>Mercury test #4. <sup>b</sup>Mercury test #5. <sup>c</sup>Mercury test #6. <sup>d</sup>Composite of samples 20071811, 20071812, and 20071813. <sup>e</sup>Composite of samples 20071826, 20071827, and 20071828. <sup>f</sup>Composite of samples 20071841, 20071842, and 20071843. <sup>g</sup>Analysis performed by CTL Group.

### Hydrated Lime Sample Analysis Results

Analytical Number	20071808	20071809	20071810	20071823	20071824	20071825	20071838	20071839	20071840
Test Identification	TEST 1 3/28/2007 11:00	TEST 2 3/28/2007 14:30	TEST 3 3/28/2007 17:00	TEST 1 3/29/2007 9:30	TEST 2 3/29/2007 13:30	TEST 3 3/29/2007 16:30	TEST 1 <sup>a</sup> 3/30/2007 10:00	TEST 2 <sup>b</sup> 3/30/2007 13:45	TEST 3 <sup>c</sup> 3/30/2007 16:45
Date & Time									
As Determined Moisture, %	0.27	0.29	0.35	0.09	<0.01	<0.01	<0.01	<0.01	0.06
Ash, % dry	76.43	76.39	76.39	75.73	75.52	75.92	75.74	76.00	76.32
Carbon, % dry	0.32	0.30	0.32	0.44	0.58	0.42	0.39	0.45	0.39
Mercury, ppm dry	0.005	<0.005	<0.005				0.006	0.005	0.004
Apparent Density - Loose, lb/ft <sup>3</sup>		22.32 <sup>d,g</sup>			22.83 <sup>e,g</sup>			22.14 <sup>f,g</sup>	
Apparent Density - Packed, lb/ft <sup>3</sup>		39.58 <sup>d,g</sup>			37.17 <sup>e,g</sup>			36.78 <sup>f,g</sup>	
BET Surface Area, m <sup>2</sup> /g		15.73 <sup>d,g</sup>			17.29 <sup>e,g</sup>			17.62 <sup>f,g</sup>	
Major Ash Elements, % dry									
SiO <sub>2</sub>	0.83	0.73	0.71	1.31	1.31	1.31	1.31	1.34	1.25
Al <sub>2</sub> O <sub>3</sub>	0.40	0.40	0.41	0.38	0.38	0.37	0.36	0.36	0.35
TiO <sub>2</sub>	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Fe <sub>2</sub> O <sub>3</sub>	0.16	0.16	0.16	0.14	0.18	0.14	0.16	0.14	0.14
CaO	75.45	74.30	74.19	70.01	69.05	70.83	70.94	71.24	71.27
MgO	0.82	0.82	0.81	0.80	0.80	0.81	0.80	0.80	0.80
Na <sub>2</sub> O	0.08	0.07	0.07	0.01	0.02	0.02	0.03	0.02	0.02
K <sub>2</sub> O	0.05	0.05	0.05	0.04	0.04	0.04	0.06	0.05	0.04
P <sub>2</sub> O <sub>5</sub>	0.01	0.01	0.01	0.01	0.02	0.01	0.01	<0.01	<0.03
SO <sub>3</sub>	0.13	0.12	0.17	0.20	0.21	0.18	0.20	0.22	0.17

<sup>a</sup>Mercury test #4. <sup>b</sup>Mercury test #5. <sup>c</sup>Mercury test #6. <sup>d</sup>Composite of samples 20071808, 20071809, and 20071810. <sup>e</sup>Composite of samples 20071823, 20071824, and 20071825. <sup>f</sup>Composite of samples 20071838, 20071839, and 20071840. <sup>g</sup>Analysis performed by CTL Group.

### Activated Carbon Sample Analysis Results

Analytical Number	20071845	20071844
Test Identification	NA	NA
Date & Time	3/29/07 15:30	3/30/07 12:00
As Determined Moisture %	1.21	1.17
Volatile Matter, % dry	4.63	4.50
Ash, % dry	8.24	8.33
Carbon, % dry	90.95	90.66
Hydrogen, % dry	<0.01	<0.01
Nitrogen, % dry	0.37	0.40
Sulfur, % dry	0.37	0.39
Mercury, ppm dry	0.005	0.004
Major Ash Elements, % dry		
SiO <sub>2</sub>	2.11	1.02
Al <sub>2</sub> O <sub>3</sub>	4.10	3.53
TiO <sub>2</sub>	0.35	0.33
Fe <sub>2</sub> O <sub>3</sub>	13.52	13.27
CaO	40.93	39.96
MgO	19.20	20.14
Na <sub>2</sub> O	4.04	5.80
K <sub>2</sub> O	0.31	0.50
P <sub>2</sub> O <sub>5</sub>	0.03	<0.01
SO <sub>3</sub>	16.20	14.61

### Urea Sample Analysis Results

Analytical Number	Sample Identification	pH	Hg, µg/L	TSS, mg/L	Ammonia, mg/L as N	Phosphate, mg/L	Density, g/cm <sup>3</sup>
20071971	AES Greenidge Urea Composite 3/28/07	9.56	<0.35	<6	595	45.20	1.14
20071972	AES Greenidge Urea Composite 3/30/07	9.40	<0.35	<6	635	79.20	1.13



Research and Development  
 www.consolenergy.com  
 4000 Brownsville Rd.  
 South Park, PA 15129

Sample Description.: FILTER/SOLIDS

Sample No.: 1  
 Date Received: 04/02/2007  
 Date Completed: 04/24/2007

Analytical No.: 20071670  
 Project No.: 1621 -085 -000  
 Submitted By: J. LOCKE/B. GREEN

<u>Proximate (Dry)</u>	<u>Wt%</u>	<u>Ash Fusion Reducing Temp (F)</u>	<u>Trace Elements (ppm (Dry))</u>
Ash		Initial	Hg 0.729
Volatile Matter		Softening	F
Fixed Carbon		Hemispherical.	As
BTU/lb		Fluid	Ba
MAF BTU/lb			Be
<u>Ultimate (Dry)%</u>		<u>Ash Fusion Oxidizing</u>	Cd
Carbon	20.87	Initial	Co
Hydrogen		Softening	Cr
Nitrogen		Hemispherical.	Cu
Chlorine		Fluid	Li
Sulfur, Total			Mn
Ash			Mo
Oxygen (DIFF)			Ni
			Pb
			Sb
			Se
			Sn
			Th
			Tl
			U
			V
			Zn
<u>Major Ash Elem.</u>		<u>Misc.</u>	<u>Seive Analysis</u>
SiO2		<u>Analysis Value</u>	<u>SIZE</u> <u>WT %</u>
Al2O3			
TiO2			
Fe2O3			
CaO			
MgO			
Na2O			
K2O			
P2O5			
SO3			
Undetermined			
<i>Total Moisture</i>			
<u>Sulfur Forms (Dry)</u>		<u>HGI/FSI</u>	
Pyritic Sulfur		HGI	
Sulfate			
Organic		FSI	
Sulfur, Total			

As Determined Moisture 0.63 %

These values have been reviewed and are approved for transmission. *JMT*

Research and Development  
 www.consolenergy.com  
 4000 Brownsville Rd.  
 South Park, PA 15129

**Sample Description.: FILTER/SOLIDS**

**Sample No.:** 15  
**Date Received:** 04/02/2007  
**Date Completed:** 04/24/2007

**Analytical No.:** 20071672  
**Project No.:** 1621 -085 -000  
**Submitted By:** J. LOCKE/B. GREEN

<u>Proximate (Dry)</u>	<u>Wt%</u>	<u>Ash Fusion Reducing Temp (F)</u>	<u>Trace Elements (ppm (Dry))</u>
Ash		Initial	Hg 0.566
Volatile Matter		Softening	F
Fixed Carbon		Hemispherical.	As
BTU/lb		Fluid	Ba
MAF BTU/lb			Be
<b><u>Ultimate (Dry)%</u></b>		<b><u>Ash Fusion Oxidizing</u></b>	Cd
Carbon	16.87	Initial	Co
Hydrogen		Softening	Cr
Nitrogen		Hemispherical.	Cu
Chlorine		Fluid	Li
Sulfur, Total			Mn
Ash			Mo
Oxygen (DIFF)			Ni
			Pb
<b><u>Major Ash Elem.</u></b>		<b><u>Misc.</u></b>	Sb
SiO2		<u>Analysis Value</u>	Se
Al2O3			Sn
TiO2			Th
Fe2O3			Tl
CaO			U
MgO			V
Na2O			Zn
K2O			
P2O5			
SO3			
Undetermined			
<i>Total Moisture</i>			
<b><u>Sulfur Forms (Dry)</u></b>		<b><u>HGI/FSI</u></b>	
Pyritic Sulfur		HGI	
Sulfate			
Organic		FSI	
Sulfur, Total			
			<b><u>Seive Analysis</u></b>
			<u>SIZE</u> <u>WT %</u>

As Determined Moisture 0.56 %

These values have been reviewed and are approved for transmission. *Jm7*

**Sample Description.: FILTER/SOLIDS**

**Sample No.:** 29  
**Date Received:** 04/02/2007  
**Date Completed:** 04/24/2007

**Analytical No.:** 20071674  
**Project No.:** 1621 -085 -000  
**Submitted By:** J. LOCKE/B. GREEN

<u>Proximate (Dry)</u>	<u>Wt%</u>	<u>Ash Fusion Reducing Temp (F)</u>	<u>Trace Elements (ppm (Dry))</u>
Ash		Initial	Hg 0.692
Volatile Matter		Softening	F
Fixed Carbon		Hemispherical.	As
BTU/lb		Fluid	Ba
MAF BTU/lb			Be
			Cd
<u>Ultimate (Dry)%</u>		<u>Ash Fusion Oxidizing</u>	Co
Carbon	17.89	Initial	Cr
Hydrogen		Softening	Cu
Nitrogen		Hemispherical.	Li
Chlorine		Fluid	Mn
Sulfur, Total			Mo
Ash			Ni
Oxygen (DIFF)			Pb
			Sb
<u>Major Ash Elem.</u>		<u>Misc.</u>	Se
SiO2		<u>Analysis Value</u>	Sn
Al2O3			Th
TiO2			Tl
Fe2O3			U
CaO			V
MgO			Zn
Na2O			
K2O			
P2O5			
SO3			
Undetermined			
<i>Total Moisture</i>			
<u>Sulfur Forms (Dry)</u>		<u>HGI/FSI</u>	
Pyritic Sulfur		HGI	
Sulfate			
Organic		FSI	
Sulfur, Total			

Seive Analysis  
SIZE WT %

As Determined Moisture 0.53 %

These values have been reviewed and are approved for transmission. *JmT*



Research and Development  
 www.consolenergy.com  
 4000 Brownsville Rd.  
 South Park, PA 15129

**Sample Description.: FILTER/SOLIDS**

**Sample No.:** 89  
**Date Received:** 04/02/2007  
**Date Completed:** 04/24/2007

**Analytical No.:** 20071676  
**Project No.:** 1621 -085 -000  
**Submitted By:** J. LOCKE/B. GREEN

<u>Proximate (Dry)</u>	<u>Wt%</u>	<u>Ash Fusion Reducing Temp (F)</u>	<u>Trace Elements (ppm (Dry))</u>
Ash		Initial	Hg 0.602
Volatile Matter		Softening	F
Fixed Carbon		Hemispherical.	As
BTU/lb		Fluid	Ba
MAF BTU/lb			Be
			Cd
<u>Ultimate (Dry)%</u>		<u>Ash Fusion Oxidizing</u>	Co
Carbon	17.90	Initial	Cr
Hydrogen		Softening	Cu
Nitrogen		Hemispherical.	Li
Chlorine		Fluid	Mn
Sulfur, Total			Mo
Ash			Ni
Oxygen (DIFF)			Pb
			Sb
<u>Major Ash Elem.</u>		<u>Misc.</u>	Se
SiO2		<u>Analysis Value</u>	Sn
Al2O3			Th
TiO2			Tl
Fe2O3			U
CaO			V
MgO			Zn
Na2O			
K2O			
P2O5			
SO3			
Undetermined			
<u>Total Moisture</u>			
<u>Sulfur Forms (Dry)</u>		<u>HGI/FSI</u>	
Pyritic Sulfur		HGI	
Sulfate			
Organic		FSI	
Sulfur, Total			

Seive Analysis  
SIZE WT %

As Determined Moisture 0.635 %

These values have been reviewed and are approved for transmission. *JMT*

**Sample Description.: FILTER/SOLIDS**

**Sample No.:** 103  
**Date Received:** 04/02/2007  
**Date Completed:** 04/24/2007

**Analytical No.:** 20071678  
**Project No.:** 1621 -085 -000  
**Submitted By:** J. LOCKE/B. GREEN

<u>Proximate (Dry)</u>	<u>Wt%</u>	<u>Ash Fusion Reducing Temp (F)</u>	<u>Trace Elements (ppm (Dry))</u>
Ash		Initial	Hg 0.664
Volatile Matter		Softening	F
Fixed Carbon		Hemispherical.	As
BTU/lb		Fluid	Ba
MAF BTU/lb			Be
<b><u>Ultimate (Dry)%</u></b>		<b><u>Ash Fusion Oxidizing</u></b>	Cd
Carbon	17.50	Initial	Co
Hydrogen		Softening	Cr
Nitrogen		Hemispherical.	Cu
Chlorine		Fluid	Li
Sulfur, Total			Mn
Ash			Mo
Oxygen (DIFF)			Ni
			Pb
<b><u>Major Ash Elem.</u></b>		<b><u>Misc.</u></b>	Sb
SiO2		<u>Analysis Value</u>	Se
Al2O3			Sn
TiO2			Th
Fe2O3			Tl
CaO			U
MgO			V
Na2O			Zn
K2O			
P2O5			<b><u>Seive Analysis</u></b>
SO3			<u>SIZE</u> <u>WT %</u>
Undetermined			
<i>Total Moisture</i>			
<b><u>Sulfur Forms (Dry)</u></b>		<b><u>HGI/FSI</u></b>	
Pyritic Sulfur		HGI	
Sulfate			
Organic		FSI	
Sulfur, Total			

As Determined Moisture 0.52 %

These values have been reviewed and are approved for transmission. *JMT*

Research and Development  
 www.consolenergy.com  
 4000 Brownsville Rd.  
 South Park, PA 15129

Sample Description.: **FILTER/SOLIDS**

Sample No.: 117  
 Date Received: 04/02/2007  
 Date Completed: 04/24/2007

Analytical No.: **20071680**  
 Project No.: 1621 -085 -000  
 Submitted By: J. LOCKE/B. GREEN

<u>Proximate (Dry)</u>	<u>Wt%</u>	<u>Ash Fusion Reducing Temp (F)</u>	<u>Trace Elements (ppm (Dry))</u>
Ash		Initial	Hg 0.626
Volatile Matter		Softening	F
Fixed Carbon		Hemispherical.	As
BTU/lb		Fluid	Ba
MAF BTU/lb			Be
			Cd
<b>Ultimate (Dry)%</b>		<b>Ash Fusion Oxidizing</b>	Co
Carbon 15.59		Initial	Cr
Hydrogen		Softening	Cu
Nitrogen		Hemispherical.	Li
Chlorine		Fluid	Mn
Sulfur, Total			Mo
Ash			Ni
Oxygen (DIFF)			Pb
			Sb
<b>Major Ash Elem.</b>		<b>Misc.</b>	Se
SiO2		<u>Analysis Value</u>	Sn
Al2O3			Th
TiO2			Tl
Fe2O3			U
CaO			V
MgO			Zn
Na2O			
K2O			
P2O5			
SO3			
Undetermined			
<i>Total Moisture</i>			
<b>Sulfur Forms (Dry)</b>		<b>HGI/FSI</b>	
Pyritic Sulfur		HGI	
Sulfate			
Organic		FSI	
Sulfur, Total			

**Seive Analysis**  
SIZE      WT %

As Determined Moisture 0.48 %

These values have been reviewed and are approved for transmission. *jmt*



**CONSOL Energy Inc.**

Project No.: 403423

**Performance Testing of Air Pollution Control  
System of Coal-Fired Power Plant**

Date:  
May 15 , 2007

Submitted by:  
Ella Shkolnik

CTLGroup  
5400 Old Orchard Road  
Skokie, Illinois 60077-1030  
(847) 965-7500


9030 Red Branch Road, Suite 110  
Columbia, Maryland 21045

1 Washington Street  
Dover New Hampshire 03820

[www.CTLGroup.com](http://www.CTLGroup.com)



Building Knowledge Delivering Results.

Client:	CONSOL Energy, Inc.	CTL Project No:	403423
Project:	Chemical Analysis	CTL Project Mgr.:	Ella Shkolnik
Contact:	Daniel Connell	Analyst:	Cecylla Wedzlcha
Submitter:	Daniel Connell	Approved:	
Date Received:	April 23, 2007	Date Analyzed:	May 1, 2007
		Date Reported:	May 1, 2007

REPORT of AVAILABLE LIME ANALYSIS

Sample Identification		Description	Determined Results (wt. %)	
CTL ID	Client ID		as CaO	as Ca(OH) <sub>2</sub>
1839004	PEB032807	Pebble lime	89.38	118.07
1839005	PEB032907	Pebble lime	88.07	116.34
1839006	PEB033007	Pebble lime	92.57	122.29

Notes:

1. This analysis represents specifically the samples submitted as received.
2. The results were determined in accordance with ASTM C 25, Section 28.
3. This report may not be reproduced except in its entirety.

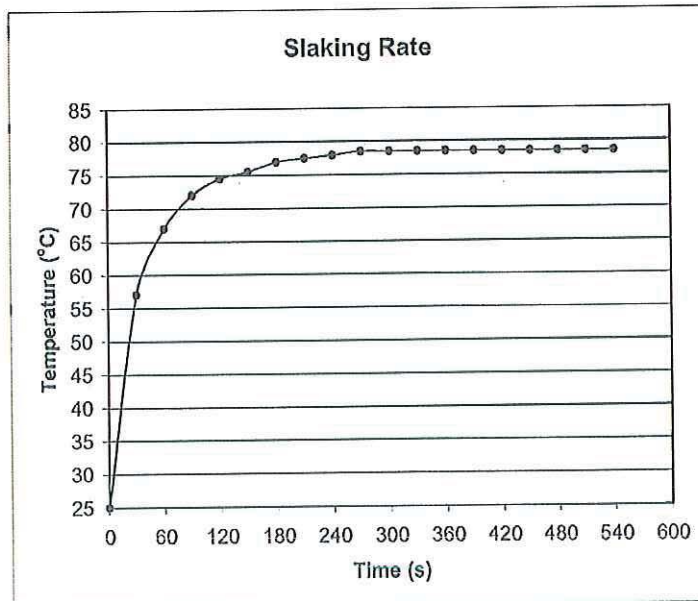
Client:	CONSOL Energy, Inc.	CTL Project No:	403423
Project:	Chemical Analysis	CTL Project Mgr.:	Ella Shkolnik
Contact:	Daniel Connell	Analyst:	Cecylla Wedzicha
Submitter:	Daniel Connell	Approved:	
Date Received:	April 23, 2007	Date Analyzed:	May 1, 2007
		Date Reported:	May 2, 2007

REPORT of SLAKING RATE ANALYSIS  
(ASTM C 110)

Sample Identification

CTL ID: 1839004  
Client ID: PEB032807  
Description: Pebble lime

Time		Temperature
(minute)	(second)	(°C)
0.0	0	25.0
0.5	30	57.0
1.0	60	67.0
1.5	90	72.0
2.0	120	74.5
2.5	150	75.5
3.0	180	77.0
3.5	210	77.5
4.0	240	78.0
4.5	270	78.5
5.0	300	78.5
5.5	330	78.5
6.0	360	78.5
6.5	390	78.5
7.0	420	78.5
7.5	450	78.5
8.0	480	78.5
8.5	510	78.5
9.0	540	78.5
9.5	570	78.5
10.0	600	78.5



Determined Results:

Total active slaking time (minute)	4.5
Final reaction temperature (°C)	78.5
Temperature rise in 30 seconds (°C)	32.0
Temperature rise in 3 minutes (°C)	52.0
Total temperature rise (°C)	53.5
Residue (wt. %)	0.97

Notes:

1. This analysis represents specifically the sample(s) submitted as received.
2. The results were determined in accordance with ASTM C 110-05, Sec.11.
3. This report may not be reproduced except in its entirety.



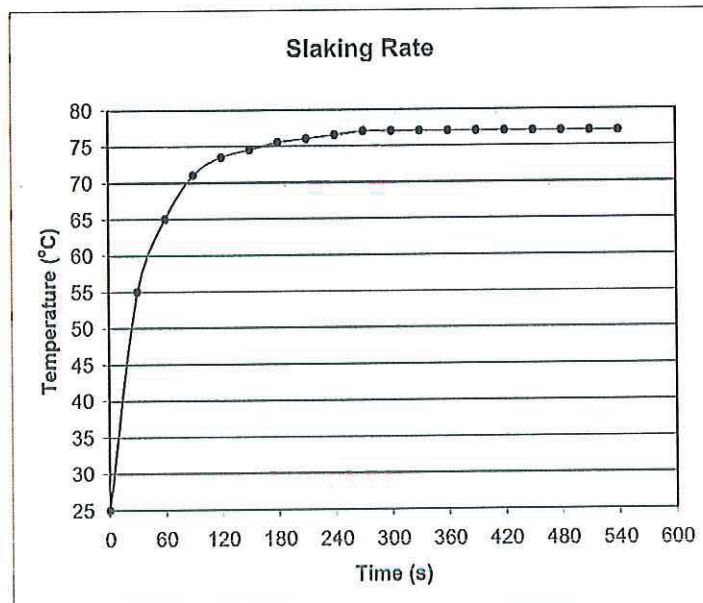
Client:	CONSOL Energy, Inc.	CTL Project No:	403423
Project:	Chemical Analysis	CTL Project Mgr.:	Ella Shkolnik
Contact:	Daniel Connell	Analyst:	Cecylla Wedzicha
Submitter:	Daniel Connell	Approved:	
Date Received:	April 23, 2007	Date Analyzed:	May 1, 2007
		Date Reported:	May 2, 2007

REPORT of SLAKING RATE ANALYSIS  
(ASTM C 110)

Sample Identification

CTL ID: 1839005  
Client ID: PEB032907  
Description: Pebble lime

Time		Temperature
(minute)	(second)	(°C)
0.0	0	25.0
0.5	30	55.0
1.0	60	65.0
1.5	90	71.0
2.0	120	73.5
2.5	150	74.5
3.0	180	75.5
3.5	210	76.0
4.0	240	76.5
4.5	270	77.0
5.0	300	77.0
5.5	330	77.0
6.0	360	77.0
6.5	390	77.0
7.0	420	77.0
7.5	450	77.0
8.0	480	77.0
8.5	510	77.0
9.0	540	77.0
9.5	570	77.0
10.0	600	77.0



Determined Results

Total active slaking time (minute)	4.5
Final reaction temperature (°C)	77.0
Temperature rise in 30 seconds (°C)	30.0
Temperature rise in 3 minutes (°C)	50.5
Total temperature rise (°C)	52.0
Residue (wt. %)	3.79

Notes:

1. This analysis represents specifically the sample(s) submitted as received.
2. The results were determined in accordance with ASTM C 110-05, Sec.11.
3. This report may not be reproduced except in its entirety.

Client: **CONSOL Energy, Inc.**  
Project: **Chemical Analysis**  
  
Contact: **Daniel Connell**  
Submitter: **Daniel Connell**  
Date Received: **April 23, 2007**

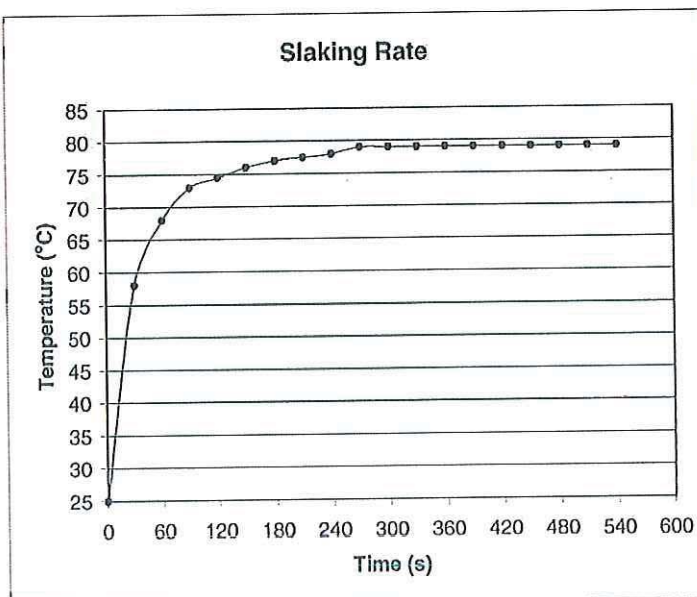
CTL Project No: **403423**  
CTL Project Mgr.: **Ella Shkolnik**  
Analyst: **Cecylia Wedzicha**  
Approved:  
Date Analyzed: **May 1, 2007**  
Date Reported: **May 2, 2007**

**REPORT of SLAKING RATE ANALYSIS**  
(ASTM C 110)

Sample Identification

CTL ID: **1839006**  
Client ID: **PEB033007**  
Description: **Pebble lime**

Time		Temperature
(minute)	(second)	
0.0	0	25.0
0.5	30	58.0
1.0	60	68.0
1.5	90	73.0
2.0	120	74.5
2.5	150	76.0
3.0	180	77.0
3.5	210	77.5
4.0	240	78.0
4.5	270	79.0
5.0	300	79.0
5.5	330	79.0
6.0	360	79.0
6.5	390	79.0
7.0	420	79.0
7.5	450	79.0
8.0	480	79.0
8.5	510	79.0
9.0	540	79.0
9.5	570	79.0
10.0	600	



Determined Results

Total active slaking time (minute)	4.5
Final reaction temperature (°C)	79.0
Temperature rise in 30 seconds (°C)	33.0
Temperature rise in 3 minutes (°C)	52.0
Total temperature rise (°C)	54.0
Residue (wt. %)	2.06

Notes:

1. This analysis represents specifically the samples submitted as received.
2. The results were determined in accordance with ASTM C110-05, Sec.11.
3. This report may not be reproduced except in its entirety.

Client:	CONSOL Energy, Inc.	CTL Project No.:	403423
Project:	ASTM C 110 Density Analysis	CTL Proj. Mgr.:	Ella Shkolnik
Contact:	Daniel Connell	Analyst:	Charlotte Hernandez
Submitter:	Daniel Connell	Approved:	<i>E. Shkolnik</i>
Date Received:	April 23, 2007	Date Analyzed:	April 30, 2007
		Date Reported:	May 2, 2007

### REPORT of DENSITY ANALYSIS

Client's Sample ID:	HYD032807	HYD032907	HYD033007
CTL Sample ID:	1839001	1839002	1839003
Material:	Hydrated lime	Hydrated lime	Hydrated lime

**Apparent Density** <sup>note 2</sup>

Loose (g/cm <sup>3</sup> )	0.36	0.37	0.35
Loose (lb/ft <sup>3</sup> )	22.32	22.83	22.14
Packed (g/cm <sup>3</sup> )	0.63	0.60	0.59
Packed (lb/ft <sup>3</sup> )	39.58	37.17	36.78

**Notes:**

1. This analysis represents specifically the samples submitted.
2. Loose and packed apparent densities were determined following ASTM C 110, Sections 19 and 20.
3. This report may not be reproduced except in its entirety.

*Main Office:* 5400 Old Orchard Road Skokie, Illinois 60077-1030 Phone: 847-965-7500 Fax: 847-965-6541

*Mid-Atlantic Office:* 9030 Red Branch Road, Suite 110 Columbia, Maryland 21045-2003 Phone: 410-997-0400 Fax: 410-997-8480

*New England Office:* 1 Washington Street, Suite 300A Dover New Hampshire 03820-3831 Phone: 603-516-1500 Fax: 603-516-1510



Client:	CONSOL Energy, Inc.	CTL Project No.:	403423
Project:	Fineness Analysis	CTL Proj. Mgr.:	Ella Shkolnik
		Analyst:	Ella Shkolnik
Contact:	Daniel Connell	Approved:	
Submitter:	Daniel Connell	Date Analyzed:	May 3, 2007
Date Received:	April 23, 2007	Date Reported:	May 4, 2007

**REPORT of PARTICLE SIZE DISTRIBUTION ANALYSIS  
by LASER DIFFRACTION**

Client's Sample ID:	HYD032807	HYD032907	HYD033007
Material Type:	Hydrated lime	Hydrated lime	Hydrated lime
CTL Sample ID:	1839001	1839002	1839003
<b>Size at 50% (<math>\mu\text{m}</math>)</b>	<b>5.54</b>	<b>5.96</b>	<b>5.97</b>
<b><u>Cumulative Volume under Stated Size</u></b> <sup>note 2</sup>			
<45 $\mu\text{m}$	88.70	86.91	86.17
<30 $\mu\text{m}$	83.67	81.53	80.78
<10 $\mu\text{m}$	67.02	63.99	63.71
<7 $\mu\text{m}$	57.60	54.84	54.74
<3 $\mu\text{m}$	28.29	27.16	27.36
<1 $\mu\text{m}$	6.14	5.94	5.96

Notes:

1. This analysis represents specifically the samples submitted.
2. The provided results are volume based and expressed in terms of equivalent spheres.
3. This report may not be reproduced except in its entirety.

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #1839001-Sample "HYD032807" (Averaged Result)

Measured by: Unknown

Measured: Thursday, May 03, 2007 11:29:01 AM

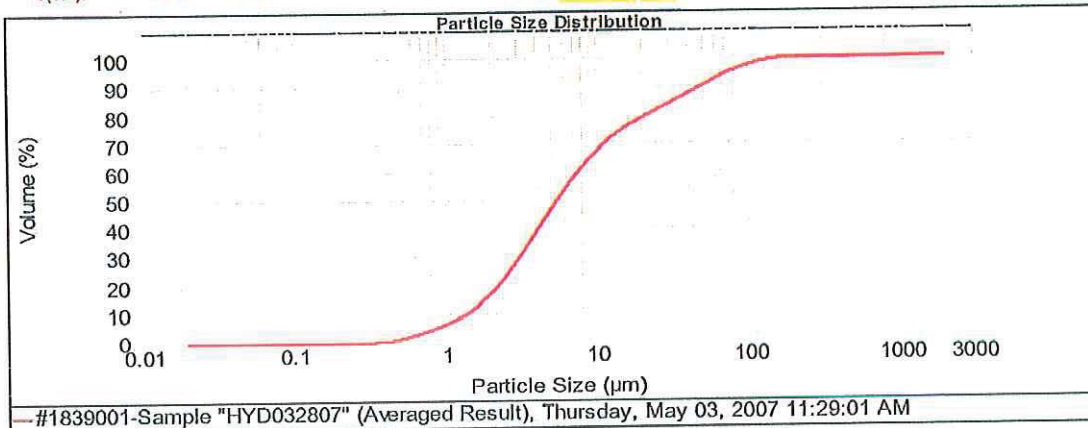
Analysed: Thursday, May 03, 2007 11:29:02 AM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name:	Hydrated Lime	Accessory Name:	Hydro 2000MU (A)	Obscuration:	13.09 %
Particle RI:	1.560	Absorption:	0.1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um		
Dispersant RI:	1.390	Result Emulation:	Off	Weighted Residual:	1.543 %

Concentration:	0.0071 %Vol	Vol. Weighted Mean D[4,3]:	16.727 um	Specific Surface Area:	1.83 m <sup>2</sup> /g
Span:	8.777	Uniformity:	2.52	Surface Weighted Mean D[3,2]:	3.285 um
Result units:	Volume				
d(0.1):	1.395 um	d(0.5):	5.535 um	d(0.9):	49.970 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
1.000	6.14	3.000	28.29	7.000	57.60	10.000	67.02	30.000	83.67	45.000	89.70

Operator notes: Average of four measurements

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #1839002-Sample "HYD032907" (Averaged Result)

Measured by: Ella Shkolnik

Measured: Thursday, May 03, 2007 11:56:28 AM

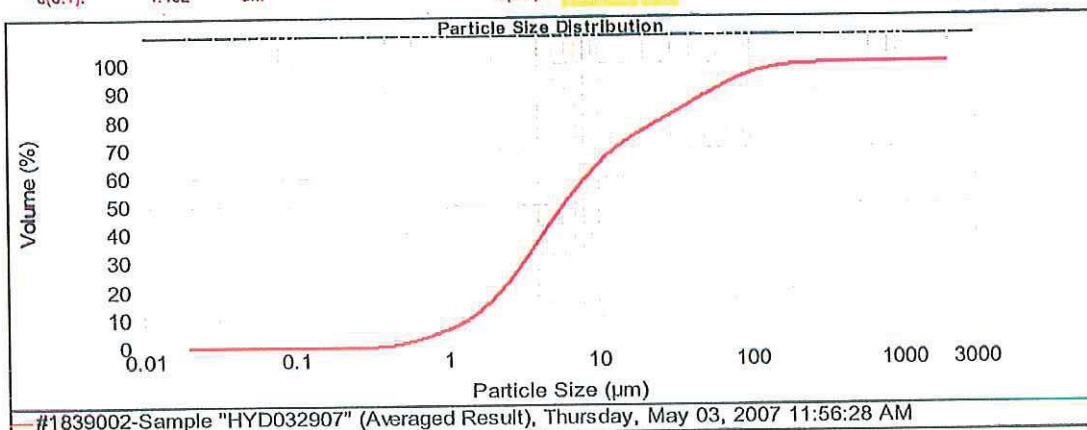
Analysed: Thursday, May 03, 2007 11:56:29 AM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name:	Hydrated Lime	Accessory Name:	Hydro 2000MU (A)	Obscuration:	12.25 %
Particle RI:	1.560	Absorption:	0.1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um		
Dispersant RI:	1.390	Result Emulation:	Off	Weighted Residual:	1.422 %

Concentration:	0.0069 %Vol	Vol. Weighted Mean D[4,3]:	20.678 um	Specific Surface Area:	1.76 m <sup>2</sup> /g
Span:	9.355	Uniformity:	2.98	Surface Weighted Mean D[3,2]:	3.408 um
Result units:	Volume				
d(0.1):	1.432 um	d(0.5):	5.960 um	d(0.9):	57.189 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
1.000	5.94	3.000	27.16	7.000	54.84	10.000	63.99	30.000	81.53	45.000	86.91

Operator notes: Average of four measurements



# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #1839003-Sample "HYD033007" (Averaged Result)

Measured by: Ella Shkolnik

Measured: Thursday, May 03, 2007 1:30:37 PM

Analysed: Thursday, May 03, 2007 1:30:38 PM

SOP Name: Hydrated Lime Wet IPA

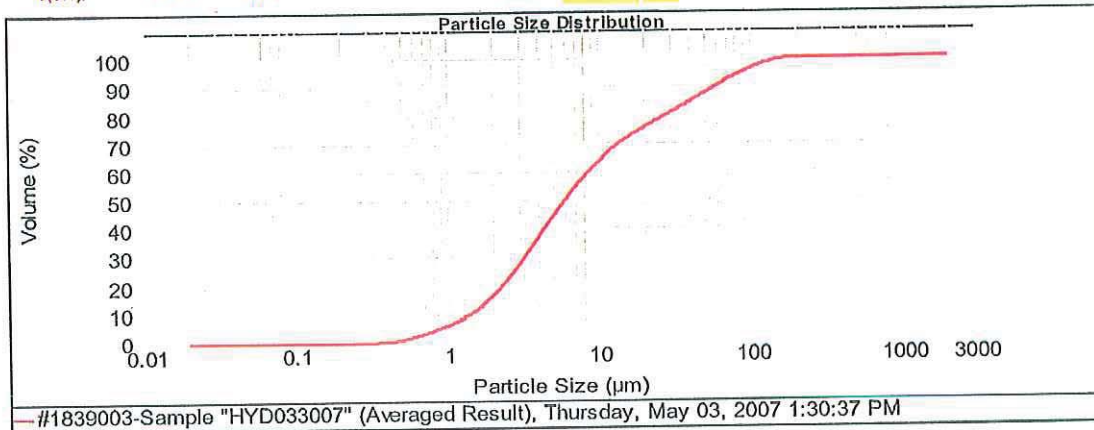
Result Source: Averaged

Particle Name:	Hydrated Lime	Accessory Name:	Hydro 2000MU (A)	Obscuration:	12.16 %
Particle RI:	1.560	Absorption:	0.1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um		
Dispersant RI:	1.390	Result Emulation:	Off	Weighted Residual:	1.734 %

Concentration:	0.0068 %Vol	Vol. Weighted Mean D[4,3]:	19.408 um	Specific Surface Area:	1.76 m <sup>2</sup> /g
Span:	9.824	Uniformity:	2.77	Surface Weighted Mean D[3,2]:	3.408 um

Result units: Volume

d(0.1): 1.416 um      d(0.5): 5.966 um      d(0.9): 60.031 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
1.000	5.56	3.000	27.38	7.000	54.74	10.000	63.71	30.000	80.78	45.000	86.17

Operator notes: Average of four measurements

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #1839001-Sample "HYD032807" (Averaged Result)

Measured by: Unknown

Measured: Thursday, May 03, 2007 11:29:01 AM

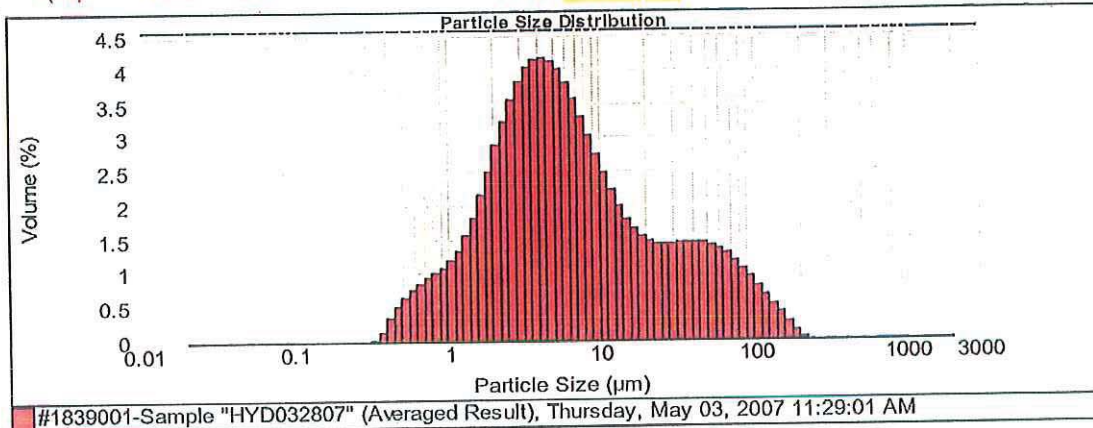
Analysed: Thursday, May 03, 2007 11:29:02 AM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name:	Hydrated Lime	Accessory Name:	Hydro 2000MU (A)	Obscuration:	13.09 %
Particle RI:	1.560	Absorption:	0.1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um		
Dispersant RI:	1.390	Result Emulation:	Off	Weighted Residual:	1.543 %

Concentration:	0.0071 %Vol	Vol. Weighted Mean D[4,3]:	16.727 um	Specific Surface Area:	1.83 m <sup>2</sup> /g
Span :	8.777	Uniformity:	2.52	Surface Weighted Mean D[3,2]:	3.285 um
Result units:	Volume				
d(0.1):	1.395 um	d(0.5):	5.535 um	d(0.9):	49.970 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	6.16	7.093	58.01	50.238	90.07	355.656	100.00
0.022	0.00	0.159	0.00	1.125	7.34	7.932	61.31	56.368	91.48	399.052	100.00
0.025	0.00	0.178	0.00	1.262	8.68	8.934	64.33	63.246	92.60	447.744	100.00
0.028	0.00	0.200	0.00	1.416	10.22	10.024	67.07	70.953	94.07	512.377	100.00
0.032	0.00	0.224	0.00	1.589	12.03	11.247	69.53	78.621	95.24	563.677	100.00
0.036	0.00	0.252	0.00	1.783	14.17	12.619	71.74	89.337	96.29	632.456	100.00
0.040	0.00	0.283	0.00	2.000	16.66	14.156	73.72	100.237	97.21	709.627	100.00
0.045	0.00	0.317	0.00	2.244	19.54	15.897	75.60	112.468	98.00	793.214	100.00
0.050	0.00	0.356	0.00	2.518	22.77	17.825	77.14	126.191	98.65	893.367	100.00
0.056	0.00	0.399	0.13	2.825	26.33	20.000	78.66	141.589	99.17	1002.374	100.00
0.063	0.00	0.448	0.46	3.170	30.16	22.440	80.11	158.866	99.57	1124.683	100.00
0.071	0.00	0.502	0.94	3.567	34.18	25.179	81.53	178.250	99.82	1261.915	100.00
0.080	0.00	0.564	1.58	3.991	38.32	28.251	82.93	200.000	99.95	1415.892	100.00
0.089	0.00	0.632	2.33	4.477	42.50	31.698	84.34	224.404	100.00	1588.696	100.00
0.100	0.00	0.710	3.17	5.024	46.62	35.603	85.77	251.765	100.00	1782.502	100.00
0.112	0.00	0.796	4.10	5.637	50.62	39.905	87.20	282.508	100.00	2000.000	100.00
0.120	0.00	0.893	5.09	6.325	54.44	44.774	88.64	318.979	100.00		

Operator notes: Average of four measurements

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #1839002-Sample "HYD032907" (Averaged Result)

Measured by: Ella Shkolnik

Measured: Thursday, May 03, 2007 11:56:28 AM

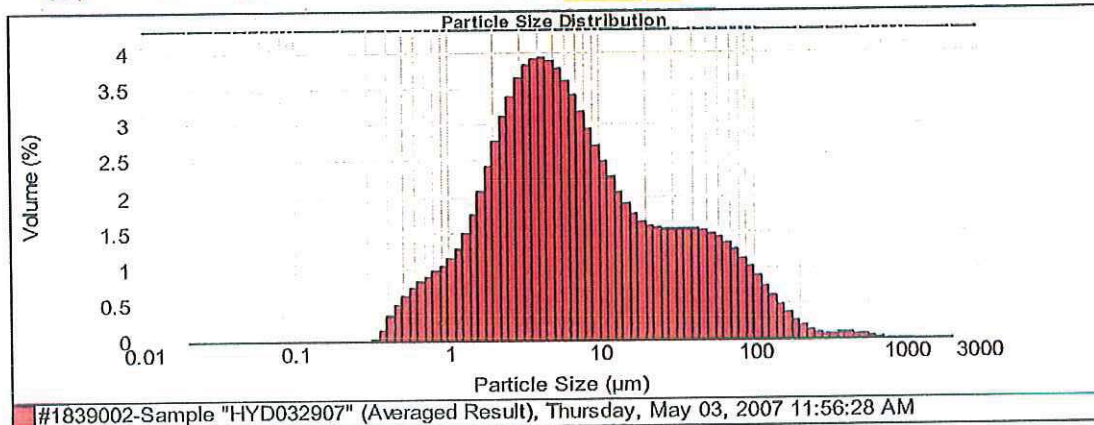
Analysed: Thursday, May 03, 2007 11:56:29 AM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name: Hydrated Lime      Accessory Name: Hydro 2000MU (A)      Obscuration: 12.25 %  
 Particle RI: 1.560      Absorption: 0.1      Analysis model: General purpose  
 Dispersant Name: Propan-2-ol      Size range: 0.020 to 2000.000 um  
 Dispersant RI: 1.390      Result Emulation: Off      Weighted Residual: 1.422 %

Concentration: 0.0089 %Vol      Vol. Weighted Mean D[4,3]: 20.678 um      Specific Surface Area: 1.76 m<sup>2</sup>/g  
 Span: 9.355      Uniformity: 2.98      Surface Weighted Mean D[3,2]: 3.408 um  
 Result units: Volume  
 d(0.1): 1.432 um      d(0.5): 5.960 um      d(0.9): 57.189 um



Size (um)	Vol Under %	Size (um)	Vol Under %	Size (um)	Vol Under %	Size (um)	Vol Under %	Size (um)	Vol Under %	Size (um)	Vol Under %
0.020	0.00	0.142	0.00	1.002	5.96	7.050	55.24	50.238	88.35	355.656	99.09
0.022	0.00	0.159	0.00	1.125	7.09	7.962	58.41	50.308	89.82	399.052	99.76
0.025	0.00	0.178	0.00	1.202	8.37	8.934	61.35	63.248	91.23	447.744	99.83
0.028	0.00	0.200	0.00	1.416	9.65	10.024	64.05	70.663	92.56	502.377	99.89
0.032	0.00	0.224	0.00	1.589	11.59	11.247	68.61	79.621	93.80	593.677	99.95
0.036	0.00	0.252	0.00	1.783	13.64	12.619	68.76	89.337	94.93	632.456	99.98
0.040	0.00	0.283	0.00	2.000	16.04	14.159	70.82	100.237	95.92	705.627	100.00
0.045	0.00	0.317	0.00	2.244	18.80	15.887	72.70	112.468	96.79	798.214	100.00
0.050	0.00	0.356	0.00	2.518	21.90	17.825	74.45	126.191	97.53	893.367	100.00
0.056	0.00	0.399	0.13	2.825	25.29	20.000	76.09	141.669	98.12	1002.374	100.00
0.063	0.00	0.448	0.46	3.170	28.93	22.440	77.67	158.863	98.59	1124.683	100.00
0.071	0.00	0.502	0.93	3.557	32.74	25.179	79.21	178.260	98.95	1261.915	100.00
0.080	0.00	0.564	1.55	3.991	36.65	28.251	80.73	200.000	99.20	1415.892	100.00
0.089	0.00	0.632	2.28	4.477	40.58	31.688	82.28	224.404	99.37	1598.656	100.00
0.100	0.00	0.710	3.09	5.024	44.46	35.566	83.78	251.765	99.49	1782.502	100.00
0.112	0.00	0.796	3.98	5.637	48.23	39.906	85.32	282.608	99.57	2000.000	100.00
0.126	0.00	0.893	4.93	6.325	51.04	44.774	86.84	316.979	99.63		

Operator notes: Average of four measurements



# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #1839003-Sample "HYD033007" (Averaged Result)

Measured by: Ella Shkolnik

Measured: Thursday, May 03, 2007 1:30:37 PM

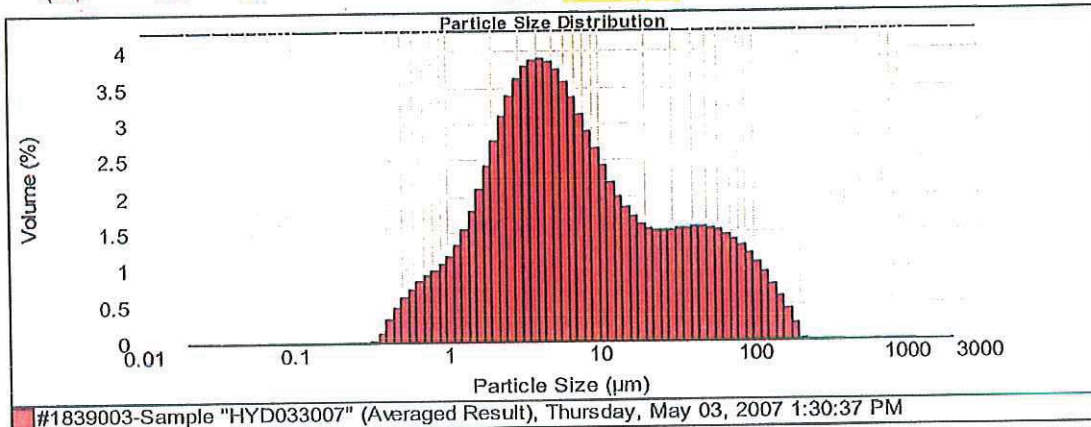
Analysed: Thursday, May 03, 2007 1:30:38 PM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name: Hydrated Lime      Accessory Name: Hydro 2000MU (A)      Obscuration: 12.16 %  
 Particle RI: 1.560      Absorption: 0.1      Analysis model: General purpose  
 Dispersant Name: Propan-2-ol      Size range: 0.020 to 2000.000 um  
 Dispersant RI: 1.390      Result Emulation: Off      Weighted Residual: 1.734 %

Concentration: 0.0068 %Vol      Vol. Weighted Mean D[4,3]: 19.408 um      Specific Surface Area: 1.76 m<sup>2</sup>/g  
 Span: 9.824      Uniformity: 2.77      Surface Weighted Mean D[3,2]: 3.408 um  
 Result units: Volume  
 d(0.1): 1.416 um      d(0.5): 5.966 um      d(0.9): 60.031 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	5.98	7.056	55.13	50.238	87.64	355.656	100.00
0.022	0.00	0.159	0.00	1.125	7.15	7.962	58.25	56.368	89.17	399.052	100.00
0.025	0.00	0.178	0.00	1.202	8.47	8.934	61.13	63.240	90.67	447.744	100.00
0.028	0.00	0.200	0.00	1.416	10.00	10.024	63.76	70.933	92.12	502.377	100.00
0.032	0.00	0.224	0.00	1.569	11.78	11.247	66.16	79.621	93.51	563.677	100.00
0.036	0.00	0.252	0.00	1.783	13.86	12.619	68.34	89.337	94.80	632.456	100.00
0.040	0.00	0.283	0.00	2.000	16.28	14.159	70.33	101.237	95.99	709.627	100.00
0.045	0.00	0.317	0.00	2.244	19.04	15.887	72.16	112.468	97.06	793.214	100.00
0.050	0.00	0.358	0.00	2.518	22.13	17.825	73.85	128.191	97.99	893.367	100.00
0.056	0.00	0.399	0.12	2.825	25.50	20.000	75.45	141.589	98.76	1002.374	100.00
0.063	0.00	0.448	0.42	3.170	29.11	22.440	76.98	158.866	99.35	1124.663	100.00
0.071	0.00	0.502	0.89	3.557	32.88	25.179	78.49	178.250	99.76	1261.915	100.00
0.080	0.00	0.564	1.49	3.991	36.76	28.251	79.99	200.000	99.99	1415.892	100.00
0.089	0.00	0.632	2.22	4.477	40.65	31.698	81.50	224.404	100.00	1588.656	100.00
0.100	0.00	0.710	3.04	5.024	44.49	35.560	83.02	251.785	100.00	1782.502	100.00
0.112	0.00	0.796	3.94	5.637	48.22	39.905	84.55	282.500	100.00	2000.000	100.00
0.128	0.00	0.893	4.92	6.325	51.78	44.774	86.10	316.979	100.00		

Operator notes: Average of four measurements

Client:	<b>CONSOL Energy, Inc.</b>	CTL Project No.:	<b>403423</b>
Project:	<b>Fineness Analysis</b>	CTL Proj. Mgr.:	<b>Ella Shkolnik</b>
		Analyst:	<b>Ella Shkolnik</b>
Contact:	<b>Daniel Connell</b>	Approved:	
Submitter:	<b>Daniel Connell</b>	Date Analyzed:	<b>May 3, 2007</b>
Date Received:	<b>April 23, 2007</b>	Date Reported:	<b>May 4, 2007</b>

**REPORT of PARTICLE SIZE DISTRIBUTION ANALYSIS  
by LASER DIFFRACTION**

Client's Sample ID:	ASH032807	ASH032907	ASH033007
Material Type:	Fly ash	Fly ash	Fly ash
CTL Sample ID:	1839007	1839008	1839009
<b><u>Size at 50% (<math>\mu\text{m}</math>)</u></b>	<b>6.47</b>	<b>6.74</b>	<b>6.49</b>
<b><u>Cumulative Volume under Stated Size</u></b> <sup>note 2</sup>			
<45 $\mu\text{m}$	82.59	81.76	83.02
<30 $\mu\text{m}$	76.79	75.84	77.02
<10 $\mu\text{m}$	61.96	60.64	61.70
<7 $\mu\text{m}$	52.59	51.21	52.44
<3 $\mu\text{m}$	21.25	20.77	21.59
<1 $\mu\text{m}$	3.97	3.96	3.99

**Notes:**

1. This analysis represents specifically the samples submitted.
2. The provided results are volume based and expressed in terms of equivalent spheres.
3. This report may not be reproduced except in its entirety.

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #1839007-Sample "ASH032807" (Averaged Result)

Measured by: Ella Shkolnik

Measured: Thursday, May 03, 2007 2:04:17 PM

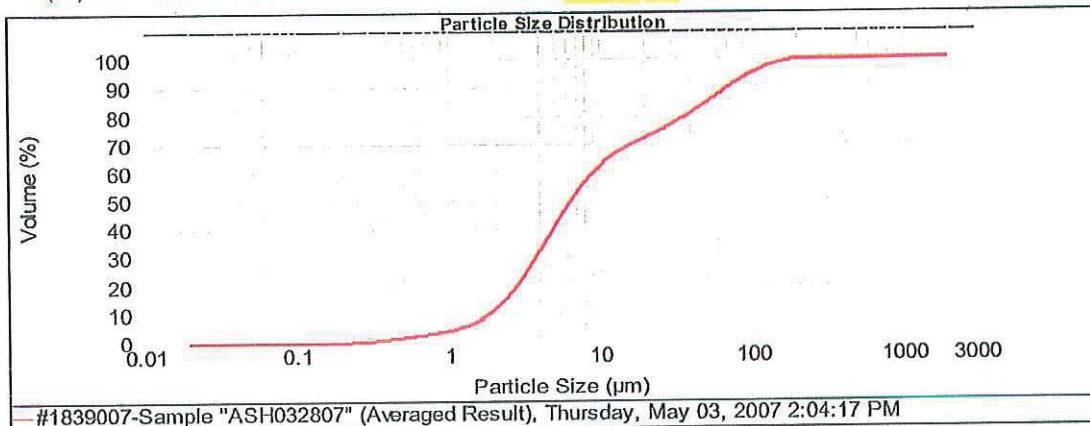
Analysed: Thursday, May 03, 2007 2:04:18 PM

SOP Name: Fly Ash Wet IPA

Result Source: Averaged

Particle Name:	Fly Ash General	Accessory Name:	Hydro 2000MU (A)	Obscuration:	12.24 %
Particle RI:	1.650	Absorption:	1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um		
Dispersant RI:	1.390	Result Emulation:	Off	Weighted Residual:	1.323 %

Concentration:	0.0062 %Vol	Vol. Weighted Mean D[4,3]:	23.056 um	Specific Surface Area:	0.583 m <sup>2</sup> /g
Span:	10.903	Uniformity:	3.04	Surface Weighted Mean D[3,2]:	3.823 um
Result units:	Volume				
d(0.1):	1.898 um	d(0.5):	6.473 um	d(0.9):	72.476 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
1.000	3.97	3.000	21.25	7.000	52.59	10.000	61.96	30.000	76.79	45.000	82.59

Operator notes: *Average of four measurements*



# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #1839008-Sample "ASH032907" (Averaged Result)

Measured by: Ella Shkolnik

Measured: Thursday, May 03, 2007 2:27:40 PM

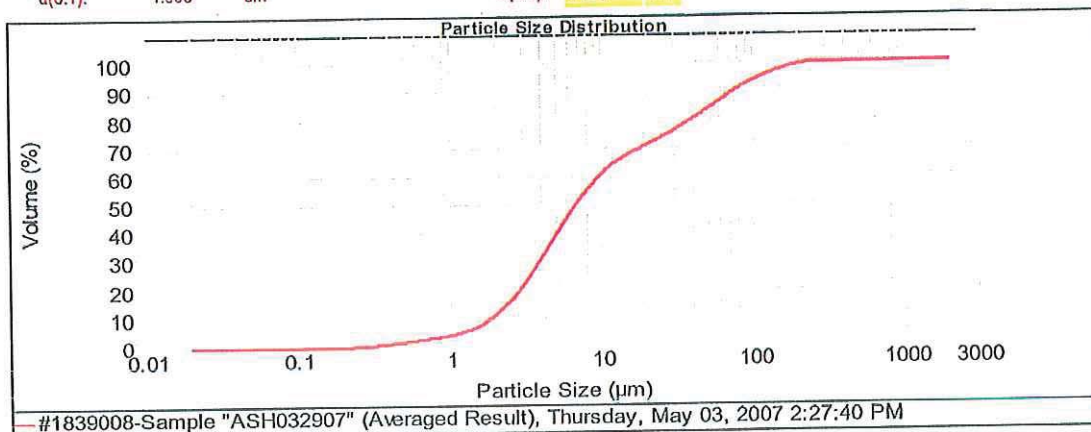
Analysed: Thursday, May 03, 2007 2:27:41 PM

SOP Name: Fly Ash Wet IPA

Result Source: Averaged

Particle Name:	Fly Ash General	Accessory Name:	Hydro 2000MU (A)	Obscuration:	12.87 %
Particle RI:	1.650	Absorption:	1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um		
Dispersant RI:	1.390	Result Emulation:	Off	Weighted Residual:	1.268 %

Concentration:	0.0067 %Vol	Vol. Weighted Mean D[4,3]:	25.409 um	Specific Surface Area:	0.573 m <sup>2</sup> /g
Span:	11.191	Uniformity:	3.25	Surface Weighted Mean D[3,2]:	3.891 um
Result units:	Volume				
d(0.1):	1.906 um	d(0.5):	6.743 um	d(0.9):	77.364 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
1.000	3.66	3.000	20.77	7.000	51.21	10.000	60.64	30.000	75.84	45.000	81.76

Operator notes: Average of four measurements

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #1839009-Sample "ASH033007" (Averaged Result)

Measured by: Ella Shkolnik

Measured: Thursday, May 03, 2007 2:45:30 PM

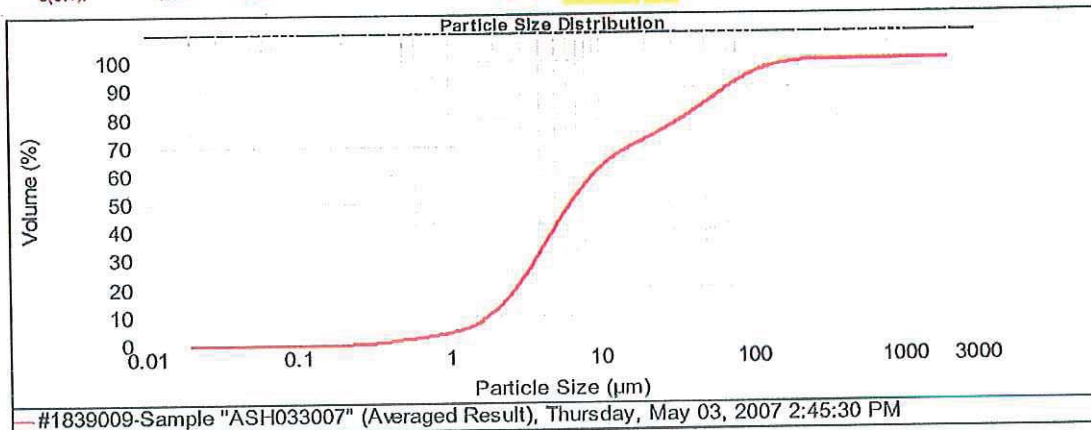
Analysed: Thursday, May 03, 2007 2:45:31 PM

SOP Name: Fly Ash Wet IPA

Result Source: Averaged

Particle Name:	Fly Ash General	Accessory Name:	Hydro 2000MU (A)	Obscuration:	12.85 %
Particle RI:	1.650	Absorption:	1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 $\mu\text{m}$		
Dispersant RI:	1.390	Result Emulation:	Off	Weighted Residual:	0.540 %

Concentration:	0.0085 %Vol	Vol. Weighted Mean D[4,3]:	23.198 $\mu\text{m}$	Specific Surface Area:	0.587 $\text{m}^2/\text{g}$
Span:	10.484	Uniformity:	3.06	Surface Weighted Mean D[3,2]:	3.801 $\mu\text{m}$
Result units:	Volume				
d(0.1):	1.873 $\mu\text{m}$	d(0.5):	6.493 $\mu\text{m}$	d(0.9):	69.943 $\mu\text{m}$



Size ( $\mu\text{m}$ )	Vol Under %	Size ( $\mu\text{m}$ )	Vol Under %	Size ( $\mu\text{m}$ )	Vol Under %	Size ( $\mu\text{m}$ )	Vol Under %	Size ( $\mu\text{m}$ )	Vol Under %	Size ( $\mu\text{m}$ )	Vol Under %
1.000	3.99	3.000	21.59	7.000	52.44	10.000	61.70	30.000	77.02	45.000	83.02

Operator notes: Average of four measurements

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #1839007-Sample "ASH032807" (Averaged Result)

Measured by: Ella Shkolnik

Measured: Thursday, May 03, 2007 2:04:17 PM

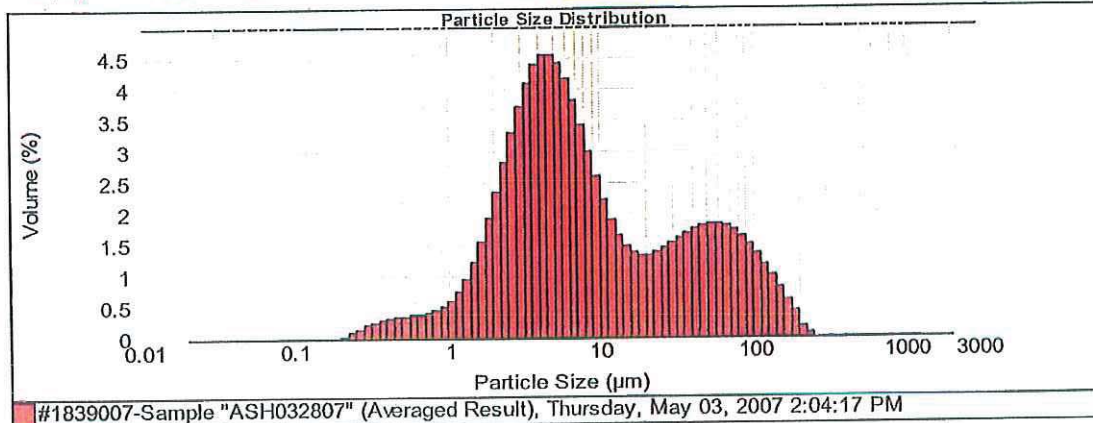
Analysed: Thursday, May 03, 2007 2:04:18 PM

SOP Name: Fly Ash Wet IPA

Result Source: Averaged

Particle Name:	Fly Ash General	Accessory Name:	Hydro 2000MU (A)	Obscuration:	12.24 %
Particle Rt:	1.650	Absorption:	1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um		
Dispersant Rt:	1.390	Result Emulation:	Off	Weighted Residual:	1.323 %

Concentration:	0.0062 %Vol	Vol. Weighted Mean D[4,3]:	23.056 um	Specific Surface Area:	0.583 m <sup>2</sup> /g
Span:	10.903	Uniformity:	3.04	Surface Weighted Mean D[3,2]:	3.823 um
Result units:	Volume				
d(0.1):	1.898 um	d(0.5):	6.473 um	d(0.9):	72.476 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	3.98	7.056	53.02	50.238	84.29	355.656	100.00
0.022	0.00	0.159	0.00	1.125	4.58	7.962	56.44	55.368	88.10	399.052	100.00
0.025	0.00	0.178	0.00	1.262	5.33	8.934	59.43	63.246	87.91	447.744	100.00
0.028	0.00	0.200	0.00	1.416	6.27	10.024	62.01	70.953	89.68	502.377	100.00
0.032	0.00	0.224	0.00	1.589	7.48	11.247	64.21	79.621	91.39	563.677	100.00
0.036	0.00	0.252	0.09	1.783	9.01	12.619	66.10	89.337	93.00	632.456	100.00
0.040	0.00	0.283	0.23	2.000	10.92	14.159	67.75	100.237	94.49	709.627	100.00
0.045	0.00	0.317	0.44	2.244	13.27	15.887	69.22	112.458	95.83	795.214	100.00
0.050	0.00	0.356	0.69	2.518	16.08	17.825	70.58	128.191	97.00	893.367	100.00
0.056	0.00	0.399	0.97	2.825	19.36	20.000	71.89	141.599	97.99	1002.374	100.00
0.063	0.00	0.448	1.28	3.170	23.08	22.440	73.21	158.868	98.78	1124.683	100.00
0.071	0.00	0.502	1.61	3.657	27.17	25.179	74.58	178.250	99.38	1261.915	100.00
0.080	0.00	0.564	1.95	3.991	31.55	28.251	76.01	200.000	99.79	1415.892	100.00
0.089	0.00	0.632	2.30	4.477	36.08	31.658	77.52	224.404	99.85	1598.656	100.00
0.100	0.00	0.710	2.67	5.024	40.62	35.565	78.11	251.785	100.00	1782.502	100.00
0.112	0.00	0.793	3.06	5.637	45.03	39.905	80.78	282.508	100.00	2000.000	100.00
0.128	0.00	0.893	3.49	6.325	49.20	44.774	82.51	316.979	100.00		

Operator notes: Average of four measurements



# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #1839008-Sample "ASH032907" (Averaged Result)

Measured by: Ella Shkolnik

Measured: Thursday, May 03, 2007 2:27:40 PM

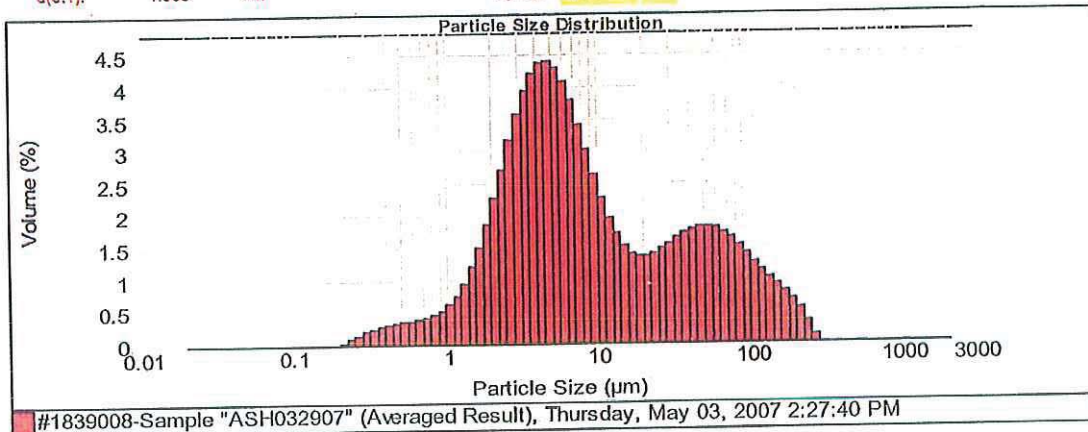
Analysed: Thursday, May 03, 2007 2:27:41 PM

SOP Name: Fly Ash Wet IPA

Result Source: Averaged

Particle Name: Fly Ash General      Accessory Name: Hydro 2000MU (A)      Obscuration: 12.87 %  
 Particle RI: 1.650      Absorption: 1      Analysis model: General purpose  
 Dispersant Name: Propan-2-ol      Size range: 0.020 to 2000.000 um  
 Dispersant RI: 1.390      Result Emulation: Off      Weighted Residual: 1.268 %

Concentration: 0.0067 %Vol      Vol. Weighted Mean D[4,3]: 25.409 um      Specific Surface Area: 0.573 m<sup>2</sup>/g  
 Span: 11.191      Uniformity: 3.25      Surface Weighted Mean D[3,2]: 3.891 um  
 Result units: Volume  
 d(0.1): 1.906 um      d(0.5): 6.743 um      d(0.9): 77.364 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	3.98	7.095	51.64	50.238	83.48	355.656	100.00
0.022	0.00	0.159	0.00	1.125	4.58	7.952	55.05	55.368	85.28	399.052	100.00
0.025	0.00	0.178	0.00	1.262	5.33	8.934	58.07	63.245	87.05	447.744	100.00
0.028	0.00	0.200	0.00	1.416	6.27	10.024	60.69	70.953	88.77	502.377	100.00
0.032	0.00	0.224	0.00	1.589	7.48	11.247	62.95	79.821	90.40	563.677	100.00
0.038	0.00	0.252	0.09	1.783	8.96	12.619	64.90	89.537	91.91	632.456	100.00
0.040	0.00	0.283	0.23	2.000	10.83	14.159	66.60	100.237	93.29	709.627	100.00
0.045	0.00	0.317	0.43	2.244	13.10	15.887	68.11	112.468	94.54	796.214	100.00
0.050	0.00	0.355	0.67	2.518	15.61	17.825	69.51	128.191	95.67	893.367	100.00
0.056	0.00	0.399	0.95	2.825	18.99	20.000	70.68	141.589	96.68	1002.374	100.00
0.063	0.00	0.448	1.25	3.170	22.53	22.440	72.20	158.856	97.57	1124.683	100.00
0.071	0.00	0.502	1.58	3.567	26.47	25.179	73.59	178.250	98.36	1261.915	100.00
0.080	0.00	0.564	1.92	3.991	30.68	28.251	75.05	200.000	99.03	1415.892	100.00
0.089	0.00	0.632	2.27	4.477	35.05	31.698	76.59	224.404	99.55	1588.650	100.00
0.100	0.00	0.710	2.64	5.024	39.45	35.593	78.22	251.785	99.89	1782.502	100.00
0.112	0.00	0.793	3.03	5.637	43.76	39.905	79.02	282.508	100.00	2000.000	100.00
0.128	0.00	0.893	3.47	6.325	47.85	44.774	81.68	318.979	100.00		

Operator notes: Average of four measurements

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #1839009-Sample "ASH033007" (Averaged Result)

Measured by: Ella Shkolnik

Measured: Thursday, May 03, 2007 2:45:30 PM

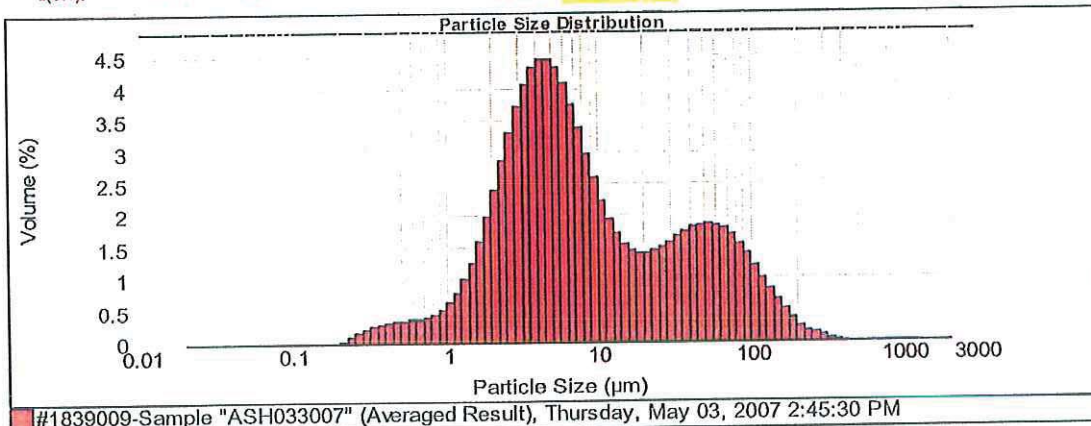
Analysed: Thursday, May 03, 2007 2:45:31 PM

SOP Name: Fly Ash Wet IPA

Result Source: Averaged

Particle Name:	Fly Ash General	Accessory Name:	Hydro 2000MU (A)	Obscuration:	12.85 %
Particle RI:	1.650	Absorption:	1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um		
Dispersant RI:	1.390	Result Emulation:	Off	Weighted Residual:	0.540 %

Concentration:	0.0065 %Vol	Vol. Weighted Mean D[4,3]:	23.198 um	Specific Surface Area:	0.587 m <sup>2</sup> /g
Span:	10.484	Uniformity:	3.06	Surface Weighted Mean D[3,2]:	3.801 um
Result units:	Volume				
d(0.1):	1.873 um	d(0.5):	6.493 um	d(0.9):	69.943 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	4.00	7.056	52.65	50.238	84.77	355.656	100.00
0.022	0.00	0.159	0.00	1.125	4.62	7.562	58.22	58.368	88.62	399.052	100.00
0.025	0.00	0.178	0.00	1.262	5.39	8.934	59.18	63.246	88.45	447.744	100.00
0.028	0.00	0.200	0.00	1.416	6.38	10.024	61.75	70.993	90.22	502.377	100.00
0.032	0.00	0.224	0.00	1.589	7.63	11.247	63.97	79.621	91.89	563.677	100.00
0.036	0.00	0.252	0.09	1.783	9.21	12.619	65.90	89.337	93.43	632.456	100.00
0.040	0.00	0.283	0.24	2.000	11.17	14.153	67.59	100.237	94.80	709.627	100.00
0.045	0.00	0.317	0.45	2.244	13.56	15.867	69.12	112.468	95.00	795.214	100.00
0.050	0.00	0.356	0.70	2.518	16.40	17.825	70.54	128.191	97.01	893.367	100.00
0.056	0.00	0.399	0.98	2.825	19.70	20.000	71.92	141.589	97.82	1002.374	100.00
0.063	0.00	0.448	1.29	3.170	23.42	22.440	73.30	158.866	98.47	1124.683	100.00
0.071	0.00	0.502	1.62	3.567	27.48	25.179	74.72	178.250	98.97	1261.915	100.00
0.080	0.00	0.564	1.98	3.991	31.81	28.251	76.21	200.000	99.34	1415.892	100.00
0.089	0.00	0.632	2.31	4.477	33.26	31.698	77.77	224.404	99.58	1588.656	100.00
0.100	0.00	0.710	2.67	5.024	40.71	35.566	79.42	251.785	99.75	1782.502	100.00
0.112	0.00	0.793	3.06	5.637	45.04	39.805	81.15	282.508	99.88	2000.000	100.00
0.126	0.00	0.893	3.50	6.325	49.12	44.774	82.91	316.979	99.95		

Operator notes: Average of four measurements

Client:	CONSOL Energy, Inc.	CTL Project No.:	403423
Project:	BET Analysis PO #4700142976	CTL Proj. Mgr.:	Ella Shkolnik note 2
Contact:	Daniel Connell	Analyst:	
Submitter:	Daniel Connell	Approved:	
Date Received:	April 23, 2007	Date Analyzed:	May 9, 2007
		Date Reported:	May 10, 2007

**REPORT of BET SURFACE AREA**

<u>Sample Identification</u>		<u>Material</u>	<u>BET Surface Area (m<sup>2</sup>/kg)</u> <sup>note 2</sup>
<u>CTL ID</u>	<u>Client ID</u>		
1839001	HYD032807	Hydrated Lime	15.73
1839002	HYD032907	Hydrated Lime	17.29
1839003	HYD033007	Hydrated Lime	17.62

**Notes:**

1. This analysis represents specifically the samples submitted.
2. Surface area analysis was performed by Particle Technology Laboratories (PTL); the original PTL report is enclosed.
3. This report may not be reproduced except in its entirety.



May 18, 2007

Ms. Ella Shkolnik  
CTLGROUP  
5400 Old Orchard Road  
Skokie, IL 60077-1030

**Subject: B.E.T. Surface Area Analysis of Three Hydrated Lime Samples**

**P.O. #: 39804B**

**PTL Project: 14234**

Dear Ms. Shkolnik:

Enclosed are the results from the 1-point B.E.T. surface area analysis conducted on your three Hydrated Lime samples. The sample information is detailed in Table 1 below.

**TABLE 1**  
**SAMPLE DETAILS**

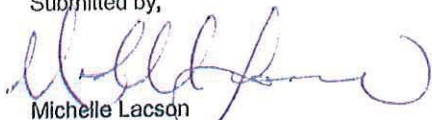
SAMPLE TYPE	SAMPLE ID	DATE RECEIVED
Hydrated Lime	1839001	05/02/07
	1839002	
	1839003	

The surface area was determined on our Micromeritics® TriStar 3000 static pressure surface area analyzer according to PTL Test Method TS1234.01. Per this method, an aliquot portion of each sample was heat conditioned for 3 hours at 105°C, under vacuum, and then analyzed according to standard operating procedures for this instrumentation type.


The data has been summarized in Table 2. In addition, the original data pages have been included for your review.

We trust this information will be beneficial for your future use. If there are any questions concerning this data or the methods used to acquire the data, please do not hesitate to contact us here at Particle Technology Labs.

Submitted by,

  
Michelle Lacson  
Fine Particle Analyst

Reviewed by,

  
William Kopesky  
Laboratory Manager

DR:\14234.doc:Reports

**TABLE 2**  
**B.E.T. SURFACE AREA DATA SUMMARY**

<b>SAMPLE ID</b>	<b>SPECIFIC SURFACE AREA (m<sup>2</sup>/g)</b>
1839001	15.73
1839002	17.29
1839003	17.62

## Particle Technology Labs

### CTL Group

TriStar Confirm V7.02

Unit 1 Port 1

Serial #: 119

Page 2

Sample: 14234A  
Operator: ML  
Submitter: UNIT # 231  
File Location: Category: Mic. Samples Subcategory: Example

Started: 5/9/2007 1:17:01PM	Analysis Adsorptive: N2
Completed: 5/9/2007 2:36:08PM	Analysis Bath Temp.: 77.300 K
Report Time: 5/9/2007 3:44:13PM	Sample Mass: 0.7716 g
Warm Free Space: 8.0416 cm <sup>3</sup> Measured	Cold Free Space: 24.2140 cm <sup>3</sup> Measured
Equilibration Interval: 20 s	Low Pressure Dose: None
Sample Density: 1.000 g/cm <sup>3</sup>	Automatic Degas: No
File Created By: Michelle Lacson	File Creation Time: 5/9/2007 11:44:15AM
Analysis By: Michelle Lacson	Coll. Software: TriStar Confirm V7.02
Report By: Michelle Lacson	Sample File Version: 6

Comments: CTL GROUP - Hydrated Lime - S55967 - CTL ID:1839001 - TS1234.01 - 58042

### Summary Report

#### Surface Area

Single point surface area at P/Po = 0.306803201: 15.7282 m<sup>2</sup>/g

OK 5/14/07  
ML  
5/19/07



## Particle Technology Labs

### CTL Group

TriStar Confirm V7.02

Unit 1 Port 2

Serial #: 119

Page 2

Sample: 14234B  
Operator: ML  
Submitter: UNIT # 231  
File Location: Category: Mic. Samples Subcategory: Example

Started: 5/9/2007 1:17:01PM	Analysis Adsorptive: N2
Completed: 5/9/2007 2:36:08PM	Analysis Bath Temp.: 77.300 K
Report Time: 5/9/2007 3:32:51PM	Sample Mass: 0.7034 g
Warm Free Space: 8.4716 cm <sup>3</sup> Measured	Cold Free Space: 25.2163 cm <sup>3</sup> Measured
Equilibration Interval: 20 s	Low Pressure Dose: None
Sample Density: 1.000 g/cm <sup>3</sup>	Automatic Degas: No
File Created By: Michelle Lacson	File Creation Time: 5/9/2007 11:49:55AM
Analysis By: Michelle Lacson	Coll. Software: TriStar Confirm V7.02
Report By: Michelle Lacson	Sample File Version: 6

Comments: CTL GROUP - Hydrated Lime - TS1234.01 - S55968 - CTL ID: 1839002 - 58043

### Summary Report

#### Surface Area

Single point surface area at P/Po = 0.306303993: 17.2884 m<sup>2</sup>/g

Wk started  
5/19/07

# Particle Technology Labs

## CTL Group

TriStar Confirm V7.02

Unit 1 Port 3

Serial #: 119

Page 2

Sample: 14234C  
Operator: ML  
Submitter: UNIT # 231  
File Location: Category: Mic. Samples Subcategory: Example

Started: 5/9/2007 1:17:02PM  
Completed: 5/9/2007 2:36:09PM  
Report Time: 5/9/2007 3:33:59PM  
Warm Free Space: 7.8878 cm<sup>3</sup> Measured  
Equilibration Interval: 20 s  
Sample Density: 1.000 g/cm<sup>3</sup>  
File Created By: Michelle Lacson  
Analysis By: Michelle Lacson  
Report By: Michelle Lacson

Analysis Adsorptive: N2  
Analysis Bath Temp.: 77.300 K  
Sample Mass: 0.5703 g  
Cold Free Space: 23.6188 cm<sup>3</sup> Measured  
Low Pressure Dose: None  
Automatic Degas: No  
File Creation Time: 5/9/2007 11:51:37AM  
Coll. Software: TriStar Confirm V7.02  
Sample File Version: 6

Comments: CTL GROUP - Hydrated Lime - TS1234.01 - S55969 - CTL ID: 1839003 - 58044

### Summary Report

#### Surface Area

Single point surface area at P/Po = 0.308913595: 17.6179 m<sup>2</sup>/g

OK 5/19/07  
ML  
5/19/07

**APPENDIX J.3  
GUARANTEE TESTS  
MAY 2007**



### Coal Sample Analysis Results

Analytical Number	20072513	20072514	20072515	20072516	20072517	20072518	20072519	20072520	20072521
Test Identification	TEST 1	TEST 2	TEST 3	TEST 4	TEST 1	TEST 2	TEST 3	TEST 1	TEST 2
Date & Time	5/1/2007	5/1/2007	5/1/2007	5/1/2007	5/2/2007	5/2/2007	5/2/2007	5/4/2007	5/4/2007
Total Moisture, %	6.04	6.14	5.87	5.85	5.51	5.66	5.58	5.94	5.97
As Determined Moisture, %	1.26	1.32	1.26	1.20	1.19	1.16	1.30	1.30	1.32
Volatile Matter, % dry	40.81	41.02	41.11	41.07	41.30	41.37	41.27	41.39	41.31
Ash, % dry	8.64	8.95	8.53	8.71	8.53	8.75	9.04	8.60	8.85
Carbon, % dry	75.37	75.59	75.69	75.61	75.19	75.14	75.94	74.24	75.13
Hydrogen, % dry	5.26	5.01	5.00	5.26	5.12	4.84	4.94	4.83	5.01
Nitrogen, % dry	1.38	1.38	1.38	1.37	1.39	1.35	1.37	1.35	1.39
Sulfur, % dry	3.05	3.14	3.11	3.08	3.20	3.38	3.26	3.32	3.25
Chlorine, % dry	0.080	0.068	0.076	0.088	0.064	0.088	0.094	0.066	0.096
Mercury, ppm dry									
Fluorine, ppm dry									
Selenium, ppm dry									
HHV, Btu/lb dry	13796	13765	13818	13784	13819	13741	13685	13732	13762
Major Ash Elements, % of ash									
SiO <sub>2</sub>	42.89	43.12	42.72	43.03	43.40	42.03	43.00	43.14	43.06
Al <sub>2</sub> O <sub>3</sub>	21.86	21.81	21.69	21.76	22.08	21.33	21.67	22.03	21.81
TiO <sub>2</sub>	0.90	0.90	0.89	0.90	0.91	0.86	0.87	0.90	0.87
Fe <sub>2</sub> O <sub>3</sub>	21.64	21.37	20.91	19.69	20.48	22.42	19.99	21.13	20.24
CaO	4.98	4.87	4.58	4.45	4.36	4.42	5.17	4.77	4.99
MgO	0.81	0.79	0.79	0.81	0.78	0.76	0.87	0.83	0.81
Na <sub>2</sub> O	0.79	0.80	0.79	0.99	0.76	0.88	1.20	0.75	0.99
K <sub>2</sub> O	1.46	1.41	1.38	1.42	1.40	1.38	1.46	1.40	1.43
P <sub>2</sub> O <sub>5</sub>	0.26	0.27	0.24	0.24	0.25	0.23	0.25	0.27	0.24
SO <sub>3</sub>	4.88	4.93	3.74	4.43	4.16	4.56	4.66	3.88	4.66

**Air Heater Outlet Fly Ash Sample Analysis Results**

Analytical Number	20072522	20072523	20072524	20072525	20072526	20072527	20072528	20072529	20072530
Test Identification	TEST 1	TEST 2	TEST 3	TEST 4	TEST 1	TEST 2	TEST 3	TEST 1	TEST 2
Date & Time	5/1/2007	5/1/2007	5/1/2007	5/1/2007	5/2/2007	5/2/2007	5/2/2007	5/4/2007	5/4/2007
As Determined Moisture, %	0.20	1.07	1.08	0.38	0.17	0.11	0.79	0.19	0.91
Ash, % dry	77.06	83.09	84.20	80.32	75.73	74.67	79.08	78.76	80.01
Carbon, % dry	23.79	16.26	15.09	20.83	24.71	26.20	21.10	19.63	17.71
Sulfur, % dry	0.44	0.54	0.53	0.52	0.51	0.50	0.52	0.50	0.65
Chlorine, % dry	<0.0005	0.0138	0.0065	0.0041	0.0025	0.0018	0.0137	0.0023	0.0060
Major Ash Elements, % dry									
SiO <sub>2</sub>	34.53	39.20	39.63	38.90	35.99	34.71	37.21	37.65	38.72
Al <sub>2</sub> O <sub>3</sub>	16.86	19.74	20.07	19.38	18.33	17.06	17.91	17.52	18.73
TiO <sub>2</sub>	0.72	0.89	0.90	0.87	0.82	0.75	0.80	0.81	0.89
Fe <sub>2</sub> O <sub>3</sub>	14.85	14.74	14.87	15.29	16.16	16.49	14.82	14.86	12.99
CaO	3.72	3.90	4.07	4.01	3.85	3.75	4.12	4.17	4.23
MgO	0.61	0.73	0.75	0.69	0.65	0.60	0.71	0.70	0.76
Na <sub>2</sub> O	0.62	0.78	0.79	0.71	0.67	0.64	0.72	0.68	0.75
K <sub>2</sub> O	1.09	1.35	1.38	1.26	1.20	1.08	1.31	1.21	1.32
P <sub>2</sub> O <sub>5</sub>	0.15	0.22	0.21	0.18	0.18	0.14	0.19	0.16	0.18
SO <sub>3</sub>	1.11	1.34	1.30	1.29	1.27	1.24	1.30	1.24	1.60

**APPENDIX J.4  
GUARANTEE TESTS  
JUNE 2007**



### Coal Sample Analysis Results from June 1, 2007

Analytical Number	20073004	20073005
Date & Time of Collection	6/1/2007 10:30	6/1/2007 14:00
Total Moisture, %	5.56	5.57
As Determined Moisture, %	1.53	1.52
Volatile Matter, % dry	37.90	37.70
Fixed Carbon, % dry	54.03	54.27
Ash, % dry	8.07	8.03
Carbon, % dry	76.12	76.67
Hydrogen, % dry	4.59	4.56
Nitrogen, % dry	1.40	1.40
Sulfur, % dry	2.67	2.82
Chlorine, % dry	0.080	0.081
HHV, Btu/lb dry	13811	13815
Major Ash Elements, % of ash		
SiO <sub>2</sub>	44.52	44.50
Al <sub>2</sub> O <sub>3</sub>	22.04	21.56
TiO <sub>2</sub>	0.94	0.94
Fe <sub>2</sub> O <sub>3</sub>	18.23	19.56
CaO	4.92	5.07
MgO	0.93	0.94
Na <sub>2</sub> O	0.95	0.92
K <sub>2</sub> O	1.66	1.65
P <sub>2</sub> O <sub>5</sub>	0.27	0.32
SO <sub>3</sub>	5.27	5.37

### Coal Sample Analysis Results from June 20, 2007

Analytical Number	20073422
Date & Time of Collection	6/20/2007
Total Moisture, %	4.28
As Determined Moisture, %	1.32
Volatile Matter, % dry	36.92
Fixed Carbon, % dry	54.51
Ash, % dry	8.57
Carbon, % dry	71.16
Hydrogen, % dry	5.43
Nitrogen, % dry	1.27
Sulfur, % dry	2.50
Chlorine, % dry	0.093
HHV, Btu/lb dry	13851
Major Ash Elements, % of ash	
SiO <sub>2</sub>	47.71
Al <sub>2</sub> O <sub>3</sub>	23.32
TiO <sub>2</sub>	1.04
Fe <sub>2</sub> O <sub>3</sub>	15.98
CaO	4.04
MgO	0.97
Na <sub>2</sub> O	1.04
K <sub>2</sub> O	1.86
P <sub>2</sub> O <sub>5</sub>	0.48
SO <sub>3</sub>	4.07

**APPENDIX J.5  
PROCESS PERFORMANCE TESTS  
OCTOBER 2007**





Submitted by: D. Connell  
 Date: 1/2/2008  
 Project #: 1621-085  
 General Description: Coal Samples - Process Performance Tests - October 2007

Analytical Number	Sample Description	Wt. % Dry Basis										ppm Dry Basis		
		Total Moisture %	As Determined Moisture %	Volatile Matter	Ash	Carbon	Hydrogen	Nitrogen	Sulfur	Chlorine	Mercury	Fluorine	Btu/lb	
20076583	10/02/07 COAL 1520-1620	6.51	1.63	40.30	9.22	75.01	5.25	1.37	3.23	0.0722	0.105		13750	
20076584	10/03/07 COAL 1240-1345	5.71	1.69	40.34	8.97	75.30	5.35	1.37	3.35	0.0885	0.102		13748	
20076585	10/03/07 COAL 1600-1700	5.55	1.65	40.28	8.84	75.39	5.34	1.41	3.26	0.0742	0.102		13731	
20076586	10/04/07 COAL 1545	5.63	1.70	40.81	8.50	75.97	5.29	1.40	3.27	0.0692	0.102	54.1	13768	
20076587	10/05/07 COAL 0900	6.27	1.62	40.64	8.74	75.63	5.28	1.37	3.21	0.0854	0.102	53.6	13745	
20076588	10/05/07 COAL 1130-1240	7.18	1.60	40.25	8.74	75.55	5.33	1.42	3.11	0.1087	0.101		13784	
20076589	10/05/07 COAL 1415-1530	6.79	1.51	40.43	8.56	75.79	5.29	1.41	3.06	0.0954	0.095		13833	
20076590	10/08/07 COAL 1110-1240	6.73	1.66	39.68	8.48	75.97	5.31	1.45	2.84	0.0895	0.103		13781	
20076591	10/08/07 COAL 1530-1630	6.75	1.74	39.77	8.42	76.17	5.22	1.48	2.84	0.0896	0.109	59.1	13876	
20076592	10/09/07 COAL 0830	5.46	1.75	40.01	8.43	76.21	5.28	1.48	2.88	0.0906	0.098		13772	
20076593	10/09/07 COAL 1030-1130	5.80	1.80	39.35	8.46	76.18	5.30	1.47	2.84	0.0967	0.106	55.7	13807	
20076594	10/09/07 COAL 1545-1645	5.88	1.76	39.33	8.52	76.34	5.26	1.49	2.78	0.0987	0.098		13784	
20076595	10/10/07 COAL 0830	5.90	1.65	39.42	8.37	76.31	5.31	1.46	2.78	0.0925	0.117		13824	
20076596	10/10/07 COAL 1040-1145	6.30	1.69	39.29	8.74	75.62	5.25	1.45	2.91	0.0946	0.109		13727	
20076597	10/10/07 COAL 1450-1550	6.10	1.89	39.89	8.45	76.21	5.37	1.43	2.85	0.0887	0.111	48.5	13830	
20076598	10/11/07 COAL 0830	6.71	1.64	38.70	8.75	76.39	5.36	1.45	2.80	0.0803	0.111		13791	
20076599	10/11/07 COAL 1230-1330	6.16	1.59	38.64	9.59	75.35	5.28	1.47	2.94	0.0843	0.126		13676	

Analytical Number	Sample Description	Major Ash Elements, Wt. %, Ignited 750 Ash										
		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3	
20076583	10/02/07 COAL 1520-1620	42.65	20.93	0.86	21.61	6.22	1.07	0.82	1.47	0.27	4.93	
20076584	10/03/07 COAL 1240-1345	41.50	20.44	0.86	23.61	5.19	0.84	0.83	1.36	0.26	3.84	
20076585	10/03/07 COAL 1600-1700	40.36	20.40	0.87	22.88	6.11	0.88	0.79	1.33	0.27	4.99	
20076586	10/04/07 COAL 1545	39.90	20.78	0.84	24.30	5.63	0.97	0.89	1.33	0.25	4.62	
20076587	10/05/07 COAL 0900	39.91	19.80	0.88	23.17	5.41	1.27	0.81	1.26	0.30	4.80	
20076588	10/05/07 COAL 1130-1240	42.23	21.30	0.88	21.03	5.62	0.91	1.02	1.42	0.28	4.85	
20076589	10/05/07 COAL 1415-1530	42.24	21.37	0.91	20.89	5.36	0.88	0.88	1.42	0.29	4.35	
20076590	10/08/07 COAL 1110-1240	43.17	21.89	0.99	19.41	5.13	0.86	0.66	1.39	0.43	4.06	
20076591	10/08/07 COAL 1530-1630	43.51	22.71	0.99	19.43	4.48	0.83	0.74	1.45	0.50	4.13	
20076592	10/09/07 COAL 0830	41.80	21.55	0.92	22.98	4.01	0.77	0.72	1.30	0.44	3.42	
20076593	10/09/07 COAL 1030-1130	42.33	22.39	1.00	19.57	4.54	0.81	0.70	1.58	0.47	4.12	
20076594	10/09/07 COAL 1545-1645	44.77	23.46	1.10	18.83	4.75	0.85	0.89	1.38	0.46	4.29	
20076595	10/10/07 COAL 0830	44.71	24.06	1.16	19.28	4.46	0.87	0.86	1.60	0.45	4.02	
20076596	10/10/07 COAL 1040-1145	42.16	22.44	0.99	19.50	4.53	0.81	0.72	1.46	0.42	4.03	
20076597	10/10/07 COAL 1450-1550	42.93	23.27	1.09	21.39	4.82	0.90	0.89	1.55	0.41	4.04	
20076598	10/11/07 COAL 0830	43.71	22.66	1.16	19.46	5.04	0.89	0.84	1.68	0.48	4.56	
20076599	10/11/07 COAL 1230-1330	44.75	21.79	1.16	20.16	4.28	0.84	0.81	1.67	0.43	3.82	



Submitted by: D. Connell  
 Date: 1/2/2008  
 Project #: 1621-085

General Description: Bottom Ash and Air Heater Outlet Fly Ash Samples - Process Performance Tests - October 2007

Analytical Number	Sample Description	As Determined Moisture %	Wt. % Dry Basis				ppm Dry Basis			
			Ash	Carbon	Chlorine	Mercury	Fluorine	Ammonia		
20076651	10/05/07 BOTTOM ASH 1300	<0.01	81.87	17.84	0.0245	<0.005	14.6			
20076652	10/08/07 BOTTOM ASH 1240	0.08	98.42	1.17	0.0040	<0.005	4.88			
20076653	10/10/07 BOTTOM ASH 1300	0.26	96.73	1.32	0.0070	<0.005	4.48			
20076654	10/02/07 AHO FLY ASH 1710	0.50	76.82	20.47	0.0060	0.294		60.1		
20076655	10/03/07 AHO FLY ASH 1445	0.27	83.44	14.39	0.0020	0.234			25.4	
20076656	10/03/07 AHO FLY ASH 1800	0.31	74.83	25.33	0.0020	0.370			51.0	
20076657	10/05/07 AHO FLY ASH 1000	1.80	77.10	21.60	0.0020	0.377		36.0	73.9	
20076658	10/05/07 AHO FLY ASH 1320	0.57	76.81	21.94	0.0050	0.278			112	
20076659	10/05/07 AHO FLY ASH 1640	0.42	81.20	17.49	0.0040	0.260			86.7	
20076660	10/08/07 AHO FLY ASH 1330	0.99	83.42	15.42	0.0151	0.210			123	
20076661	10/08/07 AHO FLY ASH 1515	0.99	80.11	16.72	0.0131	0.224			126	
20076662	10/08/07 AHO FLY ASH 1645	1.18	83.97	14.86	0.0142	0.199		29.6	138	
20076663	10/09/07 AHO FLY ASH 1145	1.20	81.06	17.12	0.0132	0.261		31.5	141	
20076664	10/10/07 AHO FLY ASH 1300	0.40	80.33	18.74	0.0049	0.200			122	
20076665	10/10/07 AHO FLY ASH 1600	0.18	82.83	14.34	0.0056	0.191		24.1	110	
20076666	10/11/07 AHO FLY ASH 1500	0.23	82.29	16.43	0.0060	0.260			102	

Analytical Number	Sample Description	Major Ash Elements, Wt. % Dry Basis																		
		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3									
20076651	10/05/07 BOTTOM ASH 1300	33.51	16.14	0.65	26.14	3.59	0.55	0.51	1.04	0.13	1.53									
20076652	10/08/07 BOTTOM ASH 1240	39.20	18.83	0.84	31.64	3.11	0.63	0.29	0.91	0.18	0.13									
20076653	10/10/07 BOTTOM ASH 1300	41.10	20.31	0.87	31.10	3.43	0.67	0.23	1.06	0.24	0.71									
20076654	10/02/07 AHO FLY ASH 1710	38.11	19.19	0.85	13.20	3.59	0.74	0.48	1.20	0.17	1.77									
20076655	10/03/07 AHO FLY ASH 1445	37.50	17.99	0.79	21.81	3.65	0.72	0.52	0.94	0.12	1.17									
20076656	10/03/07 AHO FLY ASH 1800	35.13	17.51	0.76	16.88	3.11	0.67	0.60	0.98	0.16	1.24									
20076657	10/05/07 AHO FLY ASH 1000	37.62	18.87	0.87	13.78	3.20	0.71	0.70	1.16	0.22	1.53									
20076658	10/05/07 AHO FLY ASH 1320	38.07	19.28	0.86	12.62	3.60	0.74	0.75	1.18	0.22	2.12									
20076659	10/05/07 AHO FLY ASH 1640	39.97	19.54	0.91	13.70	3.40	0.77	0.68	1.07	0.24	1.50									
20076660	10/08/07 AHO FLY ASH 1330	41.79	20.55	1.00	12.57	3.20	0.77	0.54	1.08	0.41	1.63									
20076661	10/08/07 AHO FLY ASH 1515	40.24	20.82	0.95	12.23	3.15	0.76	0.54	1.18	0.40	1.54									
20076662	10/08/07 AHO FLY ASH 1645	41.90	21.12	1.00	13.67	3.30	0.81	0.47	1.06	0.44	1.55									
20076663	10/09/07 AHO FLY ASH 1145	40.04	20.18	0.95	12.35	3.10	0.75	0.43	0.97	0.39	1.51									
20076664	10/10/07 AHO FLY ASH 1300	40.71	19.74	0.91	13.20	3.13	0.77	0.48	0.98	0.32	1.24									
20076665	10/10/07 AHO FLY ASH 1600	42.53	20.59	0.96	13.28	3.16	0.80	0.48	1.02	0.42	1.14									
20076666	10/11/07 AHO FLY ASH 1500	42.04	19.30	0.89	13.02	3.10	0.82	0.41	1.01	0.32	1.11									



Submitted by: D. Connell  
 Date: 1/2/2008  
 Project #: 1621-085  
 General Description: Turbosorp Product Ash Samples - Process Performance Tests - October 2007

Analytical Number	Sample Description	As Determined Moisture %	Wt. % Dry Basis				ppm Dry Basis		
			Ash	Carbon	Chlorine	Mercury	Fluorine		
20076600	10/02/07 PRODUCT ASH 1710	0.83	84.58	6.57	0.2521	0.309			
20076601	10/03/07 PRODUCT ASH 1445	0.89	84.53	6.50	0.2684	0.319			
20076602	10/03/07 PRODUCT ASH 1800	0.81	84.15	6.72	0.2430	0.329			
20076603	10/04/07 PRODUCT ASH 1635	0.87	83.88	6.01	0.2714	0.300	56.4		
20076604	10/05/07 PRODUCT ASH 1000	0.85	83.63	7.10	0.2673	0.340	90.7		
20076605	10/05/07 PRODUCT ASH 1320	0.95	84.02	7.22	0.2726	0.356			
20076606	10/05/07 PRODUCT ASH 1640	0.90	84.28	6.99	0.2684	0.371			
20076607	10/08/07 PRODUCT ASH 1330	0.99	84.91	6.18	0.2575	0.410			
20076608	10/08/07 PRODUCT ASH 1530	0.88	84.99	6.86	0.3178	0.403	57.9		
20076609	10/08/07 PRODUCT ASH 1730	0.91	84.46	6.36	0.2997	0.404	86.4		
20076610	10/09/07 PRODUCT ASH 1145	0.97	84.83	8.34	0.3201	0.426	119		
20076611	10/09/07 PRODUCT ASH 1715	0.75	84.75	8.04	0.3395	0.402			
20076612	10/10/07 PRODUCT ASH 1300	0.82	85.05	7.41	0.3045	0.432			
20076613	10/10/07 PRODUCT ASH 1600	0.80	84.43	8.08	0.3165	0.486	94.4		
20076614	10/10/07 PRODUCT ASH 1700	0.78	85.49	7.15	0.3074	0.410			
20076615	10/11/07 PRODUCT ASH 1345	0.86	83.43	7.85	0.2703	0.467			
20076616	10/11/07 PRODUCT ASH 1500	0.74	83.10	7.36	0.3153	0.451			

Analytical Number	Sample Description	Major Ash Elements, Wt. % Dry Basis										
		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3	
20076600	10/02/07 PRODUCT ASH 1710	12.17	5.85	0.25	4.42	36.11	0.61	0.24	0.40	<0.01	24.82	
20076601	10/03/07 PRODUCT ASH 1445	11.31	5.49	0.24	4.08	36.58	0.60	0.24	0.41	0.07	23.72	
20076602	10/03/07 PRODUCT ASH 1800	11.95	5.88	0.25	4.56	35.80	0.60	0.26	0.41	0.21	24.19	
20076603	10/04/07 PRODUCT ASH 1635	11.21	5.58	0.25	4.24	37.88	0.59	0.25	0.31	0.03	22.91	
20076604	10/05/07 PRODUCT ASH 1000	11.68	5.79	0.26	4.15	36.27	0.57	0.25	0.39	0.22	26.07	
20076605	10/05/07 PRODUCT ASH 1320	11.57	5.66	0.25	4.25	36.07	0.58	0.25	0.43	0.23	25.67	
20076606	10/05/07 PRODUCT ASH 1640	11.48	5.57	0.25	4.10	35.85	0.57	0.25	0.44	0.47	24.14	
20076607	10/08/07 PRODUCT ASH 1330	12.76	6.28	0.28	4.25	35.17	0.54	0.15	0.43	0.15	24.45	
20076608	10/08/07 PRODUCT ASH 1530	12.77	6.37	0.29	4.29	34.47	0.58	0.26	0.44	0.40	26.13	
20076609	10/08/07 PRODUCT ASH 1730	12.86	6.26	0.28	4.21	35.95	0.59	0.25	0.44	0.47	24.14	
20076610	10/09/07 PRODUCT ASH 1145	13.37	6.76	0.31	4.54	34.51	0.56	0.27	0.37	0.40	23.67	
20076611	10/09/07 PRODUCT ASH 1715	14.13	6.89	0.31	4.62	34.06	0.63	0.26	0.47	0.23	25.25	
20076612	10/10/07 PRODUCT ASH 1300	13.18	6.61	0.30	4.53	34.25	0.57	0.24	0.49	0.20	25.40	
20076613	10/10/07 PRODUCT ASH 1600	13.24	6.66	0.30	4.35	33.96	0.56	0.24	0.46	0.24	22.99	
20076614	10/10/07 PRODUCT ASH 1700	13.94	7.02	0.32	4.73	33.14	0.58	0.25	0.47	0.10	23.12	
20076615	10/11/07 PRODUCT ASH 1345	12.74	6.44	0.29	4.10	34.63	0.57	0.21	0.46	0.24	23.01	
20076616	10/11/07 PRODUCT ASH 1500	12.58	6.31	0.29	4.11	36.10	0.59	0.21	0.47	0.10	23.11	





Submitted by: D. Connell  
 Date: 1/2/2008  
 Project #: 1621-085  
 General Description: Pebble Lime Samples - Process Performance Tests - October 2007

Analytical Number	Sample Description	As Determined Moisture %	Wt. % Dry Basis			ppm Dry Basis	Wt. %
			Ash	Carbon	Mercury		
20076621	10/02/07 PEBBLE LIME 1620	<0.01	98.41	0.28	<0.005	86.3	
20076622	10/03/07 PEBBLE LIME 1345	<0.01	98.45	0.27	<0.005	90.3	
20076623	10/03/07 PEBBLE LIME 1700	<0.01	98.33	0.28	<0.005	91.6	
20076624	10/04/07 PEBBLE LIME 1545	<0.01	98.17	0.36	<0.005	91.3	
20076625	10/05/07 PEBBLE LIME 0915	<0.01	98.64	0.26	<0.005	90.4	
20076626	10/05/07 PEBBLE LIME 1300	<0.01	97.93	0.31	<0.005	91.5	
20076627	10/05/07 PEBBLE LIME 1520	<0.01	97.80	0.36	0.009	90.8	
20076628	10/08/07 PEBBLE LIME 1110	<0.01	98.25	0.29	<0.005	88.9	
20076629	10/08/07 PEBBLE LIME 1530A	<0.01	98.56	0.42	<0.005	87.7	
20076630	10/08/07 PEBBLE LIME 1530B	<0.01	96.38	0.38	<0.005	90.3	
20076631	10/09/07 PEBBLE LIME 1040	<0.01	97.46	0.26	<0.005	89.2	
20076632	10/09/07 PEBBLE LIME 1545	<0.01	97.46	0.26	<0.005	90.1	
20076633	10/10/07 PEBBLE LIME 1100	<0.01	97.98	0.25	<0.005	89.4	
20076634	10/10/07 PEBBLE LIME 1500	<0.01	97.66	0.26	<0.005	89.2	
20076635	10/11/07 PEBBLE LIME 1330	<0.01	97.75	0.26	<0.005	89.5	

Analytical Number	Sample Description	Major Ash Elements, Wt. % Dry Basis									
		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3
20076621	10/02/07 PEBBLE LIME 1620	1.09	0.36	0.02	0.18	97.62	0.92	0.01	0.14	0.04	0.19
20076622	10/03/07 PEBBLE LIME 1345	0.96	0.33	0.02	0.19	93.25	0.84	<0.01	0.12	0.03	0.15
20076623	10/03/07 PEBBLE LIME 1700	1.02	0.35	0.02	0.19	93.86	0.84	<0.01	0.12	0.02	0.12
20076624	10/04/07 PEBBLE LIME 1545	1.06	0.32	0.02	0.14	94.82	0.87	<0.01	0.13	0.03	0.13
20076625	10/05/07 PEBBLE LIME 0915	1.16	0.36	0.02	0.15	94.93	0.92	0.02	0.14	0.04	0.14
20076626	10/05/07 PEBBLE LIME 1300	0.95	0.33	0.02	0.14	94.15	0.88	0.02	0.13	0.03	0.21
20076627	10/05/07 PEBBLE LIME 1520	0.89	0.29	0.02	0.14	96.18	0.82	0.02	0.14	0.03	0.09
20076628	10/08/07 PEBBLE LIME 1110	1.93	0.49	0.03	0.19	93.61	0.94	0.02	0.00	0.37	0.53
20076629	10/08/07 PEBBLE LIME 1530A	1.21	0.47	0.03	0.20	95.35	0.96	0.06	0.14	0.02	0.38
20076630	10/08/07 PEBBLE LIME 1530B	1.10	0.41	0.02	0.17	95.06	0.96	0.09	0.15	0.01	0.29
20076631	10/09/07 PEBBLE LIME 1040	1.80	0.49	0.02	0.18	90.12	0.86	0.02	0.01	0.07	0.88
20076632	10/09/07 PEBBLE LIME 1545	1.25	0.42	0.02	0.18	95.74	0.87	0.05	0.11	<0.01	0.15
20076633	10/10/07 PEBBLE LIME 1100	1.49	0.48	0.02	0.19	94.50	0.95	<0.01	0.11	0.03	0.20
20076634	10/10/07 PEBBLE LIME 1500	1.40	0.44	0.02	0.19	93.53	1.00	0.08	0.16	0.06	0.17
20076635	10/11/07 PEBBLE LIME 1330	0.88	0.48	0.02	0.20	94.84	0.99	0.02	0.12	0.07	0.20



Submitted by: D. Connell  
 Date: 1/2/2008  
 Project #: 1621-085  
 General Description: Hydrated Lime Samples - Process Performance Tests - October 2007

Analytical Number	Sample Description	As Determined Moisture %	Wt. % Dry Basis			ppm Dry Basis	Additional Lime Parameters		
			Ash	Carbon	Mercury		Available Ca(OH) <sub>2</sub>	Loose Density	Packed Density
20076636	10/02/07 HYDRATED LIME 1620	<0.01	76.20	0.29	<0.005	91.26	0.39	0.64	
20076637	10/03/07 HYDRATED LIME 1345	0.15	76.16	0.27	<0.005	92.21	0.41	0.69	
20076638	10/03/07 HYDRATED LIME 1700	0.13	76.00	0.29	<0.005	87.59	0.44	0.76	
20076639	10/04/07 HYDRATED LIME 1545	0.19	75.95	0.33	<0.005	91.93	0.44	0.69	
20076640	10/05/07 HYDRATED LIME 0915	0.37	76.11	0.31	<0.005	91.95	0.39	0.66	
20076641	10/05/07 HYDRATED LIME 1300	0.26	76.03	0.27	<0.005	91.55	0.41	0.71	
20076642	10/05/07 HYDRATED LIME 1520	0.28	75.99	0.28	<0.005	87.71	0.43	0.76	
20076643	10/08/07 HYDRATED LIME 1110	0.29	76.23	0.25	<0.005	91.94	0.41	0.74	
20076644	10/08/07 HYDRATED LIME 1530A	0.29	75.99	0.39	<0.005	90.49	0.37	0.68	
20076645	10/08/07 HYDRATED LIME 1530B	0.32	75.91	0.39	<0.005	91.67	0.38	0.69	
20076646	10/09/07 HYDRATED LIME 1040	0.32	76.03	0.38	<0.005	92.46	0.39	0.64	
20076647	10/09/07 HYDRATED LIME 1545	0.34	76.25	0.35	<0.005	92.07	0.38	0.61	
20076648	10/10/07 HYDRATED LIME 1100	0.18	76.18	0.30	<0.005	93.79	0.41	0.71	
20076649	10/10/07 HYDRATED LIME 1500	0.05	75.99	0.25	<0.005	93.25	0.38	0.68	
20076650	10/11/07 HYDRATED LIME 1130	0.27	75.99	0.33	<0.005	93.65	0.41	0.68	

Analytical Number	Sample Description	Major Ash Elements, Wt. % Dry Basis									
		SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	TiO <sub>2</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	MgO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>3</sub>
20076636	10/02/07 HYDRATED LIME 1620	0.96	0.32	0.02	0.14	74.51	0.74	0.02	0.07	0.02	0.16
20076637	10/03/07 HYDRATED LIME 1345	1.39	0.34	0.02	0.16	74.72	0.74	0.03	0.09	0.02	0.54
20076638	10/03/07 HYDRATED LIME 1700	0.99	0.29	0.01	0.13	75.67	0.74	0.01	0.05	0.02	0.12
20076639	10/04/07 HYDRATED LIME 1545	0.46	0.30	0.02	0.13	73.37	0.71	0.01	0.07	0.04	0.10
20076640	10/05/07 HYDRATED LIME 0915	1.17	0.28	0.01	0.31	73.01	0.69	0.04	0.09	0.02	0.06
20076641	10/05/07 HYDRATED LIME 1300	1.57	0.28	0.01	0.11	71.72	0.66	<0.01	0.05	0.06	0.04
20076642	10/05/07 HYDRATED LIME 1520	1.05	0.29	0.02	0.10	71.64	0.64	<0.01	0.07	0.03	0.11
20076643	10/08/07 HYDRATED LIME 1110	1.05	0.35	0.02	0.13	73.28	0.67	<0.01	0.10	0.03	0.11
20076644	10/08/07 HYDRATED LIME 1530A	1.01	0.39	0.02	0.14	72.92	0.72	<0.01	0.08	0.02	0.27
20076645	10/08/07 HYDRATED LIME 1530B	0.90	0.36	0.02	0.14	71.51	0.71	<0.01	0.05	<0.01	0.20
20076646	10/09/07 HYDRATED LIME 1040	1.02	0.40	0.02	0.14	73.01	0.71	<0.01	0.10	0.02	0.17
20076647	10/09/07 HYDRATED LIME 1545	1.04	0.38	0.02	0.13	71.90	0.67	<0.01	0.09	0.02	0.12
20076648	10/10/07 HYDRATED LIME 1100	1.40	0.33	0.02	0.14	72.50	0.68	<0.01	0.09	0.02	0.14
20076649	10/10/07 HYDRATED LIME 1500	0.96	0.35	0.02	0.13	71.94	0.66	<0.01	0.08	0.03	0.13
20076650	10/11/07 HYDRATED LIME 1130	1.33	0.34	0.02	0.18	72.30	0.70	<0.01	0.10	0.04	0.14



Submitted by: D. Connell  
 Date: 1/2/2008  
 Project #: 1621-085  
 General Description: Powdered Activated Carbon Sample - Process Performance Tests - October 2007

Analytical Number	Sample Description	Wt. % Dry Basis						ppm Dry Basis		
		As Determined Moisture %	Volatiles Matter	Ash	Carbon	Hydrogen	Nitrogen	Sulfur	Mercury	
20076667	10/05/07 ACTIVATED CARBON 1130	1.14	4.65	8.07	88.29	0.91	0.62	0.36	<0.005	

Analytical Number	Sample Description	Major Ash Elements, Wt. % Dry Basis									
		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3
20076667	10/05/07 ACTIVATED CARBON 1130	1.16	4.35	0.28	17.68	35.58	20.94	3.87	0.85	<0.01	14.75





Submitted by: D. Connell  
 Date: 1/2/2008  
 Project #: 1621-085  
 General Description: Urea and Process Water Samples - Process Performance Tests - October 2007

Analytical Number	Sample Identification	pH	TSS	ppm or mg/L			g/cm <sup>3</sup>
				Hg	Ammonia, N	Density	
20076708	PROCESS WATER 1130 10/05/2007			<0.35			
20076709	PROCESS WATER 1240 10/08/2007			<0.35			
20079710	PROCESS WATER 1110 10/10/2007			<0.35			
20076711	10/05/07 UREA 1130	9.21	<6	<0.35	270	1.15	
20076712	10/08/07 UREA 1240	9.21	<6	<0.35	160	1.16	
20076713	10/10/07 UREA 1110	9.22	<6	<0.35	120	1.15	



November 29, 2007

Mr. Dan Connell  
Consol Energy Inc.  
Research and Development  
4000 Brownsville Road  
South Park, PA 15129-9566

Re: RJLG Project TEH711202

Dear Mr. Connell,

At your request the following samples were analyzed for BET Surface Area:

RJ Lee Group Sample ID:	Customer Sample ID:
0631442	20076636
0631443	20076638
0631444	20076640
0631445	20076643
0631446	20076646
0631447	20076649

The instrument used for the analysis of the samples was a NOVA 1000 surface area and pore size analyzer manufactured by Quantachrome Instruments. A single point BET was performed using nitrogen.

Results are summarized in Table 1.

**Table 1. Specific Surface Area by Single-Point BET.**

RJLG Sample ID	Specific Surface Area (m <sup>2</sup> /g)
631442	21.11
631443	21.69
631444	18.89
631445	20.00
631446	18.79
631447	20.82

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified to return the samples covered by this report, RJ Lee Group will store them for a period of thirty (30) days before discarding.

Should you have any questions or feel that we may be of further assistance, please do not hesitate to contact us.

Sincerely,

James M. Williams, B.S.  
Scientist/BET Analyst  
Chemistry Department

Karen E. Harris, Ph.D.  
Manager  
Materials and Environmental Services



**APPENDIX J.6  
PROCESS PERFORMANCE TESTS  
NOVEMBER 2007**



Submitted by: D. Connell  
 Date: 2/1/2008  
 Project #: 1621-085  
 General Description: Coal and Wood Samples - Process Performance Tests - November 2007

Analytical Number	Sample Description	Total Moisture %	As Determined Moisture %	Volatile Matter	Ash	Carbon	Hydrogen	Nitrogen	Sulfur	Chlorine	ppm	
											Dry Basis	Dry Basis
20077314	11/13-14/07 COAL 2330-0030	7.61	0.99	38.04	8.90	75.30	5.62	1.58	2.60	0.0798	Mercury	0.151
20077315	11/14/07 COAL 0400-0500	7.50	1.16	37.66	9.89	75.47	5.63	1.65	2.51	0.0779	Mercury	0.137
20077316	11/14-15/07 COAL 2300-0000	7.31	1.29	36.41	10.68	73.93	5.45	1.47	2.65	0.1074	Mercury	0.171
20077317	11/15/07 COAL 0400-0500	7.21	1.52	36.31	10.61	74.12	5.52	1.51	2.49	0.1005	Mercury	0.184
20077318	11/16/07 COAL 1315	7.47	1.42	35.06	11.57	73.20	5.41	1.51	2.68	0.0923	Mercury	0.216
20077319	11/16/07 COAL 1630-1800	7.89	1.41	34.39	13.46	71.57	5.36	1.45	2.84	0.0964	Mercury	0.262
20077320	11/16/07 WOOD 1300		8.66	93.08	1.16	48.89	6.25	4.43	0.11	0.1478	Mercury	0.054
20077321	11/16/07 WOOD 1630-1845		9.83	89.81	1.52	48.84	6.23	4.92	0.09	0.2129	Mercury	0.058
											Mercury	13757
											Mercury	13667
											Mercury	13328
											Mercury	13457
											Mercury	13297
											Mercury	13028
											Mercury	8369
											Mercury	8312

Analytical Number	Sample Description	Major Ash Elements, Wt. %, Ignited 750 Ash										
		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3	
20077314	11/13-14/07 COAL 2330-0030	44.91	23.08	0.98	19.83	3.64	0.82	0.75	1.60	0.30	3.86	
20077315	11/14/07 COAL 0400-0500	47.27	23.49	1.07	16.24	3.26	0.92	0.65	1.72	0.32	3.44	
20077316	11/14-15/07 COAL 2300-0000	47.36	23.56	1.00	17.05	3.56	0.87	0.64	1.91	0.37	3.95	
20077317	11/15/07 COAL 0400-0500	47.66	23.54	1.02	15.85	3.68	0.95	0.60	1.98	0.36	3.94	
20077318	11/16/07 COAL 1315	47.50	23.91	1.03	18.40	2.70	0.88	0.48	2.09	0.39	2.56	
20077319	11/16/07 COAL 1630-1800	48.59	24.78	1.05	18.60	2.05	0.97	0.40	2.41	0.35	1.99	
20077320	11/16/07 WOOD 1300	23.59	4.65	3.15	4.45	23.62	5.20	5.77	3.01	2.61	24.73	
20077321	11/16/07 WOOD 1630-1845	27.50	4.80	4.16	5.10	22.97	4.02	8.16	2.49	2.13	16.70	



Submitted by: D. Connell  
 Date: 2/1/2008  
 Project #: 1621-085  
 General Description: Air Heater Outlet Fly Ash Samples - Process Performance Tests - November 2007

Analytical Number	Sample Description	As Determined Moisture %	Wt. % Dry Basis				ppm Dry Basis		ug NH3/g sample
			Ash	Carbon	Chlorine	Mercury	Ammonia		
20077336	AHO FLYASH 11/14/07 0145	0.11	85.08	12.94	0.0030	0.379	<24.4		
20077337	AHO FLYASH 11/14/07 0600	0.21	89.60	9.24	0.0037	0.185	<24.4		
20077338	AHO FLYASH 11/15/07 0115	0.18	86.60	11.86	0.0041	0.395	31.9		
20077339	AHO FLYASH 11/15/07 0400	0.25	87.98	12.73	0.0043	0.302	50.7		
20077340	AHO FLYASH 11/15/07 0600	0.17	87.49	10.98	0.0037	0.293	<24.4		
20077341	AHO FLYASH 11/16/07 1530	0.17	87.33	12.66	0.0024	0.232	<24.4		
20077342	AHO FLYASH 11/16/07 1845	0.18	84.81	12.30	0.0033	0.370	26.2		

Analytical Number	Sample Description	Major Ash Elements, Wt% Dry Basis									
		SiO2	Al2O3	TiO2	Fe2O3	CaO	Na2O	K2O	P2O5	SO3	
20077336	AHO FLYASH 11/14/07 0145	41.65	20.86	0.89	14.24	3.25	0.62	1.47	0.25	0.91	
20077337	AHO FLYASH 11/14/07 0600	43.87	22.30	0.98	12.59	3.29	0.66	1.59	0.30	1.09	
20077338	AHO FLYASH 11/15/07 0115	42.80	21.35	0.95	12.56	3.05	0.57	1.65	0.31	0.82	
20077339	AHO FLYASH 11/15/07 0400	44.47	22.40	1.02	13.22	3.29	0.85	1.78	0.36	1.02	
20077340	AHO FLYASH 11/15/07 0600	44.41	22.13	1.00	13.38	3.29	0.82	1.76	0.31	0.89	
20077341	AHO FLYASH 11/16/07 1530	43.47	21.81	1.00	13.83	3.03	0.59	1.88	0.32	0.91	
20077342	AHO FLYASH 11/16/07 1845	41.86	21.17	0.97	14.62	2.99	0.57	1.80	0.32	0.83	





Submitted by: D. Connell  
 Date: 2/1/2008  
 Project #: 1621-085  
 General Description: Turbosorp Product Ash Samples - Process Performance Tests - November 2007

Analytical Number	Sample Description	As Determined Moisture %	Wt. % Dry Basis			ppm Dry Basis
			Ash	Carbon	Chlorine	
20077322	11/14/07 PRODUCT ASH 0145	1.09	85.58	6.21	0.3397	0.469
20077323	11/14/07 PRODUCT ASH 0600	1.04	85.79	5.59	0.3092	0.476
20077324	11/15/07 PRODUCT ASH 0115	0.97	86.48	6.36	0.2636	0.566
20077325	11/15/07 PRODUCT ASH 0600	0.93	86.71	6.31	0.3351	0.608
20077326	11/16/07 PRODUCT ASH 1530	0.86	87.43	5.62	0.3379	0.660
20077327	11/16/07 PRODUCT ASH 1945	0.86	87.56	6.30	0.4600	0.673

Analytical Number	Sample Description	Major Ash Elements, Wt. % Dry Basis									
		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3
20077322	11/14/07 PRODUCT ASH 0145	14.76	7.37	0.33	4.64	35.46	0.66	<0.50	0.57	0.12	22.90
20077323	11/14/07 PRODUCT ASH 0600	14.40	7.23	0.33	4.45	36.23	0.66	<0.50	0.56	0.14	22.75
20077324	11/15/07 PRODUCT ASH 0115	15.77	7.99	0.37	4.79	33.71	0.64	<0.50	0.66	0.17	23.70
20077325	11/15/07 PRODUCT ASH 0600	15.99	7.99	0.37	4.73	33.46	0.66	<0.50	0.64	0.17	24.47
20077326	11/16/07 PRODUCT ASH 1530	17.34	8.60	0.40	5.32	32.11	0.67	<0.50	0.66	0.18	23.44
20077327	11/16/07 PRODUCT ASH 1945	17.77	8.94	0.41	5.54	30.28	0.67	<0.50	0.67	0.19	24.04

Analytical Number	Sample Description	ug/L leachate	
		Mercury	Mercury
20077322	11/14/07 PRODUCT ASH 0145	<0.007	<0.35
20077325	11/15/07 PRODUCT ASH 0600	<0.007	<0.35
20077327	11/16/07 PRODUCT ASH 1945	<0.007	<0.35



Submitted by: D. Connell  
 Date: 2/1/2008  
 Project #: 1621-085

General Description: Pebble Lime and Hydrated Lime Samples - Process Performance Tests - November 2007

Analytical Number	Sample Description	As Determined Moisture %	Wt. % Dry Basis		Carbon	ppm Dry Basis	Additional Lime Parameters				
			Ash	Mercury			Wt. %		Packed Density		
							Available CaO	Available Ca(OH)2		Loose Density	g/cm <sup>3</sup>
20077328	11/14/07 PEBBLE LIME 0030	<0.01	98.27	<0.005	0.46	<0.005	88.8				
20077329	11/14/07 PEBBLE LIME 0400	<0.01	98.42	<0.005	0.41	<0.005	89.7				
20077330	11/14/07 PEBBLE LIME 2300	<0.01	98.61	<0.005	0.38	<0.005	90.5				
20077331	11/15/07 PEBBLE LIME 0400	<0.01	97.82	<0.005	0.53	<0.005	89.4				
20077332	11/14/07 HYDRATED LIME 0030	<0.01	75.49	<0.005	0.55	<0.005	89.5	0.37	0.58		
20077333	11/14/07 HYDRATED LIME 0400	0.16	75.40	<0.005	0.54	<0.005	89.0	0.37	0.64		
20077334	11/14/07 HYDRATED LIME 2300	0.10	75.54	<0.005	0.44	<0.005	88.9	0.36	0.63		
20077335	11/15/07 HYDRATED LIME 0400	0.06	74.71	<0.005	0.47	<0.005	89.8	0.37	0.68		

Analytical Number	Sample Description	Major Ash Elements, Wt% Dry Basis									
		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3
20077328	11/14/07 PEBBLE LIME 0030	2.00	0.49	0.02	0.17	94.23	0.98	0.15	0.08	<0.01	0.86
20077329	11/14/07 PEBBLE LIME 0400	1.60	0.46	0.02	0.17	91.72	0.95	0.15	0.11	0.01	0.79
20077330	11/14/07 PEBBLE LIME 2300	1.80	0.52	0.02	0.18	94.68	1.00	0.17	0.07	0.01	0.75
20077331	11/15/07 PEBBLE LIME 0400	1.52	0.46	0.01	0.18	92.07	1.04	0.15	0.09	<0.01	0.17
20077332	11/14/07 HYDRATED LIME 0030	1.06	0.37	0.01	0.15	73.07	0.81	0.15	0.11	<0.01	0.17
20077333	11/14/07 HYDRATED LIME 0400	1.02	0.37	0.01	0.13	71.28	0.81	0.16	0.07	<0.01	0.16
20077334	11/14/07 HYDRATED LIME 2300	1.57	0.39	0.02	0.15	72.23	0.77	0.15	0.14	<0.01	0.52
20077335	11/15/07 HYDRATED LIME 0400	1.46	0.40	0.02	0.16	73.63	0.78	0.16	0.07	<0.01	0.57



Submitted by: D. Connell  
 Date: 2/1/2008  
 Project #: 1621-085  
 General Description: Urea and Process Water Samples - Process Performance Tests - November 2007

Analytical Number	Sample Identification	pH	ppm or mg/L			Density g/cm <sup>3</sup>
			TSS	Hg	Ammonia, N	
20077343	PROCESS WATER 11/14/07 0030			<0.35		
20077345	UREA 11/14/07 0030	9.07	<6	<0.35	150	1.13
20077346	UREA 11/16/07 1845	9.02	<6	<0.35	102	1.13





December 10, 2007

Mr. Dan Connell  
Consol Energy Inc.  
Research and Development  
4000 Brownsville Road  
South Park, PA 15129-9566

Re: RJLG Project TEH711202-continued

Dear Mr. Connell,

At your request the additional samples were analyzed for BET Surface Area:

<b>RJ Lee Group Sample ID</b>	<b>Customer Sample ID</b>
0631522	20077332
0631523	20077335

The instrument used for the analysis of the samples was a NOVA 1000 surface area and pore size analyzer manufactured by Quantachrome Instruments. A single point BET analysis was performed using nitrogen.

Results are summarized in Table 1.

**Table 1. Specific Surface Area by Single-Point BET.**

<b>RJ Lee Group Sample ID</b>	<b>Specific Surface Area (m<sup>2</sup>/g)</b>
631522	20.60
631523	19.27

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified to return the samples covered by this report, RJ Lee Group will store them for a period of thirty (30) days before discarding.

Should you have any questions or feel that we may be of further assistance, please do not hesitate to contact us.

Sincerely,

James M. Williams, B.S.  
Scientist/BET Analyst  
Chemistry Department

Karen E. Harris, Ph.D.  
Manager  
Materials and Environmental Services

**APPENDIX J.7  
PROCESS PERFORMANCE TESTS  
MARCH 2008**





Submitted by: D. Connell  
 Date: 4/24/2008  
 Project #: 1621-085  
 General Description: Coal and Wood Samples - Process Performance Tests - March 2008

Analytical Number	Sample Description	Total Moisture %	As Determined Moisture %	Volatile Matter	Ash	Wt. % Dry Basis							ppm Dry Basis		Dry Basis Btu/lb
						Carbon	Hydrogen	Nitrogen	Sulfur	Chlorine	Mercury	Fluorine			
20081017	COAL 1530	7.21	1.44	35.73	9.61	75.77	5.14	1.57	2.43	0.1004	0.117	70.8	13704		
20081018	COAL 0930-1100	7.17	1.49	36.82	9.88	75.55	5.16	1.62	2.33	0.0985	0.0990		13798		
20081019	COAL 1330-1430	7.07	1.55	36.37	8.93	75.74	5.16	1.53	2.40	0.0945	0.100		13849		
20081020	COAL 0945-1100	7.48	1.44	37.21	9.13	75.50	5.15	1.57	2.33	0.1004	0.0900		13849		
20081021	COAL 1330-1500	7.35	1.57	36.38	9.41	75.65	5.10	1.50	2.40	0.0965	0.0990		13777		
20081022	COAL 1000	7.80	1.58	37.26	9.09	75.65	5.10	1.56	2.37	0.1097	0.112	69.1	13840		
20081023	COAL 1300	8.25	1.53	36.01	9.67	75.32	5.08	1.54	2.45	0.1005	0.125	71.6	13779		
20081024	WOOD 1530	38.04		93.26	1.82	48.89	5.56	0.38	<0.1	0.0078	<.0005	11.8	8186		
20081025	WOOD 0930-1100	30.90		91.01	1.81	49.16	5.81	0.40	<0.1	0.0054	<.0005		8225		
20081026	WOOD 1330-1430	35.18		87.14	1.84	49.09	5.78	0.43	<0.1	0.0054	<.0005		8226		
20081027	WOOD 0945-1100	19.29		89.00	3.22	48.72	5.44	0.23	<0.1	0.0076	<.0005		8302		
20081028	WOOD 1330-1500	18.78		89.21	3.41	48.33	5.63	0.25	<0.1	0.0062	<.0005		8333		
20081029	WOOD 1000	18.17		89.12	3.21	49.29	5.54	0.26	<0.1	0.0075	<.0005	15.6	8397		
20081030	WOOD 1300	19.06		89.91	2.84	49.36	5.55	0.22	<0.1	0.0075	<.0005	16.2	8468		

Analytical Number	Sample Description	Major Ash Elements, Wt. %, Ignited 750 Ash										
		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3	
20081017	COAL 1530	47.82	23.00	1.05	18.04	3.16	0.74	0.63	1.54	0.43	3.14	
20081018	COAL 0930-1100	45.70	22.92	1.03	19.99	3.48	0.82	0.60	1.50	0.46	3.43	
20081019	COAL 1330-1430	44.72	23.30	1.04	20.30	4.03	0.76	0.62	1.46	0.49	4.05	
20081020	COAL 0945-1100	47.56	24.12	1.09	17.77	3.63	0.76	0.62	1.62	0.46	3.24	
20081021	COAL 1330-1500	46.77	23.53	1.07	18.46	3.37	0.74	0.62	1.54	0.48	3.16	
20081022	COAL 1000	45.07	23.80	1.10	18.31	3.55	0.79	0.67	1.60	0.48	3.52	
20081023	COAL 1300	47.86	23.96	1.07	18.53	3.33	0.79	0.64	1.57	0.43	2.99	
20081024	WOOD 1530	19.97	5.59	0.27	5.51	36.08	4.62	0.66	8.93	3.96	12.85	
20081025	WOOD 0930-1100	19.70	5.71	0.28	5.37	35.89	4.67	0.64	9.09	3.98	13.03	
20081026	WOOD 1330-1430	24.88	4.11	0.24	3.25	39.86	3.68	0.58	9.32	4.15	8.17	
20081027	WOOD 0945-1100	62.69	8.02	0.35	5.19	11.43	2.86	1.00	4.05	0.92	2.16	
20081028	WOOD 1330-1500	59.05	8.09	0.36	5.17	12.96	2.78	0.98	4.94	0.80	3.81	
20081029	WOOD 1000	61.29	7.57	0.34	5.12	14.19	3.03	1.05	4.41	0.93	1.95	
20081030	WOOD 1300	48.71	8.95	0.35	5.21	21.80	2.69	0.83	3.63	0.80	5.90	



Submitted by: D. Connell  
 Date: 4/24/2008  
 Project #: 1621-085

General Description: Air Heater Outlet Fly Ash and Bottom Ash Samples - Process Performance Tests - March 2008

Analytical Number	Sample Description	As Determined Moisture %	Wt. % Dry Basis				ppm Dry Basis			ug NH3/ g sample
			Ash	Carbon	Chlorine	Mercury	Fluorine	Ammonia		
20081055	AHO FLYASH 3/10/08	0.34	81.23	18.23	0.0143	0.345	66.8	187		
20081056	AHO FLYASH 3/10/08	3.14	79.18	19.40	0.0478	0.280	74.6	206		
20081057	AHO FLYASH 3/10/08	2.41	83.27	15.99	0.0361	0.265	71.9	208		
20081058	AHO FLYASH 3/11/08	2.05	79.26	19.92	0.0315	0.254		195		
20081059	AHO FLYASH 3/11/08	0.37	75.29	23.13	0.0080	0.348		210		
20081060	PM AHO FLYASH 3/11/08	0.51	79.48	18.85	0.0319	0.298		250		
20081061	AHO FLYASH 3/12/08	0.31	76.99	23.23	0.0090	0.266		223		
20081062	AHO FLYASH 3/12/08	0.23	76.02	23.45	0.0090	0.266		236		
20081063	AHO FLYASH 3/13/08	2.23	79.55	19.12	0.0339	0.236	55.2	305		
20081064	AHO FLYASH 3/13/08	2.21	78.82	19.48	0.0276	0.222	59.5	283		
20081065	AHO FLYASH 3/13/08	0.25	80.06	18.55	0.0090	0.189	42.1	266		
20081066	BOTTOM ASH 3/11/08	0.34	72.25	8.15	0.0301	<0.005	20.9			

Analytical Number	Sample Description	Major Ash Elements, Wt% Dry Basis									
		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3
20081055	AHO FLYASH 3/10/08	42.94	19.45	0.90	12.16	2.76	0.61	0.58	1.25	0.36	1.06
20081056	AHO FLYASH 3/10/08	41.64	20.27	0.98	10.93	2.92	0.64	0.65	1.37	0.44	1.45
20081057	AHO FLYASH 3/10/08	42.07	21.54	1.06	11.48	3.03	0.68	0.68	1.44	0.46	1.52
20081058	AHO FLYASH 3/11/08	39.54	19.82	0.93	11.24	2.87	0.66	0.61	1.41	0.4	1.52
20081059	AHO FLYASH 3/11/08	39.41	19.50	0.92	11.51	2.80	0.63	0.56	1.32	0.38	1.16
20081060	PM AHO FLYASH 3/11/08	41.79	20.57	0.97	11.05	2.92	0.67	0.68	1.46	0.43	1.49
20081061	AHO FLYASH 3/12/08	39.93	19.16	0.88	10.36	2.71	0.62	0.57	1.34	0.36	1.21
20081062	AHO FLYASH 3/12/08	39.06	19.12	0.89	10.37	2.73	0.60	0.54	1.26	0.36	1.03
20081063	AHO FLYASH 3/13/08	40.67	20.07	0.96	11.06	2.87	0.65	0.59	1.37	0.33	1.30
20081064	AHO FLYASH 3/13/08	40.45	20.19	0.96	11.01	2.89	0.65	0.60	1.39	0.41	1.42
20081065	AHO FLYASH 3/13/08	40.60	20.01	0.94	10.53	2.82	0.64	0.59	1.37	0.39	1.18
20081066	BOTTOM ASH 3/11/08	29.69	15.38	0.69	21.42	2.26	0.50	0.41	1.05	0.23	2.67



Submitted by: D. Connell  
 Date: 4/24/2008  
 Project #: 1621-085

General Description: Turbosorp Product Ash Samples - Process Performance Tests - March 2008

Analytical Number	Sample Description	As Determined Moisture %	Wt. % Dry Basis				ppm Dry Basis		ug NH3/ g sample	Wt. %
			Ash	Carbon	Chlorine	Mercury	Fluorine	Ammonia		
20081047	PRODUCT ASH 3/10/08	ASH 1530	84.48	9.77	0.3081	0.439	158	59	12.4	3.43
20081048	PRODUCT ASH 3/11/08	ASH 1230	84.88	9.41	0.3038	0.414	217			
20081049	PRODUCT ASH 3/11/08	ASH 1645	84.14	9.86	0.2831	0.458		48	12.5	3.56
20081050	PRODUCT ASH 3/12/08	ASH 1215	83.20	10.20	0.3154	0.416				
20081051	PRODUCT ASH 3/12/08	ASH 1630	82.92	10.70	0.3212	0.422		26	12.8	3.56
20081052	PRODUCT ASH 3/13/08	ASH 1130	83.73	10.10	0.3203	0.421	122			
20081053	PRODUCT ASH 3/13/08	ASH 1330	84.13	9.86	0.3414	0.463	187			4.22
20081054	PRODUCT ASH 3/13/08	ASH 1600	83.73	10.14	0.3220	0.453	164	5.4	12.4	

Analytical Number	Sample Description	Major Ash Elements, Wt. % Dry Basis										
		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3	
20081047	PRODUCT ASH 3/10/08	ASH 1530	18.61	8.58	0.39	5.43	29.01	0.54	0.30	0.58	0.17	21.83
20081048	PRODUCT ASH 3/11/08	ASH 1230	18.74	8.57	0.38	5.41	29.30	0.55	0.30	0.59	0.17	21.82
20081049	PRODUCT ASH 3/11/08	ASH 1645	17.46	8.23	0.36	4.94	29.38	0.53	0.29	0.56	0.16	21.65
20081050	PRODUCT ASH 3/12/08	ASH 1215	17.94	8.02	0.36	4.97	30.08	0.54	0.28	0.54	0.16	21.57
20081051	PRODUCT ASH 3/12/08	ASH 1630	17.62	8.08	0.37	4.86	29.64	0.53	0.27	0.54	0.16	21.40
20081052	PRODUCT ASH 3/13/08	ASH 1130	17.98	8.25	0.38	5.04	30.10	0.54	0.27	0.58	0.16	21.23
20081053	PRODUCT ASH 3/13/08	ASH 1330	17.86	8.19	0.38	5.08	30.01	0.53	0.27	0.57	0.17	21.60
20081054	PRODUCT ASH 3/13/08	ASH 1600	17.50	8.11	0.36	5.14	29.79	0.52	0.27	0.56	0.17	21.28

Analytical Number	Sample Description	ug/g sample leached		ug/L leachate	
		Mercury	Mercury	Mercury	Mercury
20081047	PRODUCT ASH 3/10/08	ASH 1530	0.000164	0.00820	0.03188
20081049	PRODUCT ASH 3/11/08	ASH 1645	0.000213	0.01067	
20081051	PRODUCT ASH 3/12/08	ASH 1630	0.000390	0.01949	
20081054	PRODUCT ASH 3/13/08	ASH 1600	0.000638	0.03188	





Submitted by: D. Connell  
 Date: 4/24/2008  
 Project #: 1621-085  
 General Description: Pebble Lime and Hydrated Lime Samples - Process Performance Tests - March 2008

Analytical Number	Sample Description	As Determined Moisture %	Wt. % Dry Basis		ppm Basis	Additional Lime Parameters					
			Ash	Carbon		Mercury	Wt. %				
							Available CaO	Available Ca(OH) <sub>2</sub>	LOI	Free Moisture	Loose Density
20081033	PEBBLE LIME 3/10/08	<0.01	99.03	0.37	<0.005	91.9		0.97			
20081034	PEBBLE LIME 3/11/08	<0.01	98.96	0.41	<0.005	93.0		1.04			
20081035	PEBBLE LIME 3/11/08	<0.01	98.40	0.45	<0.005	90.7		1.60			
20081036	PEBBLE LIME 3/12/08	<0.01	98.69	0.39	<0.005	92.8		1.31			
20081037	PEBBLE LIME 3/12/08	<0.01	98.30	0.44	<0.005	90.5		1.70			
20081038	PEBBLE LIME 3/13/08	<0.01	99.21	0.33	<0.005	90.6		0.79			
20081039	PEBBLE LIME 3/13/08	<0.01	99.25	0.34	<0.005	90.3		0.75			
20081040	HYDRATED LIME 3/10/08	0.21	76.12	0.40	<0.005		90.7	24.21	0.28	18.53	40.96
20081041	HYDRATED LIME 3/11/08	<0.01	75.73	0.40	<0.005		92.5	24.27	0.31	19.16	41.07
20081042	HYDRATED LIME 3/11/08	0.25	75.87	0.45	<0.005		90.2	24.33	0.26	20.95	43.34
20081043	HYDRATED LIME 3/12/08	<0.01	75.93	0.40	<0.005		91.2	24.07	0.26	19.82	40.04
20081044	HYDRATED LIME 3/12/08	0.04	75.94	0.39	<0.005		91.8	24.09	0.30	21.61	42.06
20081045	HYDRATED LIME 3/13/08	<0.01	76.57	0.37	<0.005		86.3	23.43	0.26	24.36	45.78
20081046	HYDRATED LIME 3/13/08	<0.01	75.96	0.45	<0.005		90.7	24.02	0.29	22.01	45.74

Analytical Number	Sample Description	Major Ash Elements, Wt% Dry Basis									
		SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	TiO <sub>2</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	MgO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>3</sub>
20081033	PEBBLE LIME 3/10/08	1.39	0.48	0.02	0.18	95.27	0.94	0.08	0.07	0.01	0.08
20081034	PEBBLE LIME 3/11/08	1.50	0.48	0.02	0.18	97.42	1.01	0.07	0.06	0.01	0.07
20081035	PEBBLE LIME 3/11/08	1.42	0.44	0.02	0.16	97.11	0.93	0.08	0.06	0.01	0.05
20081036	PEBBLE LIME 3/12/08	1.56	0.49	0.02	0.18	96.82	0.94	0.07	0.06	0.01	0.11
20081037	PEBBLE LIME 3/12/08	1.50	0.43	0.02	0.18	97.95	0.96	0.07	0.07	0.01	0.04
20081038	PEBBLE LIME 3/13/08	1.82	0.44	0.02	0.16	96.18	0.92	0.04	0.08	0.04	0.01
20081039	PEBBLE LIME 3/13/08	1.68	0.45	0.03	0.15	95.97	0.89	0.05	0.09	0.03	0.04
20081040	HYDRATED LIME 3/10/08	1.41	0.37	0.02	0.15	73.78	0.74	0.06	0.05	0.01	0.06
20081041	HYDRATED LIME 3/11/08	1.78	0.35	0.02	0.14	72.99	0.73	0.06	0.05	0.01	0.03
20081042	HYDRATED LIME 3/11/08	1.52	0.36	0.02	0.14	73.97	0.73	0.07	0.06	0.01	0.07
20081043	HYDRATED LIME 3/12/08	1.42	0.36	0.02	0.17	74.32	0.74	0.06	0.05	0.01	0.02
20081044	HYDRATED LIME 3/12/08	1.29	0.34	0.02	0.13	72.32	0.70	0.06	0.04	0.01	0.03
20081045	HYDRATED LIME 3/13/08	1.37	0.32	0.02	0.14	73.76	0.67	0.04	0.06	0.01	0.02
20081046	HYDRATED LIME 3/13/08	1.51	0.32	0.02	0.12	75.17	0.66	0.05	0.06	0.01	0.03



Submitted by: D. Connell  
 Date: 4/24/2008  
 Project #: 1621-085  
 General Description: Urea and Process Water Samples - Process Performance Tests - March 2008

Analytical Number	Sample Identification	pH	ppm or mg/L			g/cm <sup>3</sup>
			TSS	Ammonia, N	Hg	
20080998	PROCESS WATER 03/13/2008 1130				<0.35	
20080999	UREA 3/11/2008 1230	9.16	<6	112	<0.35	1.11
20081000	UREA 3/13/2008 1130	9.21	<6	128	<0.35	1.09



**CONSTRUCTION  
TECHNOLOGY LABORATORIES  
ENGINEERS & CONSTRUCTION  
TECHNOLOGY CONSULTANTS**

[www.CTLGroup.com](http://www.CTLGroup.com)

May 5, 2008

Mr. Dan Connell  
CONSOL Energy, Inc.  
4000 Brownsville Road  
South Park, PA 15129

**Reports of Analyses Enclosed  
CTLGroup Project No.: 403554  
Work Request No.: 20718**

Dear Mr. Connell:

Enclosed are our reports. Should you have any questions, please contact me. Your samples will be retained two months. At that time they will be discarded, unless we hear otherwise from you.

We appreciate this opportunity to serve your needs and anticipate working with you in the future. For your convenience, we are enclosing sample mailing instructions, labels and an order form for your future use. Please use our toll free 800 number to reach CTLGroup when you need us: 1-800-522-2285. Also, visit us on the web at [www.ctlgroup.com](http://www.ctlgroup.com).

Sincerely,


**CONSTRUCTION TECHNOLOGY LABORATORIES, INC.**  
*An AASHTO Accredited Laboratory – Aggregates, Cement and Concrete*

Ella Shkolnik  
Senior Materials Technologist  
Materials Testing and Analysis

[Eshkolnik@ctlgroup.com](mailto:Eshkolnik@ctlgroup.com)

Corporate Office: 5400 Old Orchard Road Skokie, Illinois 60077-1030 Phone: 847-965-7500 Fax: 847-965-6541  
Washington D.C. Office: 9030 Red Branch Road, Suite 110 Columbia, Maryland 21045-2003 Phone: 410-997-0400 Fax: 410-997-8480



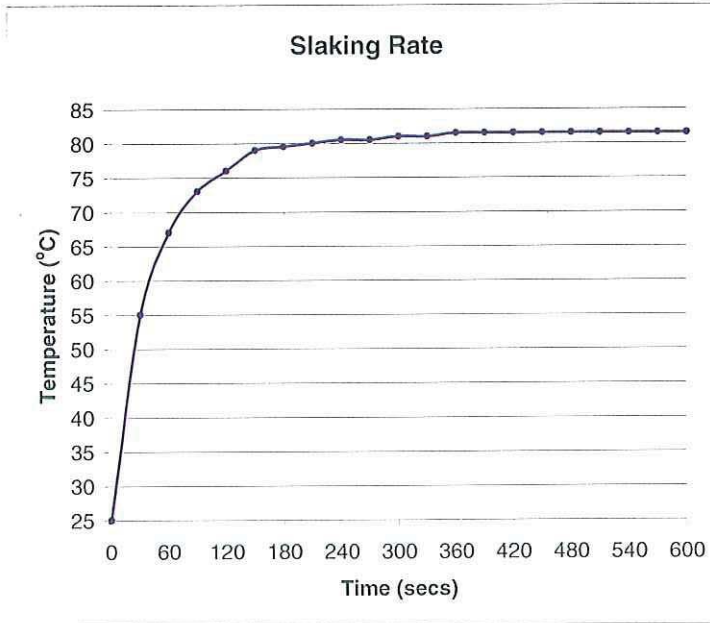
Client:	<b>CONSOL Energy, Inc.</b>	CTL Project No:	<b>403554</b>
Project:	<b>Chemical Analysis</b>	CTL Project Mgr.:	<b>Ella Shkolnik</b>
Contact:	<b>Daniel Connel</b>	Analyst:	<b>Cecylia Wedzicha</b>
Submitter:	<b>Daniel Connel</b>	Approved:	
Date Received:	<b>March 25, 2008</b>	Date Analyzed:	<b>March 31, 2008</b>
		Date Reported:	<b>March 31, 2008</b>

**REPORT of SLAKING RATE ANALYSIS**  
ASTM C 110 - 05, Sec. 11

Sample Identification

CTL ID: **2071801**  
Client ID: **20081033**  
Description: **Pebble Lime**

Time		Temperature
(minutes)	(seconds)	(°C)
0.0	0	25.0
0.5	30	55.0
1.0	60	67.0
1.5	90	73.0
2.0	120	76.0
2.5	150	79.0
3.0	180	79.5
3.5	210	80.0
4.0	240	80.5
4.5	270	80.5
5.0	300	81.0
5.5	330	81.0
6.0	360	81.5
6.5	390	81.5
7.0	420	81.5
7.5	450	81.5
8.0	480	81.5
8.5	510	81.5
9.0	540	81.5
9.5	570	81.5
10.0	600	81.5



Determined Results

Total active slaking time (minutes)	6.0
Final reaction temperature (°C)	81.5
Temperature rise in 30 seconds	30.0
Temperature rise in 3 minutes	54.5
Total temperature rise °C (to total active slaking time)	56.5
Residue of Quicklime (%)	0.17

Notes:

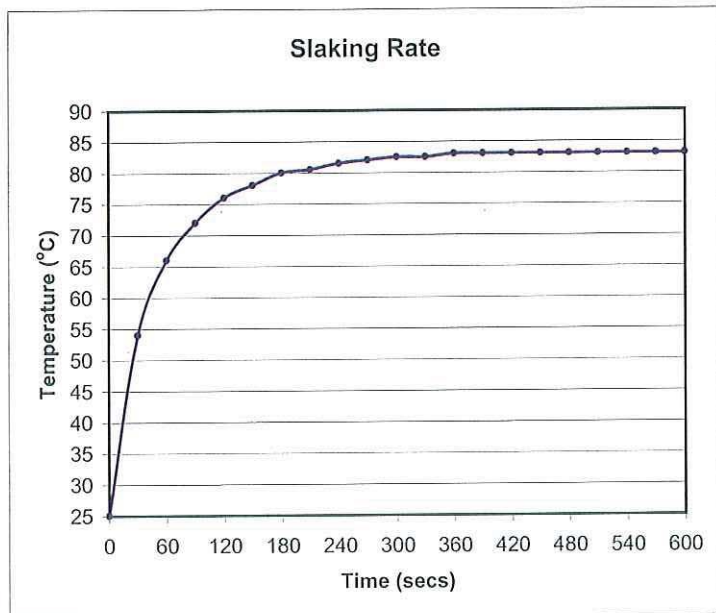
1. This analysis represents specifically the samples submitted as received.
2. The results were determined in accordance with ASTM C 110 - 05, Sec. 11.
3. This report may not be reproduced except in its entirety.

Client:	<b>CONSOL Energy, Inc.</b>	CTL Project No:	<b>403554</b>
Project:	<b>Chemical Analysis</b>	CTL Project Mgr.:	<b>Ella Shkolnik</b>
Contact:	<b>Daniel Connel</b>	Analyst:	<b>Cecylia Wedzicha</b>
Submitter:	<b>Daniel Connel</b>	Approved:	
Date Received:	<b>March 25, 2008</b>	Date Analyzed:	<b>March 31, 2008</b>
		Date Reported:	<b>March 31, 2008</b>

**REPORT of SLAKING RATE ANALYSIS**  
ASTM C 110 - 05, Sec. 11

Sample Identification  
CTL ID: **2071802**  
Client ID: **20081037**  
Description: **Pebble Lime**

Time		Temperature
(minutes)	(seconds)	(°C)
0.0	0	25.0
0.5	30	54.0
1.0	60	66.0
1.5	90	72.0
2.0	120	76.0
2.5	150	78.0
3.0	180	80.0
3.5	210	80.5
4.0	240	81.5
4.5	270	82.0
5.0	300	82.5
5.5	330	82.5
6.0	360	83.0
6.5	390	83.0
7.0	420	83.0
7.5	450	83.0
8.0	480	83.0
8.5	510	83.0
9.0	540	83.0
9.5	570	83.0
10.0	600	83.0



Determined Results

Total active slaking time (minutes)	6.0
Final reaction temperature (°C)	83.0
Temperature rise in 30 seconds	29.0
Temperature rise in 3 minutes	55.0
Total temperature rise °C (to total active slaking time)	58.0
Residue of Quicklime (%)	0.14

Notes:

1. This analysis represents specifically the samples submitted as received.
2. The results were determined in accordance with ASTM C 110 - 05, Sec. 11.
3. This report may not be reproduced except in its entirety.

Client:	CONSOL Energy, Inc	CTL Project No.:	403554
Project:	Fineness Analysis PO #4700174567	CTL Proj. Mgr.:	Ella Shkolnik
		Analyst:	Charlotte Hernandez
Contact:	Daniel Connell	Approved:	<i>E. Shkolnik</i>
Submitter:	Daniel Connell	Date Analyzed:	March 31, 2008
Date Received:	March 25, 2008	Date Reported:	April 1, 2008

**REPORT of PARTICLE SIZE DISTRIBUTION ANALYSIS  
by LASER DIFFRACTION**

Client's Sample ID:	20081040	20081044
Material Type:	Hydrated lime	Hydrated lime
CTL Sample ID:	2071803	2071804
<b><u>Size at 50% ( <math>\mu\text{m}</math> )</u></b>	<b>7.79</b>	<b>8.16</b>
<b><u>Cumulative Volume under Stated Size</u></b> <sup>note 2</sup>		
<45 $\mu\text{m}$	82.14	79.61
<30 $\mu\text{m}$	75.47	72.89
3-30 $\mu\text{m}$	52.14	50.02
<10 $\mu\text{m}$	55.78	54.42
<7 $\mu\text{m}$	47.33	46.37
<1 $\mu\text{m}$	4.55	4.22

Notes:

1. This analysis represents specifically the samples submitted.
2. The provided results are volume based and expressed in terms of equivalent spheres.
3. This report may not be reproduced except in its entirety.



# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: 2071803-Sample "20081040" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Monday, March 31, 2008 11:49:48 AM

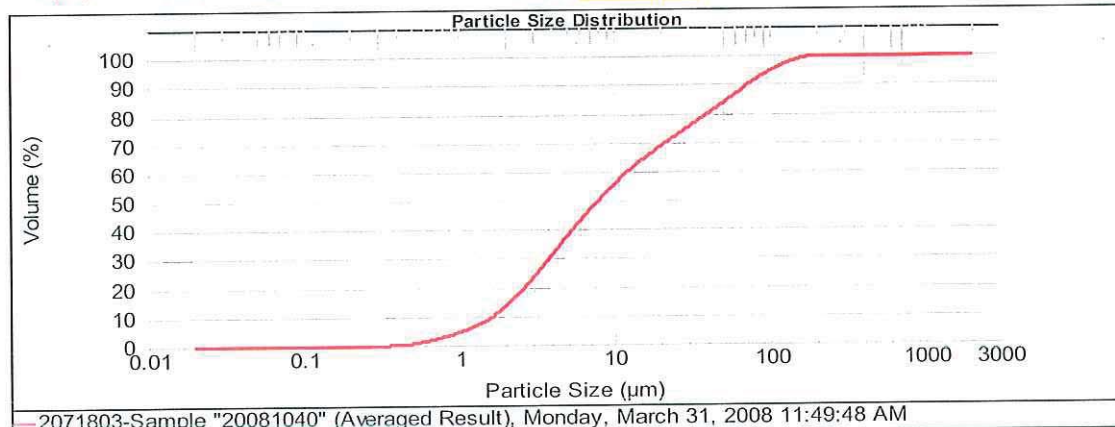
Analysed: Monday, March 31, 2008 11:49:49 AM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name:	Hydrated Lime	Accessory Name:	Hydro 2000MU (A)	Obscuration:	12.54 %
Particle RI:	1.560	Absorption:	0.1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um		
Dispersant RI:	1.390	Result Emulation:	Off	Weighted Residual:	1.738 %

Concentration:	0.0081 %Vol	Vol. Weighted Mean D[4,3]:	23.660 um	Specific Surface Area:	1.5 m <sup>2</sup> /g
Span :	9.053	Uniformity:	2.59	Surface Weighted Mean D[3,2]:	4.003 um
Result units:	Volume				
d(0.1):	1.638 um	d(0.5):	7.789 um	d(0.9):	72.152 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
1.000	4.55	3.000	23.33	7.000	47.33	10.000	55.76	30.000	75.47	45.000	82.14

Operator notes: Average of four measurements

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: 2071804-Sample "20081044" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Monday, March 31, 2008 12:16:18 PM

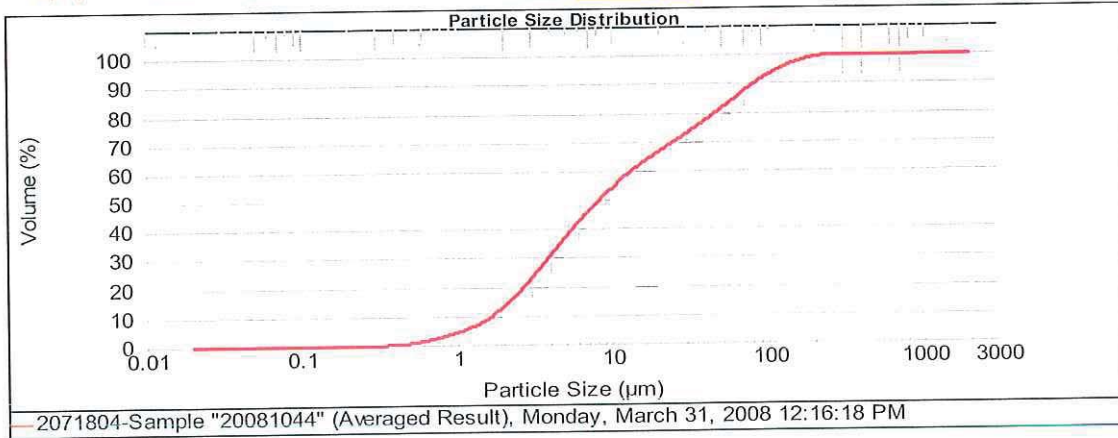
Analysed: Monday, March 31, 2008 12:16:19 PM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name:	Hydrated Lime	Accessory Name:	Hydro 2000MU (A)	Obscuration:	15.17 %
Particle RI:	1.560	Absorption:	0.1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um		
Dispersant RI:	1.390	Result Emulation:	Off	Weighted Residual:	1.361 %

Concentration:	0.0102 %Vol	Vol. Weighted Mean D[4,3]:	27.417 um	Specific Surface Area:	1.45 m <sup>2</sup> /g
Span:	9.891	Uniformity:	2.92	Surface Weighted Mean D[3,2]:	4.139 um
Result units:	Volume				
d(0.1):	1.681 um	d(0.5):	8.158 um	d(0.9):	82.366 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
1.000	4.22	3.000	22.87	7.000	46.37	10.000	54.42	30.000	72.69	45.000	79.61

Operator notes: Average of four measurements

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: 2071803-Sample "20081040" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Monday, March 31, 2008 11:49:48 AM

Analysed: Monday, March 31, 2008 11:49:49 AM

SOP Name: Hydrated Lime Wet IPA

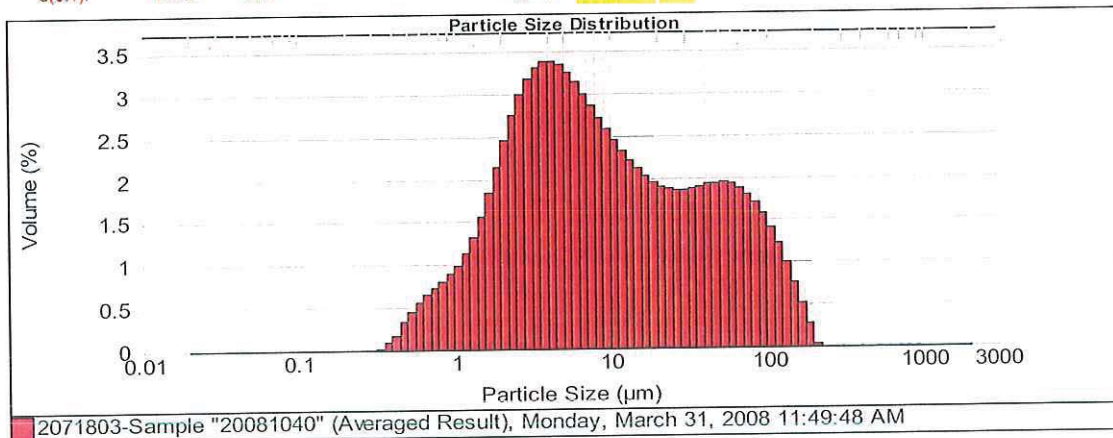
Result Source: Averaged

Particle Name: Hydrated Lime      Accessory Name: Hydro 2000MU (A)      Obscuration: 12.54 %  
 Particle RI: 1.560      Absorption: 0.1      Analysis model: General purpose  
 Dispersant Name: Propan-2-ol      Size range: 0.020 to 2000.000 um  
 Dispersant RI: 1.390      Result Emulation: Off      Weighted Residual: 1.738 %

Concentration: 0.0081 %Vol      Vol. Weighted Mean D[4,3]: 23.660 um      Specific Surface Area: 1.5 m<sup>2</sup>/g  
 Span: 9.053      Uniformity: 2.59      Surface Weighted Mean D[3,2]: 4.003 um

Result units: Volume

d(0.1): 1.638 um      d(0.5): 7.789 um      d(0.9): 72.152 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	4.57	7.096	47.68	50.238	83.99	355.656	100.00
0.022	0.00	0.159	0.00	1.125	5.55	7.962	50.53	56.368	85.93	399.052	100.00
0.025	0.00	0.178	0.00	1.262	6.68	8.934	53.25	63.246	87.86	447.744	100.00
0.028	0.00	0.200	0.00	1.416	7.99	10.024	55.83	70.963	89.73	502.377	100.00
0.032	0.00	0.224	0.00	1.589	9.54	11.247	58.28	79.621	91.54	563.677	100.00
0.036	0.00	0.252	0.00	1.783	11.37	12.619	60.60	89.337	93.24	632.456	100.00
0.040	0.00	0.283	0.00	2.000	13.51	14.159	62.81	100.237	94.80	709.627	100.00
0.045	0.00	0.317	0.00	2.244	15.97	15.887	64.92	112.468	96.21	796.214	100.00
0.050	0.00	0.356	0.00	2.518	18.71	17.825	66.94	126.191	97.42	893.367	100.00
0.056	0.00	0.399	0.03	2.825	21.69	20.000	68.89	141.589	98.42	1002.374	100.00
0.063	0.00	0.448	0.24	3.170	24.87	22.440	70.78	158.866	99.18	1124.683	100.00
0.071	0.00	0.502	0.57	3.557	28.19	25.179	72.65	178.250	99.69	1261.915	100.00
0.080	0.00	0.564	1.00	3.991	31.57	28.251	74.51	200.000	99.96	1415.892	100.00
0.089	0.00	0.632	1.55	4.477	34.95	31.698	76.36	224.404	100.00	1588.656	100.00
0.100	0.00	0.710	2.19	5.024	38.29	35.566	78.24	251.785	100.00	1762.502	100.00
0.112	0.00	0.796	2.90	5.637	41.54	39.905	80.14	282.508	100.00	2000.000	100.00
0.128	0.00	0.893	3.70	6.325	44.68	44.774	82.06	316.979	100.00		

Operator notes: Average of four measurements



# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: 2071804-Sample "20081044" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Monday, March 31, 2008 12:16:18 PM

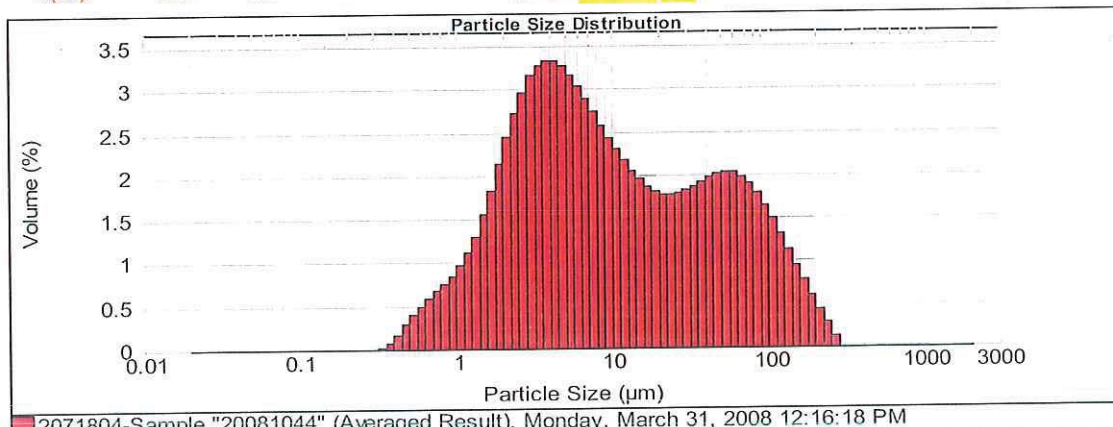
Analysed: Monday, March 31, 2008 12:16:19 PM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name:	Hydrated Lime	Accessory Name:	Hydro 2000MU (A)	Obscuration:	15.17 %
Particle RI:	1.560	Absorption:	0.1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um		
Dispersant RI:	1.390	Result Emulation:	Off	Weighted Residual:	1.361 %

Concentration:	0.0102 %Vol	Vol. Weighted Mean D[4,3]:	27.417 um	Specific Surface Area:	1.45 m <sup>2</sup> /g
Span :	9.891	Uniformity:	2.92	Surface Weighted Mean D[3,2]:	4.139 um
Result units:	Volume				
d(0.1):	1.681 um	d(0.5):	8.158 um	d(0.9):	82.366 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	1.002	4.24	7.096	46.70	50.238	81.53	355.656	100.00
0.022	0.00	1.125	5.19	7.962	49.44	56.368	83.56	399.052	100.00
0.025	0.00	1.262	6.30	8.934	52.03	63.246	85.58	447.744	100.00
0.028	0.00	1.416	7.60	10.024	54.47	70.963	87.56	502.377	100.00
0.032	0.00	1.589	9.14	11.247	56.76	79.621	89.46	563.677	100.00
0.036	0.00	1.783	10.97	12.619	58.93	89.337	91.25	632.456	100.00
0.040	0.00	2.000	13.10	14.159	60.99	100.237	92.90	709.627	100.00
0.045	0.00	2.244	15.54	15.887	62.94	112.468	94.39	796.214	100.00
0.050	0.00	2.518	18.27	17.825	64.81	126.191	95.70	893.367	100.00
0.056	0.00	2.825	21.24	20.000	66.62	141.589	96.84	1002.374	100.00
0.063	0.00	3.170	24.39	22.440	68.39	158.866	97.79	1124.683	100.00
0.071	0.00	3.557	27.67	25.179	70.16	178.250	98.56	1261.915	100.00
0.080	0.00	3.991	31.01	28.251	71.95	200.000	99.17	1415.892	100.00
0.089	0.00	4.477	34.33	31.698	73.77	224.404	99.60	1588.656	100.00
0.100	0.00	5.024	37.60	35.566	75.63	251.785	99.89	1782.502	100.00
0.112	0.00	5.637	40.77	39.905	77.55	282.508	100.00	2000.000	100.00
0.126	0.00	6.325	43.81	44.774	79.52	316.979	100.00		

Operator notes: Average of four measurements

Client:	CONSOL Energy, Inc.	CTL Project No.:	403554
Project:	BET Analysis	CTL Proj. Mgr.:	Ella Shkolnik
		Analyst:	note 2
Contact:	Daniel Connell	Approved:	
Submitter:	Daniel Connell	Date Analyzed:	April 10, 2008
Date Received:	March 25, 2008	Date Reported:	April 10, 2008

### REPORT of BET SURFACE AREA

Sample Identification			
<u>CTL ID</u>	<u>Client ID</u>	<u>Material</u>	<u>BET Surface Area (m<sup>2</sup>/kg)</u> <sup>note 2</sup>
2071803	20081040	Hydrated lime	20.75
2071804	20081044	Hydrated lime	19.30

Notes:

1. This analysis represents specifically the samples submitted.
2. Surface area analysis was performed by Particle Technology Laboratories (PTL) using B.E.T. Micromeritics Flowsorb II Dynamic Surface Area Analyzer under dynamic flow as single point. The original PTL report is enclosed.
3. This report may not be reproduced except in its entirety.

April 21, 2008

Ms. Ella Shkolnik  
CTL GROUP  
5400 Old Orchard Road  
Skokie, IL 60077

**Subject: B.E.T. Surface Area Analysis of Two Hydrated Lime Samples**

**P.O. #: 42020B**

**PTL Project: 16099**

Dear Ms. Shkolnik:

Enclosed are the results from the single point B.E.T. surface area analysis conducted on your two Hydrated Lime samples. The sample information is detailed in Table 1 below.

**TABLE 1**  
**SAMPLE DETAILS**

SAMPLE TYPE	SAMPLE ID	DATE RECEIVED
Hydrated Lime	20081040	03/31/08
	20081044	

The surface area was determined on our B.E.T. Micromeritics Flowsorb II 2300 dynamic flow surface area analyzer according to PTL Test Method B1063.01. Per this method, an aliquot portion of each sample was put through several cryogenic conditioning cycles, then analyzed according to standard operating procedures for this instrumentation type.

The data has been summarized in Table 2. In addition, the original data page has been included for your review.

We trust this information will be beneficial for your future use. If there are any questions concerning this data or the methods used to acquire the data, please do not hesitate to contact us here at Particle Technology Labs.

Submitted by,



David A. Jovanovic  
Fine Particle Analyst I

Reviewed by,



William Kopesky  
Vice President of Analytical Services

DR:\16099.doc:Reports



TABLE 2  
B.E.T. SURFACE AREA DATA SUMMARY

SAMPLE ID	SPECIFIC SURFACE AREA (m <sup>2</sup> /g)
20081040	20.75
20081044	19.30

# PARTICLE TECHNOLOGY LABS, LTD.

## NITROGEN B.E.T. SURFACE AREA ANALYSIS MICROMERITICS FLOWSORB II 2300

SERIAL NUMBER = 1107

---

CUSTOMER NAME: CTL Group  
SAMPLE NAME: Hydrated Lime  
SAMPLE ID #: 20081040  
TECHNICIAN: DJ  
PTL PROJECT #: 16099  
DATE: 4/9/2008

### CALCULATED RESULTS

SPECIFIC GAS VOLUME ADSORBED= 4.77 Cm<sup>3</sup>/g  
SPECIFIC SURFACE AREA= 20.75 M<sup>2</sup>/g

### SINGLE-POINT B.E.T. COMPUTED LEAST SQUARES FIT

CORRELATION= N.A.  
SLOPE= 0.2098  
Y INT= 0

Revision #1 (2/23/04)

Particle Technology Labs, Ltd. 555 Rogers St. Downers Grove, IL 60515  
Ph 630/969-2703 | Fax 630/969-2745 | experts@particletechlabs.com

WJK  
DJ  
4/14/08  
4/9/08

# PARTICLE TECHNOLOGY LABS, LTD.

## NITROGEN B.E.T. SURFACE AREA ANALYSIS MICROMERITICS FLOWSORB II 2300

SERIAL NUMBER = 1107

CUSTOMER NAME: CTL Group  
SAMPLE NAME: Hydrated Lime  
SAMPLE ID #: 20081044  
TECHNICIAN: DJ  
PTL PROJECT #: 16099  
DATE: 4/9/2008

### CALCULATED RESULTS

SPECIFIC GAS VOLUME ADSORBED= 4.43  $\text{Cm}^3/\text{g}$   
SPECIFIC SURFACE AREA= 19.30  $\text{M}^2/\text{g}$

### SINGLE-POINT B.E.T. COMPUTED LEAST SQUARES FIT

CORRELATION= N.A.  
SLOPE= 0.2255  
Y INT= 0

Revision #1 (2/23/04)

Particle Technology Labs, Ltd. 555 Rogers St. Downers Grove, IL 60515  
Ph 630/969-2703 | Fax 630/969-2745 | experts@particletechlabs.com

wtl 4/10/08  
DJ 4/9/08



**APPENDIX J.8  
PROCESS PERFORMANCE TESTS  
MAY 2008**



Submitted by: D. Connell  
 Date: 6/17/2008  
 Project #: 1621-085  
 General Description: Coal Samples - Process Performance Tests - May 2008

Analytical Number	Total Moisture %	AS Determined Moisture %	Volatile Matter	Ash	Carbon	Wt. % Dry Basis					ppm Dry Basis		
						Hydrogen	Nitrogen	Sulfur	Chlorine	Mercury	Fluorine	Dry Basis	
20082477	6.02	1.36	32.81	11.47	73.12	4.60	1.72	2.36	0.0953	0.096		13426	
20082478	6.32	1.24	32.34	11.74	73.00	4.54	1.72	2.26	0.0886	0.096		13385	
20082479	5.71	1.24	29.80	12.06	74.61	4.60	1.78	2.03	0.0881	0.102	72.6	13340	
20082480	5.98	1.22	30.14	12.76	73.85	4.55	1.60	2.11	0.0810	0.117	76.3	13293	
20082481	5.85	1.24	32.36	11.54	73.78	4.54	1.65	2.31	0.0891	0.106	85.8	13384	
20082482	5.83	1.35	35.73	10.73	74.64	4.66	1.69	2.42	0.0912	0.114	78.5	13514	

Analytical Number	Major Ash Elements, Wt. %, Ignited 750 Ash									
	SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3
20082477	49.69	27.53	1.92	13.52	3.73	0.78	0.61	1.59	0.46	2.95
20082478	50.26	27.73	1.92	12.04	3.28	0.76	0.58	1.61	0.41	2.75
20082479	49.82	27.56	2.13	11.32	2.81	0.70	0.53	1.62	0.34	2.46
20082480	50.02	28.12	2.15	10.84	2.49	0.66	0.52	1.60	0.35	2.12
20082481	49.57	26.29	1.83	12.98	3.55	0.77	0.59	1.66	0.49	2.89
20082482	48.72	26.03	1.64	14.01	4.23	1.03	0.67	1.62	0.47	3.78



Submitted by: D. Connell  
 Date: 6/17/2008  
 Project #: 1621-085  
 General Description: Air Heater Outlet Fly Ash Samples - Process Performance Tests - May 2008

Analytical Number	Sample Description	As Determined Moisture %	Wt. % Dry Basis				ppm Dry Basis			ug NH3/ g sample
			Ash	Carbon	Chlorine	Mercury	Fluorine	Ammonia		
20082491	AHO FLYASH 5/19/08 2330-5/20/08 0200	0.28	88.61	10.33	0.0030	0.102			13.4	
20082492	AHO FLYASH 5/20/08 0200-0515	0.29	90.81	10.24	0.0030	0.093			11.1	
20082493	AHO FLYASH 5/21/08 0700-1030	0.26	75.41	22.20	0.0075	0.184		42.6	67.1	
20082494	AHO FLYASH 5/21/08 2300-5/22/08 0200	0.59	86.98	11.34	0.0129	0.151		60.4	29.3	
20082495	AHO FLYASH 5/22/08 0200-0500	0.43	94.12	4.42	0.0020	0.069		22.4	13.4	

Analytical Number	Sample Description	Major Ash Elements, Wt% Dry Basis									
		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3
20082491	AHO FLYASH 5/19/08 2330-5/20/08 0200	46.27	24.97	1.69	9.82	3.17	0.73	0.57	1.55	0.38	1.13
20082492	AHO FLYASH 5/20/08 0200-0515	46.82	24.83	1.68	10.33	3.20	0.71	0.55	1.52	0.35	1.17
20082493	AHO FLYASH 5/21/08 0700-1030	39.37	21.57	1.46	8.25	2.84	0.63	0.54	1.33	0.34	1.21
20082494	AHO FLYASH 5/21/08 2300-5/22/08 0200	45.33	25.10	1.68	8.93	3.23	0.75	0.60	1.59	0.42	1.18
20082495	AHO FLYASH 5/22/08 0200-0500	48.99	25.57	1.80	11.34	3.69	0.85	0.63	1.65	0.39	1.24





Submitted by: D. Connell  
 Date: 6/17/2008  
 Project #: 1621-085  
 General Description: Turbosorp Product Ash Samples - Process Performance Tests - May 2008

Analytical Number	Sample Description	Wt. % Dry Basis				ppm Dry Basis		ug NH3/ g sample	Wt. %	
		As Determined Moisture %	Ash	Carbon	Chlorine	Mercury	Fluorine			Ammonia
20082406	PRODUCT ASH 5/20/08 0200	1.04	83.44	6.87	0.2183	0.368				
20082407	PRODUCT ASH 5/20/08 0520	1.15	82.51	6.17	0.2307	0.357	9.1	12.8	15.7	
20082408	PRODUCT ASH 5/21/08 0200	0.99	82.44	8.09	0.2192	0.373	65.5			
20082409	PRODUCT ASH 5/21/08 0500	0.83	83.23	8.24	0.2329	0.369	141	12.7	6.48	
20082410	PRODUCT ASH 5/22/08 0200	0.94	82.14	8.33	0.2352	0.365	66.9			
20082411	PRODUCT ASH 5/22/08 0200	0.91	82.48	7.93	0.2160	0.355	63.0	12.4	10.8	

Analytical Number	Sample Description	Major Ash Elements, Wt. % Dry Basis									
		SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	TiO <sub>2</sub>	CaO	MgO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>3</sub>
20082406	PRODUCT ASH 5/20/08 0200	15.14	7.91	3.78	0.50	34.55	0.63	0.26	0.52	0.13	20.02
20082407	PRODUCT ASH 5/20/08 0520	13.03	7.42	3.29	0.47	37.89	0.61	0.22	0.46	0.17	18.22
20082408	PRODUCT ASH 5/21/08 0200	14.53	8.51	3.61	0.56	32.41	0.57	0.23	0.50	0.19	19.55
20082409	PRODUCT ASH 5/21/08 0500	15.61	9.12	3.81	0.59	31.21	0.57	0.25	0.52	0.20	20.30
20082410	PRODUCT ASH 5/22/08 0200	14.79	8.57	3.55	0.54	32.96	0.58	0.23	0.51	0.19	18.37
20082411	PRODUCT ASH 5/22/08 0200	14.89	8.21	3.66	0.53	33.29	0.59	0.23	0.51	0.17	17.93

Analytical Number	Sample Description	ug/g sample leached		ug/L sample leached	
		Mercury	Mercury	Mercury	Mercury
20082406	PRODUCT ASH 5/20/08 0200				
20082407	PRODUCT ASH 5/20/08 0520	0.000364	0.0728		
20082408	PRODUCT ASH 5/21/08 0200				
20082409	PRODUCT ASH 5/21/08 0500	0.000327	0.0654		
20082410	PRODUCT ASH 5/22/08 0200				
20082411	PRODUCT ASH 5/22/08 0200	0.000236	0.0472		



Submitted by: D. Connell  
 Date: 6/17/2008  
 Project #: 1621-085  
 General Description: Pebble Lime and Hydrated Lime Samples - Process Performance Tests - May 2008

Analytical Number	Sample Description	As Determined Moisture %	Wt. % Dry Basis			ppm Dry Basis	Additional Lime Parameters					
			Ash	Carbon	Mercury		Available CaO	Available Ca(OH) <sub>2</sub>	Wt. %			
									Free Moisture	Loose Density	Packed Density	
20082483	PEBBLE LIME 5/19/08 2330	<0.01	98.92	0.41	<.005	87.9			1.08			
20082484	PEBBLE LIME 5/20/08 0305	<0.01	98.83	0.41	<.005	88.6			1.17			
20082485	PEBBLE LIME 5/20/08 2300	<0.01	97.12	0.74	<.005	87.4			2.88			
20082486	PEBBLE LIME 5/21/08 2300	<0.01	97.78	0.62	<.005	84.7			2.19			
20082487	HYDRATED LIME 5/19/08 2330	0.17	76.24	0.51	<.005	88.7	23.76	0.37	23.1	23.1	39.3	
20082488	HYDRATED LIME 5/20/08 0305	0.14	76.34	0.43	<.005	90.7	23.66	0.52	23.1	23.1	38.1	
20082489	HYDRATED LIME 5/20/08 2300	0.18	75.57	0.73	<.005	89.6	24.43	0.43	23.1	23.1	41.2	
20082490	HYDRATED LIME 5/21/08 2300	0.07	76.31	0.39	<.005	88.7	23.69	0.55	23.7	23.7	42.5	

Analytical Number	Sample Description	Major Ash Elements, Wt% Dry Basis									
		SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	TiO <sub>2</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	MgO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>3</sub>
20082483	PEBBLE LIME 5/19/08 2330	0.89	0.46	0.02	0.22	95.83	0.94	0.08	0.06	0.02	0.15
20082484	PEBBLE LIME 5/20/08 0305	0.52	0.48	0.02	0.24	94.71	0.97	0.05	0.07	0.02	0.14
20082485	PEBBLE LIME 5/20/08 2300	0.24	0.44	0.02	0.18	92.76	1.05	0.08	0.07	0.03	0.11
20082486	PEBBLE LIME 5/21/08 2300	0.52	0.49	0.02	0.24	94.96	0.95	0.13	0.04	0.02	0.13
20082487	HYDRATED LIME 5/19/08 2330	0.78	0.35	0.02	0.31	70.43	0.72	0.02	0.06	0.02	1.09
20082488	HYDRATED LIME 5/20/08 0305	0.81	0.35	0.02	0.16	71.77	0.71	0.07	0.05	0.01	0.17
20082489	HYDRATED LIME 5/20/08 2300	1.00	0.40	0.02	0.16	72.70	0.75	0.06	0.07	0.01	0.16
20082490	HYDRATED LIME 5/21/08 2300	0.80	0.30	0.02	0.12	73.11	0.73	0.04	0.07	0.03	0.10



Submitted by: D. Connell  
 Date: 6/17/2008  
 Project #: 1621-085  
 General Description: Urea Samples - Process Performance Tests - May 2008

Analytical Number	Sample Identification	pH	ppm or mg/L		g/cm <sup>3</sup>	ppb or ug/L	
			TSS	Ammonia, N		Density	Hg
20082403	UREA 05/20/2008	9.46	<6	370	1.15	<0.35	<0.35
20082404	UREA 05/20/2008	9.48	<6	390	1.14	<0.35	<0.35
20082405	UREA 05/20/2008	9.40	<6	340	1.14	<0.35	<0.35



**APPENDIX J.9**  
**PROCESS PERFORMANCE AND FOLLOW-UP TESTS**  
**JUNE 2008**



Submitted by: D. Connell  
 Date: 7/28/2008  
 Project #: 1621-085

General Description: Coal Samples - Process Performance and Follow-Up Tests - June 2008

Analytical Number	Sample Description	Total Moisture %	AS Determined Moisture %	Wt. % Dry Basis							ppm Dry Basis			Dry Basis	
				Volatile Matter	Ash	Carbon	Hydrogen	Nitrogen	Sulfur	Chlorine	Mercury	Fluorine	Btu/lb	Btu/lb	
20083361	COAL 6/10/08 1330-1630	3.60	1.32	38.68	7.63	77.01	5.40	1.73	2.44	0.0780	0.0900	42.2	13944		
20083362	COAL 6/11/08 0915	4.46	1.45	38.71	7.45	77.20	5.40	1.67	2.56	0.0842	0.0760	42.2	14107		
20083363	COAL 6/11/08 1245	4.03	1.35	38.70	7.24	77.33	5.36	1.70	2.37	0.0811	0.0800	42.5	14012		
20083364	COAL 6/12/08 0945-1115	4.97	1.69	38.82	7.30	77.48	5.34	1.71	2.35	0.0804	0.0710		14184		
20083365	COAL 6/12/08 1330-1500	4.40	1.54	38.61	7.48	77.26	5.38	1.71	2.55	0.0889	0.0800		13963		
20083366	COAL 6/13/08 1015-1220	4.57	1.48	39.10	7.50	77.28	5.38	1.70	2.51	0.0842	0.0800		14137		
20083367	COAL 6/13/08 1450-1620	4.01	1.64	38.93	7.26	77.32	5.42	1.75	2.46	0.0956	0.0750		14044		
20083368	COAL 6/16/08 1130	4.99	1.51	37.83	8.61	76.01	5.30	1.71	2.55	0.0985	0.105	51.1	13818		
20083369	COAL 6/16/08 1530	4.77	1.45	37.87	8.20	76.14	5.30	1.67	2.49	0.0974	0.0990	50.4	13735		
20083370	COAL 6/17/08 1130	5.02	1.43	39.22	7.26	77.15	5.41	1.72	2.60	0.0872	0.0900	46.5	14167		
20083371	COAL 6/17/08 1515	4.66	1.54	38.77	7.64	76.79	5.42	1.69	2.57	0.0833	0.0800	42.7	13931		
20083372	COAL 6/18/08 1130	5.34	1.38	38.65	7.30	77.34	5.43	1.64	2.45	0.0842	0.0700	43.1	14180		
20083373	COAL 6/18/08 1545	5.24	1.59	38.88	7.48	77.43	5.37	1.69	2.51	0.0823	0.0820	48.6	13960		
20083374	COAL 6/19/08 1200	5.30	1.62	39.45	7.26	77.06	5.44	1.78	2.52	0.0996	0.0740	44.8	14196		
20083375	COAL 6/19/08 1545	5.75	1.36	39.12	7.35	76.85	5.41	1.64	2.58	0.0994	0.0750	52.5	13956		

Analytical Number	Sample Description	Major Ash Elements, Wt. %, Ignited 750 Ash											
		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3		
20083361	COAL 6/10/08 1330-1630	43.25	22.50	1.06	20.16	4.87	0.97	1.10	1.31	0.26	5.36		
20083362	COAL 6/11/08 0915	41.93	22.50	1.01	21.15	5.76	1.14	1.14	1.26	0.28	6.53		
20083363	COAL 6/11/08 1245	43.01	22.65	1.08	19.97	5.04	1.01	1.07	1.30	0.27	5.49		
20083364	COAL 6/12/08 0945-1115	44.14	23.23	1.05	18.95	5.29	1.11	1.12	1.31	0.28	5.67		
20083365	COAL 6/12/08 1330-1500	41.71	21.79	1.01	20.40	5.57	1.09	1.10	1.32	0.29	5.99		
20083366	COAL 6/13/08 1015-1220	42.54	22.45	0.97	19.99	5.52	1.06	1.07	1.30	0.33	6.53		
20083367	COAL 6/13/08 1450-1620	42.64	23.05	1.04	19.43	4.99	1.06	1.25	1.34	0.29	5.76		
20083368	COAL 6/16/08 1130	43.68	22.11	1.04	19.63	5.06	1.10	1.07	1.50	0.28	6.04		
20083369	COAL 6/16/08 1530	44.36	22.50	1.08	17.75	5.36	1.23	1.14	1.49	0.26	6.17		
20083370	COAL 6/17/08 1130	43.27	22.97	1.00	20.12	4.90	1.06	1.30	1.27	0.31	5.78		
20083371	COAL 6/17/08 1515	44.22	22.67	0.99	19.19	4.95	1.01	1.18	1.17	0.28	5.39		
20083372	COAL 6/18/08 1130	45.58	24.01	1.04	17.59	4.31	0.99	1.33	1.27	0.28	4.99		
20083373	COAL 6/18/08 1545	43.11	22.98	1.05	18.96	5.31	1.18	1.38	1.36	0.28	5.88		
20083374	COAL 6/19/08 1200	43.93	23.62	1.08	19.03	4.98	1.11	1.56	1.35	0.27	5.77		
20083375	COAL 6/19/08 1545	44.56	22.75	1.00	18.13	5.05	1.05	1.41	1.31	0.33	5.72		



Submitted by: D. Connell  
 Date: 7/28/2008  
 Project #: 1621-085  
 General Description: Air Heater Outlet Fly Ash and Bottom Ash Samples - Process Performance and Follow-Up Tests - June 2008

Analytical Number	Sample Description	As Determined Moisture %	Wt. % Dry Basis				ppm Dry Basis			ug NH <sub>3</sub> /g sample
			Ash	Carbon	Chlorine	Mercury	Fluorine	Ammonia		
20083404	AHO FLYASH 6/10/08 1330-1630	0.53	74.83	23.42	0.0121	0.193	42.3	182		
20083405	AHO FLYASH 6/11/08 0900-1300	0.49	77.63	21.13	0.0261	0.142	49.6	207		
20083406	AHO FLYASH 6/11/08 1300-1700	0.25	73.55	25.30	0.0050	0.130	31.0	195		
20083407	AHO FLYASH 6/12/08 0830-1300	0.17	76.15	21.22	0.0050	0.141		219		
20083408	AHO FLYASH 6/12/08 1300-1700	0.30	67.30	31.73	0.0060	0.179		104		
20083409	AHO FLYASH 6/13/08 1015-1330	0.66	72.73	25.71	0.0352	0.168		158		
20083410	AHO FLYASH 6/13/08 1330-1700	0.55	75.02	23.09	0.0352	0.161		243		
20083411	AHO FLYASH 6/16/08 1130-1730	0.56	80.63	17.77	0.0201	0.154	44.0	305		
20083412	AHO FLYASH 6/17/08 1130-1730	1.06	78.67	18.37	0.0303	0.168	56.2	291		
20083413	AHO FLYASH 6/18/08 1130-1800	1.01	72.80	25.30	0.0263	0.207	51.6	316		
20083414	AHO FLYASH 6/19/08 1200-1700	0.74	71.44	26.42	0.0212	0.195	51.9	390		
20083415	BOTTOM ASH 6/13/08 1430	1.98	38.88	60.81	0.0235	0.008	41.3	7.93		

Analytical Number	Sample Description	Major Ash Elements, Wt% Dry Basis									
		SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	TiO <sub>2</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	MgO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>3</sub>
20083404	AHO FLYASH 6/10/08 1330-1630	36.00	19.91	0.87	10.53	3.71	0.85	0.90	1.09	0.22	1.62
20083405	AHO FLYASH 6/11/08 0900-1300	37.02	19.81	0.88	12.07	3.96	0.87	0.90	1.09	0.22	1.84
20083406	AHO FLYASH 6/11/08 1300-1700	34.31	18.23	0.79	11.69	3.86	0.84	0.90	0.97	0.21	1.40
20083407	AHO FLYASH 6/12/08 0830-1300	36.29	19.02	0.83	12.11	4.01	0.88	0.94	1.05	0.23	1.48
20083408	AHO FLYASH 6/12/08 1300-1700	30.11	14.96	0.60	14.75	3.82	0.72	0.77	0.78	0.15	1.23
20083409	AHO FLYASH 6/13/08 1015-1330	34.97	18.80	0.82	10.30	3.72	0.84	0.90	1.00	0.23	1.75
20083410	AHO FLYASH 6/13/08 1330-1700	35.48	19.00	0.86	10.92	3.94	0.89	1.07	1.05	0.24	1.69
20083411	AHO FLYASH 6/16/08 1130-1730	40.16	20.07	0.93	12.39	3.79	0.94	1.11	1.32	0.23	1.71
20083412	AHO FLYASH 6/17/08 1130-1730	36.69	19.60	0.91	12.10	4.22	0.97	1.26	1.12	0.24	2.34
20083413	AHO FLYASH 6/18/08 1130-1800	33.64	18.57	0.81	12.16	3.99	0.87	1.14	1.04	0.21	1.88
20083414	AHO FLYASH 6/19/08 1200-1700	32.75	17.80	0.77	10.99	3.89	0.87	1.23	0.93	0.21	1.96
20083415	BOTTOM ASH 6/13/08 1430	16.31	8.17	0.34	9.80	1.43	0.31	0.33	0.40	0.09	1.17





Submitted by: D. Connell  
 Date: 7/28/2008  
 Project #: 1621-085  
 General Description: Turbosorp Product Ash Samples - Process Performance and Follow-Up Tests - June 2008

Analytical Number	Sample Description	As Determined Moisture %	Wt. % Dry Basis				ppm Dry Basis			ug NH3/g sample	S.U.	Wt. % Available Ca(OH)2
			Ash	Carbon	Chlorine	Mercury	Fluorine	Ammonia	Paste pH			
20083389	PRODUCT ASH 6/10/08 1630	0.89	81.29	12.89	0.3380	0.321	100		26.3	12.90	5.15	
20083390	PRODUCT ASH 6/11/08 1300	0.87	82.45	11.63	0.3359	0.309	73.7					
20083391	PRODUCT ASH 6/11/08 1700	0.89	82.19	11.75	0.3380	0.322	98.6					
20083392	PRODUCT ASH 6/12/08 1300	0.90	83.09	10.69	0.3118	0.308						
20083393	PRODUCT ASH 6/12/08 1700	0.92	82.51	11.17	0.3835	0.312						
20083394	PRODUCT ASH 6/13/08 1345	1.03	83.92	11.16	0.3486	0.343						
20083395	PRODUCT ASH 6/13/08 1700	0.92	84.19	11.29	0.3199	0.337	187		31.2	12.70	3.15	
20083396	PRODUCT ASH 6/16/08 1730A	0.90	87.11	9.09	0.3562	0.475						
20083397	PRODUCT ASH 6/16/08 1730B	0.80	87.18	9.07	0.3664	0.486	178		27.9	12.30	2.33	
20083398	PRODUCT ASH 6/17/08 1745A	0.92	85.54	8.79	0.4178	0.345	76.3					
20083399	PRODUCT ASH 6/17/08 1745B	0.87	85.57	8.83	0.3213	0.356	79.5					
20083400	PRODUCT ASH 6/18/08 1800A	0.89	81.84	10.38	0.3178	0.311	41.3					
20083401	PRODUCT ASH 6/18/08 1800B	0.91	81.90	10.29	0.2826	0.314	39.4					
20083402	PRODUCT ASH 6/19/08 1800A	0.83	81.65	11.07	0.2884	0.302	61.7					
20083403	PRODUCT ASH 6/19/08 1800B	0.89	81.75	11.00	0.3178	0.320	84.0		31.1	12.80	6.01	

Analytical Number	Sample Description	Major Ash Elements, Wt. % Dry Basis										
		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3	
20083389	PRODUCT ASH 6/10/08 1630	12.94	6.66	0.30	4.51	31.82	0.60	0.37	0.39	0.08	24.73	
20083390	PRODUCT ASH 6/11/08 1300	13.92	7.11	0.32	5.03	32.24	0.63	0.38	0.41	0.09	24.41	
20083391	PRODUCT ASH 6/11/08 1700	13.14	6.71	0.30	4.83	32.22	0.59	0.37	0.38	0.09	23.31	
20083392	PRODUCT ASH 6/12/08 1300	13.22	6.79	0.31	4.58	32.77	0.60	0.38	0.39	0.09	24.53	
20083393	PRODUCT ASH 6/12/08 1700	13.02	6.65	0.30	4.55	33.09	0.60	0.37	0.39	0.09	24.43	
20083394	PRODUCT ASH 6/13/08 1345	14.77	7.26	0.33	5.37	31.37	0.64	0.44	0.42	0.10	25.90	
20083395	PRODUCT ASH 6/13/08 1700	14.26	7.14	0.32	5.20	31.31	0.64	0.42	0.42	0.09	27.19	
20083396	PRODUCT ASH 6/16/08 1730A	16.05	7.98	0.37	5.67	29.74	0.66	0.47	0.51	0.09	26.72	
20083397	PRODUCT ASH 6/16/08 1730B	15.87	7.86	0.37	5.66	29.34	0.66	0.47	0.50	0.08	26.32	
20083398	PRODUCT ASH 6/17/08 1745A	13.11	6.73	0.31	5.03	33.02	0.66	0.46	0.40	0.08	26.09	
20083399	PRODUCT ASH 6/17/08 1745B	12.21	6.58	0.29	4.93	32.04	0.65	0.45	0.39	0.07	25.85	
20083400	PRODUCT ASH 6/18/08 1800A	11.63	5.92	0.27	4.39	35.30	0.65	0.42	0.35	0.07	23.52	
20083401	PRODUCT ASH 6/18/08 1800B	11.31	5.80	0.26	4.49	35.15	0.62	0.41	0.33	0.07	22.55	
20083402	PRODUCT ASH 6/19/08 1800A	12.00	6.26	0.27	4.71	33.76	0.63	0.46	0.36	0.07	22.68	
20083403	PRODUCT ASH 6/19/08 1800B	12.63	6.28	0.28	4.67	34.03	0.63	0.49	0.36	0.08	22.96	

Analytical Number	Sample Description	ug/g sample leached	
		Mercury	ug/L leachate
20083393	PRODUCT ASH 6/12/08 1700	0.000648	0.0324
20083395	PRODUCT ASH 6/13/08 1700	0.000838	0.0419
20083397	PRODUCT ASH 6/16/08 1730B	0.001054	0.0527
20083399	PRODUCT ASH 6/17/08 1745B	0.000512	0.0256
20083401	PRODUCT ASH 6/18/08 1800B	0.000496	0.0248
20083403	PRODUCT ASH 6/19/08 1800B	0.000746	0.0373



Submitted by: D. Conneil  
 Date: 7/28/2008  
 Project #: 1621-085  
 General Description: Pebble Lime and Hydrated Lime Samples - Process Performance and Follow-Up Tests - June 2008

Analytical Number	Sample Description	As Determined Moisture %	Wt. % Dry Basis			ppm Basis	Additional Lime Parameters							
			Ash	Carbon	Mercury		Available CaO	Available Ca(OH) <sub>2</sub>	LOI	Free Moisture	Loose Density	Packed Density		
20083337	HYDRATED LIME 6/10/08 1330	0.01	75.88	0.27	<0.005									
20083338	HYDRATED LIME 6/11/08 1000	<0.01	75.98	0.12	<0.005					91.7	24.15	0.40	23.7	42.5
20083339	HYDRATED LIME 6/12/08 1000	<0.01	76.09	0.07	<0.005					90.9	23.91	0.38	24.3	42.5
20083340	HYDRATED LIME 6/12/08 1345	<0.01	75.98	0.09	<0.005					93.0	24.02	0.41	25.6	40.0
20083341	HYDRATED LIME 6/13/08 1030	<0.01	75.97	0.09	<0.005					91.7	24.03	0.43	21.9	41.2
20083342	HYDRATED LIME 6/13/08 1500	<0.01	76.02	0.08	<0.005					92.8	23.98	0.47	21.2	40.0
20083343	HYDRATED LIME 6/16/08 1145	0.10	75.75	0.21	<0.005					88.3	24.33	0.37	22.5	41.2
20083344	HYDRATED LIME 6/16/08 1545	<0.01	75.78	0.24	<0.005					91.1	24.22	0.44	21.9	40.6
20083345	HYDRATED LIME 6/17/08 1145	0.03	75.84	0.12	<0.005					92.3	24.12	0.35	22.5	39.3
20083346	HYDRATED LIME 6/17/08 1515	<0.01	73.86	0.10	<0.005					92.1	26.32	0.62	22.5	41.2
20083347	HYDRATED LIME 6/18/08 1200	<0.01	76.34	0.26	<0.005					92.0	23.66	0.32	22.5	41.2
20083348	HYDRATED LIME 6/18/08 1600	<0.01	76.19	0.21	<0.005					90.9	23.81	0.64	21.9	39.3
20083349	HYDRATED LIME 6/19/08 1200	<0.01	75.22	0.50	<0.005					87.1	24.78	0.43	23.1	42.5
20083350	CLASSIFIER DISCH TO SCREW 6/17/08 1500	<0.01	74.42	1.24	<0.005					79.2	25.58	0.37	22.5	43.1
20083376	PEBBLE LIME 6/10/08 1330	<0.01	98.05	0.01	<0.005				89.1	1.95				
20083377	PEBBLE LIME 6/11/08 1000	<0.01	97.68	0.16	<0.005				83.9	2.32				
20083378	PEBBLE LIME 6/12/08 1000	<0.01	98.26	0.01	<0.005				87.9	2.74				
20083379	PEBBLE LIME 6/12/08 1345	<0.01	98.12	0.09	<0.005				86.5	1.88				
20083380	PEBBLE LIME 6/13/08 1030	<0.01	97.51	0.11	<0.005				86.6	2.49				
20083381	PEBBLE LIME 6/13/08 1500	<0.01	98.72	0.01	<0.005				89.1	1.28				
20083382	PEBBLE LIME 6/16/08 1145	<0.01	98.53	0.03	<0.005				86.6	1.67				
20083383	PEBBLE LIME 6/16/08 1545	<0.01	98.60	0.01	<0.005				86.2	1.40				
20083384	PEBBLE LIME 6/17/08 1145	<0.01	97.99	0.18	<0.005				86.4	2.01				
20083385	PEBBLE LIME 6/17/08 1515	<0.01	98.26	0.11	<0.005				85.5	1.74				
20083386	PEBBLE LIME 6/18/08 1200	<0.01	97.95	0.08	<0.005				83.9	2.05				
20083387	PEBBLE LIME 6/18/08 1600	<0.01	96.52	0.07	<0.005				80.6	3.48				
20083388	PEBBLE LIME 6/19/08 1200	<0.01	97.98	0.05	<0.005				85.0	2.02				

Analytical Number	Sample Description	Major Ash Elements, Wt% Dry Basis									
		SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	TiO <sub>2</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	MgO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>3</sub>
20083337	HYDRATED LIME 6/10/08 1330	1.52	0.44	0.02	0.35	74.51	0.79	0.03	0.07	0.02	1.23
20083338	HYDRATED LIME 6/11/08 1000	1.11	0.35	0.02	0.19	73.30	0.70	0.05	0.06	0.01	0.09
20083339	HYDRATED LIME 6/12/08 1000	1.11	0.35	0.02	0.15	74.82	0.71	0.04	0.07	<0.01	0.08
20083340	HYDRATED LIME 6/12/08 1345	0.94	0.34	0.02	0.16	73.63	0.71	0.04	0.07	0.01	0.09
20083341	HYDRATED LIME 6/13/08 1030	0.88	0.44	0.02	0.21	74.62	0.76	0.06	0.06	0.01	0.18
20083342	HYDRATED LIME 6/13/08 1500	0.86	0.42	0.02	0.19	74.97	0.76	0.05	0.06	<0.01	0.20
20083343	HYDRATED LIME 6/16/08 1145	0.84	0.41	0.02	0.19	73.21	0.79	0.07	0.06	<0.01	0.20
20083344	HYDRATED LIME 6/16/08 1545	0.72	0.38	0.02	0.15	72.52	0.78	0.06	0.06	<0.01	0.21
20083345	HYDRATED LIME 6/17/08 1145	1.65	0.39	0.02	0.15	73.39	0.77	0.06	0.06	<0.01	0.22
20083346	HYDRATED LIME 6/17/08 1515	0.79	0.38	0.02	0.15	72.85	0.79	0.06	0.05	<0.01	0.20
20083347	HYDRATED LIME 6/18/08 1200	0.88	0.44	0.02	0.16	74.92	0.79	0.05	0.05	<0.01	0.20
20083348	HYDRATED LIME 6/18/08 1600	0.76	0.41	0.02	0.15	75.47	0.79	0.07	0.06	<0.01	0.22
20083349	HYDRATED LIME 6/19/08 1200	0.77	0.41	0.02	0.22	73.21	0.80	0.06	0.06	<0.01	0.21
20083350	CLASSIFIER DISCH TO SCREW 6/17/08 1500	0.84	0.37	0.02	0.25	71.20	0.80	0.05	0.08	<0.01	0.21
20083376	PEBBLE LIME 6/10/08 1330	1.17	0.37	0.02	0.16	95.40	0.86	0.03	0.06	0.02	1.06
20083377	PEBBLE LIME 6/11/08 1000	0.54	0.24	0.03	0.19	91.49	0.74	0.04	0.07	0.02	0.16
20083378	PEBBLE LIME 6/12/08 1000	1.02	0.30	0.01	0.15	94.69	0.72	<0.01	0.07	0.03	0.90
20083379	PEBBLE LIME 6/12/08 1345	1.68	0.51	0.02	0.21	92.72	0.97	0.02	0.11	0.07	0.97
20083380	PEBBLE LIME 6/13/08 1030	1.80	0.50	0.02	0.20	92.54	0.96	0.04	0.08	0.02	1.06
20083381	PEBBLE LIME 6/13/08 1500	1.49	0.50	0.03	0.22	95.54	1.02	0.05	0.07	0.02	1.19
20083382	PEBBLE LIME 6/16/08 1145	1.20	0.45	0.02	0.18	92.38	0.95	0.05	0.07	0.01	1.16
20083383	PEBBLE LIME 6/16/08 1545	1.12	0.43	0.04	0.16	91.31	0.93	0.04	0.07	0.02	2.64
20083384	PEBBLE LIME 6/17/08 1145	1.42	0.51	0.02	0.21	91.57	0.97	0.06	0.08	0.01	1.10
20083385	PEBBLE LIME 6/17/08 1515	1.26	0.46	0.02	0.18	94.50	0.96	0.06	0.08	0.01	1.19
20083386	PEBBLE LIME 6/18/08 1200	1.16	0.46	0.02	0.36	90.73	0.98	0.04	0.07	0.01	1.78
20083387	PEBBLE LIME 6/18/08 1600	2.01	0.90	0.02	0.17	91.14	0.96	0.06	0.20	<0.01	1.08
20083388	PEBBLE LIME 6/19/08 1200	1.41	0.54	0.02	0.20	94.26	1.08	0.06	0.08	0.01	1.18



Submitted by: D. Connell  
 Date: 7/28/2008  
 Project #: 1621-085  
 General Description: Urea and Process Water Samples - Process Performance and Follow-Up Tests - June 2008

Analytical Number	Sample Identification	ppm or mg/L		g/cm <sup>3</sup>	ppb or ug/L
		TSS	Ammonia, N		
20083333	UREA 06/12/2008 1300	<6	295	1.11	<0.35
20083334	UREA 06/13/2008 1345	<6	260	1.13	<0.35
20083335	UREA 06/18/2008 1445	<6	490	1.15	<0.35
20083336	PROCESS WATER 06/18/2008 1445				





Building Knowledge. Delivering Results.

**CONSTRUCTION  
TECHNOLOGY LABORATORIES  
ENGINEERS & CONSTRUCTION  
TECHNOLOGY CONSULTANTS**

[www.CTLGroup.com](http://www.CTLGroup.com)

August 8, 2008

Mr. Don Connell  
CONSOL Energy, Inc.  
4000 Brownsville Road  
South Park, PA 15129

**Reports of Analyses Enclosed  
CTLGroup Project: 403554**

Dear Mr. Connell:

Enclosed are our reports. Should you have any questions, please contact me. Your samples will be retained two months. At that time they will be discarded, unless we hear otherwise from you.

We appreciate this opportunity to serve your needs and anticipate working with you in the future. For your convenience, we are enclosing sample mailing labels for your future use. Please use our toll free 800 number to reach CTLGroup when you need us: 1-800-522-2285. Also, visit us on the web at [www.ctlgroup.com](http://www.ctlgroup.com).

Sincerely,

**CONSTRUCTION TECHNOLOGY LABORATORIES, INC.**  
*An AASHTO Accredited Laboratory – Aggregates, Cement and Concrete*

Ella Shkolnik  
Senior Materials Technologist  
Materials Testing and Analysis

[Eshkolnik@ctlgroup.com](mailto:Eshkolnik@ctlgroup.com)

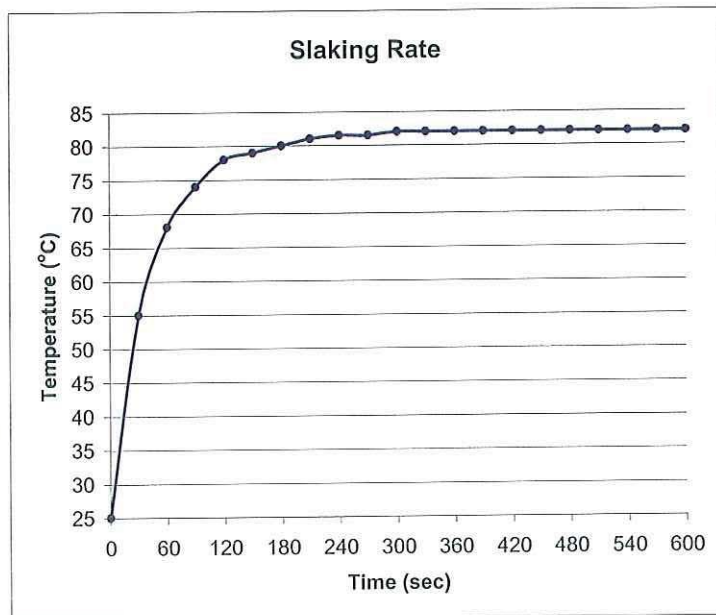
Corporate Office: 5400 Old Orchard Road Skokie, Illinois 60077-1030 Phone: 847-965-7500 Fax: 847-965-6541  
Washington D.C. Office: 9030 Red Branch Road, Suite 110 Columbia, Maryland 21045-2003 Phone: 410-997-0400 Fax: 410-997-8480

Client:	CONSOL Energy, Inc.	CTL Project No:	403554
Project:	Chemical Analysis	CTL Project Mgr.:	Ella Shkolnik
Contact:	Dan Connell	Analyst:	Cecylia Wedzicha
Submitter:	Dan Connell	Approved:	
Date Received:	June 30, 2008	Date Analyzed:	July 9, 2008
		Date Reported:	July 10, 2008

**REPORT of SLAKING RATE ANALYSIS**  
ASTM C 110-05, Section 11

Sample Identification  
CTL ID: 2141301  
Client ID: 083378  
Description: Pebble Lime

Time		Temperature
(minutes)	(seconds)	(°C)
0.0	0	25.0
0.5	30	55.0
1.0	60	68.0
1.5	90	74.0
2.0	120	78.0
2.5	150	79.0
3.0	180	80.0
3.5	210	81.0
4.0	240	81.5
4.5	270	82.0
5.0	300	82.0
5.5	330	82.0
6.0	360	82.0
6.5	390	82.0
7.0	420	82.0
7.5	450	82.0
8.0	480	82.0
8.5	510	82.0
9.0	540	82.0
9.5	570	82.0
10.0	600	82.0



Determined Results

Total active slaking time (minutes)	5'30"
Final reaction temperature (°C)	82.0
Temperature rise in 30 seconds	30.0
Temperature rise in 3 minutes	55.0
Total temperature rise °C (to total active slaking time)	57.0
Residue of Quicklime (%)	0.65

- Notes:
1. This analysis represents specifically the sample submitted as received.
  2. The results were determined in accordance with ASTM C 110-05, Section 11.
  3. This report may not be reproduced except in its entirety.

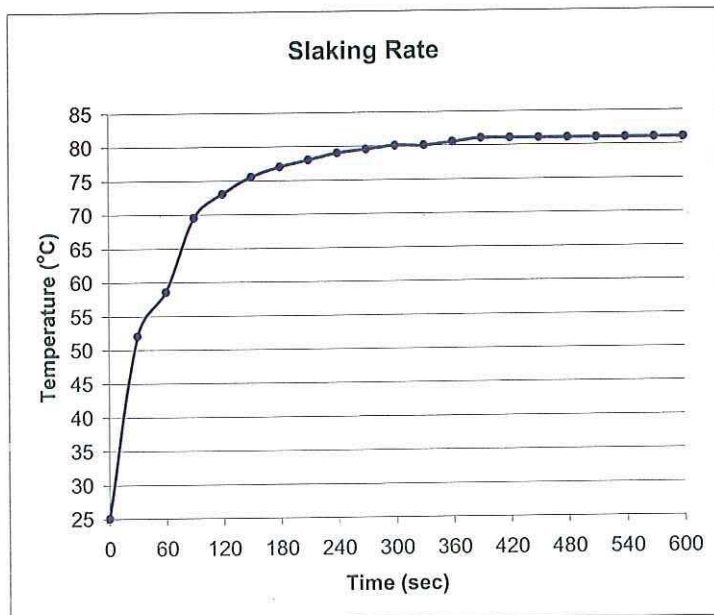
Client:	CONSOL Energy, Inc.	CTL Project No:	403554
Project:	Chemical Analysis	CTL Project Mgr.:	Ella Shkolnik
		Analyst:	Cecylia Wedzicha
Contact:	Dan Connell	Approved:	<i>[Signature]</i>
Submitter:	Dan Connell	Date Analyzed:	July 9, 2008
Date Received:	June 30, 2008	Date Reported:	July 10, 2008

**REPORT of SLAKING RATE ANALYSIS**  
ASTM C 110-05 Section 11

Sample Identification

CTL ID: 2141302  
Client ID: 083382  
Description: Pebble Lime

Time		Temperature
(minutes)	(seconds)	(°C)
0.0	0	25.0
0.5	30	52.0
1.0	60	58.5
1.5	90	69.5
2.0	120	73.0
2.5	150	75.5
3.0	180	77.0
3.5	210	78.0
4.0	240	79.0
4.5	270	79.5
5.0	300	80.0
5.5	330	80.0
6.0	360	80.5
6.5	390	81.0
7.0	420	81.0
7.5	450	81.0
8.0	480	81.0
8.5	510	81.0
9.0	540	81.0
9.5	570	81.0
10.0	600	81.0



Determined Results

Total active slaking time (minutes)	6'30"
Final reaction temperature (°C)	81.0
Temperature rise in 30 seconds	27.0
Temperature rise in 3 minutes	52.0
Total temperature rise °C (to total active slaking time)	56.0
Residue of Quicklime (%)	0.46

Notes:

1. This analysis represents specifically the sample submitted as received.
2. The results were determined in accordance with ASTM C 110-05, Section 11.
3. This report may not be reproduced except in its entirety.



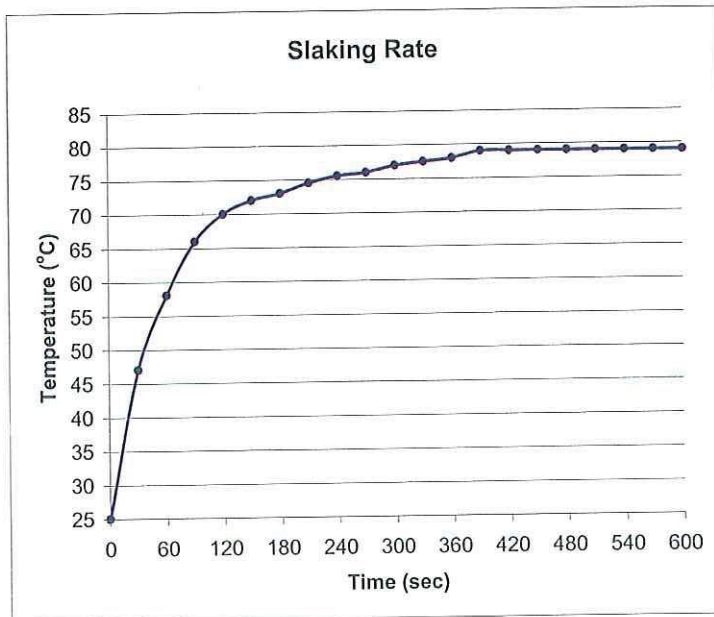
Client:	CONSOL Energy, Inc.	CTL Project No:	403554
Project:	Chemical Analysis	CTL Project Mgr.:	Ella Shkolnik
		Analyst:	Cecylia Wedzicha
Contact:	Dan Connell	Approved:	
Submitter:	Dan Connell	Date Analyzed:	July 9, 2008
Date Received:	June 30, 2008	Date Reported:	July 10, 2008

**REPORT of SLAKING RATE ANALYSIS**  
ASTM C 110-05, Section 11

Sample Identification

CTL ID: 2141303  
Client ID: 083388  
Description: Pebble Lime

Time		Temperature
(minutes)	(seconds)	(°C)
0.0	0	25.0
0.5	30	47.0
1.0	60	58.0
1.5	90	66.0
2.0	120	70.0
2.5	150	72.0
3.0	180	73.0
3.5	210	74.5
4.0	240	75.5
4.5	270	76.0
5.0	300	77.0
5.5	330	77.5
6.0	360	78.0
6.5	390	79.0
7.0	420	79.0
7.5	450	79.0
8.0	480	79.0
8.5	510	79.0
9.0	540	79.0
9.5	570	79.0
10.0	600	79.0



Determined Results

Total active slaking time (minutes)	6'30"
Final reaction temperature (°C)	79.0
Temperature rise in 30 seconds	22.0
Temperature rise in 3 minutes	48.0
Total temperature rise °C (to total active slaking time)	54.0
Residue of Quicklime (%)	1.00

Notes:

1. This analysis represents specifically the sample submitted as received.
2. The results were determined in accordance with ASTM C 110-05, Section 11.
3. This report may not be reproduced except in its entirety.

Client:	<b>CONSOL Energy, Inc</b>	CTL Project No.:	<b>403554</b>
Project:	<b>Fineness Analysis</b>	CTL Proj. Mgr.:	<b>Ella Shkolnik</b>
Contact:	<b>Daniel Connell</b>	Analyst:	<b>Charlotte Hernandez</b>
Submitter:	<b>Daniel Connell</b>	Approved:	<b>Ella Shkolnik</b>
Date Received:	<b>June 30, 2008</b>	Date Analyzed:	<b>July 11, 2008</b>
		Date Reported:	<b>July 14, 2008</b>

**REPORT of PARTICLE SIZE DISTRIBUTION ANALYSIS  
by LASER DIFFRACTION**

Client's Sample ID:	083339	083343	083349
Material Type:	Hydrated Lime	Hydrated lime	Hydrated lime
CTL Sample ID:	2141304	2141305	2141306
<b><u>Size at 50% ( <math>\mu\text{m}</math> )</u></b>	<b>5.44</b>	<b>5.50</b>	<b>9.12</b>
<b><u>Cumulative Volume under Stated Size</u></b> <sup>note 2</sup>			
<45 $\mu\text{m}$	87.46	87.95	77.59
<30 $\mu\text{m}$	82.71	83.36	69.89
3-30 $\mu\text{m}$	53.73	55.71	47.32
<10 $\mu\text{m}$	67.13	67.91	51.72
<7 $\mu\text{m}$	58.04	58.22	44.60
<1 $\mu\text{m}$	6.30	6.08	3.99

Notes:

1. This analysis represents specifically the samples submitted.
2. The provided results are volume based and expressed in terms of equivalent spheres.
3. This report may not be reproduced except in its entirety.

Client:	<b>CONSOL Energy, Inc</b>	CTL Project No.:	<b>403554</b>
Project:	<b>Fineness Analysis</b>	CTL Proj. Mgr.:	<b>Ella Shkolnik</b>
Contact:	<b>Daniel Connell</b>	Analyst:	<b>Charlotte Hernandez</b>
Submitter:	<b>Daniel Connell</b>	Approved:	<b>Ella Shkolnik</b>
Date Received:	<b>June 30, 2008</b>	Date Analyzed:	<b>July 11, 2008</b>
		Date Reported:	<b>July 14, 2008</b>

**REPORT of PARTICLE SIZE DISTRIBUTION ANALYSIS  
by LASER DIFFRACTION**

Client's Sample ID:	083350	083399
Material Type:	Hydrated lime	Ash
CTL Sample ID:	2141307	2141308
<b><u>Size at 50% ( <math>\mu</math>m )</u></b>	<b>4.98</b>	<b>7.19</b>
<b><u>Cumulative Volume under Stated Size</u></b> <sup>note 2</sup>		
<45 $\mu$ m	91.42	80.93
<30 $\mu$ m	88.47	75.35
3-30 $\mu$ m	60.09	55.46
<10 $\mu$ m	74.28	59.55
<7 $\mu$ m	63.69	49.10
<1 $\mu$ m	5.59	6.54

Notes:

1. This analysis represents specifically the samples submitted.
2. The provided results are volume based and expressed in terms of equivalent spheres.
3. This report may not be reproduced except in its entirety.



# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: 2141304-Sample "083339" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Friday, July 11, 2008 8:23:29 AM

Analysed: Friday, July 11, 2008 8:23:30 AM

SOP Name: Hydrated Lime Wet IPA

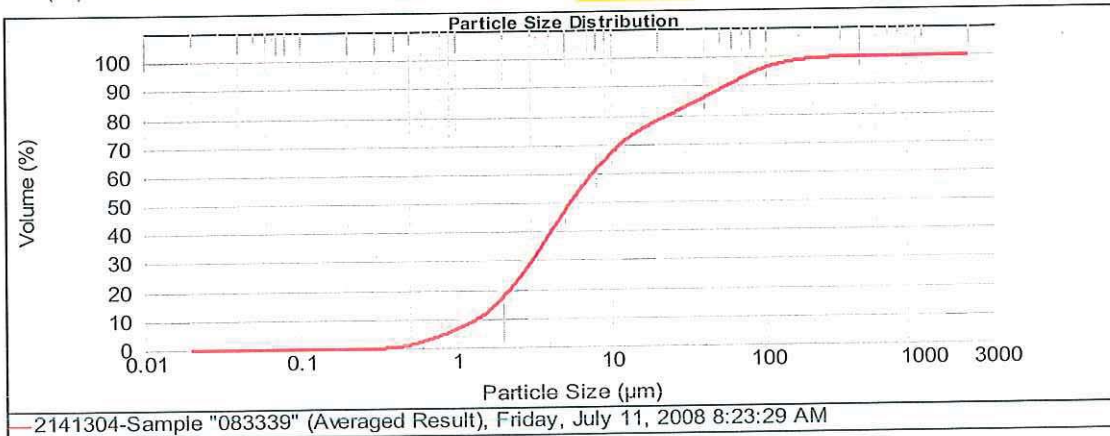
Result Source: Averaged

Particle Name:	Hydrated Lime	Accessory Name:	Hydro 2000MU (A)	Obscuration:	13.03 %
Particle RI:	1.560	Absorption:	0.1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um		
Dispersant RI:	1.390	Result Emulation:	Off	Weighted Residual:	1.485 %

Concentration:	0.0070 %Vol	Vol. Weighted Mean D[4,3]:	19.244 um	Specific Surface Area:	1.85 m <sup>2</sup> /g
Span :	9.964	Uniformity:	3.04	Surface Weighted Mean D[3,2]:	3.241 um

Result units: Volume

d(0.1): 1.368 um      d(0.5): 5.435 um      d(0.9): 55.525 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
1.000	6.30	3.000	28.98	7.000	58.04	10.000	67.13	30.000	82.71
								45.000	87.46

Operator notes: Average of four measurements

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: 2141305-Sample "083343" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Friday, July 11, 2008 8:39:23 AM

Analysed: Friday, July 11, 2008 8:39:24 AM

SOP Name: Hydrated Lime Wet IPA

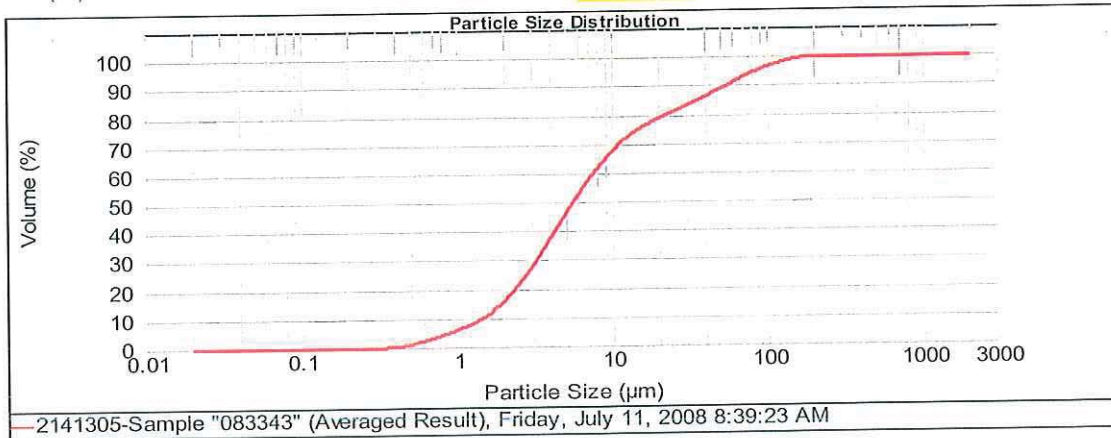
Result Source: Averaged

Particle Name:	Hydrated Lime	Accessory Name:	Hydro 2000MU (A)	Obscuration:	12.68 %
Particle RI:	1.560	Absorption:	0.1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um	Weighted Residual:	1.745 %
Dispersant RI:	1.390	Result Emulation:	Off		

Concentration:	0.0069 %Vol	Vol. Weighted Mean D[4,3]:	17.397 um	Specific Surface Area:	1.82 m <sup>2</sup> /g
Span:	9.484	Uniformity:	2.65	Surface Weighted Mean D[3,2]:	3.303 um

Result units: Volume

d(0.1): 1.430 um      d(0.5): 5.496 um      d(0.9): 53.554 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
1.000	6.08	3.000	27.65	7.000	58.22	10.000	67.91	30.000	83.36
								45.000	87.95

Operator notes: Average of four measurements

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: 2141306-Sample "083349" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Friday, July 11, 2008 9:37:03 AM

Analysed: Friday, July 11, 2008 9:37:04 AM

SOP Name: Hydrated Lime Wet IPA

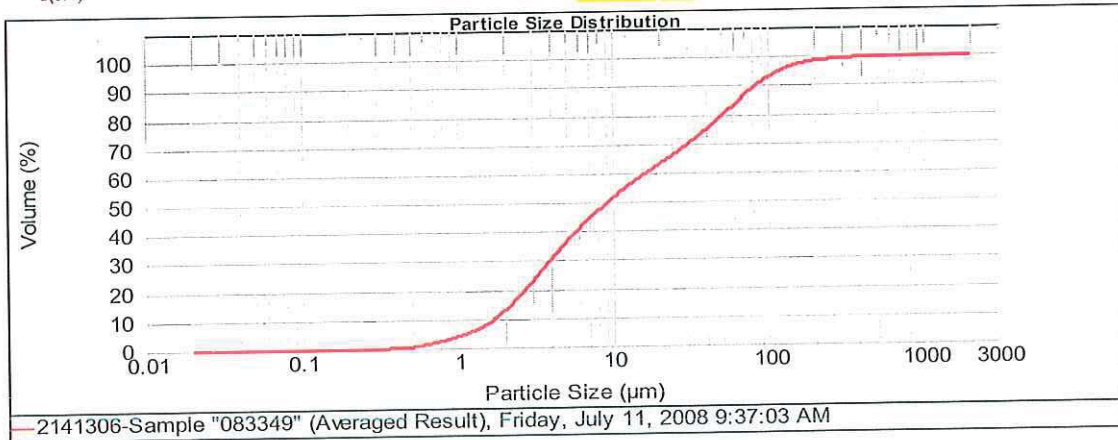
Result Source: Averaged

Particle Name:	Hydrated Lime	Accessory Name:	Hydro 2000MU (A)	Obscuration:	12.94 %
Particle RI:	1.560	Absorption:	0.1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um	Weighted Residual:	1.206 %
Dispersant RI:	1.390	Result Emulation:	Off		

Concentration:	0.0088 %Vol	Vol. Weighted Mean D[4,3]:	30.516 um	Specific Surface Area:	1.4 m <sup>2</sup> /g
Span:	8.983	Uniformity:	2.94	Surface Weighted Mean D[3,2]:	4.280 um

Result units: Volume

d(0.1): 1.718 um      d(0.5): 9.120 um      d(0.9): 83.649 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
1.000	3.99	3.000	22.57	7.000	44.60	10.000	51.72	30.000	69.89
								45.000	77.59

Operator notes: Average of four measurements



# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: 2141307-Sample "083350" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Friday, July 11, 2008 11:41:27 AM

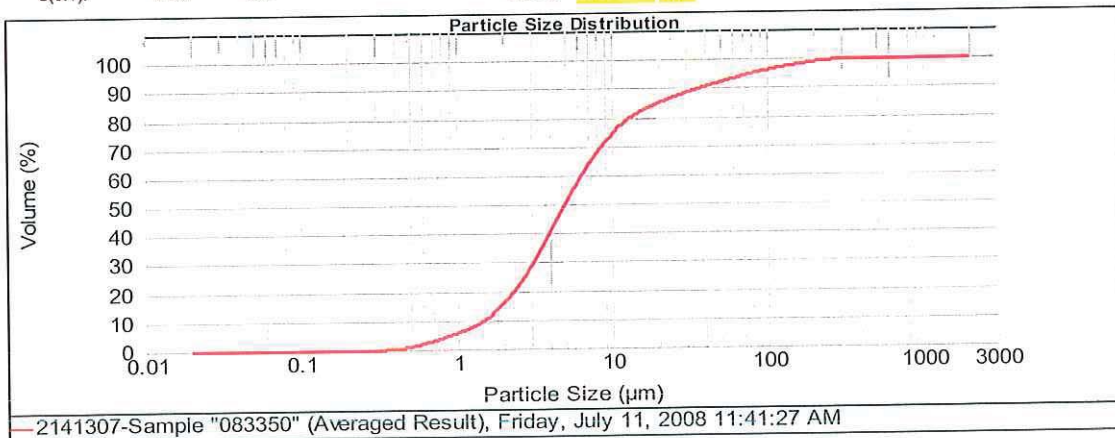
Analysed: Friday, July 11, 2008 11:41:29 AM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name:	Hydrated Lime	Accessory Name:	Hydro 2000MU (A)	Obscuration:	12.71 %
Particle RI:	1.560	Absorption:	0.1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 $\mu\text{m}$	Weighted Residual:	1.551 %
Dispersant RI:	1.390	Result Emulation:	Off		

Concentration:	0.0066 %Vol	Vol. Weighted Mean D[4,3]:	16.281 $\mu\text{m}$	Specific Surface Area:	1.86 $\text{m}^2/\text{g}$
Span:	7.087	Uniformity:	2.72	Surface Weighted Mean D[3,2]:	3.233 $\mu\text{m}$
Result units:	Volume				
d(0.1):	1.491 $\mu\text{m}$	d(0.5):	4.976 $\mu\text{m}$	d(0.9):	36.753 $\mu\text{m}$



Size ( $\mu\text{m}$ )	Vol Under %	Size ( $\mu\text{m}$ )	Vol Under %	Size ( $\mu\text{m}$ )	Vol Under %	Size ( $\mu\text{m}$ )	Vol Under %	Size ( $\mu\text{m}$ )	Vol Under %
1,000	5.59	3,000	28.38	7,000	63.69	10,000	74.28	30,000	88.47
								45,000	91.42

Operator notes: Average of four measurements

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: 2141309-Sample "083399" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Friday, July 11, 2008 12:35:41 PM

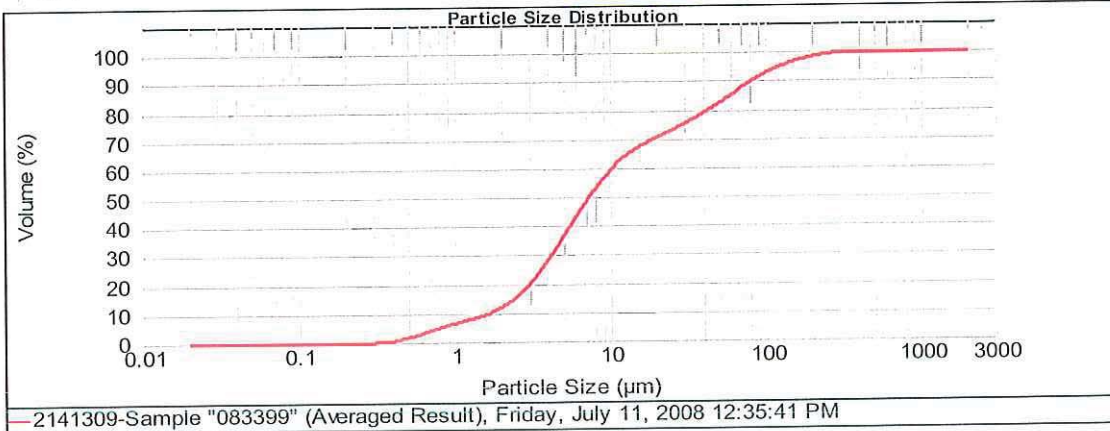
Analysed: Friday, July 11, 2008 12:35:42 PM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name:	Hydrated Lime	Accessory Name:	Hydro 2000MU (A)	Obscuration:	14.39 %
Particle RI:	1.560	Absorption:	0.1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um	Weighted Residual:	1.380 %
Dispersant RI:	1.390	Result Emulation:	Off		

Concentration:	0.0096 %Vol	Vol. Weighted Mean D[4,3]:	26.981 um	Specific Surface Area:	1.62 m <sup>2</sup> /g
Span:	11.094	Uniformity:	3.26	Surface Weighted Mean D[3,2]:	3.705 um
Result units:	Volume				
d(0.1):	1.655 um	d(0.5):	7.190 um	d(0.9):	81.421 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
1.000	6.54	3.000	19.69	7.000	49.10	10.000	59.55	30.000	75.35
								45.000	80.93

Operator notes: Average of four measurements

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: 2141304-Sample "083339" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Friday, July 11, 2008 8:23:29 AM

Analysed: Friday, July 11, 2008 8:23:30 AM

SOP Name: Hydrated Lime Wet IPA

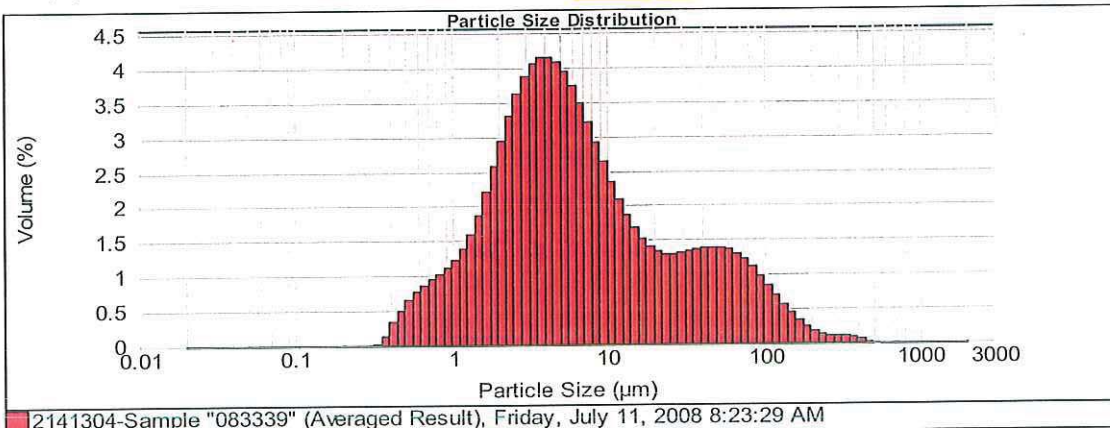
Result Source: Averaged

Particle Name: Hydrated Lime      Accessory Name: Hydro 2000MU (A)      Obscuration: 13.03 %  
 Particle RI: 1.560      Absorption: 0.1      Analysis model: General purpose  
 Dispersant Name: Propan-2-ol      Size range: 0.020 to 2000.000 um  
 Dispersant RI: 1.390      Result Emulation: Off      Weighted Residual: 1.485 %

Concentration: 0.0070 %Vol      Vol. Weighted Mean D[4,3]: 19.244 um      Specific Surface Area: 1.85 m<sup>2</sup>/g  
 Span: 9.964      Uniformity: 3.04      Surface Weighted Mean D[3,2]: 3.241 um

Result units: Volume

d(0.1): 1.368 um      d(0.5): 5.435 um      d(0.9): 55.525 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	6.33	7.096	58.44	50.238	88.79	355.656	99.83
0.022	0.00	0.159	0.00	1.125	7.54	7.962	61.64	56.368	90.18	399.052	99.92
0.025	0.00	0.178	0.00	1.262	8.91	8.934	64.56	63.246	91.54	447.744	99.99
0.028	0.00	0.200	0.00	1.416	10.50	10.024	67.18	70.963	92.83	502.377	100.00
0.032	0.00	0.224	0.00	1.589	12.37	11.247	69.53	79.621	94.05	563.677	100.00
0.036	0.00	0.252	0.00	1.783	14.57	12.619	71.63	89.337	95.15	632.456	100.00
0.040	0.00	0.283	0.00	2.000	17.14	14.159	73.50	100.237	96.13	709.627	100.00
0.045	0.00	0.317	0.00	2.244	20.08	15.887	75.17	112.468	96.96	796.214	100.00
0.050	0.00	0.356	0.00	2.518	23.38	17.825	76.69	126.191	97.66	893.367	100.00
0.056	0.00	0.399	0.13	2.825	26.99	20.000	78.10	141.589	98.22	1002.374	100.00
0.063	0.00	0.448	0.47	3.170	30.86	22.440	79.44	158.866	98.66	1124.683	100.00
0.071	0.00	0.502	0.97	3.557	34.91	25.179	80.73	178.250	98.99	1261.915	100.00
0.080	0.00	0.564	1.62	3.991	39.06	28.251	82.03	200.000	99.23	1415.892	100.00
0.089	0.00	0.632	2.39	4.477	43.21	31.698	83.33	224.404	99.40	1588.656	100.00
0.100	0.00	0.710	3.26	5.024	47.29	35.566	84.66	251.785	99.54	1782.502	100.00
0.112	0.00	0.796	4.20	5.637	51.23	39.905	86.02	282.508	99.64	2000.000	100.00
0.126	0.00	0.893	5.22	6.325	54.96	44.774	87.40	316.979	99.74		

Operator notes: Average of four measurements



# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: 2141305-Sample "083343" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Friday, July 11, 2008 8:39:23 AM

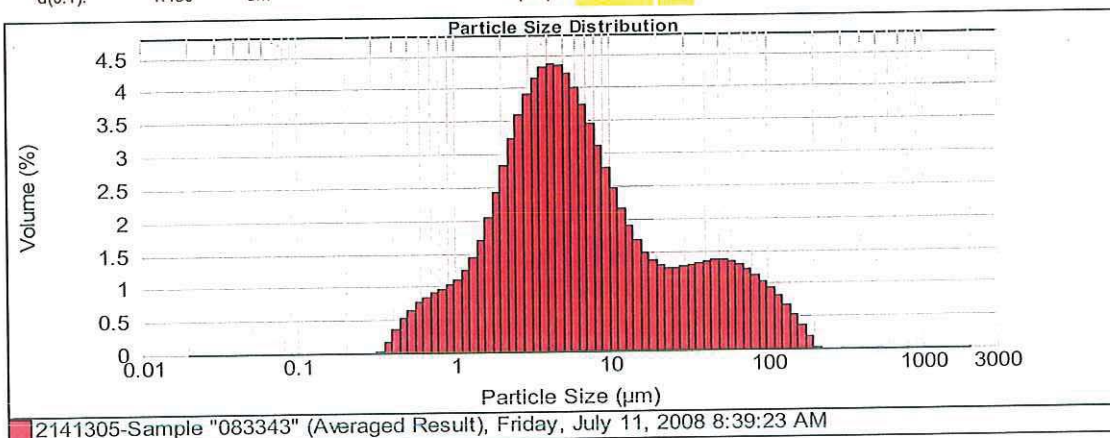
Analysed: Friday, July 11, 2008 8:39:24 AM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name: Hydrated Lime      Accessory Name: Hydro 2000MU (A)      Obscuration: 12.68 %  
 Particle RI: 1.560      Absorption: 0.1      Analysis model: General purpose  
 Dispersant Name: Propan-2-ol      Size range: 0.020 to 2000.000 um  
 Dispersant RI: 1.390      Result Emulation: Off      Weighted Residual: 1.745 %

Concentration: 0.0069 %Vol      Vol. Weighted Mean D[4,3]: 17.397 um      Specific Surface Area: 1.82 m<sup>2</sup>/g  
 Span: 9.484      Uniformity: 2.65      Surface Weighted Mean D[3,2]: 3.303 um  
 Result units: Volume  
 d(0.1): 1.430 um      d(0.5): 5.496 um      d(0.9): 53.554 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	6.11	7.096	58.65	50.238	89.25	355.656	100.00
0.022	0.00	0.159	0.00	1.125	7.20	7.962	62.08	56.368	90.60	399.052	100.00
0.025	0.00	0.178	0.00	1.262	8.43	8.934	65.19	63.246	91.92	447.744	100.00
0.028	0.00	0.200	0.00	1.416	9.87	10.024	67.96	70.963	93.20	502.377	100.00
0.032	0.00	0.224	0.00	1.589	11.56	11.247	70.42	79.621	94.41	563.677	100.00
0.036	0.00	0.252	0.00	1.783	13.60	12.619	72.57	89.337	95.54	632.456	100.00
0.040	0.00	0.283	0.00	2.000	16.01	14.159	74.46	100.237	96.57	709.627	100.00
0.045	0.00	0.317	0.00	2.244	18.83	15.897	76.12	112.468	97.49	796.214	100.00
0.050	0.00	0.356	0.00	2.518	22.05	17.825	77.60	126.191	98.28	893.367	100.00
0.056	0.00	0.399	0.15	2.825	25.65	20.000	78.95	141.589	98.94	1002.374	100.00
0.063	0.00	0.448	0.50	3.170	29.56	22.440	80.23	158.896	99.45	1124.683	100.00
0.071	0.00	0.502	1.01	3.557	33.71	25.179	81.47	178.250	99.80	1261.915	100.00
0.080	0.00	0.564	1.66	3.991	38.01	28.251	82.70	200.000	99.99	1415.892	100.00
0.089	0.00	0.632	2.41	4.477	42.38	31.698	83.96	224.404	100.00	1588.656	100.00
0.100	0.00	0.710	3.25	5.024	46.71	35.566	85.24	251.785	100.00	1782.502	100.00
0.112	0.00	0.796	4.15	5.637	50.91	39.905	86.55	282.508	100.00	2000.000	100.00
0.126	0.00	0.893	5.10	6.325	54.91	44.774	87.89	316.979	100.00		

Operator notes: Average of four measurements

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: 2141306-Sample "083349" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Friday, July 11, 2008 9:37:03 AM

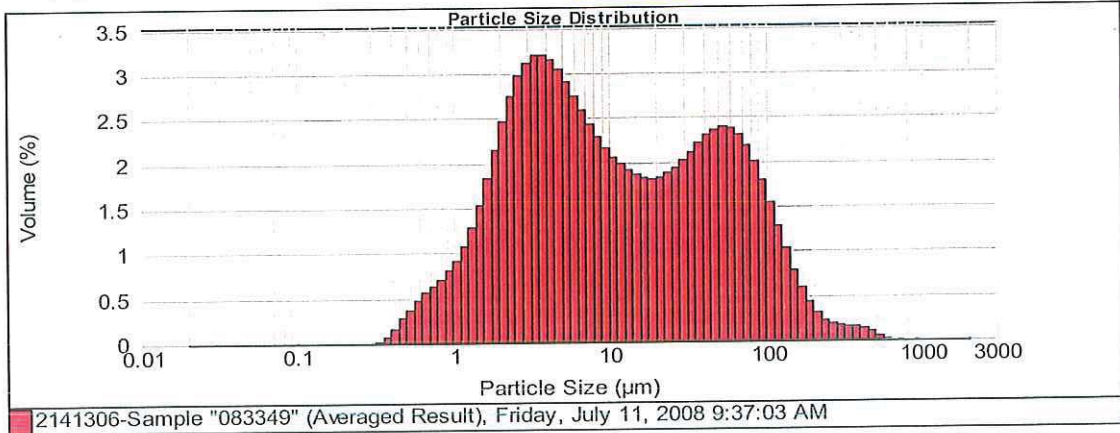
Analysed: Friday, July 11, 2008 9:37:04 AM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name:	Hydrated Lime	Accessory Name:	Hydro 2000MU (A)	Obscuration:	12.94 %
Particle RI:	1.560	Absorption:	0.1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 $\mu\text{m}$	Weighted Residual:	1.206 %
Dispersant RI:	1.390	Result Emulation:	Off		

Concentration:	0.0088 %Vol	Vol. Weighted Mean D[4,3]:	30.516 $\mu\text{m}$	Specific Surface Area:	1.4 $\text{m}^2/\text{g}$
Span:	8.983	Uniformity:	2.94	Surface Weighted Mean D[3,2]:	4.280 $\mu\text{m}$
Result units:	Volume				
d(0.1):	1.718 $\mu\text{m}$	d(0.5):	9.120 $\mu\text{m}$	d(0.9):	83.649 $\mu\text{m}$



Size ( $\mu\text{m}$ )	Vol Under %	Size ( $\mu\text{m}$ )	Vol Under %	Size ( $\mu\text{m}$ )	Vol Under %	Size ( $\mu\text{m}$ )	Vol Under %	Size ( $\mu\text{m}$ )	Vol Under %	Size ( $\mu\text{m}$ )	Vol Under %
0.020	0.00	0.142	0.00	1.002	4.01	7.096	44.90	50.238	79.65	355.656	99.58
0.022	0.00	0.159	0.00	1.125	4.92	7.962	47.32	56.368	82.24	399.052	99.73
0.025	0.00	0.178	0.00	1.262	5.99	8.934	49.60	63.246	84.62	447.744	99.86
0.028	0.00	0.200	0.00	1.416	7.26	10.024	51.77	70.963	86.93	502.377	99.96
0.032	0.00	0.224	0.00	1.589	8.79	11.247	53.83	79.621	89.12	563.677	100.00
0.036	0.00	0.252	0.00	1.783	10.62	12.619	55.81	89.337	91.12	632.456	100.00
0.040	0.00	0.283	0.00	2.000	12.77	14.159	57.71	100.237	92.91	709.627	100.00
0.045	0.00	0.317	0.00	2.244	15.24	15.887	59.57	112.468	94.45	796.214	100.00
0.050	0.00	0.356	0.00	2.518	17.98	17.825	61.40	126.191	95.72	893.367	100.00
0.056	0.00	0.399	0.07	2.825	20.95	20.000	63.21	141.589	96.75	1002.374	100.00
0.063	0.00	0.448	0.21	3.170	24.08	22.440	65.04	158.866	97.53	1124.683	100.00
0.071	0.00	0.502	0.49	3.557	27.28	25.179	66.91	178.250	98.12	1261.915	100.00
0.080	0.00	0.564	0.86	3.991	30.49	28.251	68.85	200.000	98.54	1415.892	100.00
0.089	0.00	0.632	1.33	4.477	33.64	31.698	70.87	224.404	98.85	1588.658	100.00
0.100	0.00	0.710	1.88	5.024	36.68	35.566	72.98	251.785	99.08	1782.502	100.00
0.112	0.00	0.796	2.51	5.637	39.58	39.905	75.19	282.508	99.26	2000.000	100.00
0.126	0.00	0.893	3.21	6.325	42.32	44.774	77.48	316.979	99.42		

Operator notes: Average of four measurements



# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: 2141307-Sample "083350" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Friday, July 11, 2008 11:41:27 AM

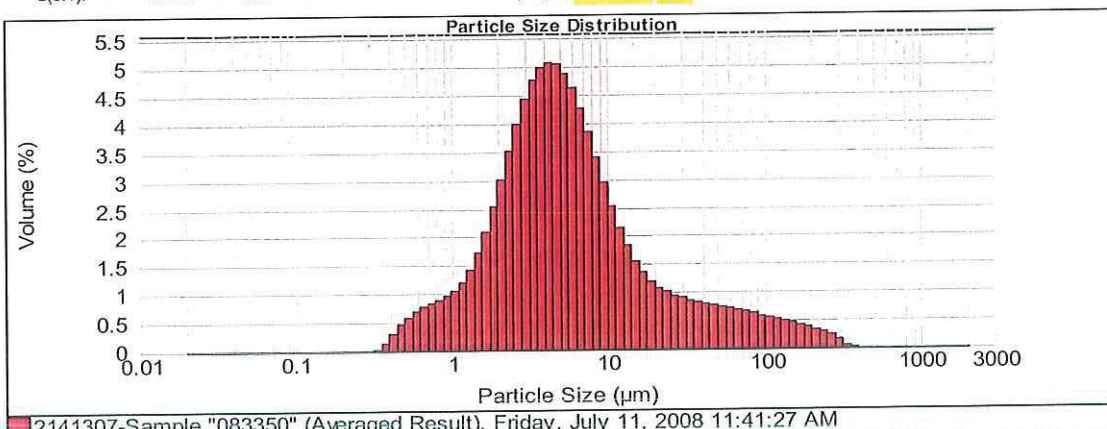
Analysed: Friday, July 11, 2008 11:41:29 AM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name: Hydrated Lime      Accessory Name: Hydro 2000MU (A)      Obscuration: 12.71 %  
 Particle RI: 1.560      Absorption: 0.1      Analysis model: General purpose  
 Dispersant Name: Propan-2-ol      Size range: 0.020 to 2000.000 um  
 Dispersant RI: 1.390      Result Emulation: Off      Weighted Residual: 1.551 %

Concentration: 0.0066 %Vol      Vol. Weighted Mean D[4,3]: 16.281 um      Specific Surface Area: 1.86 m<sup>2</sup>/g  
 Span: 7.087      Uniformity: 2.72      Surface Weighted Mean D[3,2]: 3.233 um  
 Result units: Volume  
 d(0.1): 1.491 um      d(0.5): 4.976 um      d(0.9): 36.753 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	5.61	7.096	64.17	50.238	92.15	355.656	99.99
0.022	0.00	0.159	0.00	1.125	6.66	7.962	68.00	56.368	92.89	399.052	100.00
0.025	0.00	0.178	0.00	1.262	7.86	8.934	71.39	63.246	93.60	447.744	100.00
0.028	0.00	0.200	0.00	1.416	9.27	10.024	74.33	70.963	94.28	502.377	100.00
0.032	0.00	0.224	0.00	1.589	10.98	11.247	76.86	79.621	94.93	563.677	100.00
0.036	0.00	0.252	0.00	1.783	13.06	12.619	79.01	89.337	95.55	632.456	100.00
0.040	0.00	0.283	0.00	2.000	15.59	14.159	80.83	100.237	96.13	709.627	100.00
0.045	0.00	0.317	0.00	2.244	18.61	15.887	82.40	112.468	96.68	796.214	100.00
0.050	0.00	0.356	0.00	2.518	22.13	17.825	83.75	126.191	97.20	893.367	100.00
0.056	0.00	0.399	0.12	2.825	26.12	20.000	84.95	141.589	97.68	1002.374	100.00
0.063	0.00	0.448	0.43	3.170	30.54	22.440	86.03	158.866	98.13	1124.683	100.00
0.071	0.00	0.502	0.88	3.557	35.30	25.179	87.04	178.250	98.55	1261.915	100.00
0.080	0.00	0.564	1.47	3.991	40.28	28.251	87.99	200.000	98.93	1415.892	100.00
0.089	0.00	0.632	2.16	4.477	45.37	31.698	88.89	224.404	99.26	1588.656	100.00
0.100	0.00	0.710	2.93	5.024	50.42	35.566	89.76	251.785	99.54	1782.502	100.00
0.112	0.00	0.796	3.77	5.637	55.30	39.905	90.59	282.508	99.77	2000.000	100.00
0.126	0.00	0.893	4.66	6.325	59.92	44.774	91.39	316.979	99.94		

Operator notes: Average of four measurements



# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: 2141309-Sample "083399" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Friday, July 11, 2008 12:35:41 PM

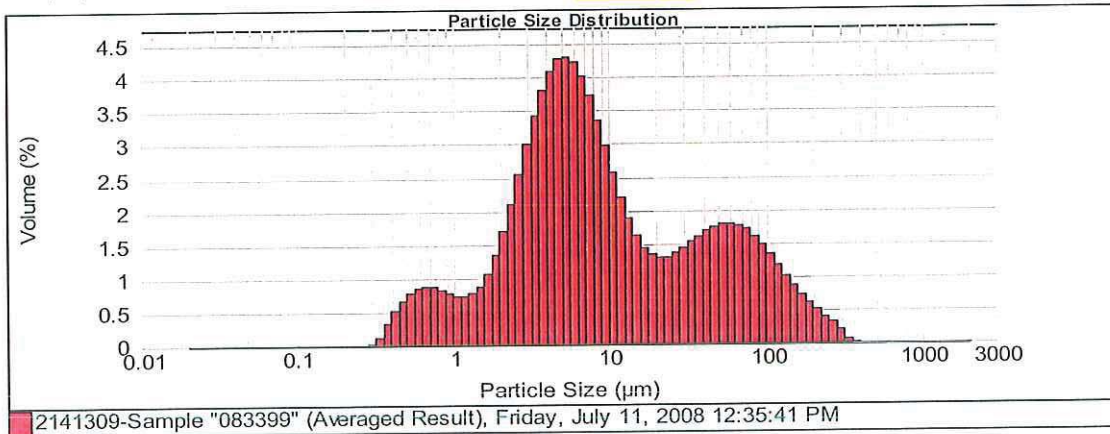
Analysed: Friday, July 11, 2008 12:35:42 PM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name: Hydrated Lime      Accessory Name: Hydro 2000MU (A)      Obscuration: 14.39 %  
 Particle RI: 1.560      Absorption: 0.1      Analysis model: General purpose  
 Dispersant Name: Propan-2-ol      Size range: 0.020 to 2000.000 um  
 Dispersant RI: 1.390      Result Emulation: Off      Weighted Residual: 1.380 %

Concentration: 0.0096 %Vol      Vol. Weighted Mean D[4,3]: 26.981 um      Specific Surface Area: 1.62 m<sup>2</sup>/g  
 Span: 11.094      Uniformity: 3.26      Surface Weighted Mean D[3,2]: 3.705 um  
 Result units: Volume  
 d(0.1): 1.655 um      d(0.5): 7.190 um      d(0.9): 81.421 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	6.56	7.096	49.56	50.238	82.61	355.656	99.99
0.022	0.00	0.159	0.00	1.125	7.29	7.962	53.28	56.368	84.40	399.052	100.00
0.025	0.00	0.178	0.00	1.262	8.01	8.934	56.64	63.246	86.20	447.744	100.00
0.028	0.00	0.200	0.00	1.416	8.78	10.024	59.61	70.963	87.97	502.377	100.00
0.032	0.00	0.224	0.00	1.589	9.65	11.247	62.18	79.621	89.68	563.677	100.00
0.036	0.00	0.252	0.00	1.783	10.72	12.619	64.38	89.337	91.29	632.456	100.00
0.040	0.00	0.283	0.00	2.000	12.06	14.159	66.26	100.237	92.77	709.627	100.00
0.045	0.00	0.317	0.02	2.244	13.74	15.887	67.88	111.468	94.11	796.214	100.00
0.050	0.00	0.356	0.13	2.518	15.84	17.825	69.33	120.191	95.29	893.367	100.00
0.056	0.00	0.399	0.44	2.825	18.38	20.000	70.66	141.589	96.31	1002.374	100.00
0.063	0.00	0.448	0.96	3.170	21.39	22.440	71.96	158.866	97.17	1124.683	100.00
0.071	0.00	0.502	1.61	3.557	24.82	25.179	73.26	178.250	97.90	1261.915	100.00
0.080	0.00	0.564	2.38	3.991	28.63	28.251	74.62	200.000	98.51	1415.892	100.00
0.089	0.00	0.632	3.22	4.477	32.73	31.698	76.05	224.404	99.02	1588.656	100.00
0.100	0.00	0.710	4.09	5.024	37.00	35.566	77.58	251.785	99.42	1782.502	100.00
0.112	0.00	0.796	4.95	5.637	41.31	39.905	79.17	282.508	99.73	2000.000	100.00
0.126	0.00	0.893	5.78	6.325	45.54	44.774	80.66	316.979	99.94		

Operator notes: Average of four measurements

Client:	<b>CONSOL Energy, Inc.</b>	CTL Project No.:	<b>403554</b>
Project:	<b>BET Analysis</b>	CTL Proj. Mgr.:	<b>Ella Shkolnik</b>
		Analyst:	<b>note 2</b>
Contact:	<b>Daniel Connell</b>	Approved:	
Submitter:	<b>Daniel Connell</b>	Date Analyzed:	<b>July 16, 2008</b>
Date Received:	<b>June 30, 2008</b>	Date Reported:	<b>July 17, 2008</b>

**REPORT of BET SURFACE AREA**

<b>Sample Identification</b>		<b>Material</b>	<b>BET Surface Area (m<sup>2</sup>/kg) <sup>note 2</sup></b>
<b>CTL ID</b>	<b>Client ID</b>		
2141304	083339	Hydrated lime	16.46
2141305	083343	Hydrated lime	16.13
2141306	083349	Hydrated lime	17.71
2141307	083350	Hydrated lime	14.02
2141308	083399	Dry scrubber ash	5.75

Notes:

1. This analysis represents specifically the samples submitted.
2. Surface area analysis was performed by Particle Technology Laboratories (PTL) using B.E.T. Micromeritics Flowsorb II Dynamic Surface Area Analyzer under dynamic flow as single point. The original PTL report is enclosed.
3. This report may not be reproduced except in its entirety.

July 28, 2008

Ms. Ella Shkolnik  
 CTL GROUP  
 5400 Old Orchard Road  
 Skokie, IL 60077

**Subject: B.E.T. Surface Area Analysis of One Ash and Four Hydrated Lime Samples**

**P.O. #: 42635B**

**PTL Project: 16644**

Dear Ms. Shkolnik,

Enclosed are the results from the single point B.E.T. surface area analysis conducted on your one Ash and four Hydrated Lime samples. The sample information is detailed in Table 1 below.

**TABLE 1  
 SAMPLE DETAILS**

SAMPLE TYPE	SAMPLE ID	DATE RECEIVED
Hydrated Lime	2141304	07/02/08
	2141305	
	2141306	
	2141307	
Ash	2141308	

The surface area was determined on our B.E.T. Micromeritics Flowsorb II 2300 dynamic flow surface area analyzer according to PTL Test Method B1063.01 for the Hydrated Lime samples. Per this method, an aliquot portion of each sample was put through several cryogenic conditioning cycles, then analyzed according to standard operating procedures for this instrumentation type.

The Ash sample was analyzed according to PTL Test Method B1025.01. Per this method, an aliquot portion of the sample was heat-conditioned for 3 hours at 100°C, then analyzed according to standard operating procedures for this instrument.

The data has been summarized in Table 2. In addition, the original data page has been included for your review.



We trust this information will be beneficial for your future use. If there are any questions concerning this data or the methods used to acquire the data, please do not hesitate to contact us here at Particle Technology Labs.

Submitted by,



David A. Jovanovic  
Fine Particle Analyst I

Reviewed by,



William Kopesky  
Vice President of Analytical Services

H:\Reports\16644.doc

TABLE 2  
B.E.T. SURFACE AREA DATA SUMMARY

SAMPLE ID	SPECIFIC SURFACE AREA (m <sup>2</sup> /g)
Hydrated Lime	
2141304	16.46
2141305	16.13
2141306	17.71
2141307	14.02
Ash	
2141308	5.75

# PARTICLE TECHNOLOGY LABS, LTD.

## NITROGEN B.E.T. SURFACE AREA ANALYSIS MICROMERITICS FLOWSORB II 2300

SERIAL NUMBER = 1107

CUSTOMER NAME: CTL Group  
SAMPLE NAME: Hydrated Lime  
SAMPLE ID #: 2141304  
TECHNICIAN: DJ  
PTL PROJECT #: 16644  
DATE: 7/14/2008

### CALCULATED RESULTS

SPECIFIC GAS VOLUME ADSORBED= 3.78  $\text{cm}^3/\text{g}$   
SPECIFIC SURFACE AREA= 16.46  $\text{M}^2/\text{g}$

### SINGLE-POINT B.E.T. COMPUTED LEAST SQUARES FIT

CORRELATION= N.A.  
SLOPE= 0.2644  
Y INT= 0

Revision #1 (2/23/04)

Particle Technology Labs, Ltd. 555 Rogers St. Downers Grove, IL 60515  
Ph 630/969-2703 | Fax 630/969-2745 | [experts@particletechlabs.com](mailto:experts@particletechlabs.com)

OK 7/14/08  
SD 7/14/08



# PARTICLE TECHNOLOGY LABS, LTD.

## NITROGEN B.E.T. SURFACE AREA ANALYSIS MICROMERITICS FLOWSORB II 2300

SERIAL NUMBER = 1107

CUSTOMER NAME: CTL Group  
SAMPLE NAME: Hydrated Lime  
SAMPLE ID #: 2141305  
TECHNICIAN: DJ  
PTL PROJECT #: 16644  
DATE: 7/14/2008

### CALCULATED RESULTS

SPECIFIC GAS VOLUME ADSORBED= 3.70  $\text{Cm}^3/\text{g}$   
SPECIFIC SURFACE AREA= 16.13  $\text{M}^2/\text{g}$

### SINGLE-POINT B.E.T. COMPUTED LEAST SQUARES FIT

CORRELATION= N.A.  
SLOPE= 0.2699  
Y INT= 0

Revision #1 (2/23/04)

Particle Technology Labs, Ltd. 555 Rogers St. Downers Grove, IL 60515  
Ph 630/969-2703 | Fax 630/969-2745 | [experts@particletechlabs.com](mailto:experts@particletechlabs.com)

WL 7/14/08  
ED 7/14/08

# PARTICLE TECHNOLOGY LABS, LTD.

## NITROGEN B.E.T. SURFACE AREA ANALYSIS MICROMERITICS FLOWSORB II 2300

SERIAL NUMBER = 1107

CUSTOMER NAME: CTL Group  
SAMPLE NAME: Hydrated Lime  
SAMPLE ID #: 2141306  
TECHNICIAN: DJ  
PTL PROJECT #: 16644  
DATE: 7/14/2008

### CALCULATED RESULTS

SPECIFIC GAS VOLUME ADSORBED= 4.07  $\text{Cm}^3/\text{g}$   
SPECIFIC SURFACE AREA= 17.71  $\text{M}^2/\text{g}$

### SINGLE-POINT B.E.T. COMPUTED LEAST SQUARES FIT

CORRELATION= N.A.  
SLOPE= 0.2458  
Y INT= 0

Revision #1 (2/23/04)

Particle Technology Labs, Ltd. 555 Rogers St. Downers Grove, IL 60515  
Ph 630/969-2703 | Fax 630/969-2745 | experts@particletechlabs.com

*up 7/14/08  
DJ 7/14/08*

# PARTICLE TECHNOLOGY LABS, LTD.

## NITROGEN B.E.T. SURFACE AREA ANALYSIS MICROMERITICS FLOWSORB II 2300

SERIAL NUMBER = 1107

CUSTOMER NAME: CTL Group  
SAMPLE NAME: Hydrated Lime  
SAMPLE ID #: 2141307  
TECHNICIAN: DJ  
PTL PROJECT #: 16644  
DATE: 7/15/2008

### CALCULATED RESULTS

SPECIFIC GAS VOLUME ADSORBED= 3.22  $\text{Cm}^3/\text{g}$   
SPECIFIC SURFACE AREA= 14.02  $\text{M}^2/\text{g}$

### SINGLE-POINT B.E.T. COMPUTED LEAST SQUARES FIT

CORRELATION= N.A.  
SLOPE= 0.3105  
Y INT= 0

Revision #1 (2/23/04)

Particle Technology Labs, Ltd. 555 Rogers St. Downers Grove, IL 60515  
Ph 630/969-2703 | Fax 630/969-2745 | experts@particletechlabs.com

*ML 7/16/08  
DJ 7/15/08*



# PARTICLE TECHNOLOGY LABS, LTD.

## NITROGEN B.E.T. SURFACE AREA ANALYSIS MICROMERITICS FLOWSORB II 2300

SERIAL NUMBER = 1107

CUSTOMER NAME: CTL Group  
SAMPLE NAME: Ash  
SAMPLE ID #: 2141308  
TECHNICIAN: DJ  
PTL PROJECT #: 16644  
DATE: 7/15/2008

### CALCULATED RESULTS

SPECIFIC GAS VOLUME ADSORBED= 1.32  $\text{Cm}^3/\text{g}$   
SPECIFIC SURFACE AREA= 5.75  $\text{M}^2/\text{g}$

### SINGLE-POINT B.E.T. COMPUTED LEAST SQUARES FIT

CORRELATION= N.A.  
SLOPE= 0.7569  
Y INT= 0

Revision #1 (2/23/04)

Particle Technology Labs, Ltd. 555 Rogers St. Downers Grove, IL 60515  
Ph 630/969-2703 | Fax 630/969-2745 | experts@particletechlabs.com

*ML 7/16/08  
SD 7/15/08*

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #2186101-Sample "83350" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Tuesday, September 09, 2008 10:49:07 AM

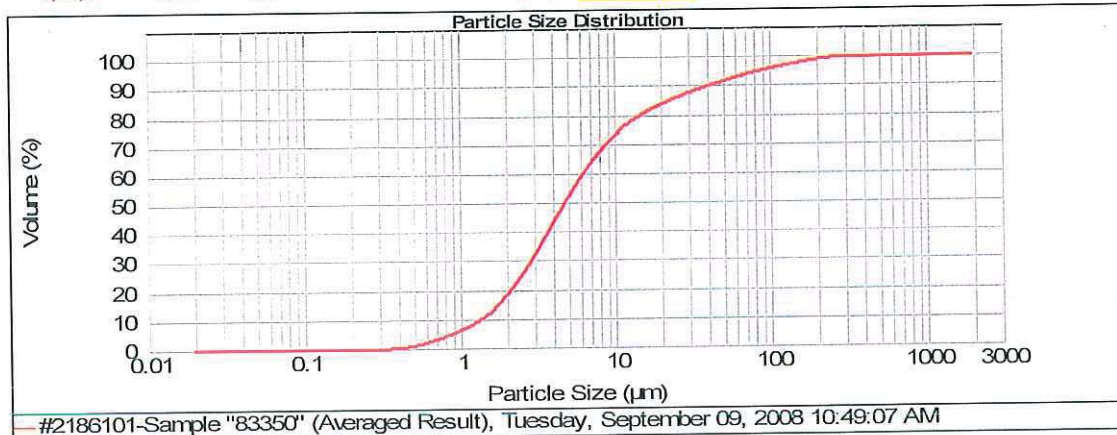
Analysed: Tuesday, September 09, 2008 10:49:08 AM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name:	Hydrated Lime	Accessory Name:	Hydro 2000MU (A)	Obscuration:	12.56 %
Particle RI:	1.560	Absorption:	0.1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um		
Dispersant RI:	1.390	Result Emulation:	Off	Weighted Residual:	1.609 %

Concentration:	0.0063 %Vol	Vol. Weighted Mean D[4,3]:	16.806 um	Specific Surface Area:	1.94 m <sup>2</sup> /g
Span :	8.133	Uniformity:	2.98	Surface Weighted Mean D[3,2]:	3.098 um
Result units:	Volume				
d(0.1):	1.371 um	d(0.5):	4.781 um	d(0.9):	40.254 um



Size (µm)	Vd Under %	Size (µm)	Vd Under %	Size (µm)	Vd Under %	Size (µm)	Vd Under %	Size (µm)	Vd Under %	Size (µm)	Vd Under %
1.000	6.04	3.000	31.29	7.000	63.61	10.000	73.00	30.000	87.60	45.000	90.84

Operator notes: Average of four measurements

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #2186102-Sample "83349" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Tuesday, September 09, 2008 11:46:30 AM

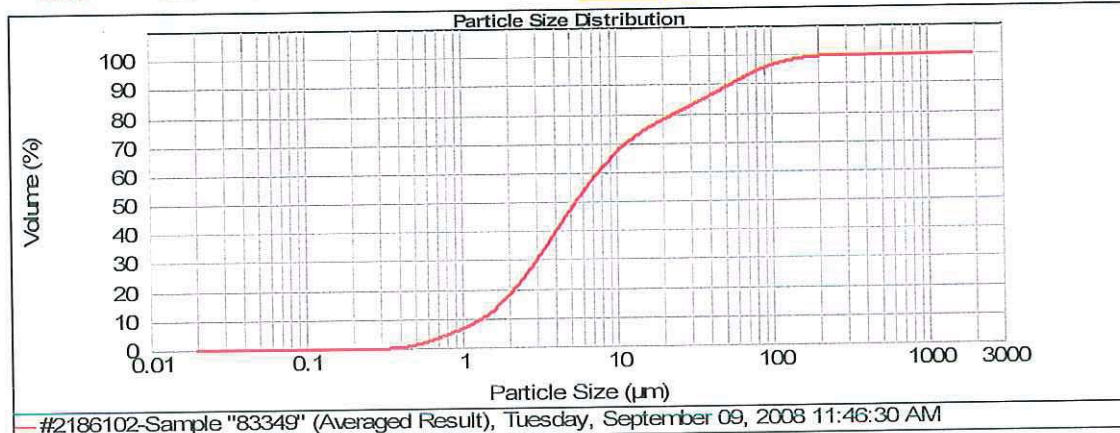
Analysed: Tuesday, September 09, 2008 11:46:31 AM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name:	Hydrated Lime	Accessory Name:	Hydro 2000MU (A)	Obscuration:	13.20 %
Particle RI:	1.560	Absorption:	0.1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um		
Dispersant RI:	1.390	Result Emulation:	Off	Weighted Residual:	1.469 %

Concentration:	0.0071 %Vol	Vol. Weighted Mean D[4,3]:	18.508 um	Specific Surface Area:	1.86 m <sup>2</sup> /g
Span :	9.731	Uniformity:	2.87	Surface Weighted Mean D[3,2]:	3.224 um
Result units:	Volume				
d(0.1):	1.342 um	d(0.5):	5.495 um	d(0.9):	54.816 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
1,000	6.47	3,000	29.10	7,000	57.55	10,000	66.61	30,000	82.61	45,000	87.55

Operator notes: Average of four measurements



# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #2186101-Sample "83350" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Tuesday, September 09, 2008 10:49:07 AM

Analysed: Tuesday, September 09, 2008 10:49:08 AM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name: Hydrated Lime      Accessory Name: Hydro 2000MU (A)      Obscuration: 12.56 %  
 Particle RI: 1.560      Absorption: 0.1      Analysis model: General purpose  
 Dispersant Name: Propan-2-ol      Size range: 0.020 to 2000.000 um  
 Dispersant RI: 1.390      Result Emulation: Off      Weighted Residual: 1.609 %

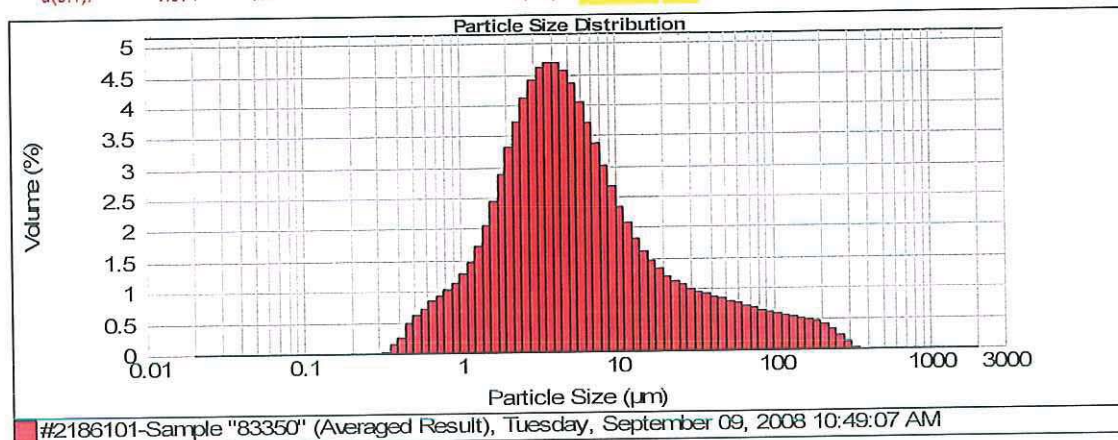
Concentration: 0.0063 %Vol      Vol. Weighted Mean D[4,3]: 16.806 um      Specific Surface Area: 1.94 m<sup>2</sup>/g  
 Span: 8.133      Uniformity: 2.98      Surface Weighted Mean D[3,2]: 3.098 um

Result units: Volume

d(0.1): 1.371 um

d(0.5): 4.781 um

d(0.9): 40.254 um



Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	6.05	7.096	64.03	50.238	91.63	355.656	100.00
0.022	0.00	0.159	0.00	1.125	7.33	7.952	67.39	55.353	92.42	399.052	100.00
0.025	0.00	0.178	0.00	1.252	8.79	8.934	70.39	63.245	93.17	447.744	100.00
0.028	0.00	0.200	0.00	1.416	10.51	10.024	73.05	70.953	93.89	502.377	100.00
0.032	0.00	0.224	0.00	1.599	12.56	11.247	75.39	79.621	94.55	563.677	100.00
0.035	0.00	0.252	0.00	1.793	15.00	12.619	77.43	89.337	95.21	632.456	100.00
0.040	0.00	0.283	0.00	2.000	17.87	14.159	79.28	100.237	95.82	709.627	100.00
0.045	0.00	0.317	0.00	2.244	21.19	15.897	80.90	112.458	96.40	793.214	100.00
0.050	0.00	0.355	0.00	2.518	24.92	17.825	82.35	126.191	96.95	893.357	100.00
0.055	0.00	0.399	0.13	2.825	29.03	20.000	83.67	141.599	97.50	1002.374	100.00
0.063	0.00	0.449	0.39	3.170	33.43	22.440	84.88	158.855	98.01	1124.683	100.00
0.071	0.00	0.502	0.85	3.557	38.02	25.179	85.01	178.250	98.50	1251.915	100.00
0.080	0.00	0.564	1.45	3.991	42.71	28.251	87.07	200.000	98.95	1415.892	100.00
0.089	0.00	0.632	2.17	4.477	47.39	31.693	88.07	224.404	99.35	1593.656	100.00
0.100	0.00	0.710	3.00	5.024	51.93	35.556	89.02	251.755	99.67	1782.502	100.00
0.112	0.00	0.795	3.92	5.637	56.27	39.905	89.93	282.509	99.88	2000.000	100.00
0.125	0.00	0.893	4.94	6.325	60.32	44.774	90.80	316.979	99.99		

Operator notes: Average of four measurements

# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #2186102-Sample "83349" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Tuesday, September 09, 2008 11:46:30 AM

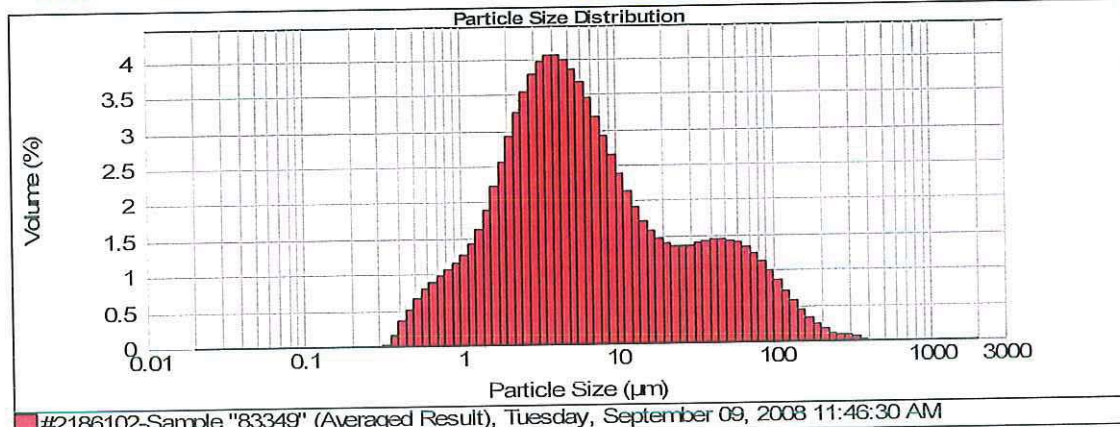
Analysed: Tuesday, September 09, 2008 11:46:31 AM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name: Hydrated Lime      Accessory Name: Hydro 2000MU (A)      Obscuration: 13.20 %  
 Particle RI: 1.560      Absorption: 0.1      Analysis model: General purpose  
 Dispersant Name: Propan-2-ol      Size range: 0.020 to 2000.000 um  
 Dispersant RI: 1.390      Result Emulation: Off      Weighted Residual: 1.469 %

Concentration: 0.0071 %Vol      Vol. Weighted Mean D[4,3]: 18.508 um      Specific Surface Area: 1.86 m<sup>2</sup>/g  
 Span: 9.731      Uniformity: 2.87      Surface Weighted Mean D[3,2]: 3.224 um  
 Result units: Volume  
 d(0.1): 1.342 um      d(0.5): 5.495 um      d(0.9): 54.816 um



Size (µm)	Vcl Under %	Size (µm)	Vcl Under %	Size (µm)	Vcl Under %	Size (µm)	Vcl Under %	Size (µm)	Vcl Under %	Size (µm)	Vcl Under %
0.020	0.00	0.142	0.00	1.002	6.49	7.096	57.95	50.238	83.92	355.655	99.98
0.022	0.00	0.159	0.00	1.125	7.75	7.932	61.13	53.368	90.34	399.052	100.00
0.025	0.00	0.178	0.00	1.262	9.16	8.994	64.03	63.245	91.73	447.744	100.00
0.028	0.00	0.200	0.00	1.415	10.79	10.024	65.66	70.933	93.05	502.377	100.00
0.032	0.00	0.224	0.00	1.589	12.68	11.247	69.03	79.621	94.29	563.677	100.00
0.035	0.00	0.252	0.00	1.783	14.89	12.619	71.16	89.337	95.42	632.456	100.00
0.040	0.00	0.283	0.00	2.000	17.44	14.159	73.05	100.237	96.41	709.627	100.00
0.045	0.00	0.317	0.00	2.244	20.36	15.837	74.78	112.468	97.25	795.214	100.00
0.050	0.00	0.355	0.00	2.518	23.61	17.825	76.35	126.191	97.93	893.357	100.00
0.055	0.00	0.399	0.14	2.825	27.15	20.000	77.81	141.539	98.52	1002.374	100.00
0.063	0.00	0.448	0.48	3.170	30.93	22.440	79.20	158.856	98.95	1124.633	100.00
0.071	0.00	0.502	0.98	3.557	34.83	25.179	80.55	178.250	99.27	1261.915	100.00
0.080	0.00	0.564	1.65	3.991	38.93	28.251	81.90	200.000	99.50	1415.892	100.00
0.089	0.00	0.632	2.43	4.477	42.99	31.693	83.25	224.404	99.65	1583.655	100.00
0.100	0.00	0.710	3.32	5.024	48.98	35.565	84.65	251.785	99.77	1782.502	100.00
0.112	0.00	0.795	4.30	5.637	50.84	39.905	85.05	282.508	99.85	2000.000	100.00
0.125	0.00	0.893	5.35	6.325	54.51	44.774	87.48	315.579	99.92		

Operator notes: Average of four measurements



# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #2186101-Sample "83350" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Tuesday, September 09, 2008 10:49:07 AM

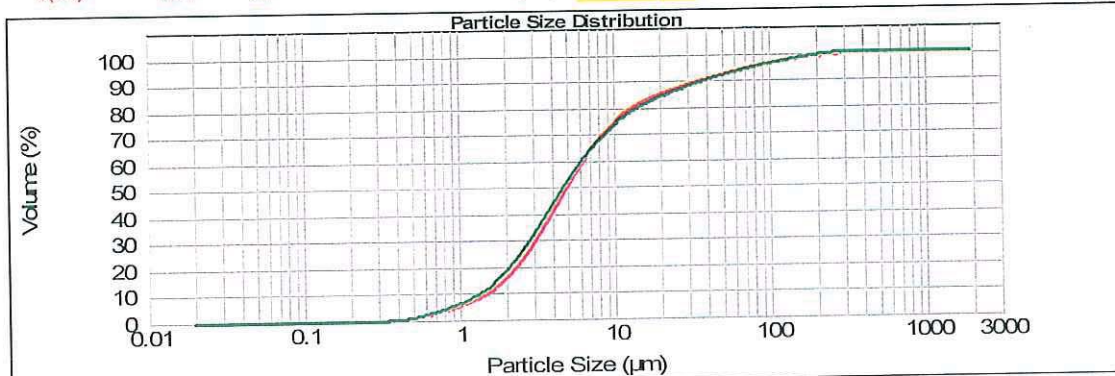
Analysed: Tuesday, September 09, 2008 10:49:08 AM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name:	Hydrated Lime	Accessory Name:	Hydro 2000MU (A)	Obscuration:	12.56 %
Particle RI:	1.560	Absorption:	0.1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um		
Dispersant RI:	1.390	Result Emulation:	Off	Weighted Residual:	1.609 %

Concentration:	0.0063 %Vol	Vol. Weighted Mean D[4,3]:	16.806 um	Specific Surface Area:	1.94 m <sup>2</sup> /g
Span:	8.133	Uniformity:	2.98	Surface Weighted Mean D[3,2]:	3.098 um
Result units:	Volume				
d(0.1):	1.371 um	d(0.5):	4.781 um	d(0.9):	40.254 um



— 2141307-Sample "083350" (Averaged Result), Friday, July 11, 2008 11:41:27 AM  
 — #2186101-Sample "83350" (Averaged Result), Tuesday, September 09, 2008 10:49:07 AM

Size (µm)	Vcl Under %	Size (µm)	Vcl Under %	Size (µm)	Vcl Under %	Size (µm)	Vcl Under %	Size (µm)	Vcl Under %	Size (µm)	Vcl Under %
0.020	0.00	0.142	0.00	1.002	6.05	7.096	64.03	50.238	91.63	356.656	100.00
0.022	0.00	0.159	0.00	1.125	7.33	7.952	67.39	53.358	92.42	399.052	100.00
0.025	0.00	0.178	0.00	1.262	8.79	8.934	70.39	63.246	93.17	447.744	100.00
0.028	0.00	0.200	0.00	1.416	10.51	10.024	73.05	70.933	93.89	502.377	100.00
0.032	0.00	0.224	0.00	1.589	12.56	11.247	75.39	79.621	94.56	563.677	100.00
0.035	0.00	0.252	0.00	1.783	15.00	12.619	77.43	89.337	95.21	632.456	100.00
0.040	0.00	0.283	0.00	2.000	17.87	14.159	79.28	100.237	95.82	709.627	100.00
0.045	0.00	0.317	0.00	2.244	21.19	15.837	80.90	112.468	96.40	796.214	100.00
0.050	0.00	0.355	0.00	2.518	24.92	17.825	82.35	126.191	96.96	893.357	100.00
0.055	0.00	0.399	0.13	2.825	29.03	20.000	83.67	141.599	97.50	1002.374	100.00
0.053	0.00	0.448	0.39	3.170	33.43	22.440	84.88	158.895	98.01	1124.683	100.00
0.071	0.00	0.502	0.86	3.557	38.02	25.179	86.01	178.250	98.50	1251.915	100.00
0.080	0.00	0.554	1.45	3.991	42.71	28.251	87.07	200.000	98.95	1415.892	100.00
0.099	0.00	0.632	2.17	4.477	47.39	31.693	88.07	224.404	99.35	1588.656	100.00
0.100	0.00	0.710	3.00	5.024	51.93	35.596	89.02	251.785	99.67	1782.502	100.00
0.112	0.00	0.796	3.92	5.637	56.27	39.905	89.93	282.506	99.88	2000.000	100.00
0.125	0.00	0.883	4.94	6.325	60.32	44.774	90.80	316.979	99.99		

Operator notes: Average of four measurements



# PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #2186102-Sample "83349" (Averaged Result)

Measured by: Charlotte Hernandez

Measured: Tuesday, September 09, 2008 11:46:30 AM

Analysed: Tuesday, September 09, 2008 11:46:31 AM

SOP Name: Hydrated Lime Wet IPA

Result Source: Averaged

Particle Name:	Hydrated Lime	Accessory Name:	Hydro 2000MU (A)	Obscuration:	13.20 %
Particle RI:	1.560	Absorption:	0.1	Analysis model:	General purpose
Dispersant Name:	Propan-2-ol	Size range:	0.020 to 2000.000 um		
Dispersant RI:	1.390	Result Emulation:	Off	Weighted Residual:	1.469 %

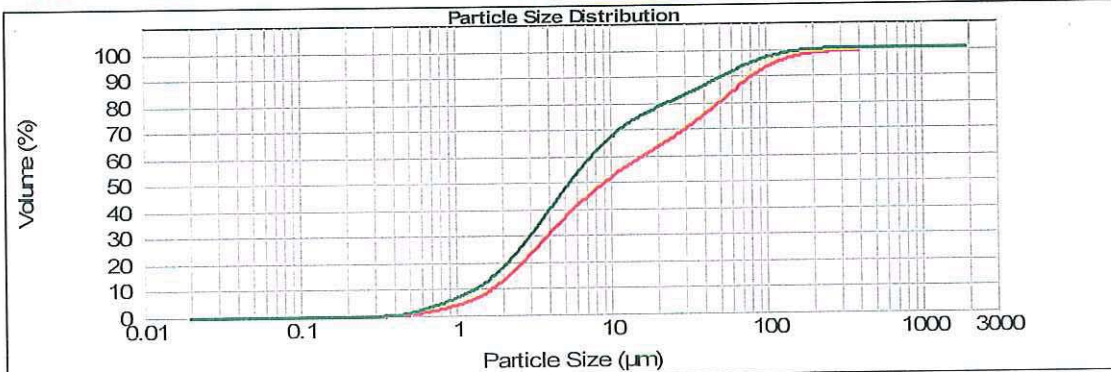
Concentration:	0.0071 %Vol	Vol. Weighted Mean D[4,3]:	18.508 um	Specific Surface Area:	1.86 m <sup>2</sup> /g
Span:	9.731	Uniformity:	2.87	Surface Weighted Mean D[3,2]:	3.224 um

Result units: Volume

d(0.1): 1.342 um

d(0.5): 5.495 um

d(0.9): 54.816 um



— 2141306-Sample "083349" (Averaged Result), Friday, July 11, 2008 9:37:03 AM  
 — #2186102-Sample "83349" (Averaged Result), Tuesday, September 09, 2008 11:46:30 AM

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	6.49	7.036	57.95	50.238	88.92	356.656	99.98
0.022	0.00	0.159	0.00	1.125	7.75	7.952	61.13	53.358	90.34	369.052	100.00
0.025	0.00	0.178	0.00	1.252	9.16	8.934	64.03	63.245	91.73	447.744	100.00
0.028	0.00	0.200	0.00	1.416	10.79	10.024	66.65	70.953	93.05	502.377	100.00
0.032	0.00	0.224	0.00	1.599	12.68	11.247	69.03	79.621	94.29	553.677	100.00
0.035	0.00	0.252	0.00	1.783	14.89	12.619	71.16	89.337	95.42	632.456	100.00
0.040	0.00	0.283	0.00	2.000	17.44	14.159	73.05	100.237	96.41	709.627	100.00
0.045	0.00	0.317	0.00	2.244	20.36	15.837	74.78	112.468	97.25	795.214	100.00
0.050	0.00	0.355	0.00	2.518	23.61	17.825	76.35	125.191	97.95	893.357	100.00
0.055	0.00	0.399	0.14	2.825	27.15	20.000	77.81	141.589	98.52	1002.374	100.00
0.063	0.00	0.448	0.48	3.170	30.93	22.440	79.20	158.895	98.95	1124.683	100.00
0.071	0.00	0.502	0.98	3.557	34.89	25.179	80.55	178.250	99.27	1251.915	100.00
0.080	0.00	0.564	1.65	3.991	39.93	28.251	81.90	200.000	99.50	1415.892	100.00
0.089	0.00	0.632	2.43	4.477	42.99	31.698	83.25	224.404	99.66	1583.656	100.00
0.100	0.00	0.710	3.32	5.024	46.99	35.556	84.65	251.785	99.77	1782.502	100.00
0.112	0.00	0.795	4.30	5.637	50.84	39.905	85.05	282.508	99.85	2000.000	100.00
0.125	0.00	0.883	5.35	6.325	54.51	44.774	87.48	318.579	99.92		

Operator notes: Average of four measurements

**APPENDIX K**  
**MERCURY MATERIAL BALANCES**

**Mercury Material Balances - November 2004**

Greenidge Unit #4 OH Test #1 (W-1)

Gross Generation (MW) = 113.95 MW  
 Coal Feed Rate, reported by plant (kpph) = 85.71 kpph  
 Coal Feed Rate (kpph, dry basis) = 81.86 kpph

Ash in coal = 6.90 kpph  
 Ash entering boiler = 0.90 kpph  
 Bottom Ash Fraction = 0.095  
 ESP Hopper Ash Fraction = 0.905

**Coal Analysis**

Sample ID	Coal Test W-1
Test No.	W1
Sample Date	11/17/04
Analytical Number	20045931
Total Moisture (%)	4.49
Moisture (% as def'd)	1.61
VM (% dry)	37.11
Ash (% dry)	8.43
Carbon (% dry)	77.32
Hydrogen (% dry)	4.82
Nitrogen (% dry)	1.46
Total Sulfur (% dry)	1.89
HHV (Btu/lb, dry)	13,813
Chlorine (% dry)	0.09
Hg (ppm, as def'd)	0.120
Major Ash Elements (% dry)	
SiO <sub>2</sub>	48.66
Al <sub>2</sub> O <sub>3</sub>	24.23
TiO <sub>2</sub>	1.15
Fe <sub>2</sub> O <sub>3</sub>	17.28
CaO	2.99
MgO	0.82
Na <sub>2</sub> O	0.52
K <sub>2</sub> O	1.85
P <sub>2</sub> O <sub>5</sub>	0.52
SO <sub>3</sub>	2.72
	100.74

Ash entered Bottom Ash stream = 0.66 kpph  
 Bottom Ash moisture content (%) = 0.09  
 Bottom Ash carbon content (%) = 0.96  
 Mass Rate of Bottom Ash stream = 0.66 kpph

**Bottom Ash Analysis Results**

Sample ID	Bottom Ash W-1
Sample Date	11.17.2004
Analytical No.	20045934
Moisture (%)	0.09
Ash (% dry)	99.40
Carbon (% dry)	0.96
Total Sulfur (% dry)	0.06
Chlorine (% dry)	0.003
Hg (ppm, as def'd)	0.008
Major Ash Elements (% dry)	
SiO <sub>2</sub>	46.61
Al <sub>2</sub> O <sub>3</sub>	22.16
TiO <sub>2</sub>	1.08
Fe <sub>2</sub> O <sub>3</sub>	24.09
CaO	2.42
MgO	0.86
Na <sub>2</sub> O	0.41
K <sub>2</sub> O	1.48
P <sub>2</sub> O <sub>5</sub>	0.30
SO <sub>3</sub>	0.16
	99.35

ESP ash from coal = 0.17 kpph  
 ESP ash moisture content (%) = 0.17  
 ESP ash carbon content (%) = 13.38  
 Moist ESP ash mass flow rate = 7.21 kpph

**ESP Hopper Ash Analysis**

Sample Description	ESP Ash W1
Sample Date	11/17/2004
Moisture (%)	0.17
Ash (% dry)	86.16
Carbon (% dry)	13.38
Total Sulfur (% dry)	0.26
Chlorine (% dry)	0.00
Hg (ppm, as def'd)	0.59
Major Ash Elements (%)	
SiO <sub>2</sub>	43.71
Al <sub>2</sub> O <sub>3</sub>	21.10
TiO <sub>2</sub>	1.08
Fe <sub>2</sub> O <sub>3</sub>	12.83
CaO	2.40
MgO	0.72
Na <sub>2</sub> O	0.46
K <sub>2</sub> O	1.57
P <sub>2</sub> O <sub>5</sub>	0.46
SO <sub>3</sub>	0.66
	84.977

Coal feed rate =	86	kpph
Hg content in coal =	0.12	ppm
Bottom Ash mass flow rate =	0.66	kpph
Hg content in Bottom Ash =	0.01	ppm
ESP hopper ash flow rate =	7.21	kpph
Hg content in ESP hopper ash =	0.59	ppm

Stack Hg mass flowrate = 1.29 mg/sec  
 Stack Hg mass flowrate = 1.02E-02 lb/hr  
 Stack Hg Emission = 9.06 lb/T Btu

Hg input from Coal =	9.984E-03	lb/hr
Total Hg Input =	9.984E-03	lb/hr
Hg output via Bottom Ash =	5.300E-06	lb/hr
Hg output via ESP hopper ash =	4.225E-03	lb/hr
Hg output via Stack Flue Gas =	4.025E-02	lb/hr
Total Hg Output =	1.448E-02	lb/hr
Hg closure (output / input) =	145.914%	

SiO<sub>2</sub> Closure (output / input) = 102.8%  
 Al<sub>2</sub>O<sub>3</sub> Closure (output / input) = 99.5%

Greenidge Unit #4 OH Test #2 (W-3 & W-2)

Gross Generation (MW) = 110.96 MW  
 Coal Feed Rate (kpph) = 83.78 kpph  
 Coal Feed Rate (kpph, dry basis) = 80.50 kpph

Ash in coal = 6.66 kpph  
 Ash entering boiler = 6.66 kpph  
 Bottom Ash Fraction = 0.095  
 ESP Hopper Ash Fraction = 0.905

**Coal Analysis**

Sample ID	Coal Test W-3
Test No. <td>W3 &amp; W2</td>	W3 & W2
Sample Date	11.17.2004
Analytical Number	20045932
Total Moisture (%)	3.91
As determined Moisture (%)	1.75
VM (% dry)	38.78
Ash (% dry)	8.27
Carbon (% dry)	77.37
Hydrogen (% dry)	4.77
Nitrogen (% dry)	1.45
Total Sulfur (% dry)	1.96
HHV (Btu/lb, dry)	13,891
Chlorine (% dry)	0.09
Hg (ppm, as def'd)	0.145
Major Ash Elements (% dry)	
SiO <sub>2</sub>	48.13
Al <sub>2</sub> O <sub>3</sub>	24.22
TiO <sub>2</sub>	1.07
Fe <sub>2</sub> O <sub>3</sub>	17.81
CaO	3.08
MgO	0.81
Na <sub>2</sub> O	0.55
K <sub>2</sub> O	1.88
P <sub>2</sub> O <sub>5</sub>	0.51
SO <sub>3</sub>	2.99
	101.05

Ash entered Bottom Ash stream = 0.63 kpph  
 Bottom Ash moisture content (%) = 0.20  
 Bottom Ash carbon content (%) = 3.51  
 Mass Rate of Bottom Ash stream = 0.66 kpph

**Bottom Ash Analysis Results**

Sample ID	Bottom Ash W3 & W2
Sample Date	11.17.2004
Analytical No.	20045936 & 20045935
Moisture (%)	0.20
Ash (% dry)	98.75
Carbon (% dry)	3.51
Total Sulfur (% dry)	0.12
Chlorine (% dry)	0.007
Hg (ppm, as def'd)	0.007
Major Ash Elements (% dry)	
SiO <sub>2</sub>	44.36
Al <sub>2</sub> O <sub>3</sub>	21.56
TiO <sub>2</sub>	1.03
Fe <sub>2</sub> O <sub>3</sub>	24.56
CaO	2.47
MgO	0.64
Na <sub>2</sub> O	0.37
K <sub>2</sub> O	1.41
P <sub>2</sub> O <sub>5</sub>	0.32
SO <sub>3</sub>	0.29
	96.96

ESP ash from coal = 0.13 kpph  
 ESP ash moisture content (%) = 0.13  
 ESP ash carbon content (%) = 11.76  
 Moist ESP ash mass flow rate = 6.83 kpph

**ESP Hopper Ash Analysis**

Sample Description	ESP Ash, W-3 & W-2
Sample Date	11/17/2004
Moisture (%)	0.13
Ash (% dry)	87.32
Carbon (% dry)	11.76
Total Sulfur (% dry)	0.24
Chlorine (% dry)	0.00
Hg (ppm, as def'd)	0.49
Major Ash Elements (% dry)	
SiO <sub>2</sub>	43.53
Al <sub>2</sub> O <sub>3</sub>	20.55
TiO <sub>2</sub>	1.08
Fe <sub>2</sub> O <sub>3</sub>	13.54
CaO	2.47
MgO	0.70
Na <sub>2</sub> O	0.42
K <sub>2</sub> O	1.47
P <sub>2</sub> O <sub>5</sub>	0.43
SO <sub>3</sub>	0.61
	84.79

Coal feed rate =	84	kpph
Hg content in coal =	0.15	ppm
Bottom Ash mass flow rate =	0.66	kpph
Hg content in Bottom Ash =	0.01	ppm
ESP hopper ash flow rate =	6.83	kpph
Hg content in ESP hopper ash =	0.49	ppm

Stack Hg mass flowrate = 0.88 mg/sec  
 Stack Hg mass flowrate = 6.96E-03 lb/hr  
 Stack Hg Emission = 6.22 lb/T Btu

Hg input from Coal =	1.188E-02	lb/hr
Total Hg Input =	1.188E-02	lb/hr
Hg output via Bottom Ash =	4.597E-06	lb/hr
Hg output via ESP hopper ash =	3.370E-03	lb/hr
Hg output via Stack Flue Gas =	6.958E-03	lb/hr
Total Hg Output =	1.033E-02	lb/hr
Hg closure (output / input) =	86.959%	

SiO<sub>2</sub> Closure (output / input) = 101.4%  
 Al<sub>2</sub>O<sub>3</sub> Closure (output / input) = 95.3%

Greenidge Unit #4 OH Test #3 (T-2)

Gross Generation (MW) = 112.10 MW  
 Coal Feed Rate (kpph) = 83.14 kpph  
 Coal Feed Rate (kpph, dry basis) = 78.77 kpph

Ash in coal = 6.58 kpph  
 Ash entering boiler = 6.58 kpph  
 Bottom Ash Fraction = 0.095  
 ESP Hopper Ash Fraction = 0.905

**Coal Analysis**

Sample ID	Coal Test T-2
Test No.	T2
Sample Date	11.18.2004
Analytical Number	20045933
Total Moisture (%)	5.26
As determined Moisture (%)	1.65
VM (% dry)	37.37
Ash (% dry)	8.35
Carbon (% dry)	77.44
Hydrogen (% dry)	4.84
Nitrogen (% dry)	1.47
Total Sulfur (% dry)	2.11
HHV (Btu/lb, dry)	13,898.00
Chlorine (% dry)	0
Hg (ppm, as def'd)	0.128
Major Ash Elements (% dry)	
SiO <sub>2</sub>	48.18
Al <sub>2</sub> O <sub>3</sub>	24.15
TiO <sub>2</sub>	1.07
Fe <sub>2</sub> O <sub>3</sub>	17.62
CaO	3.08
MgO	0.81
Na <sub>2</sub> O	0.50
K <sub>2</sub> O	1.83
P <sub>2</sub> O <sub>5</sub>	0.51
SO <sub>3</sub>	2.84
	100.59

Ash entered Bottom Ash stream = 0.62 kpph  
 Bottom Ash moisture content (%) = 0.51  
 Bottom Ash carbon content (%) = 10.28  
 Mass Rate of Bottom Ash stream = 0.70 kpph

**Bottom Ash Analysis Results**

Sample ID	Bottom Ash T-2
Sample Date	11.18.2004
Analytical No.	20045937
Moisture (%)	0.51
Ash (% dry)	89.64
Carbon (% dry)	10.28
Total Sulfur (% dry)	0.22
Chlorine (% dry)	0.01
Hg (ppm, as def'd)	0.011
Major Ash Elements (% dry)	
SiO <sub>2</sub>	40.12
Al <sub>2</sub> O <sub>3</sub>	19.32
TiO <sub>2</sub>	0.89
Fe <sub>2</sub> O <sub>3</sub>	24.90
CaO	2.32
MgO	0.57
Na <sub>2</sub> O	0.32
K <sub>2</sub> O	1.24
P <sub>2</sub> O <sub>5</sub>	0.30
SO <sub>3</sub>	0.55
	90.53

ESP ash from coal = 5.95 kpph  
 ESP ash moisture content (%) = 0.05  
 ESP ash carbon content (%) = 12.16  
 Moist ESP ash mass flow rate = 6.78 kpph

**ESP Hopper Ash Analysis**

Sample Description	ESP Ash T-2
Sample Date	11/18/04
Moisture (%)	0.05
Ash (% dry)	87.01
Carbon (% dry)	12.16
Total Sulfur (% dry)	0.29
Chlorine (% dry)	0.00
Hg (ppm, as def'd)	0.32
Major Ash Elements (% dry)	
SiO <sub>2</sub>	42.88
Al <sub>2</sub> O <sub>3</sub>	20.60
TiO <sub>2</sub>	1.03
Fe <sub>2</sub> O <sub>3</sub>	15.15
CaO	2.71
MgO	0.70
Na <sub>2</sub> O	0.42
K <sub>2</sub> O	1.47
P <sub>2</sub> O <sub>5</sub>	0.43
SO <sub>3</sub>	0.72
	86.10

Coal feed rate =	83.1	kpph
Hg content in coal =	0.128	ppm
Bottom Ash mass flow rate =	0.70	kpph
Hg content in Bottom Ash =	0.011	ppm
ESP hopper ash flow rate =	6.78	kpph
Hg content in ESP hopper ash =	0.32	ppm

Stack Hg mass flowrate = 1.04 mg/sec  
 Stack Hg mass flowrate = 8.28E-03 lb/hr  
 Stack Hg Emission = 7.56 lb/T Btu

Hg input from Coal =	1.025E-02	lb/hr
Total Hg Input =	1.025E-02	lb/hr
Hg output via Bottom Ash =	7.700E-06	lb/hr
Hg output via ESP hopper ash =	2.195E-03	lb/hr
Hg output via Stack Flue Gas =	8.278E-03	lb/hr
Total Hg Output =	1.048E-02	lb/hr
Hg closure (output / input) =	102.24%	

SiO<sub>2</sub> Closure (output / input) = 99.6%  
 Al<sub>2</sub>O<sub>3</sub> Closure (output / input) = 95.4%



**Mercury Material Balances - March 2007**  
Greenidge Unit #4 NoACI-1

Gross Generation (MW) = 105.10 MW  
Net Generation (MW) = 97.07 MW  
Coal Feed Rate, reported by plant (kpph) = 78.97 kpph  
Coal Feed Rate (kpph, dry basis) = 73.74 kpph

Ash in coal = 6.33 kpph  
Bottom Ash Fraction (assumed) = 0.095 56.15 kpph  
Fly Ash Fraction (assumed) = 0.905 5.73 kpph

**Coal Analysis**

Sample ID	Coal 1	
Test No.	noaci-1	
Sample Date	03/28/07	
Analytical Number	20071795	
Total Moisture (%)	6.62	
As determined Moisture (%)	1.31	
VM (% dry)	39.95	
Ash (% dry)	8.58	6.33 kpph
Carbon (% dry)	76.14	56.15 kpph
Hydrogen (% dry)	5.12	3.76 kpph
Nitrogen (% dry)	1.41	
Total Sulfur (% dry)	2.68	1.98 kpph
HHV (Btu/lb, dry)	13,769	1,015 mm Btu/lhr
Chlorine (% dry)	0.00	
Hg (ppm, dry)	0.101	7.45E-03 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	44.98	2.85 kpph
Al <sub>2</sub> O <sub>3</sub>	20.75	1.31 kpph
TiO <sub>2</sub>	0.92	0.06 kpph
Fe <sub>2</sub> O <sub>3</sub>	20.51	1.30 kpph
CaO	4.98	0.32 kpph
MgO	0.85	
Na <sub>2</sub> O	0.80	
K <sub>2</sub> O	1.46	
P <sub>2</sub> O <sub>5</sub>	0.36	
SO <sub>2</sub>	4.81	
	100.42	

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet = 7.07E-03 lb/hr  
% Deviation from Coal Hg = -5.07%

CaO in Product Ash = 7.76 kpph  
CaO from Fly Ash = 0.29 kpph  
CaO from Hydrated Lime = 7.48 kpph  
Estimated Hydrated Lime Feed Rate = 9.91 kpph

**Hydrated Lime Analysis**

Sample Description	noaci-1	
Sample Date	3/28/2007	
Moisture (%)	0.27	
Ash (% dry)	76.43	0.03 kpph
Carbon (% dry)	0.32	
Total Sulfur (% dry)		
Chlorine (% dry)		
Hg (ppm, dry)	0.005	4.96E-05 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	0.83	
Al <sub>2</sub> O <sub>3</sub>	0.40	
TiO <sub>2</sub>	0.02	
Fe <sub>2</sub> O <sub>3</sub>	0.16	
CaO	75.45	
MgO	0.82	
Na <sub>2</sub> O	0.08	
K <sub>2</sub> O	0.05	
P <sub>2</sub> O <sub>5</sub>	0.01	
SO <sub>2</sub>	0.13	
	77.95	

SO<sub>2</sub> at Stack (plant CEM) = 63.2 ppmvd  
Wet Flue Gas Flowrate at Stack (plant) = 310888 scfm  
Flue Gas Moisture at Stack (CONSOL) = 10.7 %  
Flue Gas Flowrate at Stack (CONSOL) = 272379 dscfm  
Flue Gas Flowrate at Stack (plant) = 277623 dscfm  
RPD - CONSOL vs plant flowrate = 1.9%

**Product Ash Analysis**

Sample Description	noaci-1	
Sample Date	3/28/2007	
Moisture (%)	0.85	
Ash (% dry)	84.58	1.67 kpph
Carbon (% dry)	8.12	
Total Sulfur (% dry)	0.00	
Chlorine (% dry)	0.00	
Hg (ppm, dry)	0.35	7.14E-03 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	12.23	
Al <sub>2</sub> O <sub>3</sub>	6.07	
TiO <sub>2</sub>	0.26	
Fe <sub>2</sub> O <sub>3</sub>	4.55	
CaO	37.86	
MgO	0.85	
Na <sub>2</sub> O	0.32	
K <sub>2</sub> O	0.45	
P <sub>2</sub> O <sub>5</sub>	0.13	
SO <sub>2</sub>	22.79	
	85.1	

Stack Hg mass flowrate = 0.04 mg/sec  
Stack Hg mass flowrate = 3.41E-04 lb/hr  
Stack Hg Emission = 0.34 lb/T Btu

Hg input from Coal =	7.45E-03	lb/Hr
Hg input from Hydrated Lime =	4.96E-05	lb/Hr
Total Hg Input =	7.50E-03	lb/Hr
Hg output via Product ash =	7.14E-03	lb/Hr
Hg output via Stack Flue Gas =	3.41E-04	lb/Hr
Total Hg Output =	7.49E-03	lb/Hr
Hg closure (output / input) =	99.3%	

Mass Balance Closure - SiO<sub>2</sub> = 94.9%  
Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> = 101.9%

**Greenidge Unit #4 NoACI-2**

Gross Generation (MW) = 105.66 MW  
Net Generation (MW) = 97.60 MW  
Coal Feed Rate (kpph) = 78.39 kpph  
Coal Feed Rate (kpph, dry basis) = 73.47 kpph

Ash in coal = 6.14 kpph  
Bottom Ash Fraction (assumed) = 0.095 55.59 kpph  
Fly Ash Fraction (assumed) = 0.905 3.70 kpph

**Coal Analysis**

Sample ID	Coal 2	
Test No.	noaci-2	
Sample Date	03/28/07	
Analytical Number	20071796	
Total Moisture (%)	6.23	
As determined Moisture (%)	1.29	
VM (% dry)	39.95	
Ash (% dry)	8.36	6.14 kpph
Carbon (% dry)	75.66	55.59 kpph
Hydrogen (% dry)	5.04	3.70 kpph
Nitrogen (% dry)	1.45	
Total Sulfur (% dry)	2.69	1.98 kpph
HHV (Btu/lb, dry)	13,799	1,014 mm Btu/lhr
Chlorine (% dry)	0.00	
Hg (ppm, dry)	0.113	8.30E-03 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	42.69	2.62 kpph
Al <sub>2</sub> O <sub>3</sub>	20.16	1.24 kpph
TiO <sub>2</sub>	0.88	0.05 kpph
Fe <sub>2</sub> O <sub>3</sub>	22.46	1.38 kpph
CaO	5.29	0.32 kpph
MgO	0.85	
Na <sub>2</sub> O	0.76	
K <sub>2</sub> O	1.39	
P <sub>2</sub> O <sub>5</sub>	0.38	
SO <sub>2</sub>	4.97	
	99.83	

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet = 7.76E-03 lb/hr  
% Deviation from Coal Hg = -6.53%

CaO in Product Ash = 7.73 kpph  
CaO from Fly Ash = 0.29 kpph  
CaO from Hydrated Lime = 7.44 kpph  
Estimated Hydrated Lime Feed Rate = 10.01 kpph

**Hydrated Lime Analysis**

Sample Description	noaci-2	
Sample Date	3/28/2007	
Moisture (%)	0.29	
Ash (% dry)	76.39	0.03 kpph
Carbon (% dry)	0.30	
Total Sulfur (% dry)		
Chlorine (% dry)		
Hg (ppm, dry)	0.005	5.01E-05 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	0.73	
Al <sub>2</sub> O <sub>3</sub>	0.40	
TiO <sub>2</sub>	0.02	
Fe <sub>2</sub> O <sub>3</sub>	0.16	
CaO	74.30	
MgO	0.82	
Na <sub>2</sub> O	0.07	
K <sub>2</sub> O	0.05	
P <sub>2</sub> O <sub>5</sub>	0.01	
SO <sub>2</sub>	0.12	
	76.68	

SO<sub>2</sub> at Stack (plant CEM) = 63.6 ppmvd  
Wet Flue Gas Flowrate at Stack (plant) = 310181 scfm  
Flue Gas Moisture at Stack (CONSOL) = 9.3 %  
Flue Gas Flowrate at Stack (CONSOL) = 277812 dscfm  
Flue Gas Flowrate at Stack (plant) = 281334 dscfm  
RPD - CONSOL vs plant flowrate = 1.3%

**Product Ash Analysis**

Sample Description	noaci-2	
Sample Date	3/28/2007	
Moisture (%)	0.73	
Ash (% dry)	84.57	1.60 kpph
Carbon (% dry)	7.90	
Total Sulfur (% dry)	0.00	
Chlorine (% dry)	0.00	
Hg (ppm, dry)	0.35	7.38E-03 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	11.75	
Al <sub>2</sub> O <sub>3</sub>	5.89	
TiO <sub>2</sub>	0.25	
Fe <sub>2</sub> O <sub>3</sub>	4.35	
CaO	38.10	
MgO	0.84	
Na <sub>2</sub> O	0.31	
K <sub>2</sub> O	0.43	
P <sub>2</sub> O <sub>5</sub>	0.13	
SO <sub>2</sub>	23.14	
	84.97	

Stack Hg mass flowrate = 0.05 mg/sec  
Stack Hg mass flowrate = 3.59E-04 lb/hr  
Stack Hg Emission = 0.35 lb/T Btu

Hg input from Coal =	8.30E-03	lb/Hr
Hg input from Hydrated Lime =	5.01E-05	lb/Hr
Total Hg Input =	8.35E-03	lb/Hr
Hg output via Product ash =	7.38E-03	lb/Hr
Hg output via Stack Flue Gas =	3.59E-04	lb/Hr
Total Hg Output =	7.74E-03	lb/Hr
Hg closure (output / input) =	92.6%	

Mass Balance Closure - SiO<sub>2</sub> = 97.5%  
Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> = 103.0%

**Greenidge Unit #4 NoACI-3**

Gross Generation (MW) = 105.13 MW  
Net Generation (MW) = 97.60 MW  
Coal Feed Rate (kpph) = 78.56 kpph  
Coal Feed Rate (kpph, dry basis) = 73.36 kpph

Ash in coal = 5.86 kpph  
Bottom Ash Fraction (assumed) = 0.095 55.91 kpph  
Fly Ash Fraction (assumed) = 0.905 3.68 kpph

**Coal Analysis**

Sample ID	Coal 3/4	
Test No.	noaci-3	
Sample Date	03/28/07	
Analytical Number	20071797/20071798	
Total Moisture (%)	6.63	
As determined Moisture (%)	1.42	
VM (% dry)	40.06	
Ash (% dry)	8.00	5.86 kpph
Carbon (% dry)	76.22	55.91 kpph
Hydrogen (% dry)	5.01	3.68 kpph
Nitrogen (% dry)	1.45	
Total Sulfur (% dry)	2.63	1.93 kpph
HHV (Btu/lb, dry)	13928	1,022 mm Btu/lhr
Chlorine (% dry)	#DIV/0!	
Hg (ppm, dry)	0.098	7.01E-03 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	43.42	2.55 kpph
Al <sub>2</sub> O <sub>3</sub>	22.13	1.30 kpph
TiO <sub>2</sub>	0.96	0.06 kpph
Fe <sub>2</sub> O <sub>3</sub>	20.68	1.21 kpph
CaO	5.15	0.30 kpph
MgO	1.14	
Na <sub>2</sub> O	0.84	
K <sub>2</sub> O	1.57	
P <sub>2</sub> O <sub>5</sub>	0.43	
SO <sub>2</sub>	4.55	
	100.85	

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet = 7.54E-03 lb/hr  
% Deviation from Coal Hg = 7.63%

CaO in Product Ash = 7.42 kpph  
CaO from Fly Ash = 0.27 kpph  
CaO from Hydrated Lime = 7.15 kpph  
Estimated Hydrated Lime Feed Rate = 9.64 kpph

**Hydrated Lime Analysis**

Sample Description	noaci-3	
Sample Date	3/28/2007	
Moisture (%)	0.35	
Ash (% dry)	76.39	0.03 kpph
Carbon (% dry)	0.32	
Total Sulfur (% dry)		
Chlorine (% dry)		
Hg (ppm, dry)	0.005	4.82E-05 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	0.71	
Al <sub>2</sub> O <sub>3</sub>	0.41	
TiO <sub>2</sub>	0.02	
Fe <sub>2</sub> O <sub>3</sub>	0.16	
CaO	74.19	
MgO	0.81	
Na <sub>2</sub> O	0.07	
K <sub>2</sub> O	0.05	
P <sub>2</sub> O <sub>5</sub>	0.01	
SO <sub>2</sub>	0.17	
	76.6	

SO<sub>2</sub> at Stack (plant CEM) = 80.0 ppmvd  
Wet Flue Gas Flowrate at Stack (plant) = 310142 scfm  
Flue Gas Moisture at Stack (CONSOL) = 10.6 %  
Flue Gas Flowrate at Stack (CONSOL) = 271992 dscfm  
Flue Gas Flowrate at Stack (plant) = 277267 dscfm  
RPD - CONSOL vs plant flowrate = 1.9%

**Product Ash Analysis**

Sample Description	noaci-3	
Sample Date	03/28/07	
Moisture (%)	0.80	
Ash (% dry)	84.77	1.49 kpph
Carbon (% dry)	7.54	
Total Sulfur (% dry)	0.00	
Chlorine (% dry)	0.00	
Hg (ppm, dry)	0.37	7.25E-03 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	11.60	
Al <sub>2</sub> O <sub>3</sub>	5.83	
TiO <sub>2</sub>	0.26	
Fe <sub>2</sub> O <sub>3</sub>	4.29	
CaO	37.62	
MgO	0.83	
Na <sub>2</sub> O	0.30	
K <sub>2</sub> O	0.44	
P <sub>2</sub> O <sub>5</sub>	0.11	
SO <sub>2</sub>	22.89	
	83.95	

Stack Hg mass flowrate = 0.05 mg/sec  
Stack Hg mass flowrate = 3.89E-04 lb/hr  
Stack Hg Emission = 0.38 lb/T Btu

Hg input from Coal =	7.01E-03	lb/Hr
Hg input from Hydrated Lime =	4.82E-05	lb/Hr
Total Hg Input =	7.05E-03	lb/Hr
Hg output via Product ash =	7.25E-03	lb/Hr
Hg output via Stack Flue Gas =	3.89E-04	lb/Hr
Total Hg Output =	7.64E-03	lb/Hr
Hg closure (output / input) =	108.31%	

Mass Balance Closure - SiO<sub>2</sub> = 96.4%  
Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> = 94.7%

**Mercury Material Balances - March 2007 (continued)**  
Greenidge Unit #4 ACI-4

Gross Generation (MW) = 105.39 MW  
Net Generation (MW) = 97.41 MW  
Coal Feed Rate, reported by plant (kpph) = 79.85 kpph  
Coal Feed Rate (kpph, dry basis) = 74.53 kpph

Ash in coal = 5.90 kpph  
Bottom Ash Fraction (assumed) = 0.095 0.56 kpph  
Fly Ash Fraction (assumed) = 0.905 5.34 kpph

**Coal Analysis**

Sample ID	Coal 1
Test No.	aci-4
Sample Date	03/30/07
Analytical Number	20071829
Total Moisture (%)	6.66
As determined Moisture (%)	1.30
VM (% dry)	40.30
Ash (% dry)	7.92
Carbon (% dry)	76.02
Hydrogen (% dry)	4.98
Nitrogen (% dry)	1.48
Total Sulfur (% dry)	2.61
HHV (Btu/lb, dry)	14,015
Chlorine (% dry)	0.08
Hg (ppm, dry)	0.097
Major Ash Elements (% dry)	
SiO <sub>2</sub>	41.81
Al <sub>2</sub> O <sub>3</sub>	20.75
TiO <sub>2</sub>	0.87
Fe <sub>2</sub> O <sub>3</sub>	21.95
CaO	6.42
MgO	0.95
Na <sub>2</sub> O	0.87
K <sub>2</sub> O	1.53
P <sub>2</sub> O <sub>5</sub>	0.37
SO <sub>3</sub>	5.14
	100.66

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet = 6.92E-03 lbHr  
% Deviation from Coal Hg = -4.28%

CaO in Product Ash = 8.04 kpph  
CaO from Fly Ash = 0.34 kpph  
CaO from Hydrated Lime = 7.69 kpph  
Estimated Hydrated Lime Feed Rate = 10.85 kpph

**Hydrated Lime Analysis**

Sample Description	aci-4
Sample Date	3/30/2007
Moisture (%)	0.01
Ash (% dry)	75.74
Carbon (% dry)	0.39
Total Sulfur (% dry)	
Chlorine (% dry)	
Hg (ppm, dry)	0.006
Major Ash Elements (%)	
SiO <sub>2</sub>	1.31
Al <sub>2</sub> O <sub>3</sub>	0.36
TiO <sub>2</sub>	0.01
Fe <sub>2</sub> O <sub>3</sub>	0.16
CaO	70.94
MgO	0.80
Na <sub>2</sub> O	0.03
K <sub>2</sub> O	0.06
P <sub>2</sub> O <sub>5</sub>	0.01
SO <sub>3</sub>	0.20
	73.88

SO<sub>2</sub> at Stack (plant CEM) = 90.3 ppmvd  
Wet Flue Gas Flowrate at Stack (plant) = 310997 scfm  
Flue Gas Moisture at Stack (CONSOL) = 11.2 %  
Flue Gas Flowrate at Stack (CONSOL) = 269524 dscfm  
Flue Gas Flowrate at Stack (plant) = 276165 dscfm  
RPD - CONSOL vs plant flowrate = 2.4%

Sulfur at Turbosorp Inlet = 1.94 kpph  
Sulfur at Stack = 0.12 kpph  
Sulfur in Product Ash = 1.81 kpph

Product Ash Flow Rate (estimated from S balance) = 21.66 kpph

**Product Ash Analysis**

Sample Description	aci-4
Sample Date	3/30/2007
Moisture (%)	0.56
Ash (% dry)	83.24
Carbon (% dry)	8.34
Total Sulfur (% dry)	0.00
Chlorine (% dry)	0.21
Hg (ppm, dry)	0.38
Major Ash Elements (%)	
SiO <sub>2</sub>	12.93
Al <sub>2</sub> O <sub>3</sub>	6.61
TiO <sub>2</sub>	0.29
Fe <sub>2</sub> O <sub>3</sub>	4.52
CaO	37.10
MgO	0.66
Na <sub>2</sub> O	0.33
K <sub>2</sub> O	0.48
P <sub>2</sub> O <sub>5</sub>	0.13
SO <sub>3</sub>	20.92
	83.96

Stack Hg mass flowrate = 0.05 mg/sec  
Stack Hg mass flowrate = 4.08E-04 lbHr  
Stack Hg Emission = 0.39 lbT Btu

Hg input from Coal =	7.23E-03	lb/Hr
Hg input from Hydrated Lime =	6.51E-05	lb/Hr
Total Hg Input =	7.29E-03	lb/Hr
Hg output via Product ash =	8.21E-03	lb/Hr
Hg output via Stack Flue Gas =	4.08E-04	lb/Hr
Total Hg Output =	8.62E-03	lb/Hr
Hg closure (output / input) =	118.1%	

Mass Balance Closure - SiO<sub>2</sub> = 117.9%  
Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> = 124.8%

**Greenidge Unit #4 ACI-5**

Gross Generation (MW) = 105.38 MW  
Net Generation (MW) = 97.56 MW  
Coal Feed Rate (kpph) = 79.35 kpph  
Coal Feed Rate (kpph, dry basis) = 74.51 kpph

Ash in coal = 6.17 kpph  
Bottom Ash Fraction (assumed) = 0.095 0.59 kpph  
Fly Ash Fraction (assumed) = 0.905 5.58 kpph

**Coal Analysis**

Sample ID	Coal 2
Test No.	aci-5
Sample Date	03/30/07
Analytical Number	20071830
Total Moisture (%)	4.97
As determined Moisture (%)	1.69
VM (% dry)	40.32
Ash (% dry)	8.18
Carbon (% dry)	76.41
Hydrogen (% dry)	4.83
Nitrogen (% dry)	1.40
Total Sulfur (% dry)	2.65
HHV (Btu/lb, dry)	13,556
Chlorine (% dry)	0.08
Hg (ppm, dry)	0.090
Major Ash Elements (% dry)	
SiO <sub>2</sub>	42.67
Al <sub>2</sub> O <sub>3</sub>	20.97
TiO <sub>2</sub>	0.90
Fe <sub>2</sub> O <sub>3</sub>	21.39
CaO	5.59
MgO	0.98
Na <sub>2</sub> O	0.84
K <sub>2</sub> O	1.46
P <sub>2</sub> O <sub>5</sub>	0.38
SO <sub>3</sub>	4.92
	100.10

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet = 6.45E-03 lbHr  
% Deviation from Coal Hg = 3.29%

CaO in Product Ash = 8.43 kpph  
CaO from Fly Ash = 0.31 kpph  
CaO from Hydrated Lime = 8.12 kpph  
Estimated Hydrated Lime Feed Rate = 11.40 kpph

**Hydrated Lime Analysis**

Sample Description	aci-5
Sample Date	3/30/2007
Moisture (%)	0.01
Ash (% dry)	76.00
Carbon (% dry)	0.45
Total Sulfur (% dry)	
Chlorine (% dry)	
Hg (ppm, dry)	0.005
Major Ash Elements (%)	
SiO <sub>2</sub>	1.34
Al <sub>2</sub> O <sub>3</sub>	0.36
TiO <sub>2</sub>	0.01
Fe <sub>2</sub> O <sub>3</sub>	0.14
CaO	71.24
MgO	0.80
Na <sub>2</sub> O	0.02
K <sub>2</sub> O	0.05
P <sub>2</sub> O <sub>5</sub>	0.01
SO <sub>3</sub>	0.22
	74.19

SO<sub>2</sub> at Stack (plant CEM) = 61.2 ppmvd  
Wet Flue Gas Flowrate at Stack (plant) = 311630 scfm  
Flue Gas Moisture at Stack (CONSOL) = 11.4 %  
Flue Gas Flowrate at Stack (CONSOL) = 277086 dscfm  
Flue Gas Flowrate at Stack (plant) = 276104 dscfm  
RPD - CONSOL vs plant flowrate = 0.4%

Sulfur at Turbosorp Inlet = 1.99 kpph  
Sulfur at Stack = 0.08 kpph  
Sulfur in Product Ash = 1.90 kpph

Product Ash Flow Rate (estimated from S balance) = 22.07 kpph

**Product Ash Analysis**

Sample Description	aci-5
Sample Date	3/30/2007
Moisture (%)	0.63
Ash (% dry)	83.64
Carbon (% dry)	8.16
Total Sulfur (% dry)	0.00
Chlorine (% dry)	0.27
Hg (ppm, dry)	0.35
Major Ash Elements (%)	
SiO <sub>2</sub>	12.59
Al <sub>2</sub> O <sub>3</sub>	6.28
TiO <sub>2</sub>	0.27
Fe <sub>2</sub> O <sub>3</sub>	4.73
CaO	38.21
MgO	0.66
Na <sub>2</sub> O	0.33
K <sub>2</sub> O	0.48
P <sub>2</sub> O <sub>5</sub>	0.13
SO <sub>3</sub>	21.57
	85.25

Stack Hg mass flowrate = 0.05 mg/sec  
Stack Hg mass flowrate = 4.19E-04 lbHr  
Stack Hg Emission = 0.40 lbT Btu

Hg input from Coal =	6.79E-03	lb/Hr
Hg input from Hydrated Lime =	5.70E-05	lb/Hr
Total Hg Input =	6.84E-03	lb/Hr
Hg output via Product ash =	7.70E-03	lb/Hr
Hg output via Stack Flue Gas =	4.19E-04	lb/Hr
Total Hg Output =	8.12E-03	lb/Hr
Hg closure (output / input) =	118.7%	

Mass Balance Closure - SiO<sub>2</sub> = 109.6%  
Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> = 114.4%

**Greenidge Unit #4 ACI-6**

Gross Generation (MW) = 105.38 MW  
Net Generation (MW) = 97.41 MW  
Coal Feed Rate (kpph) = 79.39 kpph  
Coal Feed Rate (kpph, dry basis) = 74.57 kpph

Ash in coal = 6.14 kpph  
Bottom Ash Fraction (assumed) = 0.095 0.58 kpph  
Fly Ash Fraction (assumed) = 0.905 5.55 kpph

**Coal Analysis**

Sample ID	Coal 3
Test No.	aci-6
Sample Date	03/30/07
Analytical Number	20071831
Total Moisture (%)	4.87
As determined Moisture (%)	1.50
VM (% dry)	40.45
Ash (% dry)	8.23
Carbon (% dry)	76.35
Hydrogen (% dry)	4.91
Nitrogen (% dry)	1.42
Total Sulfur (% dry)	2.65
HHV (Btu/lb, dry)	13,948
Chlorine (% dry)	0.07
Hg (ppm, dry)	0.089
Major Ash Elements (% dry)	
SiO <sub>2</sub>	42.38
Al <sub>2</sub> O <sub>3</sub>	20.88
TiO <sub>2</sub>	0.89
Fe <sub>2</sub> O <sub>3</sub>	21.46
CaO	4.99
MgO	0.94
Na <sub>2</sub> O	0.86
K <sub>2</sub> O	1.71
P <sub>2</sub> O <sub>5</sub>	0.37
SO <sub>3</sub>	4.82
	99.30

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet = 6.38E-03 lbHr  
% Deviation from Coal Hg = -2.36%

CaO in Product Ash = 8.36 kpph  
CaO from Fly Ash = 0.28 kpph  
CaO from Hydrated Lime = 8.08 kpph  
Estimated Hydrated Lime Feed Rate = 11.34 kpph

**Hydrated Lime Analysis**

Sample Description	aci-6
Sample Date	3/30/2007
Moisture (%)	0.06
Ash (% dry)	76.32
Carbon (% dry)	0.39
Total Sulfur (% dry)	
Chlorine (% dry)	
Hg (ppm, dry)	0.004
Major Ash Elements (%)	
SiO <sub>2</sub>	1.25
Al <sub>2</sub> O <sub>3</sub>	0.35
TiO <sub>2</sub>	0.01
Fe <sub>2</sub> O <sub>3</sub>	0.14
CaO	71.27
MgO	0.80
Na <sub>2</sub> O	0.02
K <sub>2</sub> O	0.04
P <sub>2</sub> O <sub>5</sub>	0.03
SO <sub>3</sub>	0.17
	74.08

SO<sub>2</sub> at Stack (plant CEM) = 60.4 ppmvd  
Wet Flue Gas Flowrate at Stack (plant) = 310194 scfm  
Flue Gas Moisture at Stack (CONSOL) = 11.4 %  
Flue Gas Flowrate at Stack (CONSOL) = 273020 dscfm  
Flue Gas Flowrate at Stack (plant) = 274832 dscfm  
RPD - CONSOL vs plant flowrate = 0.7%

Sulfur at Turbosorp Inlet = 1.97 kpph  
Sulfur at Stack = 0.08 kpph  
Sulfur in Product Ash = 1.88 kpph

Product Ash Flow Rate (estimated from S balance) = 21.56 kpph

**Product Ash Analysis**

Sample Description	aci-6
Sample Date	3/30/07
Moisture (%)	0.51
Ash (% dry)	83.69
Carbon (% dry)	8.12
Total Sulfur (% dry)	0.00
Chlorine (% dry)	0.28
Hg (ppm, dry)	0.35
Major Ash Elements (%)	
SiO <sub>2</sub>	12.12
Al <sub>2</sub> O <sub>3</sub>	6.06
TiO <sub>2</sub>	0.26
Fe <sub>2</sub> O <sub>3</sub>	4.57
CaO	38.77
MgO	0.66
Na <sub>2</sub> O	0.33
K <sub>2</sub> O	0.47
P <sub>2</sub> O <sub>5</sub>	0.12
SO <sub>3</sub>	21.84
	85.20

Stack Hg mass flowrate = 0.05 mg/sec  
Stack Hg mass flowrate = 4.31E-04 lbHr  
Stack Hg Emission = 0.41 lbT Btu

Hg input from Coal =	6.64E-03	lb/Hr
Hg input from Hydrated Lime =	4.54E-05	lb/Hr
Total Hg Input =	6.68E-03	lb/Hr
Hg output via Product ash =	7.59E-03	lb/Hr
Hg output via Stack Flue Gas =	4.31E-04	lb/Hr
Total Hg Output =	8.02E-03	lb/Hr
Hg closure (output / input) =	120.0%	

Mass Balance Closure - SiO<sub>2</sub> = 104.7%  
Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> = 109.0%

**Mercury Material Balances - October 2007**  
Greenidge Unit #4 Test 1 10/2/07 1505-1725

Gross Generation (MW) = 108.73 MW  
 Net Generation (MW) = 100.41 MW  
 Coal Feed Rate, reported by plant (kpph) = 82.15 kpph  
 Coal Feed Rate (kpph, dry basis) = 76.80 kpph

Ash in coal = 7.08 kpph  
 Bottom Ash Fraction (assumed) = 0.095  
 Fly Ash Fraction (assumed) = 0.905

**Coal Analysis**

Sample ID	Coal
Test No.	1
Sample Date	10/02/07
Analytical Number	20076583
Total Moisture (%)	5.51
As determined Moisture (%)	1.63
VM (% dry)	40.30
Ash (% dry)	9.22
Carbon (% dry)	75.01
Hydrogen (% dry)	5.25
Nitrogen (% dry)	1.37
Total Sulfur (% dry)	3.23
HHV (Btu/lb, dry)	13,750
Chlorine (% dry)	0.07
Hg (ppm, dry)	0.105
Major Ash Elements (% dry)	
SiO <sub>2</sub>	42.65
Al <sub>2</sub> O <sub>3</sub>	20.93
TiO <sub>2</sub>	0.86
Fe <sub>2</sub> O <sub>3</sub>	21.61
CaO	6.22
MgO	1.07
Na <sub>2</sub> O	0.82
K <sub>2</sub> O	1.47
P <sub>2</sub> O <sub>5</sub>	0.27
SO <sub>3</sub>	4.93
	100.83

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet = 6.92E-03 lb/h  
 % Deviation from Coal Hg = -14.19%

CaO in Product Ash = 8.71 kpph  
 CaO from Fly Ash = 0.40 kpph  
 CaO from Hydrated Lime = 8.31 kpph  
 Estimated Hydrated Lime Feed Rate = 11.16 kpph

**Hydrated Lime Analysis**

Sample Description	1
Sample Date	10/2/2007
Moisture (%)	0.01
Ash (% dry)	76.20
Carbon (% dry)	0.29
Total Sulfur (% dry)	
Chlorine (% dry)	
Hg (ppm, dry)	0.005
Major Ash Elements (%)	
SiO <sub>2</sub>	0.98
Al <sub>2</sub> O <sub>3</sub>	0.32
TiO <sub>2</sub>	0.02
Fe <sub>2</sub> O <sub>3</sub>	0.14
CaO	74.51
MgO	0.74
Na <sub>2</sub> O	0.02
K <sub>2</sub> O	0.07
P <sub>2</sub> O <sub>5</sub>	0.02
SO <sub>3</sub>	0.16
	76.96

SO<sub>2</sub> at Stack (plant CEM) = 55.6 ppmvd  
 Wet Flue Gas Flowrate at Stack (plant) = 292897 scfm  
 Flue Gas Moisture at Stack (CONSOL) = 13.1 %  
 Flue Gas Flowrate at Stack (CONSOL) = 272288 dscfm  
 Flue Gas Flowrate at Stack (plant) = 254527 dscfm  
 RPD - CONSOL vs plant flowrate = 6.7%

Sulfur at Turbosorp Inlet = 2.47 kpph  
 Sulfur at Stack = 0.07 kpph  
 Sulfur in Product Ash = 2.40 kpph

Product Ash Flow Rate (estimated from S balance) = 24.13 kpph

**Product Ash Analysis**

Sample Description	1
Sample Date	10/2/2007
Moisture (%)	0.83
Ash (% dry)	84.58
Carbon (% dry)	6.57
Total Sulfur (% dry)	0.00
Chlorine (% dry)	0.25
Hg (ppm, dry)	0.31
Major Ash Elements (%)	
SiO <sub>2</sub>	12.17
Al <sub>2</sub> O <sub>3</sub>	5.85
TiO <sub>2</sub>	0.25
Fe <sub>2</sub> O <sub>3</sub>	4.42
CaO	36.11
MgO	0.61
Na <sub>2</sub> O	0.24
K <sub>2</sub> O	0.40
P <sub>2</sub> O <sub>5</sub>	0.01
SO <sub>3</sub>	24.82
	84.89

Stack Hg mass flowrate = 0.0235 mg/sec  
 Stack Hg mass flowrate = 1.87E-04 lb/hr  
 Stack Hg Emission = 0.18 lb/T Btu

Hg input from Coal =	8.064E-03	lb/Hr
Hg input from Hydrated Lime =	5.980E-05	lb/Hr
Total Hg Input =	8.120E-03	lb/Hr
Hg output via Product ash =	7.456E-03	lb/Hr
Hg output via Stack Flue Gas =	1.865E-04	lb/Hr
Total Hg Output =	7.643E-03	lb/Hr
Hg closure (output / input) =	94.1%	

Mass Balance Closure - SiO<sub>2</sub> = 103.4%  
 Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> = 102.5%

**Greenidge Unit #4 Test 2 10/3/07 1230-1439**

Gross Generation (MW) = 107.25 MW  
 Net Generation (MW) = 99.03 MW  
 Coal Feed Rate, reported by plant (kpph) = 80.43 kpph  
 Coal Feed Rate (kpph, dry basis) = 75.83 kpph

Ash in coal = 6.80 kpph  
 Bottom Ash Fraction (assumed) = 0.095  
 Fly Ash Fraction (assumed) = 0.905

**Coal Analysis**

Sample ID	Coal
Test No.	2
Sample Date	10/03/07
Analytical Number	20076584
Total Moisture (%)	5.71
As determined Moisture (%)	1.69
VM (% dry)	40.34
Ash (% dry)	8.97
Carbon (% dry)	75.30
Hydrogen (% dry)	5.35
Nitrogen (% dry)	1.37
Total Sulfur (% dry)	3.35
HHV (Btu/lb, dry)	13,748
Chlorine (% dry)	0.09
Hg (ppm, dry)	0.102
Major Ash Elements (% dry)	
SiO <sub>2</sub>	41.50
Al <sub>2</sub> O <sub>3</sub>	20.44
TiO <sub>2</sub>	0.86
Fe <sub>2</sub> O <sub>3</sub>	23.61
CaO	5.19
MgO	1.07
Na <sub>2</sub> O	0.83
K <sub>2</sub> O	1.36
P <sub>2</sub> O <sub>5</sub>	0.26
SO <sub>3</sub>	3.84
	98.73

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet = 7.04E-03 lb/h  
 % Deviation from Coal Hg = -8.98%

CaO in Product Ash = 9.47 kpph  
 CaO from Fly Ash = 0.32 kpph  
 CaO from Hydrated Lime = 9.15 kpph  
 Estimated Hydrated Lime Feed Rate = 12.24 kpph

**Hydrated Lime Analysis**

Sample Description	2
Sample Date	10/3/2007
Moisture (%)	0.15
Ash (% dry)	76.16
Carbon (% dry)	0.27
Total Sulfur (% dry)	
Chlorine (% dry)	
Hg (ppm, dry)	0.005
Major Ash Elements (%)	
SiO <sub>2</sub>	1.39
Al <sub>2</sub> O <sub>3</sub>	0.34
TiO <sub>2</sub>	0.02
Fe <sub>2</sub> O <sub>3</sub>	0.16
CaO	74.72
MgO	0.74
Na <sub>2</sub> O	0.03
K <sub>2</sub> O	0.09
P <sub>2</sub> O <sub>5</sub>	0.02
SO <sub>3</sub>	0.54
	78.05

SO<sub>2</sub> at Stack (plant CEM) = 57.4 ppmvd  
 Wet Flue Gas Flowrate at Stack (plant) = 285420 scfm  
 Flue Gas Moisture at Stack (CONSOL) = 14.4 %  
 Flue Gas Flowrate at Stack (CONSOL) = 257416 dscfm  
 Flue Gas Flowrate at Stack (plant) = 244320 dscfm  
 RPD - CONSOL vs plant flowrate = 5.2%

Sulfur at Turbosorp Inlet = 2.53 kpph  
 Sulfur at Stack = 0.07 kpph  
 Sulfur in Product Ash = 2.46 kpph

Product Ash Flow Rate (estimated from S balance) = 25.88 kpph

**Product Ash Analysis**

Sample Description	2
Sample Date	10/3/2007
Moisture (%)	0.89
Ash (% dry)	84.53
Carbon (% dry)	6.50
Total Sulfur (% dry)	0.00
Chlorine (% dry)	0.27
Hg (ppm, dry)	0.32
Major Ash Elements (%)	
SiO <sub>2</sub>	11.31
Al <sub>2</sub> O <sub>3</sub>	5.49
TiO <sub>2</sub>	0.24
Fe <sub>2</sub> O <sub>3</sub>	4.08
CaO	36.58
MgO	0.60
Na <sub>2</sub> O	0.24
K <sub>2</sub> O	0.41
P <sub>2</sub> O <sub>5</sub>	0.07
SO <sub>3</sub>	23.72
	82.75

Stack Hg mass flowrate = 0.0159 mg/sec  
 Stack Hg mass flowrate = 1.29E-04 lb/hr  
 Stack Hg Emission = 0.12 lb/T Btu

Hg input from Coal =	7.795E-03	lb/Hr
Hg input from Hydrated Lime =	6.121E-05	lb/Hr
Total Hg Input =	7.795E-03	lb/Hr
Hg output via Product ash =	8.257E-03	lb/Hr
Hg output via Stack Flue Gas =	1.262E-04	lb/Hr
Total Hg Output =	8.383E-03	lb/Hr
Hg closure (output / input) =	107.3%	

Mass Balance Closure - SiO<sub>2</sub> = 107.4%  
 Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> = 109.4%

**Greenidge Unit #4 Test 3 10/3/07 1555-1807**

Gross Generation (MW) = 106.55 MW  
 Net Generation (MW) = 98.41 MW  
 Coal Feed Rate, reported by plant (kpph) = 81.70 kpph  
 Coal Feed Rate (kpph, dry basis) = 77.16 kpph

Ash in coal = 6.82 kpph  
 Bottom Ash Fraction (assumed) = 0.095  
 Fly Ash Fraction (assumed) = 0.905

**Coal Analysis**

Sample ID	Coal
Test No.	3
Sample Date	10/03/07
Analytical Number	20076585
Total Moisture (%)	5.55
As determined Moisture (%)	1.65
VM (% dry)	40.28
Ash (% dry)	8.84
Carbon (% dry)	75.39
Hydrogen (% dry)	5.34
Nitrogen (% dry)	1.41
Total Sulfur (% dry)	3.26
HHV (Btu/lb, dry)	13,731
Chlorine (% dry)	0.07
Hg (ppm, dry)	0.102
Major Ash Elements (% dry)	
SiO <sub>2</sub>	40.36
Al <sub>2</sub> O <sub>3</sub>	20.40
TiO <sub>2</sub>	0.87
Fe <sub>2</sub> O <sub>3</sub>	22.88
CaO	6.11
MgO	0.88
Na <sub>2</sub> O	0.79
K <sub>2</sub> O	1.33
P <sub>2</sub> O <sub>5</sub>	0.27
SO <sub>3</sub>	4.99
	98.88

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet = 6.79E-03 lb/h  
 % Deviation from Coal Hg = -13.73%

CaO in Product Ash = 8.96 kpph  
 CaO from Fly Ash = 0.38 kpph  
 CaO from Hydrated Lime = 8.58 kpph  
 Estimated Hydrated Lime Feed Rate = 11.34 kpph

**Hydrated Lime Analysis**

Sample Description	3
Sample Date	10/3/2007
Moisture (%)	0.13
Ash (% dry)	76.00
Carbon (% dry)	0.29
Total Sulfur (% dry)	
Chlorine (% dry)	
Hg (ppm, dry)	0.005
Major Ash Elements (%)	
SiO <sub>2</sub>	0.99
Al <sub>2</sub> O <sub>3</sub>	0.29
TiO <sub>2</sub>	0.01
Fe <sub>2</sub> O <sub>3</sub>	0.13
CaO	75.67
MgO	0.74
Na <sub>2</sub> O	0.01
K <sub>2</sub> O	0.05
P <sub>2</sub> O <sub>5</sub>	0.02
SO <sub>3</sub>	0.12
	78.03

SO<sub>2</sub> at Stack (plant CEM) = 65.0 ppmvd  
 Wet Flue Gas Flowrate at Stack (plant) = 287200 scfm  
 Flue Gas Moisture at Stack (CONSOL) = 14.4 %  
 Flue Gas Flowrate at Stack (CONSOL) = 261174 dscfm  
 Flue Gas Flowrate at Stack (plant) = 245843 dscfm  
 RPD - CONSOL vs plant flowrate = 6.0%

Sulfur at Turbosorp Inlet = 2.50 kpph  
 Sulfur at Stack = 0.08 kpph  
 Sulfur in Product Ash = 2.42 kpph

Product Ash Flow Rate (estimated from S balance) = 25.02 kpph

**Product Ash Analysis**

Sample Description	3
Sample Date	10/03/07
Moisture (%)	0.81
Ash (% dry)	84.15
Carbon (% dry)	6.72
Total Sulfur (% dry)	0.00
Chlorine (% dry)	0.24
Hg (ppm, dry)	0.33
Major Ash Elements (%)	
SiO <sub>2</sub>	11.95
Al <sub>2</sub> O <sub>3</sub>	5.88
TiO <sub>2</sub>	0.25
Fe <sub>2</sub> O <sub>3</sub>	4.56
CaO	35.80
MgO	0.60
Na <sub>2</sub> O	0.26
K <sub>2</sub> O	0.41
P <sub>2</sub> O <sub>5</sub>	0.21
SO <sub>3</sub>	24.19
	84.10

Stack Hg mass flowrate = 0.0122 mg/sec  
 Stack Hg mass flowrate = 9.68E-05 lb/hr  
 Stack Hg Emission = 0.09 lb/T Btu

Hg input from Coal =	7.870E-03	lb/Hr
Hg input from Hydrated Lime =	5.670E-05	lb/Hr
Total Hg Input =	7.927E-03	lb/Hr
Hg output via Product ash =	8.233E-03	lb/Hr
Hg output via Stack Flue Gas =	9.683E-05	lb/Hr
Total Hg Output =	8.330E-03	lb/Hr
Hg closure (output / input) =	105.1%	

Mass Balance Closure - SiO<sub>2</sub> = 114.8%  
 Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> = 113.9%



**Mercury Material Balances - October 2007 (continued)**

Greenidge Unit #4 Test 4  
10/5/07 1110-1320

Gross Generation (MW) = 107.72 MW  
Net Generation (MW) = 99.44 MW  
Coal Feed Rate, reported by plant (kpph) = 81.67 kpph  
Coal Feed Rate (kpph, dry basis) = 75.80 kpph

Ash in coal = 6.63 kpph  
Bottom Ash Fraction (assumed) = 0.095 0.63 kpph  
Fly Ash Fraction (assumed) = 0.905 6.00 kpph

**Coal Analysis**

Sample ID	Coal	
Test No.	4	
Sample Date	10/05/07	
Analytical Number	20076588	
Total Moisture (%)	7.18	
As determined Moisture (%)	1.60	
VM (% dry)	40.25	
Ash (% dry)	8.74	6.63 kpph
Carbon (% dry)	75.55	57.27 kpph
Hydrogen (% dry)	5.33	4.04 kpph
Nitrogen (% dry)	1.42	
Total Sulfur (% dry)	3.11	2.36 kpph
HHV (Btu/lb, dry)	13784	1,045 mm Btu/lhr
Chlorine (% dry)	0.91	
Hg (ppm, dry)	0.101	7.66E-03 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	42.23	2.80 kpph
Al <sub>2</sub> O <sub>3</sub>	21.30	1.41 kpph
TiO <sub>2</sub>	0.88	0.06 kpph
Fe <sub>2</sub> O <sub>3</sub>	21.03	1.39 kpph
CaO	5.62	0.37 kpph
MgO	0.91	
Na <sub>2</sub> O	1.02	
K <sub>2</sub> O	1.42	
P <sub>2</sub> O <sub>5</sub>	0.28	
SO <sub>2</sub>	4.85	
	99.54	

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet = 7.33 lb/Tbu  
% Deviation from Coal Hg = 8.04E-03 lb/h 5.02%

CaO in Product Ash = 7.95 kpph  
CaO from Fly Ash = 0.34 kpph  
CaO from Hydrated Lime = 7.61 kpph  
Estimated Hydrated Lime Feed Rate = 10.62 kpph

**Hydrated Lime Analysis**

Sample Description	4	
Sample Date	10/5/2007	
Moisture (%)	0.26	
Ash (% dry)	76.03	0.03 kpph
Carbon (% dry)	0.27	
Total Sulfur (% dry)		
Chlorine (% dry)		
Hg (ppm, dry)	0.005	5.31E-05 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	1.57	
Al <sub>2</sub> O <sub>3</sub>	0.28	
TiO <sub>2</sub>	0.01	
Fe <sub>2</sub> O <sub>3</sub>	0.11	
CaO	71.72	
MgO	0.66	
Na <sub>2</sub> O	0.01	
K <sub>2</sub> O	0.05	
P <sub>2</sub> O <sub>5</sub>	0.06	
SO <sub>2</sub>	0.04	
	74.51209701	

**SO<sub>2</sub> at Stack (plant CEM)**

Wet Flue Gas Flowrate at Stack (plant) = 286760 scfm  
Flue Gas Moisture at Stack (CONSOL) = 14.7 %  
Flue Gas Flowrate at Stack (CONSOL) = 263765 dscfm  
Flue Gas Flowrate at Stack (plant) = 244606 dscfm  
RPD - CONSOL vs plant flowrate = 7.9%

Sulfur at Turbosorp Inlet = 2.35 kpph  
Sulfur at Stack = 0.08 kpph  
Sulfur in Product Ash = 2.26 kpph

Product Ash Flow Rate (estimated from S balance) = 22.04 kpph

**Product Ash Analysis**

Sample Description	4	
Sample Date	10/05/07	
Moisture (%)	0.95	
Ash (% dry)	84.02	1.59 kpph
Carbon (% dry)	7.22	
Total Sulfur (% dry)	0.00	
Chlorine (% dry)	0.27	
Hg (ppm, dry)	0.36	7.85E-03 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	11.57	
Al <sub>2</sub> O <sub>3</sub>	5.66	
TiO <sub>2</sub>	0.25	
Fe <sub>2</sub> O <sub>3</sub>	4.25	
CaO	35.07	
MgO	0.58	
Na <sub>2</sub> O	0.25	
K <sub>2</sub> O	0.43	
P <sub>2</sub> O <sub>5</sub>	0.23	
SO <sub>2</sub>	25.67	
	84.97	

**Stack Hg mass flowrate =**

0.0725 mg/sec  
5.75E-04 lb/hr  
Stack Hg Emission = 0.55 lb/T Btu

Hg input from Coal =	7.656E-03	lb/hr
Hg input from Hydrated Lime =	5.308E-05	lb/hr
Total Hg Input =	7.709E-03	lb/hr
Hg output via Product ash =	7.847E-03	lb/hr
Hg output via Stack Flue Gas =	5.754E-04	lb/hr
Total Hg Output =	8.422E-03	lb/hr
Hg closure (output / input) =	109.2%	

Mass Balance Closure - SiO<sub>2</sub> = 94.5%

Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> = 95.5%

Greenidge Unit #4 Test 5  
10/5/07 1400-1642

Gross Generation (MW) = 108.31 MW  
Net Generation (MW) = 100.22 MW  
Coal Feed Rate, reported by plant (kpph) = 80.70 kpph  
Coal Feed Rate (kpph, dry basis) = 75.22 kpph

Ash in coal = 6.44 kpph  
Bottom Ash Fraction (assumed) = 0.095 0.61 kpph  
Fly Ash Fraction (assumed) = 0.905 5.83 kpph

**Coal Analysis**

Sample ID	Coal	
Test No.	5	
Sample Date	10/05/07	
Analytical Number	20076589	
Total Moisture (%)	8.79	
As determined Moisture (%)	1.51	
VM (% dry)	40.43	
Ash (% dry)	8.56	6.44 kpph
Carbon (% dry)	75.79	57.01 kpph
Hydrogen (% dry)	5.29	3.98 kpph
Nitrogen (% dry)	1.41	
Total Sulfur (% dry)	3.06	2.30 kpph
HHV (Btu/lb, dry)	13833	1,040 mm Btu/lhr
Chlorine (% dry)	0.10	
Hg (ppm, dry)	0.085	7.15E-03 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	42.24	2.72 kpph
Al <sub>2</sub> O <sub>3</sub>	21.37	1.38 kpph
TiO <sub>2</sub>	0.91	0.06 kpph
Fe <sub>2</sub> O <sub>3</sub>	20.89	1.34 kpph
CaO	5.36	0.35 kpph
MgO	0.88	
Na <sub>2</sub> O	0.88	
K <sub>2</sub> O	1.42	
P <sub>2</sub> O <sub>5</sub>	0.29	
SO <sub>2</sub>	4.35	
	98.59	

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet = 6.87 lb/Tbu  
% Deviation from Coal Hg = 7.29E-03 lb/h 2.02%

CaO in Product Ash = 8.19 kpph  
CaO from Fly Ash = 0.31 kpph  
CaO from Hydrated Lime = 7.88 kpph  
Estimated Hydrated Lime Feed Rate = 10.99 kpph

**Hydrated Lime Analysis**

Sample Description	5	
Sample Date	10/5/2007	
Moisture (%)	0.28	
Ash (% dry)	75.99	0.03 kpph
Carbon (% dry)	0.28	
Total Sulfur (% dry)		
Chlorine (% dry)		
Hg (ppm, dry)	0.005	5.50E-05 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	1.05	
Al <sub>2</sub> O <sub>3</sub>	0.29	
TiO <sub>2</sub>	0.02	
Fe <sub>2</sub> O <sub>3</sub>	0.10	
CaO	71.64	
MgO	0.64	
Na <sub>2</sub> O	0.01	
K <sub>2</sub> O	0.07	
P <sub>2</sub> O <sub>5</sub>	0.03	
SO <sub>2</sub>	0.11	
	73.96	

**SO<sub>2</sub> at Stack (plant CEM)**

Wet Flue Gas Flowrate at Stack (plant) = 289380 scfm  
Flue Gas Moisture at Stack (CONSOL) = 14.9 %  
Flue Gas Flowrate at Stack (CONSOL) = 266237 dscfm  
Flue Gas Flowrate at Stack (plant) = 246202 dscfm  
RPD - CONSOL vs plant flowrate = 7.8%

Sulfur at Turbosorp Inlet = 2.29 kpph  
Sulfur at Stack = 0.08 kpph  
Sulfur in Product Ash = 2.21 kpph

Product Ash Flow Rate (estimated from S balance) = 22.84 kpph

**Product Ash Analysis**

Sample Description	5	
Sample Date	10/05/07	
Moisture (%)	0.90	
Ash (% dry)	84.28	1.60 kpph
Carbon (% dry)	6.99	
Total Sulfur (% dry)	0.00	
Chlorine (% dry)	0.27	
Hg (ppm, dry)	0.37	8.47E-03 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	11.48	
Al <sub>2</sub> O <sub>3</sub>	5.57	
TiO <sub>2</sub>	0.25	
Fe <sub>2</sub> O <sub>3</sub>	4.10	
CaO	35.85	
MgO	0.57	
Na <sub>2</sub> O	0.25	
K <sub>2</sub> O	0.44	
P <sub>2</sub> O <sub>5</sub>	0.47	
SO <sub>2</sub>	24.14	
	83.12	

**Stack Hg mass flowrate =**

0.0314 mg/sec  
2.49E-04 lb/hr  
Stack Hg Emission = 0.24 lb/T Btu

Hg input from Coal =	7.146E-03	lb/hr
Hg input from Hydrated Lime =	5.497E-05	lb/hr
Total Hg Input =	7.200E-03	lb/hr
Hg output via Product ash =	8.474E-03	lb/hr
Hg output via Stack Flue Gas =	2.492E-04	lb/hr
Total Hg Output =	8.723E-03	lb/hr
Hg closure (output / input) =	121.1%	

Mass Balance Closure - SiO<sub>2</sub> = 101.8%

Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> = 99.5%

Greenidge Unit #4 Test 6  
10/8/07 1112-1307

Gross Generation (MW) = 107.98 MW  
Net Generation (MW) = 99.66 MW  
Coal Feed Rate, reported by plant (kpph) = 81.01 kpph  
Coal Feed Rate (kpph, dry basis) = 75.56 kpph

Ash in coal = 6.41 kpph  
Bottom Ash Fraction (assumed) = 0.095 0.61 kpph  
Fly Ash Fraction (assumed) = 0.905 5.80 kpph

**Coal Analysis**

Sample ID	Coal	
Test No.	6	
Sample Date	10/08/07	
Analytical Number	20076590	
Total Moisture (%)	6.73	
As determined Moisture (%)	1.66	
VM (% dry)	39.68	
Ash (% dry)	8.48	6.41 kpph
Carbon (% dry)	75.97	57.40 kpph
Hydrogen (% dry)	5.31	4.01 kpph
Nitrogen (% dry)	1.45	
Total Sulfur (% dry)	2.84	2.15 kpph
HHV (Btu/lb, dry)	13781	1,041 mm Btu/lhr
Chlorine (% dry)	0.09	
Hg (ppm, dry)	0.103	7.78E-03 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	43.17	2.77 kpph
Al <sub>2</sub> O <sub>3</sub>	21.89	1.40 kpph
TiO <sub>2</sub>	0.99	0.06 kpph
Fe <sub>2</sub> O <sub>3</sub>	19.41	1.24 kpph
CaO	5.13	0.33 kpph
MgO	0.86	
Na <sub>2</sub> O	0.66	
K <sub>2</sub> O	1.39	
P <sub>2</sub> O <sub>5</sub>	0.43	
SO <sub>2</sub>	4.06	
	97.99	

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet = 7.42E-03 lb/h  
% Deviation from Coal Hg = -4.66%

CaO in Product Ash = 7.60 kpph  
CaO from Fly Ash = 0.30 kpph  
CaO from Hydrated Lime = 7.31 kpph  
Estimated Hydrated Lime Feed Rate = 9.97 kpph

**Hydrated Lime Analysis**

Sample Description	6	
Sample Date	10/8/2007	
Moisture (%)	0.29	
Ash (% dry)	76.23	0.02 kpph
Carbon (% dry)	0.25	
Total Sulfur (% dry)		
Chlorine (% dry)		
Hg (ppm, dry)	0.005	4.99E-05 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	1.05	
Al <sub>2</sub> O <sub>3</sub>	0.35	
TiO <sub>2</sub>	0.02	
Fe <sub>2</sub> O <sub>3</sub>	0.13	
CaO	73.28	
MgO	0.67	
Na <sub>2</sub> O	0.01	
K <sub>2</sub> O	0.10	
P <sub>2</sub> O <sub>5</sub>	0.03	
SO <sub>2</sub>	0.11	
	75.75	

**SO<sub>2</sub> at Stack (plant CEM)**

Wet Flue Gas Flowrate at Stack (plant) = 289780 scfm  
Flue Gas Moisture at Stack (CONSOL) = 15.1 %  
Flue Gas Flowrate at Stack (CONSOL) = 267510 dscfm  
Flue Gas Flowrate at Stack (plant) = 246023 dscfm  
RPD - CONSOL vs plant flowrate = 8.4%

Sulfur at Turbosorp Inlet = 2.14 kpph  
Sulfur at Stack = 0.02 kpph  
Sulfur in Product Ash = 2.12 kpph

Product Ash Flow Rate (estimated from S balance) = 21.62 kpph

**Product Ash Analysis**

Sample Description	6	
Sample Date	10/08/07	
Moisture (%)	0.99	
Ash (% dry)	84.91	1.34 kpph
Carbon (% dry)	6.18	
Total Sulfur (% dry)	0.00	
Chlorine (% dry)	0.26	
Hg (ppm, dry)	0.41	8.87E-03 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	12.76	
Al <sub>2</sub> O <sub>3</sub>	6.28	
TiO <sub>2</sub>	0.28	
Fe <sub>2</sub> O <sub>3</sub>	4.25	
CaO	35.17	
MgO	0.54	
Na <sub>2</sub> O	0.15	
K <sub>2</sub> O	0.43	
P <sub>2</sub> O <sub>5</sub>	0.15	
SO <sub>2</sub>	24.45	
	84.47	

**Stack Hg mass flowrate =**

0.0549 mg/sec  
4.35E-04 lb/hr  
Stack Hg Emission = 0.42 lb/T Btu

Hg input from Coal =	7.782E-03	lb/hr
Hg input from Hydrated Lime =	4.966E-05	lb/hr
Total Hg Input =	7.832E-03	lb/hr
Hg output via Product ash =	8.866E-03	lb/hr
Hg output via Stack Flue Gas =	4.349E-04	lb/hr
Total Hg Output =	9.301E-03	lb/hr
Hg closure (output / input) =	118.8%	

Mass Balance Closure - SiO<sub>2</sub> = 105.8%

Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> = 104.1%

**Mercury Material Balances - October 2007 (continued)**

Greenidge Unit #4 Test 7 10/9/07 1545-1640		106.07 MW 97.85 MW 78.76 kpph 74.13 kpph	
Gross Generation (MW) =		106.07 MW	
Net Generation (MW) =		97.85 MW	
Coal Feed Rate, reported by plant (kpph) =		78.76 kpph	
Coal Feed Rate (kpph, dry basis) =		74.13 kpph	
Ash in coal =	6.32 kpph		
Bottom Ash Fraction (assumed) =	0.095	0.60 kpph	
Fly Ash Fraction (assumed) =	0.905	5.72 kpph	

**Coal Analysis**

Sample ID	Coal		
7			
Sample Date	10/09/07		
Analytical Number	20076594		
Total Moisture (%)	5.88		
As determined Moisture (%)	1.75		
VM (% dry)	39.33		
Ash (% dry)	8.52	6.32 kpph	
Carbon (% dry)	76.34	56.59 kpph	
Hydrogen (% dry)	5.26	3.90 kpph	
Nitrogen (% dry)	1.49		
Total Sulfur (% dry)	2.78	2.06 kpph	
HHV (Btu/lb, dry)	13784	1,022 mm Btu/lhr	
Chlorine (% dry)	0.10		
Hg (ppm, dry)	0.005	7.28E-03 lb/hr	
Major Ash Elements (% dry)			
SiO <sub>2</sub>	44.77	2.83 kpph	
Al <sub>2</sub> O <sub>3</sub>	23.46	1.48 kpph	
TiO <sub>2</sub>	1.10	0.07 kpph	
Fe <sub>2</sub> O <sub>3</sub>	18.83	1.19 kpph	
CaO	4.75	0.30 kpph	
MgO	0.85		
Na <sub>2</sub> O	0.89		
K <sub>2</sub> O	1.58		
P <sub>2</sub> O <sub>5</sub>	0.46		
SO <sub>3</sub>	4.29		
	100.98		

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet	8.37E-03 lb/h	7.11 lb/Tbu
% Deviation from Coal Hg	15.22%	
CaO in Product Ash	6.86 kpph	
CaO from Fly Ash	0.27 kpph	
CaO from Hydrated Lime	6.59 kpph	
Estimated Hydrated Lime Feed Rate	9.16 kpph	

**Hydrated Lime Analysis**

Sample Description	7		
Sample Date	10/9/2007		
Moisture (%)	0.34		
Ash (% dry)	76.25	0.03 kpph	
Carbon (% dry)	0.35		
Total Sulfur (% dry)			
Chlorine (% dry)			
Hg (ppm, dry)	0.005	4.58E-05 lb/hr	
Major Ash Elements (%)			
SiO <sub>2</sub>	1.04		
Al <sub>2</sub> O <sub>3</sub>	0.38		
TiO <sub>2</sub>	0.02		
Fe <sub>2</sub> O <sub>3</sub>	0.13		
CaO	71.90		
MgO	0.67		
Na <sub>2</sub> O	0.01		
K <sub>2</sub> O	0.09		
P <sub>2</sub> O <sub>5</sub>	0.02		
SO <sub>3</sub>	0.12		
	74.38		

**SO<sub>2</sub> at Stack (plant CEM)**

SO <sub>2</sub> at Stack (plant CEM)	12.9 ppmvd
Wet Flue Gas Flowrate at Stack (plant)	284150 scfm
Flue Gas Moisture at Stack (CONSOL)	15.4 %
Flue Gas Flowrate at Stack (CONSOL)	275198 dscfm
Flue Gas Flowrate at Stack (plant)	240391 dscfm
RPD - CONSOL vs plant flowrate	13.9%
Sulfur at Turbosorp Inlet	2.05 kpph
Sulfur at Stack	0.02 kpph
Sulfur in Product Ash	2.03 kpph
Product Ash Flow Rate (estimated from S balance)	20.14 kpph

**Product Ash Analysis**

Sample Description	7		
Sample Date	10/09/07		
Moisture (%)	0.75		
Ash (% dry)	84.75	1.62 kpph	
Carbon (% dry)	8.04		
Total Sulfur (% dry)	0.00		
Chlorine (% dry)	0.34		
Hg (ppm, dry)	0.40	8.10E-03 lb/hr	
Major Ash Elements (% dry)			
SiO <sub>2</sub>	14.13		
Al <sub>2</sub> O <sub>3</sub>	6.89		
TiO <sub>2</sub>	0.31		
Fe <sub>2</sub> O <sub>3</sub>	4.62		
CaO	34.06		
MgO	0.63		
Na <sub>2</sub> O	0.26		
K <sub>2</sub> O	0.47		
P <sub>2</sub> O <sub>5</sub>	0.23		
SO <sub>3</sub>	25.25		
	86.85		

**Stack Hg mass flowrate =**

Stack Hg mass flowrate =	0.0361 mg/sec
Stack Hg mass flowrate =	2.87E-04 lb/hr
Stack Hg Emission =	0.28 lb/T Btu

Hg input from Coal =	7.264E-03	lb/hr
Hg input from Hydrated Lime =	4.580E-05	lb/hr
Total Hg Input =	7.310E-03	lb/hr
Hg output via Product ash =	8.095E-03	lb/hr
Hg output via Stack Flue Gas =	2.865E-04	lb/hr
Total Hg Output =	8.362E-03	lb/hr
Hg closure (output / input) =	114.7%	

Mass Balance Closure - SiO<sub>2</sub> 107.2%

Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 100.9%

**Greenidge Unit #4 Test 8  
10/10/07 1040-1245**

Greenidge Unit #4 Test 8 10/10/07 1040-1245		108.19 MW 99.71 MW 82.48 kpph 77.28 kpph	
Gross Generation (MW) =		108.19 MW	
Net Generation (MW) =		99.71 MW	
Coal Feed Rate, reported by plant (kpph) =		82.48 kpph	
Coal Feed Rate (kpph, dry basis) =		77.28 kpph	
Ash in coal =	6.75 kpph		
Bottom Ash Fraction (assumed) =	0.095	0.64 kpph	
Fly Ash Fraction (assumed) =	0.905	6.11 kpph	

**Coal Analysis**

Sample ID	Coal		
8			
Sample Date	10/10/07		
Analytical Number	20076596		
Total Moisture (%)	6.30		
As determined Moisture (%)	1.69		
VM (% dry)	39.29		
Ash (% dry)	8.74	6.75 kpph	
Carbon (% dry)	75.62	58.44 kpph	
Hydrogen (% dry)	5.25	4.06 kpph	
Nitrogen (% dry)	1.45		
Total Sulfur (% dry)	2.91	2.25 kpph	
HHV (Btu/lb, dry)	13727	1,061 mm Btu/lhr	
Chlorine (% dry)	0.09		
Hg (ppm, dry)	0.109	8.42E-03 lb/hr	
Major Ash Elements (% dry)			
SiO <sub>2</sub>	42.16	2.85 kpph	
Al <sub>2</sub> O <sub>3</sub>	22.44	1.52 kpph	
TiO <sub>2</sub>	0.99	0.07 kpph	
Fe <sub>2</sub> O <sub>3</sub>	19.50	1.32 kpph	
CaO	4.53	0.31 kpph	
MgO	0.81		
Na <sub>2</sub> O	0.72		
K <sub>2</sub> O	1.46		
P <sub>2</sub> O <sub>5</sub>	0.42		
SO <sub>3</sub>	4.03		
	97.06		

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet	8.09E-03 lb/h	7.94 lb/Tbu
% Deviation from Coal Hg	-3.96%	
CaO in Product Ash	7.12 kpph	
CaO from Fly Ash	0.28 kpph	
CaO from Hydrated Lime	6.84 kpph	
Estimated Hydrated Lime Feed Rate	9.42 kpph	

**Hydrated Lime Analysis**

Sample Description	8		
Sample Date	10/10/2007		
Moisture (%)	0.18		
Ash (% dry)	78.18	0.03 kpph	
Carbon (% dry)	0.30		
Total Sulfur (% dry)			
Chlorine (% dry)			
Hg (ppm, dry)	0.005	4.71E-05 lb/hr	
Major Ash Elements (%)			
SiO <sub>2</sub>	1.40		
Al <sub>2</sub> O <sub>3</sub>	0.33		
TiO <sub>2</sub>	0.02		
Fe <sub>2</sub> O <sub>3</sub>	0.14		
CaO	72.59		
MgO	0.68		
Na <sub>2</sub> O	0.01		
K <sub>2</sub> O	0.09		
P <sub>2</sub> O <sub>5</sub>	0.02		
SO <sub>3</sub>	0.14		
	75.42		

**SO<sub>2</sub> at Stack (plant CEM)**

SO <sub>2</sub> at Stack (plant CEM)	97.9 ppmvd
Wet Flue Gas Flowrate at Stack (plant)	290020 scfm
Flue Gas Moisture at Stack (CONSOL)	13.4 %
Flue Gas Flowrate at Stack (CONSOL)	269637 dscfm
Flue Gas Flowrate at Stack (plant)	251157 dscfm
RPD - CONSOL vs plant flowrate	7.1%
Sulfur at Turbosorp Inlet	2.24 kpph
Sulfur at Stack	0.13 kpph
Sulfur in Product Ash	2.11 kpph
Product Ash Flow Rate (estimated from S balance)	20.78 kpph

**Product Ash Analysis**

Sample Description	8		
Sample Date	10/10/07		
Moisture (%)	0.82		
Ash (% dry)	85.05	1.54 kpph	
Carbon (% dry)	7.41		
Total Sulfur (% dry)	0.00		
Chlorine (% dry)	0.30		
Hg (ppm, dry)	0.43	8.98E-03 lb/hr	
Major Ash Elements (% dry)			
SiO <sub>2</sub>	13.18		
Al <sub>2</sub> O <sub>3</sub>	6.61		
TiO <sub>2</sub>	0.30		
Fe <sub>2</sub> O <sub>3</sub>	4.53		
CaO	34.25		
MgO	0.57		
Na <sub>2</sub> O	0.24		
K <sub>2</sub> O	0.49		
P <sub>2</sub> O <sub>5</sub>	0.20		
SO <sub>3</sub>	25.40		
	85.76		

**Stack Hg mass flowrate =**

Stack Hg mass flowrate =	0.0084 mg/sec
Stack Hg mass flowrate =	6.67E-05 lb/hr
Stack Hg Emission =	0.06 lb/T Btu

Hg input from Coal =	8.424E-03	lb/hr
Hg input from Hydrated Lime =	4.711E-05	lb/hr
Total Hg Input =	8.471E-03	lb/hr
Hg output via Product ash =	8.975E-03	lb/hr
Hg output via Stack Flue Gas =	6.667E-05	lb/hr
Total Hg Output =	9.042E-03	lb/hr
Hg closure (output / input) =	106.7%	

Mass Balance Closure - SiO<sub>2</sub> 101.1%

Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 97.9%

**Greenidge Unit #4 Test 9  
10/11/07 1230-1435**

Greenidge Unit #4 Test 9 10/11/07 1230-1435		107.53 MW 99.28 MW 82.17 kpph 77.11 kpph	
Gross Generation (MW) =		107.53 MW	
Net Generation (MW) =		99.28 MW	
Coal Feed Rate, reported by plant (kpph) =		82.17 kpph	
Coal Feed Rate (kpph, dry basis) =		77.11 kpph	
Ash in coal =	7.39 kpph		
Bottom Ash Fraction (assumed) =	0.095	0.70 kpph	
Fly Ash Fraction (assumed) =	0.905	6.69 kpph	

**Coal Analysis**

Sample ID	Coal		
9			
Sample Date	10/11/07		
Analytical Number	20076599		
Total Moisture (%)	6.16		
As determined Moisture (%)	1.59		
VM (% dry)	38.64		
Ash (% dry)	9.59	7.39 kpph	
Carbon (% dry)	75.35	58.10 kpph	
Hydrogen (% dry)	5.28	4.07 kpph	
Nitrogen (% dry)	1.47		
Total Sulfur (% dry)	2.94	2.27 kpph	
HHV (Btu/lb, dry)	13676	1,055 mm Btu/lhr	
Chlorine (% dry)	0.08		
Hg (ppm, dry)	0.125	9.72E-03 lb/hr	
Major Ash Elements (% dry)			
SiO <sub>2</sub>	44.75	3.31 kpph	
Al <sub>2</sub> O <sub>3</sub>	21.79	1.61 kpph	
TiO <sub>2</sub>	1.16	0.09 kpph	
Fe <sub>2</sub> O <sub>3</sub>	20.16	1.49 kpph	
CaO	4.28	0.32 kpph	
MgO	0.84		
Na <sub>2</sub> O	0.81		
K <sub>2</sub> O	1.67		
P <sub>2</sub> O <sub>5</sub>	0.43		
SO <sub>3</sub>	3.82		
	99.71		

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet	7.98E-03 lb/h	9.21 lb/Tbu
% Deviation from Coal Hg	-17.87%	
CaO in Product Ash	8.39 kpph	
CaO from Fly Ash	0.29 kpph	
CaO from Hydrated Lime	8.11 kpph	
Estimated Hydrated Lime Feed Rate	11.21 kpph	

**Hydrated Lime Analysis**

Sample Description	9		
Sample Date	10/11/2007		
Moisture (%)	0.27		
Ash (% dry)	75.99	0.04 kpph	
Carbon (% dry)	0.33		
Total Sulfur (% dry)			
Chlorine (% dry)			

**Mercury Material Balances - November 2007**

Greenidge Unit #4 Test 1  
11/13/07 2325-0131

Gross Generation (MW) = 56.41 MW  
 Net Generation (MW) = 50.10 MW  
 Coal Feed Rate, reported by plant (kpph) = 45.55 kpph  
 Coal Feed Rate (kpph, dry basis) = 42.08 kpph

Ash in coal = 3.75 kpph  
 Bottom Ash Fraction (assumed) = 0.095  
 Fly Ash Fraction (assumed) = 0.905

**Coal Analysis**

Sample ID	Coal
Test No.	1
Sample Date	11/13/07
Analytical Number	20077314
Total Moisture (%)	7.61
As determined Moisture (%)	0.99
VM (% dry)	38.04
Ash (% dry)	8.90
Carbon (% dry)	75.30
Hydrogen (% dry)	5.62
Nitrogen (% dry)	1.58
Total Sulfur (% dry)	2.60
HHV (Btu/lb, dry)	13,757
Chlorine (% dry)	0.08
Hg (ppm, dry)	0.151
<b>Major Ash Elements (% dry)</b>	
SiO <sub>2</sub>	44.91
Al <sub>2</sub> O <sub>3</sub>	23.08
TiO <sub>2</sub>	0.98
Fe <sub>2</sub> O <sub>3</sub>	19.83
CaO	3.64
MgO	0.82
Na <sub>2</sub> O	0.75
K <sub>2</sub> O	1.60
P <sub>2</sub> O <sub>5</sub>	0.30
SO <sub>3</sub>	3.86
	99.77

**Mercury Input from Coal** 10.98 lb/Tbu

Hg Measured at Air Heater Outlet #N/A  
 % Deviation from Coal Hg #N/A

CaO in Product Ash 4.12 kpph  
 CaO from Fly Ash 0.12 kpph  
 CaO from Hydrated Lime 4.00 kpph  
 Estimated Hydrated Lime Feed Rate 5.48 kpph

**Hydrated Lime Analysis**

Sample Description	1
Sample Date	11/14/2007
Moisture (%)	0.01
Ash (% dry)	75.49
Carbon (% dry)	0.55
Total Sulfur (% dry)	
Chlorine (% dry)	
Hg (ppm, dry)	0.005
<b>Major Ash Elements (%)</b>	
SiO <sub>2</sub>	1.08
Al <sub>2</sub> O <sub>3</sub>	0.37
TiO <sub>2</sub>	0.01
Fe <sub>2</sub> O <sub>3</sub>	0.15
CaO	73.07
MgO	0.81
Na <sub>2</sub> O	0.15
K <sub>2</sub> O	0.11
P <sub>2</sub> O <sub>5</sub>	0.01
SO <sub>3</sub>	0.17
	75.91

SO<sub>2</sub> at Stack (plant CEM) 25.5 ppmvd  
 Wet Flue Gas Flowrate at Stack (plant) 198018 scfm  
 Flue Gas Moisture at Stack (CONSOL) 10.4 %  
 Flue Gas Flowrate at Stack (CONSOL) 189354 dscfm  
 Flue Gas Flowrate at Stack (plant) 177424 dscfm  
 RPD - CONSOL vs plant flowrate 6.2%

Sulfur at Turbosorp Inlet 1.09 kpph  
 Sulfur at Stack 0.02 kpph  
 Sulfur in Product Ash 1.07 kpph

Product Ash Flow Rate (estimated from S balance) 11.63 kpph

**Product Ash Analysis**

Sample Description	1
Sample Date	11/14/2007
Moisture (%)	1.09
Ash (% dry)	85.58
Carbon (% dry)	6.21
Total Sulfur (% dry)	0.89
Chlorine (% dry)	0.34
Hg (ppm, dry)	0.47
<b>Major Ash Elements (%)</b>	
SiO <sub>2</sub>	14.76
Al <sub>2</sub> O <sub>3</sub>	7.37
TiO <sub>2</sub>	0.33
Fe <sub>2</sub> O <sub>3</sub>	4.64
CaO	35.46
MgO	0.66
Na <sub>2</sub> O	0.50
K <sub>2</sub> O	0.57
P <sub>2</sub> O <sub>5</sub>	0.12
SO <sub>3</sub>	22.90
	87.31

Stack Hg mass flowrate = 0.0050 mg/sec  
 Stack Hg mass flowrate = 3.97E-05 lb/hr  
 Stack Hg Emission = 0.07 lb/T Btu

Hg input from Coal = 6.354E-03 lb/Hr  
 Hg input from Hydrated Lime = 2.738E-05 lb/Hr  
 Total Hg Input = 6.382E-03 lb/Hr

Hg output via Product ash = 5.455E-03 lb/Hr  
 Hg output via Stack Flue Gas = 3.968E-05 lb/Hr  
 Total Hg Output = 5.495E-03 lb/Hr  
 Hg closure (output / input) = 86.1%

Mass Balance Closure - SiO<sub>2</sub> 108.6%  
 Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 106.8%

Greenidge Unit #4 Test 2  
11/14/07 0347-0555

Gross Generation (MW) = 56.38 MW  
 Net Generation (MW) = 50.10 MW  
 Coal Feed Rate (kpph) = 44.83 kpph  
 Coal Feed Rate (kpph, dry basis) = 41.47 kpph

Ash in coal = 4.10 kpph  
 Bottom Ash Fraction (assumed) = 0.095  
 Fly Ash Fraction (assumed) = 0.905

**Coal Analysis**

Sample ID	Coal
Test No.	2
Sample Date	11/14/07
Analytical Number	20077315
Total Moisture (%)	7.50
As determined Moisture (%)	1.16
VM (% dry)	37.66
Ash (% dry)	9.89
Carbon (% dry)	75.47
Hydrogen (% dry)	5.83
Nitrogen (% dry)	1.85
Total Sulfur (% dry)	2.61
HHV (Btu/lb, dry)	13,667
Chlorine (% dry)	0.08
Hg (ppm, dry)	0.137
<b>Major Ash Elements (% dry)</b>	
SiO <sub>2</sub>	47.27
Al <sub>2</sub> O <sub>3</sub>	23.49
TiO <sub>2</sub>	1.07
Fe <sub>2</sub> O <sub>3</sub>	16.24
CaO	3.26
MgO	0.92
Na <sub>2</sub> O	0.85
K <sub>2</sub> O	1.72
P <sub>2</sub> O <sub>5</sub>	0.32
SO <sub>3</sub>	3.44
	98.38

**Mercury Input from Coal** 10.02 lb/Tbu

Hg Measured at Air Heater Outlet #N/A  
 % Deviation from Coal Hg #N/A

CaO in Product Ash 4.00 kpph  
 CaO from Fly Ash 0.12 kpph  
 CaO from Hydrated Lime 3.88 kpph  
 Estimated Hydrated Lime Feed Rate 5.44 kpph

**Hydrated Lime Analysis**

Sample Description	2
Sample Date	11/14/2007
Moisture (%)	0.16
Ash (% dry)	75.40
Carbon (% dry)	0.54
Total Sulfur (% dry)	
Chlorine (% dry)	
Hg (ppm, dry)	0.005
<b>Major Ash Elements (%)</b>	
SiO <sub>2</sub>	1.02
Al <sub>2</sub> O <sub>3</sub>	0.37
TiO <sub>2</sub>	0.01
Fe <sub>2</sub> O <sub>3</sub>	0.13
CaO	71.28
MgO	0.81
Na <sub>2</sub> O	0.16
K <sub>2</sub> O	0.07
P <sub>2</sub> O <sub>5</sub>	0.01
SO <sub>3</sub>	0.16
	74.02

SO<sub>2</sub> at Stack (plant CEM) 34.3 ppmvd  
 Wet Flue Gas Flowrate at Stack (plant) 196830 scfm  
 Flue Gas Moisture at Stack (CONSOL) 10.4 %  
 Flue Gas Flowrate at Stack (CONSOL) 187378 dscfm  
 Flue Gas Flowrate at Stack (plant) 176360 dscfm  
 RPD - CONSOL vs plant flowrate 6.1%

Sulfur at Turbosorp Inlet 1.04 kpph  
 Sulfur at Stack 0.03 kpph  
 Sulfur in Product Ash 1.00 kpph

Product Ash Flow Rate (estimated from S balance) 11.04 kpph

**Product Ash Analysis**

Sample Description	2
Sample Date	11/14/2007
Moisture (%)	1.04
Ash (% dry)	85.79
Carbon (% dry)	5.59
Total Sulfur (% dry)	8.25
Chlorine (% dry)	0.31
Hg (ppm, dry)	0.48
<b>Major Ash Elements (%)</b>	
SiO <sub>2</sub>	14.40
Al <sub>2</sub> O <sub>3</sub>	7.23
TiO <sub>2</sub>	0.33
Fe <sub>2</sub> O <sub>3</sub>	4.45
CaO	36.23
MgO	0.66
Na <sub>2</sub> O	0.50
K <sub>2</sub> O	0.56
P <sub>2</sub> O <sub>5</sub>	0.14
SO <sub>3</sub>	22.75
	87.23

Stack Hg mass flowrate = 0.0071 mg/sec  
 Stack Hg mass flowrate = 5.63E-05 lb/hr  
 Stack Hg Emission = 0.10 lb/T Btu

Hg input from Coal = 5.681E-03 lb/Hr  
 Hg input from Hydrated Lime = 2.721E-05 lb/Hr  
 Total Hg Input = 5.709E-03 lb/Hr

Hg output via Product ash = 5.256E-03 lb/Hr  
 Hg output via Stack Flue Gas = 5.639E-05 lb/Hr  
 Total Hg Output = 5.312E-03 lb/Hr  
 Hg closure (output / input) = 93.1%

Mass Balance Closure - SiO<sub>2</sub> 87.8%  
 Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 89.4%

Greenidge Unit #4 Test 3  
11/14/07 2300-0107

Gross Generation (MW) = 84.08 MW  
 Net Generation (MW) = 77.18 MW  
 Coal Feed Rate (kpph) = 64.53 kpph  
 Coal Feed Rate (kpph, dry basis) = 59.81 kpph

Ash in coal = 6.39 kpph  
 Bottom Ash Fraction (assumed) = 0.095  
 Fly Ash Fraction (assumed) = 0.905

**Coal Analysis**

Sample ID	Coal
Test No.	3
Sample Date	11/14/07
Analytical Number	20077316
Total Moisture (%)	7.31
As determined Moisture (%)	1.29
VM (% dry)	36.41
Ash (% dry)	10.68
Carbon (% dry)	73.93
Hydrogen (% dry)	5.45
Nitrogen (% dry)	1.47
Total Sulfur (% dry)	2.65
HHV (Btu/lb, dry)	13328
Chlorine (% dry)	0.11
Hg (ppm, dry)	0.171
<b>Major Ash Elements (% dry)</b>	
SiO <sub>2</sub>	47.36
Al <sub>2</sub> O <sub>3</sub>	23.56
TiO <sub>2</sub>	1.00
Fe <sub>2</sub> O <sub>3</sub>	17.05
CaO	3.56
MgO	0.87
Na <sub>2</sub> O	0.84
K <sub>2</sub> O	1.91
P <sub>2</sub> O <sub>5</sub>	0.37
SO <sub>3</sub>	3.95
	100.27

**Mercury Input from Coal** 12.83 lb/Tbu

Hg Measured at Air Heater Outlet #N/A  
 % Deviation from Coal Hg #N/A

CaO in Product Ash 5.49 kpph  
 CaO from Fly Ash 0.21 kpph  
 CaO from Hydrated Lime 5.29 kpph  
 Estimated Hydrated Lime Feed Rate 7.32 kpph

**Hydrated Lime Analysis**

Sample Description	3
Sample Date	11/14/2007
Moisture (%)	0.10
Ash (% dry)	75.54
Carbon (% dry)	0.44
Total Sulfur (% dry)	
Chlorine (% dry)	
Hg (ppm, dry)	0.005
<b>Major Ash Elements (%)</b>	
SiO <sub>2</sub>	1.57
Al <sub>2</sub> O <sub>3</sub>	0.39
TiO <sub>2</sub>	0.02
Fe <sub>2</sub> O <sub>3</sub>	0.15
CaO	72.23
MgO	0.77
Na <sub>2</sub> O	0.15
K <sub>2</sub> O	0.14
P <sub>2</sub> O <sub>5</sub>	0.01
SO <sub>3</sub>	0.52
	75.94

SO<sub>2</sub> at Stack (plant CEM) 31.9 ppmvd  
 Wet Flue Gas Flowrate at Stack (plant) 230628 scfm  
 Flue Gas Moisture at Stack (CONSOL) 12.4 %  
 Flue Gas Flowrate at Stack (CONSOL) 207688 dscfm  
 Flue Gas Flowrate at Stack (plant) 202030 dscfm  
 RPD - CONSOL vs plant flowrate 2.8%

Sulfur at Turbosorp Inlet 1.58 kpph  
 Sulfur at Stack 0.03 kpph  
 Sulfur in Product Ash 1.54 kpph

Product Ash Flow Rate (estimated from S balance) 16.29 kpph

**Product Ash Analysis**

Sample Description	3
Sample Date	11/15/07
Moisture (%)	0.97
Ash (% dry)	86.48
Carbon (% dry)	6.36
Total Sulfur (% dry)	8.67
Chlorine (% dry)	0.26
Hg (ppm, dry)	0.57
<b>Major Ash Elements (%)</b>	
SiO <sub>2</sub>	15.77
Al <sub>2</sub> O <sub>3</sub>	7.99
TiO <sub>2</sub>	0.37
Fe <sub>2</sub> O <sub>3</sub>	4.79
CaO	33.71
MgO	0.64
Na <sub>2</sub> O	0.50
K <sub>2</sub> O	0.66
P <sub>2</sub> O <sub>5</sub>	0.17
SO <sub>3</sub>	23.70
	88.29

Stack Hg mass flowrate = 0.0031 mg/sec  
 Stack Hg mass flowrate = 2.46E-05 lb/hr  
 Stack Hg Emission = 0.03 lb/T Btu

Hg input from Coal = 1.023E-02 lb/Hr  
 Hg input from Hydrated Lime = 3.659E-05 lb/Hr  
 Total Hg Input = 1.026E-02 lb/Hr

Hg output via Product ash = 9.222E-03 lb/Hr  
 Hg output via Stack Flue Gas = 2.460E-05 lb/Hr  
 Total Hg Output = 9.246E-03 lb/Hr  
 Hg closure (output / input) = 90.1%

Mass Balance Closure - SiO<sub>2</sub> 90.1%  
 Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 93.6%



**Mercury Material Balances - November 2007 (continued)**

Greenidge Unit #4 Test 4  
11/15/07 0345-0554

Gross Generation (MW) = 79.52 MW  
Net Generation (MW) = 72.80 MW  
Coal Feed Rate (kpph) = 60.28 kpph  
Coal Feed Rate (kpph, dry basis) = 55.93 kpph

Ash in coal = 5.93 kpph  
Bottom Ash Fraction (assumed) = 0.095 41.46 kpph  
Fly Ash Fraction (assumed) = 0.905 3.09 kpph

**Coal Analysis**

Sample ID	Coal	
Test No.	4	
Sample Date	11/15/07	
Analytical Number	20077317	
Total Moisture (%)	7.21	
As determined Moisture (%)	1.52	
VM (% dry)	36.31	
Ash (% dry)	10.61	5.93 kpph
Carbon (% dry)	74.12	41.46 kpph
Hydrogen (% dry)	5.52	3.09 kpph
Nitrogen (% dry)	1.51	
Total Sulfur (% dry)	2.49	1.39 kpph
HHV (Btu/lb, dry)	13457	753 mm Btu/lhr
Chlorine (% dry)	0.10	
Hg (ppm, dry)	0.158	1.03E-02 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	47.66	2.83 kpph
Al <sub>2</sub> O <sub>3</sub>	23.54	1.40 kpph
TiO <sub>2</sub>	1.02	0.06 kpph
Fe <sub>2</sub> O <sub>3</sub>	15.85	0.94 kpph
CaO	3.68	0.22 kpph
MgO	0.95	
Na <sub>2</sub> O	0.60	
K <sub>2</sub> O	1.98	
P <sub>2</sub> O <sub>5</sub>	0.36	
SO <sub>3</sub>	3.94	
	99.58	

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet #N/A lb/h  
% Deviation from Coal Hg #N/A

CaO in Product Ash 4.54 kpph  
CaO from Fly Ash 0.20 kpph  
CaO from Hydrated Lime 4.34 kpph  
Estimated Hydrated Lime Feed Rate 5.89 kpph

**Hydrated Lime Analysis**

Sample Description	4	
Sample Date	11/15/2007	
Moisture (%)	0.06	
Ash (% dry)	74.71	0.03 kpph
Carbon (% dry)	0.47	
Total Sulfur (% dry)		
Chlorine (% dry)		
Hg (ppm, dry)	0.005	2.95E-05 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	1.46	
Al <sub>2</sub> O <sub>3</sub>	0.40	
TiO <sub>2</sub>	0.02	
Fe <sub>2</sub> O <sub>3</sub>	0.16	
CaO	73.63	
MgO	0.78	
Na <sub>2</sub> O	0.16	
K <sub>2</sub> O	0.07	
P <sub>2</sub> O <sub>5</sub>	0.01	
SO <sub>3</sub>	0.57	
	77.25	

SO<sub>2</sub> at Stack (plant CEM) 57.2 ppmvd  
Wet Flue Gas Flowrate at Stack (plant) 227325 scfm  
Flue Gas Moisture at Stack (CONSOL) 13.1 %  
Flue Gas Flowrate at Stack (CONSOL) 212979 dscfm  
Flue Gas Flowrate at Stack (plant) 197545 dscfm  
RPD - CONSOL vs plant flowrate 7.5%

Sulfur at Turbosorp Inlet 1.39 kpph  
Sulfur at Stack 0.06 kpph  
Sulfur in Product Ash 1.33 kpph

Product Ash Flow Rate (estimated from S balance) 13.56 kpph

**Product Ash Analysis**

Sample Description	4	
Sample Date	11/15/07	
Moisture (%)	0.93	
Ash (% dry)	86.71	0.86 kpph
Carbon (% dry)	6.31	
Total Sulfur (% dry)	8.77	
Chlorine (% dry)	0.34	
Hg (ppm, dry)	0.61	8.25E-03 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	15.99	
Al <sub>2</sub> O <sub>3</sub>	7.99	
TiO <sub>2</sub>	0.37	
Fe <sub>2</sub> O <sub>3</sub>	4.73	
CaO	33.48	
MgO	0.66	
Na <sub>2</sub> O	0.50	
K <sub>2</sub> O	0.64	
P <sub>2</sub> O <sub>5</sub>	0.17	
SO <sub>3</sub>	24.47	
	88.98	

Stack Hg mass flowrate = 0.0037 mg/sec  
Stack Hg mass flowrate = 2.94E-05 lb/hr  
Stack Hg Emission = 0.04 lb/T Btu

Hg input from Coal =	1.029E-02	lb/Hr
Hg input from Hydrated Lime =	2.947E-05	lb/Hr
Total Hg Input =	1.032E-02	lb/Hr
Hg output via Product ash =	8.246E-03	lb/Hr
Hg output via Stack Flue Gas =	2.937E-05	lb/Hr
Total Hg Output =	8.275E-03	lb/Hr
Hg closure (output / input) =	80.2%	

Mass Balance Closure - SiO<sub>2</sub> 82.0%  
Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 84.2%

Greenidge Unit #4 Test 5  
11/16/07 1635-1855

Gross Generation (MW) = 102.37 MW  
Net Generation (MW) = 94.73 MW  
Coal Feed Rate (kpph) = 84.08 kpph  
Coal Feed Rate (kpph, dry basis) = 77.32 kpph

Ash in coal = 9.70 kpph  
Bottom Ash Fraction (assumed) = 0.095 54.00 kpph  
Fly Ash Fraction (assumed) = 0.905 4.20 kpph

**Coal Analysis**

Sample ID	Coal / Wood	
Test No.	5	
Sample Date	11/16/07	
Analytical Number	20077319/7321	
Total Moisture (%)	8.04	
As determined Moisture (%)		
VM (% dry)	38.61	
Ash (% dry)	12.55	9.70 kpph
Carbon (% dry)	69.84	54.00 kpph
Hydrogen (% dry)	5.43	4.20 kpph
Nitrogen (% dry)	1.71	
Total Sulfur (% dry)	2.63	2.03 kpph
HHV (Btu/lb, dry)	12689	980 mm Btu/lhr
Chlorine (% dry)	0.11	
Hg (ppm, dry)	0.246	1.90E-02 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	46.98	4.56 kpph
Al <sub>2</sub> O <sub>3</sub>	23.26	2.26 kpph
TiO <sub>2</sub>	1.29	0.13 kpph
Fe <sub>2</sub> O <sub>3</sub>	17.57	1.70 kpph
CaO	3.64	0.35 kpph
MgO	1.20	
Na <sub>2</sub> O	0.99	
K <sub>2</sub> O	2.42	
P <sub>2</sub> O <sub>5</sub>	0.49	
SO <sub>3</sub>	3.11	
	100.95	

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet 1.38E-02 lb/h  
% Deviation from Coal Hg -27.45%

CaO in Product Ash 6.23 kpph  
CaO from Fly Ash 0.32 kpph  
CaO from Hydrated Lime 5.91 kpph  
Estimated Hydrated Lime Feed Rate 8.14 kpph

**Hydrated Lime Analysis**

Sample Description	5	
Sample Date	AVERAGE	
Moisture (%)	0.08	
Ash (% dry)	75.29	0.04 kpph
Carbon (% dry)	0.50	
Total Sulfur (% dry)		
Chlorine (% dry)		
Hg (ppm, dry)	0.005	4.07E-05 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	1.28	
Al <sub>2</sub> O <sub>3</sub>	0.38	
TiO <sub>2</sub>	0.01	
Fe <sub>2</sub> O <sub>3</sub>	0.15	
CaO	72.55	
MgO	0.79	
Na <sub>2</sub> O	0.16	
K <sub>2</sub> O	0.10	
P <sub>2</sub> O <sub>5</sub>	0.01	
SO <sub>3</sub>	0.35	
	75.78	

SO<sub>2</sub> at Stack (plant CEM) 37.0 ppmvd  
Wet Flue Gas Flowrate at Stack (plant) 279765 scfm  
Flue Gas Moisture at Stack (CONSOL) 12.5 %  
Flue Gas Flowrate at Stack (CONSOL) 258977 dscfm  
Flue Gas Flowrate at Stack (plant) 244794 dscfm  
RPD - CONSOL vs plant flowrate 5.8%

Sulfur at Turbosorp Inlet 2.02 kpph  
Sulfur at Stack 0.05 kpph  
Sulfur in Product Ash 1.98 kpph

Product Ash Flow Rate (estimated from S balance) 20.56 kpph

**Product Ash Analysis**

Sample Description	5	
Sample Date	11/16/07	
Moisture (%)	0.86	
Ash (% dry)	87.56	1.30 kpph
Carbon (% dry)	6.30	
Total Sulfur (% dry)	8.63	
Chlorine (% dry)	0.46	
Hg (ppm, dry)	0.67	1.38E-02 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	17.77	
Al <sub>2</sub> O <sub>3</sub>	8.94	
TiO <sub>2</sub>	0.41	
Fe <sub>2</sub> O <sub>3</sub>	5.54	
CaO	30.28	
MgO	0.67	
Na <sub>2</sub> O	0.50	
K <sub>2</sub> O	0.67	
P <sub>2</sub> O <sub>5</sub>	0.19	
SO <sub>3</sub>	24.04	
	89.00	

Stack Hg mass flowrate = 0.0057 mg/sec  
Stack Hg mass flowrate = 4.52E-05 lb/hr  
Stack Hg Emission = 0.05 lb/T Btu

Hg input from Coal =	1.902E-02	lb/Hr
Hg input from Hydrated Lime =	4.071E-05	lb/Hr
Total Hg Input =	1.906E-02	lb/Hr
Hg output via Product ash =	1.384E-02	lb/Hr
Hg output via Stack Flue Gas =	4.524E-05	lb/Hr
Total Hg Output =	1.388E-02	lb/Hr
Hg closure (output / input) =	72.8%	

Mass Balance Closure - SiO<sub>2</sub> 86.4%  
Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 88.6%

**Mercury Material Balances - March 2008**

Greenidge Unit #4 Test 1  
03/11/08 0932-1155

Gross Generation (MW) = 106.4 MW  
Net Generation (MW) = 98.2 MW  
Coal Feed Rate, reported by plant (kpph) = 84.08 kpph  
Coal Feed Rate (kpph, dry basis) = 77.14 kpph

Ash in coal = 7.41 kpph  
Bottom Ash Fraction (assumed) = 0.095  
Fly Ash Fraction (assumed) = 0.905

**Coal Analysis**

Sample ID	Coal/Wood	
Test No.	1	
Sample Date	03/11/08	
Analytical Number	0	
Total Moisture (%)	8.28	
As determined Moisture (%)	0.00	
VM (% dry)	38.69	
Ash (% dry)	9.60	7.41 kpph
Carbon (% dry)	74.64	57.57 kpph
Hydrogen (% dry)	5.18	4.00 kpph
Nitrogen (% dry)	1.58	
Total Sulfur (% dry)	2.25	1.74 kpph
HHV (Btu/lb, dry)	13,656	1,050 mm Btu/lhr
Chlorine (% dry)	0.10	
Hg (ppm, dry)	0.005	7.37E-03 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	44.80	3.32 kpph
Al <sub>2</sub> O <sub>3</sub>	22.33	1.65 kpph
TiO <sub>2</sub>	1.00	0.07 kpph
Fe <sub>2</sub> O <sub>3</sub>	19.49	1.44 kpph
CaO	4.60	0.34 kpph
MgO	0.95	
Na <sub>2</sub> O	0.60	
K <sub>2</sub> O	1.76	
P <sub>2</sub> O <sub>5</sub>	0.58	
SO <sub>2</sub>	3.76	
	99.88	

**Mercury Input from Coal** 7.03 lb/Tbu

Hg Measured at Air Heater Outlet 6.21E-03 lb/h  
% Deviation from Coal Hg -15.79%

CaO in Product Ash 5.63 kpph  
CaO from Fly Ash 0.21 kpph  
CaO from Hydrated Lime 5.32 kpph  
Estimated Hydrated Lime Feed Rate 7.29 kpph

**Hydrated Lime Analysis**

Sample Description	1	
Sample Date	3/11/2008	
Moisture (%)	0.01	
Ash (% dry)	75.73	
Carbon (% dry)	0.40	0.03 kpph
Total Sulfur (% dry)		
Chlorine (% dry)		
Hg (ppm, dry)	0.005	3.64E-05 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	1.78	
Al <sub>2</sub> O <sub>3</sub>	0.35	
TiO <sub>2</sub>	0.02	
Fe <sub>2</sub> O <sub>3</sub>	0.14	
CaO	72.99	
MgO	0.73	
Na <sub>2</sub> O	0.06	
K <sub>2</sub> O	0.05	
P <sub>2</sub> O <sub>5</sub>	0.01	
SO <sub>2</sub>	0.03	
	76.16	

SO<sub>2</sub> at Stack (plant CEM) 39.3 ppmvd  
Wet Flue Gas Flowrate at Stack (plant) 291004 scfm  
Flue Gas Moisture at Stack (CONSOL) 12.0 %  
Flue Gas Flowrate at Stack (CONSOL) 288557 dscfm  
Flue Gas Flowrate at Stack (plant) 256094 dscfm  
RPD - CONSOL vs plant flowrate 11.9%

Sulfur at Turbosorp Inlet 1.73 kpph  
Sulfur at Stack 0.05 kpph  
Sulfur in Product Ash 1.68 kpph

Product Ash Flow Rate (estimated from S balance) 19.20 kpph

**Product Ash Analysis**

Sample Description	1	
Sample Date	3/11/2008	
Moisture (%)	0.86	
Ash (% dry)	84.88	
Carbon (% dry)	9.41	1.81 kpph
Total Sulfur (% dry)		
Chlorine (% dry)	0.30	
Hg (ppm, dry)	0.41	7.95E-03 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	18.74	
Al <sub>2</sub> O <sub>3</sub>	8.57	
TiO <sub>2</sub>	0.38	
Fe <sub>2</sub> O <sub>3</sub>	5.41	
CaO	29.30	
MgO	0.55	
Na <sub>2</sub> O	0.30	
K <sub>2</sub> O	0.59	
P <sub>2</sub> O <sub>5</sub>	0.17	
SO <sub>2</sub>	21.82	
	85.83	

Stack Hg mass flowrate = 0.0137 mg/sec  
Stack Hg mass flowrate = 1.09E-04 lb/hr  
Stack Hg Emission = 0.10 lb/T Btu

Hg input from Coal =	7.374E-03	lb/Hr
Hg input from Hydrated Lime =	3.643E-05	lb/Hr
Total Hg Input =	7.411E-03	lb/Hr
Hg output via Product ash =	7.950E-03	lb/Hr
Hg output via Stack Flue Gas =	1.087E-04	lb/Hr
Total Hg Output =	8.058E-03	lb/Hr
Hg closure (output / input) =	108.7%	

Mass Balance Closure - SiO<sub>2</sub> 114.9%  
Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 108.1%

**Greenidge Unit #4 Test 2**

Greenidge Unit #4 Test 2  
03/11/08 1330-1544

Gross Generation (MW) = 106.7 MW  
Net Generation (MW) = 98.7 MW  
Coal Feed Rate (kpph) = 84.57 kpph  
Coal Feed Rate (kpph, dry basis) = 77.44 kpph

Ash in coal = 6.73 kpph  
Bottom Ash Fraction (assumed) = 0.095  
Fly Ash Fraction (assumed) = 0.905

**Coal Analysis**

Sample ID	Coal/Wood	
Test No.	2	
Sample Date	03/11/08	
Analytical Number	0	
Total Moisture (%)	8.43	
As determined Moisture (%)	0.00	
VM (% dry)	38.11	
Ash (% dry)	8.69	6.73 kpph
Carbon (% dry)	74.83	57.95 kpph
Hydrogen (% dry)	5.18	4.01 kpph
Nitrogen (% dry)	1.49	
Total Sulfur (% dry)	2.32	1.80 kpph
HHV (Btu/lb, dry)	13,656	1,058 mm Btu/lhr
Chlorine (% dry)	0.09	
Hg (ppm, dry)	0.007	7.48E-03 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	44.04	2.96 kpph
Al <sub>2</sub> O <sub>3</sub>	22.64	1.52 kpph
TiO <sub>2</sub>	1.01	0.07 kpph
Fe <sub>2</sub> O <sub>3</sub>	19.72	1.33 kpph
CaO	5.26	0.35 kpph
MgO	0.86	
Na <sub>2</sub> O	0.62	
K <sub>2</sub> O	1.73	
P <sub>2</sub> O <sub>5</sub>	0.62	
SO <sub>2</sub>	4.19	
	100.68	

**Mercury Input from Coal** 7.07 lb/Tbu

Hg Measured at Air Heater Outlet 6.80E-03 lb/h  
% Deviation from Coal Hg -9.09%

CaO in Product Ash 5.87 kpph  
CaO from Fly Ash 0.32 kpph  
CaO from Hydrated Lime 5.55 kpph  
Estimated Hydrated Lime Feed Rate 7.51 kpph

**Hydrated Lime Analysis**

Sample Description	2	
Sample Date	3/11/2008	
Moisture (%)	0.25	
Ash (% dry)	75.87	
Carbon (% dry)	0.45	0.03 kpph
Total Sulfur (% dry)		
Chlorine (% dry)		
Hg (ppm, dry)	0.005	3.75E-05 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	1.52	
Al <sub>2</sub> O <sub>3</sub>	0.36	
TiO <sub>2</sub>	0.02	
Fe <sub>2</sub> O <sub>3</sub>	0.14	
CaO	73.97	
MgO	0.73	
Na <sub>2</sub> O	0.07	
K <sub>2</sub> O	0.06	
P <sub>2</sub> O <sub>5</sub>	0.01	
SO <sub>2</sub>	0.07	
	76.95	

SO<sub>2</sub> at Stack (plant CEM) 43.1 ppmvd  
Wet Flue Gas Flowrate at Stack (plant) 291945 scfm  
Flue Gas Moisture at Stack (CONSOL) 12.5 %  
Flue Gas Flowrate at Stack (CONSOL) 277774 dscfm  
Flue Gas Flowrate at Stack (plant) 254552 dscfm  
RPD - CONSOL vs plant flowrate 8.4%

Sulfur at Turbosorp Inlet 1.79 kpph  
Sulfur at Stack 0.06 kpph  
Sulfur in Product Ash 1.73 kpph

Product Ash Flow Rate (estimated from S balance) 19.99 kpph

**Product Ash Analysis**

Sample Description	2	
Sample Date	3/11/2008	
Moisture (%)	0.86	
Ash (% dry)	84.14	
Carbon (% dry)	9.86	1.97 kpph
Total Sulfur (% dry)		
Chlorine (% dry)	0.28	
Hg (ppm, dry)	0.46	9.16E-03 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	17.46	
Al <sub>2</sub> O <sub>3</sub>	8.23	
TiO <sub>2</sub>	0.36	
Fe <sub>2</sub> O <sub>3</sub>	4.94	
CaO	29.38	
MgO	0.53	
Na <sub>2</sub> O	0.29	
K <sub>2</sub> O	0.56	
P <sub>2</sub> O <sub>5</sub>	0.16	
SO <sub>2</sub>	21.65	
	83.56	

Stack Hg mass flowrate = 0.0123 mg/sec  
Stack Hg mass flowrate = 9.79E-05 lb/hr  
Stack Hg Emission = 0.09 lb/T Btu

Hg input from Coal =	7.480E-03	lb/Hr
Hg input from Hydrated Lime =	3.754E-05	lb/Hr
Total Hg Input =	7.518E-03	lb/Hr
Hg output via Product ash =	9.157E-03	lb/Hr
Hg output via Stack Flue Gas =	9.762E-05	lb/Hr
Total Hg Output =	9.254E-03	lb/Hr
Hg closure (output / input) =	123.1%	

Mass Balance Closure - SiO<sub>2</sub> 124.9%  
Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 117.1%

**Greenidge Unit #4 Test 3**

Greenidge Unit #4 Test 3  
03/12/08 0945-1206

Gross Generation (MW) = 108.5 MW  
Net Generation (MW) = 100.2 MW  
Coal Feed Rate (kpph) = 84.41 kpph  
Coal Feed Rate (kpph, dry basis) = 77.53 kpph

Ash in coal = 6.85 kpph  
Bottom Ash Fraction (assumed) = 0.095  
Fly Ash Fraction (assumed) = 0.905

**Coal Analysis**

Sample ID	Coal/Wood	
Test No.	3	
Sample Date	03/12/08	
Analytical Number	0	
Total Moisture (%)	8.18	
As determined Moisture (%)	0.00	
VM (% dry)	39.83	
Ash (% dry)	8.83	6.85 kpph
Carbon (% dry)	74.15	57.48 kpph
Hydrogen (% dry)	5.18	4.00 kpph
Nitrogen (% dry)	1.50	
Total Sulfur (% dry)	2.22	1.72 kpph
HHV (Btu/lb, dry)	13569	1,052 mm Btu/lhr
Chlorine (% dry)	0.10	
Hg (ppm, dry)	0.005	6.63E-03 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	48.32	3.31 kpph
Al <sub>2</sub> O <sub>3</sub>	23.31	1.60 kpph
TiO <sub>2</sub>	1.05	0.07 kpph
Fe <sub>2</sub> O <sub>3</sub>	17.13	1.17 kpph
CaO	4.02	0.28 kpph
MgO	0.87	
Na <sub>2</sub> O	0.64	
K <sub>2</sub> O	1.74	
P <sub>2</sub> O <sub>5</sub>	0.48	
SO <sub>2</sub>	3.19	
	100.76	

**Mercury Input from Coal** 6.30 lb/Tbu

Hg Measured at Air Heater Outlet 5.71E-03 lb/h  
% Deviation from Coal Hg -13.83%

CaO in Product Ash 5.89 kpph  
CaO from Fly Ash 0.25 kpph  
CaO from Hydrated Lime 5.64 kpph  
Estimated Hydrated Lime Feed Rate 7.59 kpph

**Hydrated Lime Analysis**

Sample Description	3	
Sample Date	3/12/2008	
Moisture (%)	0.01	
Ash (% dry)	75.93	
Carbon (% dry)	0.40	0.03 kpph
Total Sulfur (% dry)		
Chlorine (% dry)		
Hg (ppm, dry)	0.005	3.79E-05 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	1.42	
Al <sub>2</sub> O <sub>3</sub>	0.36	
TiO <sub>2</sub>	0.02	
Fe <sub>2</sub> O <sub>3</sub>	0.17	
CaO	74.32	
MgO	0.74	
Na <sub>2</sub> O	0.06	
K <sub>2</sub> O	0.05	
P <sub>2</sub> O <sub>5</sub>	0.01	
SO <sub>2</sub>	0.02	
	77.17	

SO<sub>2</sub> at Stack (plant CEM) 15.6 ppmvd  
Wet Flue Gas Flowrate at Stack (plant) 292614 scfm  
Flue Gas Moisture at Stack (CONSOL) 12.8 %  
Flue Gas Flowrate at Stack (CONSOL) 286138 dscfm  
Flue Gas Flowrate at Stack (plant) 255159 dscfm  
RPD - CONSOL vs plant flowrate 11.4%

Sulfur at Turbosorp Inlet 1.71 kpph  
Sulfur at Stack 0.02 kpph  
Sulfur in Product Ash 1.69 kpph

Product Ash Flow Rate (estimated from S balance) 19.58 kpph

**Product Ash Analysis**

Sample Description	3	
Sample Date	03/12/08	
Moisture (%)	0.77	
Ash (% dry)	83.20	
Carbon (% dry)	10.20	2.00 kpph
Total Sulfur (% dry)		
Chlorine (% dry)	0.32	
Hg (ppm, dry)	0.42	8.15E-03 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	17.94	
Al <sub>2</sub> O <sub>3</sub>	8.02	
TiO <sub>2</sub>	0.36	
Fe <sub>2</sub> O <sub>3</sub>	4.97	
CaO	30.08	
MgO	0.54	
Na <sub>2</sub> O	0.28	
K <sub>2</sub> O	0.54	
P <sub>2</sub> O <sub>5</sub>	0.16	
SO <sub>2</sub>	21.57	
	84.46	

Stack Hg mass flowrate = 0.0066 mg/sec  
Stack Hg mass flowrate = 5.24E-05 lb/hr  
Stack Hg Emission = 0.05 lb/T Btu

Hg input from Coal =	6.627E-03	lb/Hr
Hg input from Hydrated Lime =	3.795E-05	lb/Hr
Total Hg Input =	6.665E-03	lb/Hr
Hg output via Product ash =	8.146E-03	lb/Hr
Hg output via Stack Flue Gas =	5.238E-05	lb/Hr
Total Hg Output =	8.198E-03	lb/Hr
Hg closure (output / input) =	123.0%	

Mass Balance Closure - SiO<sub>2</sub> 113.2%  
Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 106.7%

**Mercury Material Balances - March 2008 (continued)**

Greenidge Unit #4 Test 4  
03/12/08 1350-1614

Gross Generation (MW) = 107.3 MW  
 Net Generation (MW) = 99.1 MW  
 Coal Feed Rate (kpph) = 84.17 kpph  
 Coal Feed Rate (kpph, dry basis) = 77.48 kpph  
 Ash in coal = 7.08 kpph  
 Bottom Ash Fraction (assumed) = 0.095 0.67 kpph  
 Fly Ash Fraction (assumed) = 0.905 6.41 kpph

**Coal Analysis**

Sample ID	CoalWood
Test No.	4
Sample Date	03/12/08
Analytical Number	0
Total Moisture (%)	7.94
As determined Moisture (%)	0.00
VM (% dry)	38.80
Ash (% dry)	9.14
Carbon (% dry)	74.40
Hydrogen (% dry)	5.12
Nitrogen (% dry)	1.44
Total Sulfur (% dry)	2.29
HHV (Btu/lb, dry)	13528
Chlorine (% dry)	0.09
Hg (ppm, dry)	0.006
Major Ash Elements (% dry)	
SiO <sub>2</sub>	47.33
Al <sub>2</sub> O <sub>3</sub>	22.82
TiO <sub>2</sub>	1.04
Fe <sub>2</sub> O <sub>3</sub>	17.85
CaO	3.81
MgO	0.83
Na <sub>2</sub> O	0.64
K <sub>2</sub> O	1.70
P <sub>2</sub> O <sub>5</sub>	0.49
SO <sub>3</sub>	3.19
	99.70

7.08 kpph  
 57.65 kpph  
 3.97 kpph  
 1.78 kpph  
 1,048 mm Btu/hr  
 7.32E-03 lb/hr  
 3.35 kpph  
 1.62 kpph  
 0.07 kpph  
 1.26 kpph  
 0.27 kpph

Mercury Input from Coal 6.99 lb/Tbtu

Hg Measured at Air Heater Outlet 5.65E-03 lb/h  
 % Deviation from Coal Hg -22.83%

CaO in Product Ash 6.05 kpph  
 CaO from Fly Ash 0.24 kpph  
 CaO from Hydrated Lime 5.80 kpph  
 Estimated Hydrated Lime Feed Rate 8.02 kpph

**Hydrated Lime Analysis**

Sample Description	4
Sample Date	3/12/2008
Moisture (%)	0.04
Ash (% dry)	75.94
Carbon (% dry)	0.39
Total Sulfur (% dry)	
Chlorine (% dry)	
Hg (ppm, dry)	0.006
Major Ash Elements (%)	
SiO <sub>2</sub>	1.29
Al <sub>2</sub> O <sub>3</sub>	0.34
TiO <sub>2</sub>	0.02
Fe <sub>2</sub> O <sub>3</sub>	0.13
CaO	72.32
MgO	0.70
Na <sub>2</sub> O	0.06
K <sub>2</sub> O	0.04
P <sub>2</sub> O <sub>5</sub>	0.01
SO <sub>3</sub>	0.03
	74.94

0.03 kpph  
 4.01E-05 lb/hr

SO<sub>2</sub> at Stack (plant CEM) 17.5 ppmvd  
 Wet Flue Gas Flowrate at Stack (plant) 289060 scfm  
 Flue Gas Moisture at Stack (CONSOL) 13.0 %  
 Flue Gas Flowrate at Stack (CONSOL) 282761 dscfm  
 Flue Gas Flowrate at Stack (plant) 251482 dscfm  
 RPD - CONSOL vs plant flowrate 11.7%

Sulfur at Turbosorp Inlet 1.77 kpph  
 Sulfur at Stack 0.02 kpph  
 Sulfur in Product Ash 1.75 kpph

Product Ash Flow Rate (estimated from S balance) 20.40 kpph

**Product Ash Analysis**

Sample Description	4
Sample Date	03/12/08
Moisture (%)	0.65
Ash (% dry)	82.92
Carbon (% dry)	10.70
Total Sulfur (% dry)	
Chlorine (% dry)	0.32
Hg (ppm, dry)	0.42
Major Ash Elements (% dry)	
SiO <sub>2</sub>	17.62
Al <sub>2</sub> O <sub>3</sub>	8.08
TiO <sub>2</sub>	0.37
Fe <sub>2</sub> O <sub>3</sub>	4.86
CaO	23.64
MgO	0.53
Na <sub>2</sub> O	0.27
K <sub>2</sub> O	0.54
P <sub>2</sub> O <sub>5</sub>	0.16
SO <sub>3</sub>	21.40
	83.47

2.18 kpph  
 8.61E-03 lb/hr

Stack Hg mass flowrate = 0.0060 mg/sec  
 Stack Hg mass flowrate = 4.76E-05 lb/hr  
 Stack Hg Emission = 0.05 lb/T Btu

Hg input from Coal =	7.321E-03	lb/hr
Hg input from Hydrated Lime =	4.011E-05	lb/hr
Total Hg Input =	7.362E-03	lb/hr
Hg output via Product ash =	8.607E-03	lb/hr
Hg output via Stack Flue Gas =	4.762E-05	lb/hr
Total Hg Output =	8.655E-03	lb/hr
Hg closure (output / input) =	117.6%	

Mass Balance Closure - SiO<sub>2</sub> 114.6%  
 Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 110.7%



**Mercury Material Balances - May 2008**  
Greenidge Unit #4 Test 1

Gross Generation (MW) = 56.4 MW  
 Net Generation (MW) = 50.7 MW  
 Coal Feed Rate, reported by plant (kpph) = 45.05 kpph  
 Coal Feed Rate (kpph, dry basis) = 42.34 kpph

Ash in coal = 4.86 kpph  
 Bottom Ash Fraction (assumed) = 0.095 4.86 kpph  
 Fly Ash Fraction (assumed) = 0.905 4.39 kpph

**Coal Analysis**

Sample ID	Coal	
Test No.	1	
Sample Date	05/19/08	
Analytical Number	20082477	
Total Moisture (%)	6.02	
As determined Moisture (%)	1.36	
VM (% dry)	32.81	
Ash (% dry)	11.47	4.86 kpph
Carbon (% dry)	73.12	30.96 kpph
Hydrogen (% dry)	4.60	1.95 kpph
Nitrogen (% dry)	1.72	
Total Sulfur (% dry)	2.36	1.00 kpph
HHV (Btu/lb, dry)	13,426	568 mm Btu/lhr
Chlorine (% dry)	0.10	
Hg (ppm, dry)	0.005	4.06E-03 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	49.69	2.41 kpph
Al <sub>2</sub> O <sub>3</sub>	27.53	1.34 kpph
TiO <sub>2</sub>	1.92	0.09 kpph
Fe <sub>2</sub> O <sub>3</sub>	13.52	0.66 kpph
CaO	3.73	0.18 kpph
MgO	0.78	
Na <sub>2</sub> O	0.61	
K <sub>2</sub> O	1.59	
P <sub>2</sub> O <sub>5</sub>	0.46	
SO <sub>3</sub>	2.95	
	102.78	

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet #N/A lb/h  
 % Deviation from Coal Hg #N/A

CaO in Product Ash 4.14 kpph  
 CaO from Fly Ash 0.16 kpph  
 CaO from Hydrated Lime 3.98 kpph  
 Estimated Hydrated Lime Feed Rate 5.65 kpph

**Hydrated Lime Analysis**

Sample Description	1	
Sample Date	5/19/2008	
Moisture (%)	0.17	
Ash (% dry)	76.24	0.03 kpph
Carbon (% dry)	0.51	
Total Sulfur (% dry)		
Chlorine (% dry)		
Hg (ppm, dry)	0.005	2.82E-05 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	0.78	
Al <sub>2</sub> O <sub>3</sub>	0.35	
TiO <sub>2</sub>	0.02	
Fe <sub>2</sub> O <sub>3</sub>	0.31	
CaO	70.43	
MgO	0.72	
Na <sub>2</sub> O	0.02	
K <sub>2</sub> O	0.06	
P <sub>2</sub> O <sub>5</sub>	0.02	
SO <sub>3</sub>	1.09	
	73.8	

SO<sub>2</sub> at Stack (plant CEM) 38.4 ppmvd  
 Wet Flue Gas Flowrate at Stack (plant) 196417 scfm  
 Flue Gas Moisture at Stack (CONSOL) 10.0 %  
 Flue Gas Flowrate at Stack (CONSOL) 181199 dscfm  
 Flue Gas Flowrate at Stack (plant) 176775 dscfm  
 RPD - CONSOL vs plant flowrate 2.5%

Sulfur at Turbosorp Inlet 0.99 kpph  
 Sulfur at Stack 0.03 kpph  
 Sulfur in Product Ash 0.96 kpph

Product Ash Flow Rate (estimated from S balance) 11.99 kpph

**Product Ash Analysis**

Sample Description	1	
Sample Date	5/20/2008	
Moisture (%)	1.04	
Ash (% dry)	83.44	0.82 kpph
Carbon (% dry)	6.87	
Total Sulfur (% dry)		
Chlorine (% dry)	0.22	
Hg (ppm, dry)	0.37	4.41E-03 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	15.14	
Al <sub>2</sub> O <sub>3</sub>	7.91	
TiO <sub>2</sub>	0.50	
Fe <sub>2</sub> O <sub>3</sub>	3.78	
CaO	34.55	
MgO	0.63	
Na <sub>2</sub> O	0.26	
K <sub>2</sub> O	0.52	
P <sub>2</sub> O <sub>5</sub>	0.13	
SO <sub>3</sub>	20.02	
	83.44	

Stack Hg mass flowrate = 0.0091 mg/sec  
 Stack Hg mass flowrate = 7.22E-05 lb/hr  
 Stack Hg Emission = 0.13 lb/T Btu

Hg input from Coal =	4.064E-03	lb/Hr
Hg input from Hydrated Lime =	2.824E-05	lb/Hr
Total Hg Input =	4.092E-03	lb/Hr
Hg output via Product ash =	4.411E-03	lb/Hr
Hg output via Stack Flue Gas =	7.222E-05	lb/Hr
Total Hg Output =	4.483E-03	lb/Hr
Hg closure (output / input) =	109.5%	

Mass Balance Closure - SiO<sub>2</sub> 81.5%  
 Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 77.1%

**Greenidge Unit #4 Test 2**

Gross Generation (MW) = 56.5 MW  
 Net Generation (MW) = 50.6 MW  
 Coal Feed Rate (kpph) = 45.38 kpph  
 Coal Feed Rate (kpph, dry basis) = 42.51 kpph

Ash in coal = 4.99 kpph  
 Bottom Ash Fraction (assumed) = 0.095 4.99 kpph  
 Fly Ash Fraction (assumed) = 0.905 4.52 kpph

**Coal Analysis**

Sample ID	Coal	
Test No.	2	
Sample Date	05/20/08	
Analytical Number	20082478	
Total Moisture (%)	6.32	
As determined Moisture (%)	1.24	
VM (% dry)	32.34	
Ash (% dry)	11.74	4.99 kpph
Carbon (% dry)	73.00	31.04 kpph
Hydrogen (% dry)	4.54	1.93 kpph
Nitrogen (% dry)	1.72	
Total Sulfur (% dry)	2.26	0.96 kpph
HHV (Btu/lb, dry)	13,385	569 mm Btu/lhr
Chlorine (% dry)	0.09	
Hg (ppm, dry)	0.005	4.08E-03 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	50.26	2.51 kpph
Al <sub>2</sub> O <sub>3</sub>	27.73	1.38 kpph
TiO <sub>2</sub>	1.92	0.10 kpph
Fe <sub>2</sub> O <sub>3</sub>	12.04	0.60 kpph
CaO	3.28	0.16 kpph
MgO	0.76	
Na <sub>2</sub> O	0.58	
K <sub>2</sub> O	1.61	
P <sub>2</sub> O <sub>5</sub>	0.41	
SO <sub>3</sub>	2.75	
	101.34	

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet #N/A lb/h  
 % Deviation from Coal Hg #N/A

CaO in Product Ash 4.96 kpph  
 CaO from Fly Ash 0.15 kpph  
 CaO from Hydrated Lime 4.81 kpph  
 Estimated Hydrated Lime Feed Rate 6.71 kpph

**Hydrated Lime Analysis**

Sample Description	2	
Sample Date	5/20/2008	
Moisture (%)	0.14	
Ash (% dry)	76.34	0.03 kpph
Carbon (% dry)	0.43	
Total Sulfur (% dry)		
Chlorine (% dry)		
Hg (ppm, dry)	0.005	3.35E-05 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	0.81	
Al <sub>2</sub> O <sub>3</sub>	0.35	
TiO <sub>2</sub>	0.02	
Fe <sub>2</sub> O <sub>3</sub>	0.16	
CaO	71.77	
MgO	0.71	
Na <sub>2</sub> O	0.07	
K <sub>2</sub> O	0.05	
P <sub>2</sub> O <sub>5</sub>	0.01	
SO <sub>3</sub>	0.17	
	74.12	

SO<sub>2</sub> at Stack (plant CEM) 1.7 ppmvd  
 Wet Flue Gas Flowrate at Stack (plant) 195859 scfm  
 Flue Gas Moisture at Stack (CONSOL) 10.6 %  
 Flue Gas Flowrate at Stack (CONSOL) 180156 dscfm  
 Flue Gas Flowrate at Stack (plant) 175098 dscfm  
 RPD - CONSOL vs plant flowrate 2.8%

Sulfur at Turbosorp Inlet 0.96 kpph  
 Sulfur at Stack 0.00 kpph  
 Sulfur in Product Ash 0.95 kpph

Product Ash Flow Rate (estimated from S balance) 13.10 kpph

**Product Ash Analysis**

Sample Description	2	
Sample Date	5/20/2008	
Moisture (%)	1.15	
Ash (% dry)	82.51	0.81 kpph
Carbon (% dry)	6.17	
Total Sulfur (% dry)		
Chlorine (% dry)	0.23	
Hg (ppm, dry)	0.36	4.68E-03 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	13.03	
Al <sub>2</sub> O <sub>3</sub>	7.42	
TiO <sub>2</sub>	0.47	
Fe <sub>2</sub> O <sub>3</sub>	3.29	
CaO	37.89	
MgO	0.81	
Na <sub>2</sub> O	0.22	
K <sub>2</sub> O	0.46	
P <sub>2</sub> O <sub>5</sub>	0.17	
SO <sub>3</sub>	18.22	
	81.78	

Stack Hg mass flowrate = 0.0107 mg/sec  
 Stack Hg mass flowrate = 8.49E-05 lb/hr  
 Stack Hg Emission = 0.15 lb/T Btu

Hg input from Coal =	4.081E-03	lb/Hr
Hg input from Hydrated Lime =	3.354E-05	lb/Hr
Total Hg Input =	4.115E-03	lb/Hr
Hg output via Product ash =	4.676E-03	lb/Hr
Hg output via Stack Flue Gas =	8.492E-05	lb/Hr
Total Hg Output =	4.761E-03	lb/Hr
Hg closure (output / input) =	115.7%	

Mass Balance Closure - SiO<sub>2</sub> 73.4%  
 Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 76.2%

**Mercury Material Balances - June 2008**  
Greenidge Unit #4 Test 1  
6/12/08 0942-1157

Gross Generation (MW) = 106.30 MW  
 Net Generation (MW) = 98.64 MW  
 Coal Feed Rate, reported by plant (kpph) = 77.03 kpph  
 Coal Feed Rate (kpph, dry basis) = 73.20 kpph

Ash in coal = 5.34 kpph  
 Bottom Ash Fraction (assumed) = 0.095  
 Fly Ash Fraction (assumed) = 0.905

**Coal Analysis**

Sample ID	Coal
Test No.	1
Sample Date	06/12/08
Analytical Number	20083364
Total Moisture (%)	4.97
As determined Moisture (%)	1.69
VM (% dry)	38.82
Ash (% dry)	7.30
Carbon (% dry)	77.48
Hydrogen (% dry)	5.34
Nitrogen (% dry)	1.71
Total Sulfur (% dry)	2.35
HHV (Btu/lb, dry)	14,184
Chlorine (% dry)	0.08
Hg (ppm, dry)	0.071
Major Ash Elements (% dry)	
SiO <sub>2</sub>	44.14
Al <sub>2</sub> O <sub>3</sub>	23.23
TiO <sub>2</sub>	1.05
Fe <sub>2</sub> O <sub>3</sub>	18.95
CaO	5.29
MgO	1.11
Na <sub>2</sub> O	1.12
K <sub>2</sub> O	1.31
P <sub>2</sub> O <sub>5</sub>	0.28
SO <sub>3</sub>	5.67
	102.16

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet  
 % Deviation from Coal Hg #N/A

CaO in Product Ash 5.58 kpph  
 CaO from Fly Ash 0.26 kpph  
 CaO from Hydrated Lime 5.32 kpph  
 Estimated Hydrated Lime Feed Rate 7.11 kpph

**Hydrated Lime Analysis**

Sample Description	1
Sample Date	6/12/2008
Moisture (%)	0.01
Ash (% dry)	76.09
Carbon (% dry)	0.07
Total Sulfur (% dry)	
Chlorine (% dry)	
Hg (ppm, dry)	0.005
Major Ash Elements (%)	
SiO <sub>2</sub>	1.11
Al <sub>2</sub> O <sub>3</sub>	0.35
TiO <sub>2</sub>	0.02
Fe <sub>2</sub> O <sub>3</sub>	0.15
CaO	74.82
MgO	0.71
Na <sub>2</sub> O	0.04
K <sub>2</sub> O	0.07
P <sub>2</sub> O <sub>5</sub>	0.01
SO <sub>3</sub>	0.08
	77.36

SO<sub>2</sub> at Stack (plant CEM) 33.9 ppmvd  
 Wet Flue Gas Flowrate at Stack (plant) 270868 scfm  
 Flue Gas Moisture at Stack (CONSOL) 13.2 %  
 Flue Gas Flowrate at Stack (CONSOL) 259415 dscfm  
 Flue Gas Flowrate at Stack (plant) 235113 dscfm  
 RPD - CONSOL vs plant flowrate 9.8%

Sulfur at Turbosorp Inlet 1.71 kpph  
 Sulfur at Stack 0.04 kpph  
 Sulfur in Product Ash 1.67 kpph

Product Ash Flow Rate (estimated from S balance) 17.02 kpph

**Product Ash Analysis**

Sample Description	1
Sample Date	6/12/2008
Moisture (%)	0.90
Ash (% dry)	83.09
Carbon (% dry)	10.69
Total Sulfur (% dry)	0.00
Chlorine (% dry)	0.31
Hg (ppm, dry)	0.31
Major Ash Elements (%)	
SiO <sub>2</sub>	13.22
Al <sub>2</sub> O <sub>3</sub>	6.79
TiO <sub>2</sub>	0.31
Fe <sub>2</sub> O <sub>3</sub>	4.58
CaO	32.77
MgO	0.60
Na <sub>2</sub> O	0.38
K <sub>2</sub> O	0.39
P <sub>2</sub> O <sub>5</sub>	0.09
SO <sub>3</sub>	24.53
	83.66

Stack Hg mass flowrate = 0.0108 mg/sec  
 Stack Hg mass flowrate = 8.57E-05 lb/hr  
 Stack Hg Emission = 0.08 lb/T Btu

Hg input from Coal =	5.197E-03	lb/Hr
Hg input from Hydrated Lime =	3.556E-05	lb/Hr
Total Hg Input =	5.233E-03	lb/Hr
Hg output via Product ash =	5.242E-03	lb/Hr
Hg output via Stack Flue Gas =	8.571E-05	lb/Hr
Total Hg Output =	5.327E-03	lb/Hr
Hg closure (output / input) =	101.8%	

Mass Balance Closure - SiO<sub>2</sub> 101.6%  
 Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 100.6%

**Greenidge Unit #4 Test 2**  
6/12/08 1330-1547

Gross Generation (MW) = 105.85 MW  
 Net Generation (MW) = 97.96 MW  
 Coal Feed Rate (kpph) = 77.01 kpph  
 Coal Feed Rate (kpph, dry basis) = 73.62 kpph

Ash in coal = 5.51 kpph  
 Bottom Ash Fraction (assumed) = 0.095  
 Fly Ash Fraction (assumed) = 0.905

**Coal Analysis**

Sample ID	Coal
Test No.	2
Sample Date	06/12/08
Analytical Number	20083365
Total Moisture (%)	4.40
As determined Moisture (%)	1.54
VM (% dry)	38.61
Ash (% dry)	7.48
Carbon (% dry)	77.26
Hydrogen (% dry)	5.38
Nitrogen (% dry)	1.71
Total Sulfur (% dry)	2.65
HHV (Btu/lb, dry)	13,963
Chlorine (% dry)	0.09
Hg (ppm, dry)	0.080
Major Ash Elements (% dry)	
SiO <sub>2</sub>	41.71
Al <sub>2</sub> O <sub>3</sub>	21.79
TiO <sub>2</sub>	1.01
Fe <sub>2</sub> O <sub>3</sub>	20.40
CaO	5.57
MgO	1.09
Na <sub>2</sub> O	1.10
K <sub>2</sub> O	1.32
P <sub>2</sub> O <sub>5</sub>	0.29
SO <sub>3</sub>	5.99
	100.27

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet  
 % Deviation from Coal Hg #N/A

CaO in Product Ash 6.17 kpph  
 CaO from Fly Ash 0.28 kpph  
 CaO from Hydrated Lime 5.89 kpph  
 Estimated Hydrated Lime Feed Rate 8.01 kpph

**Hydrated Lime Analysis**

Sample Description	2
Sample Date	6/12/2008
Moisture (%)	0.01
Ash (% dry)	75.98
Carbon (% dry)	0.09
Total Sulfur (% dry)	
Chlorine (% dry)	
Hg (ppm, dry)	0.005
Major Ash Elements (%)	
SiO <sub>2</sub>	0.94
Al <sub>2</sub> O <sub>3</sub>	0.34
TiO <sub>2</sub>	0.02
Fe <sub>2</sub> O <sub>3</sub>	0.16
CaO	73.63
MgO	0.71
Na <sub>2</sub> O	0.04
K <sub>2</sub> O	0.07
P <sub>2</sub> O <sub>5</sub>	0.01
SO <sub>3</sub>	0.09
	76.01

SO<sub>2</sub> at Stack (plant CEM) 36.5 ppmvd  
 Wet Flue Gas Flowrate at Stack (plant) 273140 scfm  
 Flue Gas Moisture at Stack (CONSOL) 13.1 %  
 Flue Gas Flowrate at Stack (CONSOL) 261988 dscfm  
 Flue Gas Flowrate at Stack (plant) 237359 dscfm  
 RPD - CONSOL vs plant flowrate 9.9%

Sulfur at Turbosorp Inlet 1.87 kpph  
 Sulfur at Stack 0.05 kpph  
 Sulfur in Product Ash 1.82 kpph

Product Ash Flow Rate (estimated from S balance) 18.65 kpph

**Product Ash Analysis**

Sample Description	2
Sample Date	6/12/2008
Moisture (%)	0.92
Ash (% dry)	82.51
Carbon (% dry)	11.17
Total Sulfur (% dry)	0.00
Chlorine (% dry)	0.38
Hg (ppm, dry)	0.31
Major Ash Elements (%)	
SiO <sub>2</sub>	13.02
Al <sub>2</sub> O <sub>3</sub>	6.65
TiO <sub>2</sub>	0.30
Fe <sub>2</sub> O <sub>3</sub>	4.55
CaO	33.09
MgO	0.60
Na <sub>2</sub> O	0.37
K <sub>2</sub> O	0.39
P <sub>2</sub> O <sub>5</sub>	0.09
SO <sub>3</sub>	24.43
	83.49

Stack Hg mass flowrate = 0.0147 mg/sec  
 Stack Hg mass flowrate = 1.17E-04 lb/hr  
 Stack Hg Emission = 0.11 lb/T Btu

Hg input from Coal =	5.890E-03	lb/Hr
Hg input from Hydrated Lime =	4.003E-05	lb/Hr
Total Hg Input =	5.930E-03	lb/Hr
Hg output via Product ash =	5.819E-03	lb/Hr
Hg output via Stack Flue Gas =	1.167E-04	lb/Hr
Total Hg Output =	5.936E-03	lb/Hr
Hg closure (output / input) =	100.1%	

Mass Balance Closure - SiO<sub>2</sub> 112.7%  
 Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 111.4%

**Greenidge Unit #4 Test 3**  
6/13/08 1000-1328

Gross Generation (MW) = 107.72 MW  
 Net Generation (MW) = 100.77 MW  
 Coal Feed Rate (kpph) = 79.47 kpph  
 Coal Feed Rate (kpph, dry basis) = 75.77 kpph

Ash in coal = 5.68 kpph  
 Bottom Ash Fraction (assumed) = 0.095  
 Fly Ash Fraction (assumed) = 0.905

**Coal Analysis**

Sample ID	Coal
Test No.	3
Sample Date	06/13/08
Analytical Number	20083366
Total Moisture (%)	4.57
As determined Moisture (%)	1.48
VM (% dry)	39.10
Ash (% dry)	7.50
Carbon (% dry)	77.28
Hydrogen (% dry)	5.38
Nitrogen (% dry)	1.70
Total Sulfur (% dry)	2.51
HHV (Btu/lb, dry)	14137
Chlorine (% dry)	0.08
Hg (ppm, dry)	0.080
Major Ash Elements (% dry)	
SiO <sub>2</sub>	42.54
Al <sub>2</sub> O <sub>3</sub>	22.45
TiO <sub>2</sub>	0.97
Fe <sub>2</sub> O <sub>3</sub>	19.99
CaO	5.52
MgO	1.06
Na <sub>2</sub> O	1.07
K <sub>2</sub> O	1.30
P <sub>2</sub> O <sub>5</sub>	0.33
SO <sub>3</sub>	6.53
	101.77

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet  
 % Deviation from Coal Hg #N/A

CaO in Product Ash 5.61 kpph  
 CaO from Fly Ash 0.28 kpph  
 CaO from Hydrated Lime 5.32 kpph  
 Estimated Hydrated Lime Feed Rate 7.14 kpph

**Hydrated Lime Analysis**

Sample Description	3
Sample Date	6/13/2008
Moisture (%)	0.01
Ash (% dry)	75.97
Carbon (% dry)	0.09
Total Sulfur (% dry)	
Chlorine (% dry)	
Hg (ppm, dry)	0.005
Major Ash Elements (%)	
SiO <sub>2</sub>	0.98
Al <sub>2</sub> O <sub>3</sub>	0.44
TiO <sub>2</sub>	0.02
Fe <sub>2</sub> O <sub>3</sub>	0.21
CaO	74.62
MgO	0.76
Na <sub>2</sub> O	0.06
K <sub>2</sub> O	0.06
P <sub>2</sub> O <sub>5</sub>	0.01
SO <sub>3</sub>	0.18
	77.34

SO<sub>2</sub> at Stack (plant CEM) 31.6 ppmvd  
 Wet Flue Gas Flowrate at Stack (plant) 270817 scfm  
 Flue Gas Moisture at Stack (CONSOL) 13.6 %  
 Flue Gas Flowrate at Stack (CONSOL) 276118 dscfm  
 Flue Gas Flowrate at Stack (plant) 233986 dscfm  
 RPD - CONSOL vs plant flowrate 16.8%

Sulfur at Turbosorp Inlet 1.89 kpph  
 Sulfur at Stack 0.04 kpph  
 Sulfur in Product Ash 1.85 kpph

Product Ash Flow Rate (estimated from S balance) 17.88 kpph

**Product Ash Analysis**

Sample Description	3
Sample Date	06/13/08
Moisture (%)	1.03
Ash (% dry)	83.92
Carbon (% dry)	11.16
Total Sulfur (% dry)	0.00
Chlorine (% dry)	0.35
Hg (ppm, dry)	0.34
Major Ash Elements (%)	
SiO <sub>2</sub>	14.77
Al <sub>2</sub> O <sub>3</sub>	7.26
TiO <sub>2</sub>	0.33
Fe <sub>2</sub> O <sub>3</sub>	5.37
CaO	31.37
MgO	0.64
Na <sub>2</sub> O	0.44
K <sub>2</sub> O	0.42
P <sub>2</sub> O <sub>5</sub>	0.10
SO <sub>3</sub>	25.90
	86.60

Stack Hg mass flowrate = 0.0059 mg/sec  
 Stack Hg mass flowrate = 4.68E-05 lb/hr  
 Stack Hg Emission = 0.04 lb/T Btu

Hg input from Coal =	6.061E-03	lb/Hr
Hg input from Hydrated Lime =	3.588E-05	lb/Hr
Total Hg Input =	6.097E-03	lb/Hr
Hg output via Product ash =	6.132E-03	lb/Hr
Hg output via Stack Flue Gas =	4.683E-05	lb/Hr
Total Hg Output =	6.179E-03	lb/Hr
Hg closure (output / input) =	101.3%	

Mass Balance Closure - SiO<sub>2</sub> 117.0%  
 Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 109.4%

**Mercury Material Balances - June 2008 (continued)**

Greenidge Unit #4 Test 4  
6/13/08 1450-1702

Gross Generation (MW) = 107.93 MW  
 Net Generation (MW) = 99.94 MW  
 Coal Feed Rate (kpph) = 78.08 kpph  
 Coal Feed Rate (kpph, dry basis) = 74.95 kpph  
 Ash in coal = 5.44 kpph  
 Bottom Ash Fraction (assumed) = 0.095 0.52 kpph  
 Fly Ash Fraction (assumed) = 0.905 4.92 kpph

**Coal Analysis**

Sample ID	Coal	
Test No.	4	
Sample Date	06/13/08	
Analytical Number	20083367	
Total Moisture (%)	4.01	
As determined Moisture (%)	1.64	
VM (% dry)	38.93	
Ash (% dry)	7.26	5.44 kpph
Carbon (% dry)	77.32	57.95 kpph
Hydrogen (% dry)	5.42	4.06 kpph
Nitrogen (% dry)	1.75	
Total Sulfur (% dry)	2.46	1.84 kpph
HHV (Btu/lb, dry)	14044	1,053 mm Btu/hr
Chlorine (% dry)	0.10	
Hg (ppm, dry)	0.075	5.62E-03 lb/hr
<b>Major Ash Elements (% dry)</b>		
SiO <sub>2</sub>	42.64	2.32 kpph
Al <sub>2</sub> O <sub>3</sub>	23.05	1.25 kpph
TiO <sub>2</sub>	1.04	0.06 kpph
Fe <sub>2</sub> O <sub>3</sub>	19.43	1.06 kpph
CaO	4.99	0.27 kpph
MgO	1.08	
Na <sub>2</sub> O	1.25	
K <sub>2</sub> O	1.34	
P <sub>2</sub> O <sub>5</sub>	0.29	
SO <sub>3</sub>	5.76	
	100.85	

Mercury Input from Coal = 5.34 lb/Tbtu  
 Hg Measured at Air Heater Outlet #N/A lb/hr  
 % Deviation from Coal Hg #N/A

CaO in Product Ash = 5.14 kpph  
 CaO from Fly Ash = 0.25 kpph  
 CaO from Hydrated Lime = 4.89 kpph  
 Estimated Hydrated Lime Feed Rate = 6.53 kpph

**Hydrated Lime Analysis**

Sample Description	4	
Sample Date	6/13/2008	
Moisture (%)	0.01	
Ash (% dry)	76.02	0.01 kpph
Carbon (% dry)	0.08	
Total Sulfur (% dry)		
Chlorine (% dry)		
Hg (ppm, dry)	0.005	3.26E-05 lb/hr
<b>Major Ash Elements (%)</b>		
SiO <sub>2</sub>	0.86	
Al <sub>2</sub> O <sub>3</sub>	0.42	
TiO <sub>2</sub>	0.02	
Fe <sub>2</sub> O <sub>3</sub>	0.19	
CaO	74.97	
MgO	0.76	
Na <sub>2</sub> O	0.05	
K <sub>2</sub> O	0.06	
P <sub>2</sub> O <sub>5</sub>	0.01	
SO <sub>3</sub>	0.20	
	77.54	

SO<sub>2</sub> at Stack (plant CEM) = 38.7 ppmvd  
 Wet Flue Gas Flowrate at Stack (plant) = 272654 scfm  
 Flue Gas Moisture at Stack (CONSOL) = 12.7 %  
 Flue Gas Flowrate at Stack (CONSOL) = 270409 dscfm  
 Flue Gas Flowrate at Stack (plant) = 238027 dscfm  
 RPD - CONSOL vs plant flowrate = 12.7%

Sulfur at Turbosorp Inlet = 1.83 kpph  
 Sulfur at Stack = 0.05 kpph  
 Sulfur in Product Ash = 1.79 kpph

Product Ash Flow Rate (estimated from S balance) = 16.42 kpph

**Product Ash Analysis**

Sample Description	4	
Sample Date	06/13/08	
Moisture (%)	0.92	
Ash (% dry)	84.19	1.85 kpph
Carbon (% dry)	11.29	
Total Sulfur (% dry)	0.00	
Chlorine (% dry)	0.32	
Hg (ppm, dry)	0.34	5.53E-03 lb/hr
<b>Major Ash Elements (% dry)</b>		
SiO <sub>2</sub>	14.26	
Al <sub>2</sub> O <sub>3</sub>	7.14	
TiO <sub>2</sub>	0.32	
Fe <sub>2</sub> O <sub>3</sub>	5.20	
CaO	31.31	
MgO	0.64	
Na <sub>2</sub> O	0.42	
K <sub>2</sub> O	0.42	
P <sub>2</sub> O <sub>5</sub>	0.09	
SO <sub>3</sub>	27.19	
	86.99	

Stack Hg mass flowrate = 0.0682 mg/sec  
 Stack Hg mass flowrate = 6.51E-05 lb/hr  
 Stack Hg Emission = 0.06 lb/T Btu

Hg input from Coal =	5.621E-03	lb/hr
Hg input from Hydrated Lime =	3.264E-05	lb/hr
Total Hg Input =	5.654E-03	lb/hr
Hg output via Product ash =	5.532E-03	lb/hr
Hg output via Stack Flue Gas =	6.508E-05	lb/hr
Total Hg Output =	5.597E-03	lb/hr
Hg closure (output / input) =	98.6%	

Mass Balance Closure - SiO<sub>2</sub> = 108.6%  
 Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> = 100.8%



**Mercury Material Balances - June 2008 (continued)**

Greenidge Unit #4 Test 30B-5  
6/16/08 1130-1730

Gross Generation (MW) = 108.2 MW  
 Net Generation (MW) = 100.1 MW  
 Coal Feed Rate, reported by plant (kpph) = 78.99 kpph  
 Coal Feed Rate (kpph, dry basis) = 75.13 kpph

Ash in coal = 6.31 kpph  
 Bottom Ash Fraction (assumed) = 0.095  
 Fly Ash Fraction (assumed) = 0.905

**Coal Analysis**

Sample ID	Coal
Test No.	30B-5
Sample Date	06/16/08
Analytical Number	
Total Moisture (%)	4.88
As determined Moisture (%)	1.48
VM (% dry)	37.85
Ash (% dry)	8.41
Carbon (% dry)	76.08
Hydrogen (% dry)	5.30
Nitrogen (% dry)	1.69
Total Sulfur (% dry)	2.52
HHV (Btu/lb, dry)	13,777
Chlorine (% dry)	0.10
Hg (ppm, dry)	0.102
<b>Major Ash Elements (% dry)</b>	
SiO <sub>2</sub>	44.02
Al <sub>2</sub> O <sub>3</sub>	22.31
TiO <sub>2</sub>	1.06
Fe <sub>2</sub> O <sub>3</sub>	18.69
CaO	5.21
MgO	1.17
Na <sub>2</sub> O	1.11
K <sub>2</sub> O	1.50
P <sub>2</sub> O <sub>5</sub>	0.27
SO <sub>3</sub>	6.11
	101.43

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet  
 % Deviation from Coal Hg #N/A

CaO in Product Ash 4.85 kpph  
 CaO from Fly Ash 0.30 kpph  
 CaO from Hydrated Lime 4.55 kpph  
 Estimated Hydrated Lime Feed Rate 6.24 kpph

**Hydrated Lime Analysis**

Sample Description	30B-5
Sample Date	6/16/2008
Moisture (%)	0.06
Ash (% dry)	75.77
Carbon (% dry)	0.23
Total Sulfur (% dry)	
Chlorine (% dry)	
Hg (ppm, dry)	0.005
<b>Major Ash Elements (%)</b>	
SiO <sub>2</sub>	0.78
Al <sub>2</sub> O <sub>3</sub>	0.40
TiO <sub>2</sub>	0.02
Fe <sub>2</sub> O <sub>3</sub>	0.17
CaO	72.87
MgO	0.79
Na <sub>2</sub> O	0.07
K <sub>2</sub> O	0.06
P <sub>2</sub> O <sub>5</sub>	0.01
SO <sub>3</sub>	0.21
	75.355

SO<sub>2</sub> at Stack (plant CEM) 108.7 ppmvd  
 Wet Flue Gas Flowrate at Stack (plant) 284895 scfm  
 Flue Gas Moisture at Stack (CONSOL) 13.5 %  
 Flue Gas Flowrate at Stack (CONSOL) 284215 dscfm  
 Flue Gas Flowrate at Stack (plant) 246434 dscfm  
 RPD - CONSOL vs plant flowrate 14.2%

Sulfur at Turbosorp Inlet 1.88 kpph  
 Sulfur at Stack 0.14 kpph  
 Sulfur in Product Ash 1.74 kpph

Product Ash Flow Rate (estimated from S balance) 16.40 kpph

**Product Ash Analysis**

Sample Description	30B-5
Sample Date	6/16/2008
Moisture (%)	0.85
Ash (% dry)	87.15
Carbon (% dry)	9.08
Total Sulfur (% dry)	0.00
Chlorine (% dry)	0.36
Hg (ppm, dry)	0.48
<b>Major Ash Elements (%)</b>	
SiO <sub>2</sub>	15.96
Al <sub>2</sub> O <sub>3</sub>	7.92
TiO <sub>2</sub>	0.37
Fe <sub>2</sub> O <sub>3</sub>	5.67
CaO	29.54
MgO	0.66
Na <sub>2</sub> O	0.47
K <sub>2</sub> O	0.51
P <sub>2</sub> O <sub>5</sub>	0.09
SO <sub>3</sub>	26.82
	87.70

Stack Hg mass flowrate = 0.0030 mg/sec  
 Stack Hg mass flowrate = 2.38E-05 lb/hr  
 Stack Hg Emission = 0.02 lb/T Btu

Hg input from Coal =	7.863E-03	lb/Hr
Hg input from Hydrated Lime =	3.121E-05	lb/Hr
Total Hg Input =	7.895E-03	lb/Hr
Hg output via Product ash =	7.882E-03	lb/Hr
Hg output via Stack Flue Gas =	2.381E-05	lb/Hr
Total Hg Output =	7.906E-03	lb/Hr
Hg closure (output / input) =	102.1%	

Mass Balance Closure - SiO<sub>2</sub> 102.1%  
 Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 100.0%

Greenidge Unit #4 Test 30B-6  
6/17/08 1130-1730

Gross Generation (MW) = 107.8 MW  
 Net Generation (MW) = 99.7 MW  
 Coal Feed Rate (kpph) = 78.52 kpph  
 Coal Feed Rate (kpph, dry basis) = 74.72 kpph

Ash in coal = 5.57 kpph  
 Bottom Ash Fraction (assumed) = 0.095  
 Fly Ash Fraction (assumed) = 0.905

**Coal Analysis**

Sample ID	Coal
Test No.	30B-6
Sample Date	06/17/08
Analytical Number	
Total Moisture (%)	4.84
As determined Moisture (%)	1.49
VM (% dry)	39.00
Ash (% dry)	7.45
Carbon (% dry)	76.97
Hydrogen (% dry)	5.42
Nitrogen (% dry)	1.71
Total Sulfur (% dry)	2.69
HHV (Btu/lb, dry)	14,049
Chlorine (% dry)	0.09
Hg (ppm, dry)	0.088
<b>Major Ash Elements (% dry)</b>	
SiO <sub>2</sub>	43.75
Al <sub>2</sub> O <sub>3</sub>	22.82
TiO <sub>2</sub>	0.99
Fe <sub>2</sub> O <sub>3</sub>	19.66
CaO	4.92
MgO	1.03
Na <sub>2</sub> O	1.24
K <sub>2</sub> O	1.22
P <sub>2</sub> O <sub>5</sub>	0.29
SO <sub>3</sub>	5.58
	101.51

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet  
 % Deviation from Coal Hg #N/A

CaO in Product Ash 5.74 kpph  
 CaO from Fly Ash 0.25 kpph  
 CaO from Hydrated Lime 5.49 kpph  
 Estimated Hydrated Lime Feed Rate 7.51 kpph

**Hydrated Lime Analysis**

Sample Description	30B-6
Sample Date	6/17/2008
Moisture (%)	0.02
Ash (% dry)	74.76
Carbon (% dry)	0.11
Total Sulfur (% dry)	
Chlorine (% dry)	
Hg (ppm, dry)	0.005
<b>Major Ash Elements (%)</b>	
SiO <sub>2</sub>	1.22
Al <sub>2</sub> O <sub>3</sub>	0.39
TiO <sub>2</sub>	0.02
Fe <sub>2</sub> O <sub>3</sub>	0.15
CaO	73.12
MgO	0.78
Na <sub>2</sub> O	0.06
K <sub>2</sub> O	0.06
P <sub>2</sub> O <sub>5</sub>	0.01
SO <sub>3</sub>	0.21
	76.01

SO<sub>2</sub> at Stack (plant CEM) 66.1 ppmvd  
 Wet Flue Gas Flowrate at Stack (plant) 282274 scfm  
 Flue Gas Moisture at Stack (CONSOL) 12.5 %  
 Flue Gas Flowrate at Stack (CONSOL) 291433 dscfm  
 Flue Gas Flowrate at Stack (plant) 246990 dscfm  
 RPD - CONSOL vs plant flowrate 16.8%

Sulfur at Turbosorp Inlet 1.92 kpph  
 Sulfur at Stack 0.09 kpph  
 Sulfur in Product Ash 1.83 kpph

Product Ash Flow Rate (estimated from S balance) 17.65 kpph

**Product Ash Analysis**

Sample Description	30B-6
Sample Date	6/17/2008
Moisture (%)	0.90
Ash (% dry)	85.56
Carbon (% dry)	8.81
Total Sulfur (% dry)	0.00
Chlorine (% dry)	0.37
Hg (ppm, dry)	0.35
<b>Major Ash Elements (%)</b>	
SiO <sub>2</sub>	12.66
Al <sub>2</sub> O <sub>3</sub>	6.66
TiO <sub>2</sub>	0.30
Fe <sub>2</sub> O <sub>3</sub>	4.98
CaO	32.53
MgO	0.66
Na <sub>2</sub> O	0.46
K <sub>2</sub> O	0.40
P <sub>2</sub> O <sub>5</sub>	0.08
SO <sub>3</sub>	25.97
	84.68

Stack Hg mass flowrate = 0.0065 mg/sec  
 Stack Hg mass flowrate = 5.16E-05 lb/hr  
 Stack Hg Emission = 0.05 lb/T Btu

Hg input from Coal =	6.351E-03	lb/Hr
Hg input from Hydrated Lime =	3.765E-05	lb/Hr
Total Hg Input =	6.389E-03	lb/Hr
Hg output via Product ash =	6.186E-03	lb/Hr
Hg output via Stack Flue Gas =	5.159E-05	lb/Hr
Total Hg Output =	6.237E-03	lb/Hr
Hg closure (output / input) =	97.6%	

Mass Balance Closure - SiO<sub>2</sub> 97.3%  
 Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 99.7%

Greenidge Unit #4 Test 30B-7  
6/18/08 1130-1730

Gross Generation (MW) = 108.9 MW  
 Net Generation (MW) = 100.7 MW  
 Coal Feed Rate (kpph) = 79.85 kpph  
 Coal Feed Rate (kpph, dry basis) = 75.63 kpph

Ash in coal = 5.59 kpph  
 Bottom Ash Fraction (assumed) = 0.095  
 Fly Ash Fraction (assumed) = 0.905

**Coal Analysis**

Sample ID	Coal
Test No.	30B-7
Sample Date	06/18/08
Analytical Number	
Total Moisture (%)	5.29
As determined Moisture (%)	1.49
VM (% dry)	38.77
Ash (% dry)	7.39
Carbon (% dry)	77.39
Hydrogen (% dry)	5.40
Nitrogen (% dry)	1.67
Total Sulfur (% dry)	2.48
HHV (Btu/lb, dry)	14,070
Chlorine (% dry)	0.08
Hg (ppm, dry)	0.076
<b>Major Ash Elements (% dry)</b>	
SiO <sub>2</sub>	44.35
Al <sub>2</sub> O <sub>3</sub>	23.50
TiO <sub>2</sub>	1.04
Fe <sub>2</sub> O <sub>3</sub>	18.28
CaO	4.81
MgO	1.09
Na <sub>2</sub> O	1.36
K <sub>2</sub> O	1.31
P <sub>2</sub> O <sub>5</sub>	0.28
SO <sub>3</sub>	5.43
	101.43

**Mercury Input from Coal**

Hg Measured at Air Heater Outlet  
 % Deviation from Coal Hg #N/A

CaO in Product Ash 6.98 kpph  
 CaO from Fly Ash 0.24 kpph  
 CaO from Hydrated Lime 6.74 kpph  
 Estimated Hydrated Lime Feed Rate 8.96 kpph

**Hydrated Lime Analysis**

Sample Description	30B-7
Sample Date	6/18/2008
Moisture (%)	0.01
Ash (% dry)	76.27
Carbon (% dry)	0.24
Total Sulfur (% dry)	
Chlorine (% dry)	
Hg (ppm, dry)	0.005
<b>Major Ash Elements (%)</b>	
SiO <sub>2</sub>	0.82
Al <sub>2</sub> O <sub>3</sub>	0.43
TiO <sub>2</sub>	0.02
Fe <sub>2</sub> O <sub>3</sub>	0.16
CaO	75.20
MgO	0.79
Na <sub>2</sub> O	0.06
K <sub>2</sub> O	0.06
P <sub>2</sub> O <sub>5</sub>	0.01
SO <sub>3</sub>	0.21
	77.74

SO<sub>2</sub> at Stack (plant CEM) 30.3 ppmvd  
 Wet Flue Gas Flowrate at Stack (plant) 286422 scfm  
 Flue Gas Moisture at Stack (CONSOL) 12.9 %  
 Flue Gas Flowrate at Stack (CONSOL) 284221 dscfm  
 Flue Gas Flowrate at Stack (plant) 249474 dscfm  
 RPD - CONSOL vs plant flowrate 13.0%

Sulfur at Turbosorp Inlet 1.87 kpph  
 Sulfur at Stack 0.04 kpph  
 Sulfur in Product Ash 1.83 kpph

Product Ash Flow Rate (estimated from S balance) 19.82 kpph

**Product Ash Analysis**

Sample Description	30B-7
Sample Date	06/18/08
Moisture (%)	0.90
Ash (% dry)	81.87
Carbon (% dry)	10.34
Total Sulfur (% dry)	0.00
Chlorine (% dry)	0.30
Hg (ppm, dry)	0.31
<b>Major Ash Elements (%)</b>	
SiO <sub>2</sub>	11.47
Al <sub>2</sub> O <sub>3</sub>	5.86
TiO <sub>2</sub>	0.27
Fe <sub>2</sub> O <sub>3</sub>	4.44
CaO	35.23
MgO	0.64
Na <sub>2</sub> O	0.42
K <sub>2</sub> O	0.34
P <sub>2</sub> O <sub>5</sub>	0.07
SO <sub>3</sub>	23.04
	81.76

Stack Hg mass flowrate = 0.0018 mg/sec  
 Stack Hg mass flowrate = 1.43E-05 lb/hr  
 Stack Hg Emission = 0.01 lb/T Btu

Hg input from Coal =	5.748E-03	lb/Hr
Hg input from Hydrated Lime =	4.480E-05	lb/Hr
Total Hg Input =	5.793E-03	lb/Hr
Hg output via Product ash =	6.193E-03	lb/Hr
Hg output via Stack Flue Gas =	1.429E-05	lb/Hr
Total Hg Output =	6.207E-03	lb/Hr
Hg closure (output / input) =	107.2%	

Mass Balance Closure - SiO<sub>2</sub> 98.1%  
 Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> 94.7%

**Mercury Material Balances - June 2008 (continued)**

Greenidge Unit #4 Test 308-8  
6/19/08 1130-1730

Gross Generation (MW) = 108.4 MW  
 Net Generation (MW) = 100.2 MW  
 Coal Feed Rate (kpph) = 80.12 kpph  
 Coal Feed Rate (kpph, dry basis) = 75.70 kpph  
 Ash in coal = 5.53 kpph  
 Bottom Ash Fraction (assumed) = 0.095 0.53 kpph  
 Fly Ash Fraction (assumed) = 0.905 5.00 kpph

**Coal Analysis**

Sample ID	Coal	
Test No.	308-8	
Sample Date	06/19/08	
Analytical Number		
Total Moisture (%)	5.53	
As determined Moisture (%)	1.49	
VM (% dry)	39.29	
Ash (% dry)	7.31	5.53 kpph
Carbon (% dry)	76.96	58.25 kpph
Hydrogen (% dry)	5.43	4.11 kpph
Nitrogen (% dry)	1.71	
Total Sulfur (% dry)	2.55	1.93 kpph
HHV (Btu/lb, dry)	14076	1,066 mm Btu/hr
Chlorine (% dry)	0.10	
Hg (ppm, dry)	0.075	5.64E-03 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	44.25	2.45 kpph
Al <sub>2</sub> O <sub>3</sub>	23.19	1.28 kpph
TiO <sub>2</sub>	1.04	0.06 kpph
Fe <sub>2</sub> O <sub>3</sub>	18.58	1.03 kpph
CaO	5.01	0.28 kpph
MgO	1.08	
Na <sub>2</sub> O	1.49	
K <sub>2</sub> O	1.33	
P <sub>2</sub> O <sub>5</sub>	0.30	
SO <sub>2</sub>	5.74	
	102.00	

Mercury Input from Coal = 5.29 lb/Tbtu

Hg Measured at Air Heater Outlet #N/A lb/h  
 % Deviation from Coal Hg #N/A

CaO in Product Ash = 6.80 kpph  
 CaO from Fly Ash = 0.25 kpph  
 CaO from Hydrated Lime = 6.54 kpph  
 Estimated Hydrated Lime Feed Rate = 8.94 kpph

**Hydrated Lime Analysis**

Sample Description	308-8	
Sample Date	6/19/2008	
Moisture (%)	0.01	
Ash (% dry)	75.22	0.04 kpph
Carbon (% dry)	0.50	
Total Sulfur (% dry)		
Chlorine (% dry)		
Hg (ppm, dry)	0.006	4.47E-05 lb/hr
Major Ash Elements (%)		
SiO <sub>2</sub>	0.77	
Al <sub>2</sub> O <sub>3</sub>	0.41	
TiO <sub>2</sub>	0.02	
Fe <sub>2</sub> O <sub>3</sub>	0.22	
CaO	73.21	
MgO	0.80	
Na <sub>2</sub> O	0.06	
K <sub>2</sub> O	0.06	
P <sub>2</sub> O <sub>5</sub>	0.01	
SO <sub>2</sub>	0.21	
	75.77	

SO<sub>2</sub> at Stack (plant CEM) = 67.2 ppmvd  
 Wet Flue Gas Flowrate at Stack (plant) = 286997 scfm  
 Flue Gas Moisture at Stack (CONSOL) = 12.4 %  
 Flue Gas Flowrate at Stack (CONSOL) = 289957 dscfm  
 Flue Gas Flowrate at Stack (plant) = 251409 dscfm  
 RPD - CONSOL vs plant flowrate = 14.2%

Sulfur at Turbosorp Inlet = 1.92 kpph  
 Sulfur at Stack = 0.09 kpph  
 Sulfur in Product Ash = 1.83 kpph

Product Ash Flow Rate (estimated from S balance) = 20.05 kpph

**Product Ash Analysis**

Sample Description	308-8	
Sample Date	06/19/08	
Moisture (%)	0.86	
Ash (% dry)	81.70	2.21 kpph
Carbon (% dry)	11.04	
Total Sulfur (% dry)	0.00	
Chlorine (% dry)	0.30	
Hg (ppm, dry)	0.31	6.24E-03 lb/hr
Major Ash Elements (% dry)		
SiO <sub>2</sub>	12.32	
Al <sub>2</sub> O <sub>3</sub>	6.27	
TiO <sub>2</sub>	0.28	
Fe <sub>2</sub> O <sub>3</sub>	4.69	
CaO	33.90	
MgO	0.63	
Na <sub>2</sub> O	0.48	
K <sub>2</sub> O	0.36	
P <sub>2</sub> O <sub>5</sub>	0.08	
SO <sub>2</sub>	22.82	
	81.81	

Stack Hg mass flowrate = 0.0035 mg/sec  
 Stack Hg mass flowrate = 2.78E-05 lb/hr  
 Stack Hg Emission = 0.03 lb/T Btu

Hg input from Coal =	5.639E-03	lb/hr
Hg input from Hydrated Lime =	4.470E-05	lb/hr
Total Hg Input =	5.684E-03	lb/hr
Hg output via Product ash =	6.235E-03	lb/hr
Hg output via Stack Flue Gas =	2.778E-05	lb/hr
Total Hg Output =	6.263E-03	lb/hr
Hg closure (output / input) =	110.2%	

Mass Balance Closure - SiO<sub>2</sub> = 108.1%  
 Mass Balance Closure - Al<sub>2</sub>O<sub>3</sub> = 105.0%

**APPENDIX L**  
**BULK CHEMICAL ANALYSIS OF LPA AND ASH**  
**SAMPLES COLLECTED IN AND AROUND THE SCR**  
**REACTOR IN DECEMBER 2007**





Submitted by: D. Connell  
 Date: 1/16/2008  
 Project #: 1621-085  
 General Description: LPA and Ash Samples from AES Greenidge Unit 4 December 2007 Outage

Analytical Number	Sample	Description	Total Sample Mass (g)
20080062	SAMPLE 1 FRACTION 1	LPA - Large, dark, porous pieces from LPA screen	18.96
20080063	SAMPLE 1 FRACTION 2	LPA - Large, red, porous pieces from LPA screen	20.53
20080064	SAMPLE 1 FRACTION 3	LPA - Large, gray, porous pieces from LPA screen	19.26
20080065	SAMPLE 1 FRACTION 4	LPA - Medium, less-porous pieces; assorted colors (tan, red, gray); from LPA screen	6.66
20080066	SAMPLE 1 FRACTION 5	Scale-like pieces; slightly rounded; smooth on one side, rounded on other; shades of white, gray, tan; from LPA screen	2.52
20080067	SAMPLE 1 FRACTION 6	Chalky ash pellets, earth tones; from LPA screen	0.71
20080068	SAMPLE 1 FRACTION 7	Gray/tan fly ash from LPA screen	5.26
20080029	SAMPLE 3A - COARSE	LPA from catalyst surface - South/East - Coarse Fraction (+60M)	62.70
20080030	SAMPLE 3A - FINE	LPA from catalyst surface - South/East - Fine Fraction (-60M)	50.82
20080031	SAMPLE 4 - COARSE	LPA from catalyst screen - Coarse Fraction (+60M)	45.49
20080032	SAMPLE 4 - FINE	LPA from catalyst screen - Fine Fraction (-60M)	12.83
20080033	SAMPLE 5 - COARSE	Ash from catalyst/catalyst screen - Coarse Fraction (+60M)	77.80
20080034	SAMPLE 5 - FINE	Ash from catalyst/catalyst screen - Fine Fraction (-60M)	373.60
20080035	SAMPLE 7	Light-colored ash from SCR reactor	
20080036	SAMPLE 8	Ash stuck to bottoms of structures above catalyst (center)	
20080037	SAMPLE 11	Ash from top of Delta Wings	
20080038	SAMPLE 12	Ash protruding from bottom of catalyst - North/West	
20080039	SAMPLE 13 - COARSE	Ash from ductwork between air heaters and Turbosorp - Coarse Fraction (+60M)	62.01
20080040	SAMPLE 13 - FINE	Ash from ductwork between air heaters and Turbosorp - Fine Fraction (-60M)	123.71
20080041	SAMPLE 14	Ash protruding from bottom of catalyst - South/East	

NOTE: Sample 1 was a composite sample of material found on top of the LPA screen. It was manually divided into seven fractions of like material identified by visual inspection. Samples 3A, 4, 5, and 13 were divided into coarse and fine fractions using a 60 mesh screen. All of these fractions were then analyzed separately.



Submitted by: D. Connell  
 Date: 1/16/2008  
 Project #: 1621-085  
 General Description: LPA and Ash Samples from AES Greenidge Unit 4 December 2007 Outage

Analytical Number	Sample	Wt. % Dry Basis									
		As Determined Moisture %	Ash	Carbon	Hydrogen	Nitrogen	Sulfur in Ash/Sample	Chlorine	Ammonia (ppmw)		
20080062	SAMPLE 1 FRACTION 1	<0.01	100.40	0.31	0.20	<0.01		0.0013	<12.2		
20080063	SAMPLE 1 FRACTION 2	<0.01	98.97	0.29	0.21	<0.01		0.0013	<12.2		
20080064	SAMPLE 1 FRACTION 3	<0.01	99.50	0.45	0.03	0.08		0.0010	<12.2		
20080065	SAMPLE 1 FRACTION 4	<0.01	99.18	0.30	0.32	<0.01		0.0016	<12.2		
20080066	SAMPLE 1 FRACTION 5	1.17	72.61	0.34	0.29	0.13	3.65/11.26	0.0080	572		
20080067	SAMPLE 1 FRACTION 6	<0.01	94.40	0.43	0.45	<0.01		0.0034			
20080068	SAMPLE 1 FRACTION 7	<0.01	96.22	0.44	0.32	<0.01		0.0035	17.9		
20080029	SAMPLE 3A - COARSE	0.12	99.85	0.44	0.20	<0.01		0.1282	29.9		
20080030	SAMPLE 3A - FINE	0.15	94.66	4.08	0.18	0.01	0.31/1.41	0.0037	23.7		
20080031	SAMPLE 4 - COARSE	<0.01	99.04	0.42	0.21	<0.01		0.0075	<12.2		
20080032	SAMPLE 4 - FINE	0.72	92.47	3.68	0.22	<0.01	0.61/1.39	0.0346	14.4		
20080033	SAMPLE 5 - COARSE	<0.01	99.28	0.54	0.21	0.08		0.0034	<12.2		
20080034	SAMPLE 5 - FINE	0.01	97.16	0.77	0.19	<0.01		0.0017	<12.2		
20080035	SAMPLE 7	<0.01	96.54	0.47	0.20	<0.01		0.0030	33.3		
20080036	SAMPLE 8	0.02	97.13	0.45	0.20	<0.01		0.0025	47.7		
20080037	SAMPLE 11	<0.01	97.78	0.53	0.21	<0.01		0.0037	<12.2		
20080038	SAMPLE 12	0.07	95.73	0.47	0.21	<0.01	0.80/2.08	0.0175	<12.2		
20080039	SAMPLE 13 - COARSE	1.78	64.51	1.12	0.90	2.32	2.26/11.21	0.0128	1210		
20080040	SAMPLE 13 - FINE	0.34	93.89	0.59	0.24	0.20	0.66/1.62	0.0018	1764		
20080041	SAMPLE 14	0.13	95.27	0.46	0.20	<0.01		0.0022	<12.2		

Analytical Number	Sample	Major Ash Elements, Wt. % of Total Sample, Dry Basis									
		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3
20080062	SAMPLE 1 FRACTION 1	46.07	23.02	1.16	22.36	3.30	0.82	0.40	1.61	0.29	0.83
20080063	SAMPLE 1 FRACTION 2	45.84	22.28	1.14	20.66	3.09	0.82	0.32	1.52	0.32	1.05
20080064	SAMPLE 1 FRACTION 3	47.48	23.37	1.25	19.65	3.03	0.79	0.35	1.60	0.28	0.86
20080065	SAMPLE 1 FRACTION 4	48.28	24.07	1.32	19.24	3.59	0.87	0.52	1.70	0.32	1.34
20080066	SAMPLE 1 FRACTION 5	32.43	15.73	1.04	6.79	4.48	0.82	0.72	1.41	0.58	31.68
20080067	SAMPLE 1 FRACTION 6	48.65	22.38	1.18	9.17	3.53	0.99	0.78	2.04	0.49	7.80
20080068	SAMPLE 1 FRACTION 7	50.82	21.90	1.27	11.54	3.37	0.91	0.62	1.87	0.39	4.60
20080029	SAMPLE 3A - COARSE	43.10	21.82	1.14	26.64	3.66	0.76	0.44	1.49	0.29	1.70
20080030	SAMPLE 3A - FINE	39.08	19.81	1.00	28.56	3.27	0.76	0.49	1.39	0.30	3.57
20080031	SAMPLE 4 - COARSE	44.67	23.12	1.22	23.89	3.30	0.82	0.38	1.56	0.25	1.89
20080032	SAMPLE 4 - FINE	43.13	21.78	1.48	19.44	3.81	0.90	0.66	1.51	0.39	3.96
20080033	SAMPLE 5 - COARSE	43.96	20.48	1.16	25.88	2.64	0.64	0.32	1.32	0.20	1.61
20080034	SAMPLE 5 - FINE	35.58	18.70	0.98	34.46	3.02	0.65	0.36	1.21	0.22	2.20
20080035	SAMPLE 7	48.84	23.94	1.31	15.58	3.66	0.91	0.53	1.77	0.34	4.18
20080036	SAMPLE 8	49.33	24.03	1.24	13.62	3.77	0.90	0.69	1.70	0.36	4.06
20080037	SAMPLE 11	45.88	22.99	1.12	21.48	3.33	0.79	0.51	1.64	0.36	2.99
20080038	SAMPLE 12	44.81	22.27	1.18	18.40	3.37	0.83	0.56	1.64	0.32	5.62
20080039	SAMPLE 13 - COARSE	29.72	17.77	1.25	6.34	2.48	0.76	0.71	1.42	0.54	30.13
20080040	SAMPLE 13 - FINE	48.21	24.24	1.34	12.23	3.58	0.91	0.79	1.78	0.40	4.52
20080041	SAMPLE 14	49.30	24.19	1.24	12.13	3.41	0.92	0.78	1.70	0.31	4.50



**Fuel Tech, Inc.**  
27601 Bella Vista Parkway  
Warrenville, Illinois 60555

Phone – (630) 845-4500  
Fax – (630) 845-4501

January 9, 2009

CONSOL Energy Inc.  
Research & Development  
4000 Brownsville Road  
South Park, PA 15129-9566

Attention: Mr. Daniel P. Connell

Subject: AES Greenidge  
Dresden Power Station  
**DRAWING USE PERMISSION**

Dear Mr. Connell,

Fuel Tech, Inc. grants permission to the U.S. Department of Energy to use the project drawing entitled “AES Greenidge #4, Dresden, New York, NOxOUT Utility System, System Overview Sheet 1” in any public reports and publications regarding this project.

Sincerely,

Timothy Eibes  
Vice President, APC Projects

CC: File