APPENDIX I
LABORATORY ANALYSIS RESULTS
FOR FLUE GAS SAMPLES

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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 (H20 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	2	1.11	1.19	1.15	7.0%
20071685	SAMPLE LINE RINSE	AHO-1-HG-1-RO/DO	3	2.40	2.01	2.21	17.7%
20071686	KCL IMPINGER	AHO-1-HG-1-RO/DO	4	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	5	< 1.40	< 1.40	< 1.40	0.0%
20071688	KMNO4 IMPINGER	AHO-1-HG-1-RO/DO	6	1.97	2.00	1.99	1.5%
20071689	KMNO4 ACID RINSE	AHO-1-HG-1-RO/DO	7	< 1.40	< 1.40	< 1.40	0.0%
20071690	PROBE & FILTER RINSE/LINE	STK-1-HG-1-BS/KC	10	< 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	11	< 0.28	< 0.28	< 0.28	0.0%
20071692	HNO3/H2O2 IMPINGER	STK-1-HG-1-BS/KC	12	< 1.40	< 1.40	< 1.40	0.0%
20071693	KMNO4 IMPINGER	STK-1-HG-1-BS/KC	13	< 0.28	< 0.28	< 0.28	0.0%
20071694	KMNO4 ACID RINSE	STK-1-HG-1-BS/KC	14	< 1.40	< 1.40	< 1.40	0.0%
20071695	PROBE & FILTER RINSE	AHO-1-HG-2-RO/DO	16	1.52	1.65	1.59	8.2%
20071696	SAMPLE LINE RINSE	AHO-1-HG-2-RO/DO	17	6.97	6.58	6.78	5.8%
20071697	KCL IMPINGER	AHO-1-HG-2-RO/DO	18	10.53	10.76	10.65	2.2%
20071698	HNO3/H2O2 IMPINGER	AHO-1-HG-2-RO/DO	19	< 1.40	< 1.40	< 1.40	0.0%
20071699	KMNO4 IMPINGER	AHO-1-HG-2-RO/DO	20	0.98	0.99	0.99	1.0%
20071700	KMNO4 ACID RINSE	AHO-1-HG-2-RO/DO	21	< 1.40	< 1.40	< 1.40	0.0%
20071701	PROBE & FILTER RINSE/LINE RINSE	STK-1-HG-2-BS/KC	24	< 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	25	< 0.28	< 0.28	< 0.28	0.0%
20071703	HNO3/H2O2 IMPINGER	STK-1-HG-2-BS/KC	26	< 1.40	< 1.40	< 1.40	0.0%
20071704	KMNO4 IMPINGER	STK-1-HG-2-BS/KC	27	< 0.28	< 0.28	< 0.28	0.0%
20071705	KMNO4 ACID RINSE	STK-1-HG-2-BS/KC	28	< 1.40	< 1.40	< 1.40	0.0%
20071706	PROBE & FILTER RINSE	AHO-1-HG-3-RO/DO	30	< 1.40	< 1.40	< 1.40	0.0%
20071707	SAMPLE LINE RINSE	AHO-1-HG-3-RO/DO	31	3.74	3.57	3.66	4.7%
20071708	KCL IMPINGER	AHO-1-HG-3-RO/DO	32	7.60	8.10	7.85	6.4%
20071709	HNO3/H2O2 IMPINGER	AHO-1-HG-3-RO/DO	33	< 1.40	< 1.40	< 1.40	0.0%
20071710	KMNO4 IMPINGER	AHO-1-HG-3-RO/DO	34	1.16	1.15	1.16	0.9%
20071711	KMNO4 ACID RINSE	AHO-1-HG-3-RO/DO	35	< 1.40	< 1.40	< 1.40	0.0%
20071712	PROBE & FILTER RINSE/LINE RINSE	STK-1-HG-3-BS/KC	38	< 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	39	< 0.28	< 0.28	< 0.28	0.0%
20071714	HNO3/H2O2 IMPINGER	STK-1-HG-3-BS/KC	40	< 1.40	< 1.40	< 1.40	0.0%
20071715	KMNO4 IMPINGER	STK-1-HG-3-BS/KC	41	< 0.28	< 0.28	< 0.28	0.0%
20071716	KMNO4 ACID RINSE	STK-1-HG-3-BS/KC	42	< 1.40	< 1.40	< 1.40	0.0%
20071717	KMNO4 BLANK		43	< 0.28	< 0.28	< 0.28	0.0%
20071718	KCL BLANK		44	< 0.28	< 0.28	< 0.28	0.0%
20071719	HNO3/H2O2 BLANK		45	< 1.40	< 1.40	< 1.40	0.0%
20071720	HNO3/HCL BLANK		46	< 1.40	< 1.40	< 1.40	0.0%
20071721	PROBE & FILTER RINSE	AHO-1-HG-4-RO/DO	90	< 1.40	< 1.40	< 1.40	0.0%
20071722	SAMPLE LINE RINSE	AHO-1-HG-4-RO/DO	91	3.22	3.01	3.12	6.7%
20071723	KCL IMPINGER	AHO-1-HG-4-RO/DO	92	8.72	8.99	8.86	3.0%
20071724	HNO3/H2O2 IMPINGER	AHO-1-HG-4-RO/DO	93	< 1.40	< 1.40	< 1.40	0.0%
20071725	KMNO4 IMPINGER	AHO-1-HG-4-RO/DO	94	< 0.28	< 0.28	< 0.28	0.0%
20071726	KMNO4 ACID RINSE	AHO-1-HG-4-RO/DO	95	< 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	98	< 1.40	< 1.40	< 1.40	0.0%
			97	< 1.40	< 1.40	< 1.40	0.0%
20071728	KCL IMPINGER	STK-1-HG-5-BS/KC	99	< 0.28	< 0.28	< 0.28	0.0%
20071729	HNO3/H2O2 IMPINGER	STK-1-HG-5-BS/KC	100	< 1.40	< 1.40	< 1.40	0.0%
20071730	KMNO4 IMPINGER	STK-1-HG-5-BS/KC	101	< 0.28	< 0.28	< 0.28	0.0%
20071731	KMNO4 ACID RINSE	STK-1-HG-5-BS/KC	102	< 1.40	< 1.40	< 1.40	0.0%
20071732	PROBE & FILTER RINSE	AHO-1-HG-5-RO/DO	104	< 1.40	< 1.40	< 1.40	0.0%
20071733	SAMPLE LINE RINSE	AHO-1-HG-5-RO/DO	105	< 1.40	< 1.40	< 1.40	0.0%
20071734	KCL IMPINGER	AHO-1-HG-5-RO/DO	106	8.32	8.57	8.45	3.0%
20071735	HNO3/H2O2 IMPINGER	AHO-1-HG-5-RO/DO	107	< 1.40	< 1.40	< 1.40	0.0%
20071736	KMNO4 IMPINGER	AHO-1-HG-5-RO/DO	108	0.37	0.42	0.40	12.7%
20071737	KMNO4 ACID RINSE	AHO-1-HG-5-RO/DO	109	< 1.40	< 1.40	< 1.40	0.0%
20071738	PROBE & FILTER RINSE/LINE	STK-1-HG-5-BS/KC	112	< 1.40	< 1.40	< 1.40	0.0%
			111	< 1.40	< 1.40	< 1.40	0.0%
20071739	KCL IMPINGER	STK-1-HG-5-BS/KC	113	< 0.28	< 0.28	< 0.28	0.0%
20071740	HNO3/H2O2 IMPINGER	STK-1-HG-5-BS/KC	114	< 1.40	< 1.40	< 1.40	0.0%
20071741	KMNO4 IMPINGER	STK-1-HG-5-BS/KC	115	0.42	0.31	0.37	30.1%
20071742	KMNO4 ACID RINSE	STK-1-HG-5-BS/KC	116	< 1.40	< 1.40	< 1.40	0.0%
20071743	PROBE & FILTER RINSE	AHO-1-HG-6-RO/DO	118	< 1.40	< 1.40	< 1.40	0.0%
20071744	SAMPLE LINE RINSE	AHO-1-HG-6-RO/DO	119	< 1.40	< 1.40	< 1.40	0.0%
20071745	KCL IMPINGER	AHO-1-HG-6-RO/DO	120	7.96	8.12	8.04	2.0%
20071746	HNO3/H2O2 IMPINGER	AHO-1-HG-6-RO/DO	121	< 1.40	< 1.40	< 1.40	0.0%
20071747	KMNO4 IMPINGER	AHO-1-HG-6-RO/DO	122	1.54	1.55	1.55	0.6%
20071748	KMNO4 ACID RINSE	AHO-1-HG-6-RO/DO	123	< 1.40	< 1.40	< 1.40	0.0%
20071749	PROBE & FILTER RINSE	STK-1-HG-6	126	< 1.40	< 1.40	< 1.40	0.0%
			125	< 1.40	< 1.40	< 1.40	0.0%
20071750	KCL IMPINGER	STK-1-HG-6	127	< 0.28	< 0.28	< 0.28	0.0%
20071751	HNO3/H2O2 IMPINGER	STK-1-HG-6	128	< 1.40	< 1.40	< 1.40	0.0%
20071752	KMNO4 IMPINGER	STK-1-HG-6	129	< 0.28	< 0.28	< 0.28	0.0%
20071753	KMNO4 ACID RINSE	STK-1-HG-6	130	< 1.40	< 1.40	< 1.40	0.0%
20071754	KMNO4 BLANK		131	< 0.28	< 0.28	< 0.28	0.0%
20071755	KCL BLANK		132	< 0.28	< 0.28	< 0.28	0.0%
20071756	HNO3/H2O2 BLANK		133	< 1.40	< 1.40	< 1.40	0.0%
20071757	KMNO4 BLANK IMPINGER		134	< 0.28	< 0.28	< 0.28	0.0%
20071758	HNO3/HCL BLANK		135	< 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 (µg/L)	Hg (µg/L)	Hg (µg/L)	RSD, %
20071752	KMNO4 IMPINGER	STK-1-HG-6	129	< 0.28	< 0.28	< 0.28	0.0%
20071697	KCL IMPINGER	AHO-1-HG-2-RO/DO	18	10.53	10.76	10.71	1.1%
20071705	KMNO4 ACID RINSE	STK-1-HG-2-BS/KC	28	< 1.40	< 1.40	< 1.40	0.0%
20071748	KMNO4 ACID RINSE	AHO-1-HG-6-RO/DO	123	< 1.40	< 1.40	< 1.40	0.0%
20071690	PROBE & FILTER RINSE/LINE	STK-1-HG-1-BS/KC	10	< 1.40	< 1.40	< 1.40	0.0%
			37	< 1.40	< 1.40	< 1.40	0.0%
20071727	PROBE & FILTER RINSE/LINE	STK-1-HG-5-BS/KC	98	< 1.40	< 1.40	< 1.40	0.0%
20071704	KMNO4 IMPINGER	STK-1-HG-2-BS/KC	27	< 0.28	< 0.28	< 0.28	0.0%
20071730	KMNO4 IMPINGER	STK-1-HG-5-BS/KC	101	< 0.28	< 0.28	< 0.28	0.0%
20071723	KCL IMPINGER	AHO-1-HG-4-RO/DO	92	8.72	8.99	9.02	1.9%
20071703	HNO3/H2O2 IMPINGER	STK-1-HG-2-BS/KC	26	< 1.40	< 1.40	< 1.40	0.0%
20071751	HNO3/H2O2 IMPINGER	STK-1-HG-6	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	AHO-1-HG-6-RO/DO	122	105.5	
20071700	KMNO4 ACID RINSE	AHO-1-HG-2-RO/DO	21	96.5	
20071753	KMNO4 ACID RINSE	STK-1-HG-6	130	95.5	
			9	100	
20071712	PROBE & FILTER RINSE/LINE RINSE	STK-1-HG-3-BS/KC	38	90.5	
20071702	KCL IMPINGER	STK-1-HG-2-BS/KC	25	96	
			97	93.5	
20071749	PROBE & FILTER RINSE	STK-1-HG-6	126	98	
20071713	KCL IMPINGER	STK-1-HG-3-BS/KC	39	95.5	
20071698	HNO3/H2O2 IMPINGER	AHO-1-HG-2-RO/DO	19	101	
20071746	HNO3/H2O2 IMPINGER	AHO-1-HG-6-RO/DO	121	106	
20071699	KMNO4 IMPINGER	AHO-1-HG-2-RO/DO	20	103.5	
20071736	KMNO4 IMPINGER	AHO-1-HG-5-RO/DO	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 cerrtified value of 141 ng/g.

Lab No.	Description	Sample	Results (ng/g)	% RECOVERY	
SRM	NA	1633B		97.9%	analyzed with digestates of filters/blank thimble
SRM	NA	1633B		94.4%	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	STK-1-HG-1-BS/KC	11	104.5
20071715	KMNO4 IMPINGER	STK-1-HG-3-BS/KC	41	102.5
20071740	HNO3/H2O2 IMPINGER	STK-1-HG-5-BS/KC	114	106.5

CONSOL ENERGY

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)	Hg in Sample	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	4.93	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	KCL IMPINGER	SCRI TEST 1 BG/KE/DL	4	50	2	5492	5525		5510	5.51	ug/L	0.6		
20076041	HNO3/H2O2 IMPINGER	SCRI TEST 1 BG/KE/DL	5			2.19	2.25		2.22	2.22	ug/L	2.7		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			0.77	0.78		0.775	0.775	ug/L	1.3		
20076046	KCL IMPINGER	SCRO TEST 1 BG/KE/DL	11			3.38	3.31	3.30	3.33	3.33	ug/L	2.1	1.3	
20076047	HNO3/H2O2 IMPINGER	SCRO TEST 1 BG/KE/DL	12			2.24	2.17		2.21	2.21	ug/L	3.2		
20076048 rpt	KMNO4 IMPINGER	SCRO TEST 1 BG/KE/DL	13	50	2	10722	11369	14591	12200	12.2	ug/L	5.9	16.9	97
20076049	KMNO4 ACID RINSE	SCRO TEST 1 BG/KE/DL	14			0.5	0.49		0.495	0.495	ug/L	2.0		
20076050	PROBE & FILTER RINSE	AHO TEST 1 BS/BH	16			1.73	1.76		1.75	1.75	ug/L	1.7		
20076051	HEATED LINE RINSE	AHO TEST 1 BS/BH	17			1.54	1.55		1.55	1.55	ug/L	0.6		
20076052	KCL IMPINGER	AHO TEST 1 BS/BH	18			11.32	11.12		11.2	11.2	ug/L	1.8		
20076053	HNO3/H2O2 IMPINGER	AHO TEST 1 BS/BH	19			0.52	0.53	0.61	0.553	0.55	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	50	10	21961	21916		21900	21.9	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	2.00	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	1.08	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		105
20076071D	HNO3/H2O2 IMPINGER	SCRO TEST 2 BG/KE/DL	40						10.0	10	ug/L	#DIV/0!		
20076072	KMNO4 IMPINGER	SCRO TEST 2 BG/KE/DL	41			5	5.24		5.12	5.12	ug/L	4.7		

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
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			0.19	0.19		0.19	0.19	ug/L	0.0		
20076081	KCL IMPINGER	STK TEST 2 KC/JM	52			0.15	0.16		0.155	0.155	ug/L	6.5		
20076082	HNO3/H2O2 IMPINGER	STK TEST 2 KC/JM	53			0.55	0.5		0.525	0.525	ug/L	9.5		
20076083	KMNO4 IMPINGER	STK TEST 2 KC/JM	54			0.1	0.1		0.1	0.1	ug/L	0.0		
20076084	KMNO4 ACID RINSE	STK TEST 2 KC/JM	55	10	10	93.14	92.84		93	0.093	ug/L	0.3		
20076085	PROBE & FILTER RINSE	SCRI TEST 3 BG/KE/DL	57	10	10	513	527	520	520	0.52	ug/L	2.7	1.3	
20076086	HEATED LINE RINSE	SCRI TEST 3 BG/KE/DL	58	10	10	18185	18697		18400	18.4	ug/L	2.8		94
20076086 rpt	HEATED LINE RINSE	SCRI TEST 3 BG/KE/DL	58	50	10	17759	18863		18300	18.3	ug/L	6.0		
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	2252	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			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	2936		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	0.6	
20076103	PROBE & FILTER RINSE	STK TEST 3 KC/JM	78	10	10	156	157		157	0.157	ug/L	0.6		95
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		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)	STK TEST 4	163	10	51 mL	1.7	1.74		1.72	0.00172	ug	2.3		
20076482	FILTER/SOLIDS	170				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		100
20076488	FILTER/SOLIDS	274				0.98	0.964		0.972	0.972	ug/g	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	1.04	ug/g	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	PROBE & FILTER RINSE	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		1040	1.04	ug/L	1.1		
20076509	KMNO4 ACID RINSE	AHO TEST 5	176	10	10	98.2	94.4	92.2	94.9	0.0949	ug/L	3.9	3.2	
20076510	PROBE & FILTER RINSE	STK TEST 5	178	10	10	111	111		111	0.111	ug/L	0.0		98
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		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		148	0.148	ug/L	12.9		
20076521	KMNO4 IMPINGER	AHO TEST 6 BPS/RLO	192	50	2	357	337	342	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		50	10	21969	21589		21800	21.8	ug/L	1.7		109
20076527	KMNO4 IMPINGER	STK TEST 6 BWG/KRC	199	50	2	219	206		213	0.213	ug/L	6.1		
20076528	KMNO4 ACID RINSE	STK TEST 6 BWG/KRC	200	10	10	52.6	50.6	45.9	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			244	247		246	0.246	ug/L	1.2		
20076537S	KCL IMPINGER	STK TEST 7 BG/KC	253			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		185	10	10	64.7	65.1		64.9	0.0649	ug/L	0.6		
20076542	KMNO4 BLANK		257	10	10	60.3	56.8		58.6	0.0586	ug/L	6.0		
20076543	KCL BLANK		258	10	10	77.6	78.8		78.2	0.0782	ug/L	1.5		
20076544 rpt	HNO3/H2O2 BLANK		259	5	10	109	107		108	0.108	ug/L	1.9		
20076545	HNO3/HCL BLANK		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		
20076551	HEATED LINE RINSE	AHO TEST 8 BS/RO	276	10	10	994	1026		1010	1.01	ug/L	3.2		107
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	
20076555	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	553		552	0.552	ug/L	0.5		
20076558	KCL IMPINGER	STK TEST 8 BG/KC	284	50	2	87.5	82.5		85	0.085	ug/L	5.9		
20076559	HNO3/H2O2 IMPINGER	STK TEST 8 BG/KC	285	10	10	103	97.1		100	0.1	ug/L	5.9		
20076560	KMNO4 IMPINGER	STK TEST 8 BG/KC	286	50	2	43.1	45.7		44.4	0.0444	ug/L	5.9		
20076561	KMNO4 ACID RINSE	STK TEST 8 BG/KC	287	10	10	40	36.1	38.4	38.2	0.0382	ug/L	10.2	5.1	
20076562	KMNO4 BLANK		288	10	10	25.2	23.1		24.2	0.0242	ug/L	8.7		
20076563	PROBE & FILTER RINSE	AHO TEST 9 BS/RO	313	10	10	257	241	249	249	0.249	ug/L	6.4	3.2	93
20076564	HEATED LINE RINSE	AHO TEST 9 BS/RO	314	10	10	452	424		438	0.438	ug/L	6.4		
20076565	KCL IMPINGER	AHO TEST 9 BS/RO	315	50	2	5744	5629		5690	5.69	ug/L	2.0		
20076566	HNO3/H2O2 IMPINGER	AHO TEST 9 BS/RO	316	50	10	394	403	376	391	0.391	ug/L	2.3	3.5	
20076567	KMNO4 IMPINGER	AHO TEST 9 BS/RO	317	50	2	173	164		169	0.169	ug/L	5.3		
20076568	KMNO4 ACID RINSE	AHO TEST 9 BS/RO	318	10	10	102	98.5		100	0.1	ug/L	3.5		
20076569	PROBE & FILTER RINSE	STK TEST 9 BG/KC	320	10	10	93.2	90.7		92	0.092	ug/L	2.7		
20076570	HEATED LINE RINSE	STK TEST 9 BG/KC	321			336	343		340	0.34	ug/L	2.1		
20076571	KCL IMPINGER	STK TEST 9 BG/KC	322	50	2	64.3	60.3		62.3	0.0623	ug/L	6.4		
20076572	HNO3/H2O2 IMPINGER	STK TEST 9 BG/KC	323	50	10	43.4	33.6		38.5	0.0385	ug/L	25.5		
20076573	KMNO4 IMPINGER	STK TEST 9 BG/KC	324	50	2	42.9	42.7	44.54	43.4	0.0434	ug/L	0.5	2.3	
20076574	KMNO4 ACID RINSE	STK TEST 9 BG/KC	325	10	10	51.35	50.76		51.1	0.0511	ug/L	1.2		
20076575	KMNO4 BLANK		326	10	10	32.1	25.3		28.7	0.0287	ug/L	23.7		
20076576	THIMBLE BLANK (ug/filter)		269	10	51 mL	2.72	2.71		2.72	0.00272	ug	0.4		
20076577	47-MM FILTER BLANK (ug/filter)		270			0.63	0.64		0.635	0.000635	ug	1.6		

CONSOL ENERGY

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	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	1.5	
20077454	FILTER/SOLIDS		65	50	0.051 L	41.23	41.61		41.4	0.002	ug	0.9		96
20077455	FILTER/SOLIDS		72	50	0.051 L	91.29	92.17		91.7	0.005	ug	1.0		
20077456	47-MM FILTER BLANK		136	50	0.051 L	27.91	26.62		27.3	0.001	ug	4.7		
20077457	FILTER/SOLIDS		141	AMA 254						1.670	ug/g			
20077458	FILTER/SOLIDS		148			79.73	71.27		75.5	0.004	ug	11.2		
20077459	PROBE & FILTER RINSE	STK TEST 1 KC, BH	2	10	10	34.5	33.6		34.1	0.034	ug/L	2.6		
20077460	HEATED LINE RINSE	STK TEST 1 KC, BH	3	10	10	205	201		203	0.203	ug/L	2.0		
20077461	KCL IMPINGERS	STK TEST 1 KC, BH	4	50	2	98.5	89.3		93.9	0.094	ug/L	9.8		
20077462	HNO3/H2O2 IMPINGER	STK TEST 1 KC, BH	5	50	10	177	162		170	0.170	ug/L	8.8		
20077463	KMNO4 IMPINGER	STK TEST 1 KC, BH	6	50	2	106	101		104	0.104	ug/L	4.8		
20077464	KMNO4 ACID RINSE	STK TEST 1 KC, BH	7	10	10	58.8	58.0		58.4	0.058	ug/L	1.4		
20077465	PROBE & FILTER RINSE	STK TEST 2 KC, BH	9	10	10	57.2	52.6		54.9	0.055	ug/L	8.4		
20077466	HEATED LINE RINSE	STK TEST 2 KC, BH	10	10	10	446	442		444	0.444	ug/L	0.9		
20077467	KCL IMPINGER	STK TEST 2 KC, BH	11	50	2	70.9	69		70	0.070	ug/L	2.7		
20077468	HNO3/H2O2 IMPINGER	STK TEST 2 KC, BH	12	50	10	162	155		159	0.159	ug/L	4.4		
20077469	KMNO4 IMPINGER	STK TEST 2 KC, BH	13	50	2	328	316		322	0.322	ug/L	3.7		
20077470	KMNO4 ACID RINSE	STK TEST 2 KC, BH	14	10	10	97.6	98.6	95	97.1	0.097	ug/L	1.0	1.9	
20077471	KMNO4 BLANK		15	10	10	5.75	4.80		5.28	0.005	ug/L	18.0		
20077472	PROBE & FILTER RINSE	STK TEST 3 KC, BH	66	10	10	23.4	26.7		25.1	0.025	ug/L	13.2		
20077473	HEATED LINE RINSE	STK TEST 3 KC, BH	67	10	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	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	4.6	
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	5.8	
20077476S	KMNO4 IMPINGER	STK TEST 3 KC, BH	70	50	2	4648	4687		4670	4.670	ug/L	0.8		98.8
20077477	KMNO4 ACID RINSE	STK TEST 3 KC, BH	71	10	10	22	23.5		22.8	0.023	ug/L	6.6		
20077478	PROBE & FILTER RINSE	STK TEST 4 KC, BH	73	10	10	17	15.4		16.2	0.016	ug/L	9.9		
20077479	HEATED LINE RINSE	STK TEST 4 KC, BH	74	10	10	192	194		193	0.193	ug/L	1.0		100
20077480	KCL IMPINGER	STK TEST 4 KC, BH	75	50	2	22.3	26.0	25.0	24.4	0.024	ug/L	15.3	7.8	
20077480D	KCL IMPINGER	STK TEST 4 KC, BH	75	50	2	24.0	22.0		23	0.023	ug/L	8.7		105
20077480S	KCL IMPINGER	STK TEST 4 KC, BH	75	50	2	4522	4724.0		4620	4.620	ug/L	4.4	3.1	
20077481	HNO3/H2O2 IMPINGER	STK TEST 4 KC, BH	76	50	10	129	109		119	0.119	ug/L	16.8		106
20077482	KMNO4 IMPINGER	STK TEST 4 KC, BH	77	50	2	48.4	53.2		50.8	0.051	ug/L	9.4		
20077483	KMNO4 ACID RINSE	STK TEST 4 KC, BH	78	10	10	38.9	35.8		37.4	0.037	ug/L	8.3		
20077484	KCL IMPINGER	STK BLANK TRAIN	79	50	2	57.7	54.9		56.3	0.056	ug/L	5.0		
20077485	HNO3/H2O2 IMPINGER	STK BLANK TRAIN	80	50	10	197	176		187	0.187	ug/L	11.3		
20077485D	HNO3/H2O2 IMPINGER	STK BLANK TRAIN	80	50	10	168	154		161	0.161	ug/L	8.7		
20077485S	HNO3/H2O2 IMPINGER	STK BLANK TRAIN	80	50	10	23701	24403		24100	24.100	ug/L	2.9		103
20077486	KMNO4 IMPINGER	STK BLANK TRAIN	81	50	2	18	11.3		14.7	0.015	ug/L	45.7		
20077487	KMNO4 ACID RINSE	STK BLANK TRAIN	82	10	10	51.9	48.5		50.2	0.050	ug/L	6.8		
20077488	KCL BLANK		137	10	10	7.1	9.82		8.46	0.008	ug/L	32.2		90.7
20077489	HNO3/H2O2 BLANK		138	10	10	198	152		175	0.175	ug/L	26.3		
20077490	KMNO4 BLANK		139	10	10	5	5		5	0.005	ug/L	0.0		
20077491	HNO3/HCL BLANK		140	10	10	20.7	17.4		19.1	0.019	ug/L	17.3		100.5
20077492	PROBE & FILTER RINSE	AHO TEST 1	142	50	10	1975	1974		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	11.500	ug/L	0.7		
20077494	KCL IMPINGER	AHO TEST 1	144	200	2	9377	9782		9580	9.580	ug/L	4.2		
20077495	HNO3/H2O2 IMPINGER	AHO TEST 1	145	50	10	442	311		377	0.377	ug/L	34.8		
20077496	KMNO4 IMPINGER	AHO TEST 1	146	50	2	1133	1162		1150	1.150	ug/L	2.5		
20077497	KMNO4 ACID RINSE	AHO TEST 1	147	10	10	40.3	32.9		36.6	0.037	ug/L	20.2		
20077498	PROBE & FILTER RINSE	STK TEST 5	149	10	10	23.4	22.2		22.8	0.023	ug/L	5.3		
20077499	HEATED LINE RINSE	STK TEST 5	150	10	10	275	238		257	0.257	ug/L	14.4		
20077500	KCL IMPINGER	STK TEST 5	151	50	2	38.2	36.5		37.4	0.037	ug/L	4.6		
20077501	HNO3/H2O2 IMPINGER	STK TEST 5	152	50	10	168	155		162	0.162	ug/L	8.0		
20077502	KMNO4 IMPINGER	STK TEST 5	153	50	2	26.3	28.1		27.2	0.027	ug/L	6.6		
20077503	KMNO4 ACID RINSE	STK TEST 5	154	10	10	10.4	11.3		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	0.051 L	96.84	96.23		96.5	0.005	ug	0.6		

CONSOL ENERGY

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	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	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	1.87	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	0.00150	ug	0.3		
20081170	PROBE & FILTER RINSE ECON OUT TEST 1	2	50	10	3586	3674		3630	3.630	ug/L	2.4		
20081171	HEATED LINE RINSE ECON OUT TEST 1	3	50	10	20890	20640		20800	20.800	ug/L	1.2		
20081172	KCL IMPINGER ECON OUT TEST 1	4	200	2	10401	10683		10500	10.500	ug/L	2.7		
20081173	HNO3/H2O2 IMPINGER ECON OUT TEST 1	5	50	10	11060	11320		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	0.057	ug/L	1.3		
20081175	KMNO4 ACID RINSE ECON OUT TEST 1	7	10	10	529	517		523	0.523	ug/L	2.3		
20081176	PROBE & FILTER RINSE AHI TEST 1	9	50	10	815	787		801	0.801	ug/L	3.5		
20081177	HEATED LINE RINSE AHI TEST 1	10	50	10	6220	6120		6170	6.170	ug/L	1.6		
20081178	KCL IMPINGER AHI TEST 1	11	200	2	19555	20246		19900	19.900	ug/L	3.5		
20081178	KCL IMPINGER AHI TEST 1	11	200	2	18280	18768		18500	18.500	ug/L	2.6		
20081178	KCL IMPINGER AHI TEST 1	11	200	2	19556	20246		19900	19.900	ug/L	3.5		
20081179	HNO3/H2O2 IMPINGER AHI TEST 1	12	50	10	2309	2328		2320	2.320	ug/L	0.8		
20081180	KMNO4 IMPINGER AHI TEST 1	13	5	2	8.82	8.54	9.18	8.85	0.009	ug/L	3.2	3.6	
20081181	KMNO4 ACID RINSE AHI TEST 1	14	10	10	1012	1016		1010	1.010	ug/L	0.4		
20081182	PROBE & FILTER RINSE AHO TEST 1	16	10	10	768	760		764	0.764	ug/L	1.0		99
20081183	HEATED LINE RINSE AHO TEST 1	17	50	10	2680	2660		2670	2.670	ug/L	0.7		
20081184	KCL IMPINGER AHO TEST 1	18	200	2	23548	24580		24100	24.100	ug/L	4.3		
20081185	HNO3/H2O2 IMPINGER AHO TEST 1	19	50	10	438	431	408	426	0.426	ug/L	1.6	3.7	
20081185	HNO3/H2O2 IMPINGER AHO TEST 1	19	50	10	365	342		353	0.353	ug/L	6.6		
20081186	KMNO4 IMPINGER AHO TEST 1	20	10	2	4.88	4.66		4.77	0.005	ug/L	4.6		
20081187	KMNO4 ACID RINSE AHO TEST 1	21	10	10	328	327		328	0.328	ug/L	0.3		
20081188	PROBE & FILTER RINSE STK TEST 1	23	10	10	114	108		111	0.111	ug/L	5.4		
20081189	HEATED LINE RINSE STK TEST 1	24	50	10	366	364		365	0.365	ug/L	0.4		105
20081190	KCL IMPINGER STK TEST 1	25	10	2	49.2	48.2		48.7	0.049	ug/L	2.1		
20081191	HNO3/H2O2 IMPINGER STK TEST 1	26	10	10	91.0	85.0		88	0.088	ug/L	6.8		101
20081192	KMNO4 IMPINGER STK TEST 1	27	5	2	109	109		109	0.109	ug/L	0.6		
20081192	KMNO4 IMPINGER STK TEST 1	27	5	2	106	110		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	1.500	ug/L	4.4		
20081194	PROBE & FILTER RINSE ECON OUT TEST 2	30	50	10	16360	16850		16600	16.600	ug/L	3.0		
20081195	HEATED LINE RINSE ECON OUT TEST 2	31	50	10	2202	2248		2230	2.23	ug/L	2.1		
20081196	KCL IMPINGER ECON OUT TEST 2	32	1000	2	5534	5771		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	10.70	ug/L	0.2		
20081199	KMNO4 ACID RINSE ECON OUT TEST 2	35	10	10	1156	1192		1170	1.17	ug/L	3.1		
20081200	PROBE & FILTER RINSE AHI TEST 2	37	10	10	1212	1213		1210	1.21	ug/L	0.1		
20081201	HEATED LINE RINSE AHI TEST 2	38	50	10	4283	4402		4340	4.34	ug/L	2.7		
20081202	KCL IMPINGER AHI TEST 2	39	200	2	20480	20282		20400	20.40	ug/L	1.0		
20081202	KCL IMPINGER AHI TEST 2	39	200	2	18268	19266	19210	18900	18.90	ug/L	5.3	3.0	
20081203	HNO3/H2O2 IMPINGER AHI TEST 2	40	50	10	1406	1433		1420	1.42	ug/L	1.9		
20081204	KMNO4 IMPINGER AHI TEST 2	41	10	2	9.60	9.00		9.3	0.01	ug/L	6.5		
20081205	KMNO4 ACID RINSE AHI TEST 2	42	10	10	559	546		553	0.55	ug/L	2.4		
20081206	PROBE & FILTER RINSE AHO TEST 2	44	10	10	511	494		503	0.50	ug/L	3.4		
20081207	HEATED LINE RINSE AHO TEST 2	45	50	10	4850	4970		4910	4.91	ug/L	2.4		
20081208	KCL IMPINGER AHO TEST 2	46	200	2	25837	25407		25600	25.60	ug/L	1.7		
20081209	HNO3/H2O2 IMPINGER AHO TEST 2	47	10	10	530	521		526	0.53	ug/L	1.7		114
20081209D	HNO3/H2O2 IMPINGER AHO TEST 2	47	10	10	544	529		537	0.54	ug/L	2.8		
20081210	KMNO4 IMPINGER AHO TEST 2	48	10	2	7.64	6.8		7.22	0.007	ug/L	11.6		
20081211	KMNO4 ACID RINSE AHO TEST 2	49	10	10	333	327		330	0.330	ug/L	1.8		
20081212	PROBE & FILTER RINSE STK TEST 2	51	10	10	96.0	103		99.5	0.100	ug/L	7.0		
20081213	HEATED LINE RINSE STK TEST 2	52	50	10	263	257		260	0.260	ug/L	2.3		
20081213	HEATED LINE RINSE STK TEST 2	52	50	10	201	206		203	0.203	ug/L	2.5		
20081214	KCL IMPINGER STK TEST 2	53	50	2	228	207		218	0.218	ug/L	9.3		99
20081215	HNO3/H2O2 IMPINGER STK TEST 2	54	10	10	125	128		127	0.127	ug/L	2.4		
20081216	KMNO4 IMPINGER STK TEST 2	55	10	2	9.60	8.40		9	0.009	ug/L	13.3		
20081217	KMNO4 ACID RINSE STK TEST 2	56	10	10	249	232		241	0.241	ug/L	7.1		
20081218	HNO3/H2O2 BLANK	57	10	10	677	666		672	0.672	ug/L	1.6		
20081219	KCL BLANK	58	10	2	8.26	9.86		9.06	0.009	ug/L	17.7		99
20081219	KCL BLANK	58	10	2	14.06	13.86		14	0.014	ug/L	1.4		98
20081220	HNO3/HCL BLANK	59	10	10	442	420		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	0.003	ug/L	17.1		
20081223	PROBE & FILTER RINSE ECON OUT TEST 3	63	10	10	1246	1253		1250	1.250	ug/L	0.6		
20081224	HEATED LINE RINSE ECON OUT TEST 3	64	50	10	21247	21704		21500	21.5	ug/L	2.1		
20081225	KCL IMPINGER ECON OUT TEST 3	65	200	2	4806	4980		4890	4.890	ug/L	3.6		
20081226	HNO3/H2O2 IMPINGER ECON OUT TEST 3	66	10	10	3418	3353		3390	3.39	ug/L	1.9		91
20081227	KMNO4 IMPINGER ECON OUT TEST 3	67	500	2	7004	7246	7356	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	1.48	ug/L	2.0		
20081230	HEATED LINE RINSE AHI TEST 3	71	50	10	12280	12540		12400	12.4	ug/L	2.1		
20081231	KCL IMPINGER AHI TEST 3	72	200	2	16825	16458		16600	16.600	ug/L	2.2		
20081231	KCL IMPINGER AHI TEST 3	72	200	2	15256	14992		15100	15.100	ug/L	1.7		109
20081231	KCL IMPINGER AHI TEST 3	72	200	2	16824	16458		16600	16.600	ug/L	2.2		
20081232	HNO3/H2O2 IMPINGER AHI TEST 3	73	50	10	1919	1871		1900	1.900	ug/L	2.5		
20081233	KMNO4 IMPINGER AHI TEST 3	74	10	2	9.00	9.40		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	1.27	ug/L	1.0		
20081236	HEATED LINE RINSE AHO TEST 3	78	50	10	4280	4310		4300	4.30	ug/L	0.7		
20081237	KCL IMPINGER AHO TEST 3	79	200	2	19685	20818		20300	20.30	ug/L	5.6		
20081238	HNO3/H2O2 IMPINGER AHO TEST 3	80	50	10	392	389		390	0.390	ug/L	0.6		94
20081239	KMNO4 IMPINGER AHO TEST 3	81	10	2	3.94	3.36		3.65	0.004	ug/L	15.9		
20081240	KMNO4 ACID RINSE AHO TEST 3	82	10	10	570	559		565	0.565	ug/L	1.9		
20081241	PROBE & FILTER RINSE STK TEST 3	84	10	10	77.0	76.0		76.5	0.077	ug/L	1.3		
20081242	HEATED LINE RINSE STK TEST 3	85	50	10	226	229		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)	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	ug/L	2.7		
20081244	HNO3/H2O2 IMPINGER STK TEST 3	87	10	10	87.0	95.0		91	0.09	ug/L	8.8		
20081245	KMNO4 IMPINGER STK TEST 3	88	10	2	6.72	6.66	5.70	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	ug/L	9.2		
20081247	PROBE & FILTER RINSE ECON OUT TEST 4	91	10	10	2202	2182		2190	2.19	ug/L	0.9		
20081248	HEATED LINE RINSE ECON OUT TEST 4	92	50	10	14959	15073	15087	15000	15.0	ug/L	0.8	0.5	
20081249	KCL IMPINGER ECON OUT TEST 4	93	200	2	6069	5774		5920	5.92	ug/L	5.0		
20081250	HNO3/H2O2 IMPINGER ECON OUT TEST 4	94	10	10	6392	6430		6410	6.41	ug/L	0.6		
20081251	KMNO4 IMPINGER ECON OUT TEST 4	95	500	2	12430	13088		12800	12.80	ug/L	5.2		
20081251	KMNO4 IMPINGER ECON OUT TEST 4	95	100	2	10566	10682		10600	10.60	ug/L	1.1		
20081252	KMNO4 ACID RINSE ECON OUT TEST 4	96	10	10	819	815		817	0.82	ug/L	0.5		99
20081253	PROBE & FILTER RINSE AHI TEST 4	98	10	10	782	776	788	782	0.78	ug/L	0.8	0.8	
20081254	HEATED LINE RINSE AHI TEST 4	99	50	10	11240	11130	11110	11160	11.2	ug/L	1.0	0.6	
20081255	KCL IMPINGER AHI TEST 4	100	200	2	11863	11921		11900	11.90	ug/L	0.5		
20081255	KCL IMPINGER AHI TEST 4	100	200	2	10826	11396		11100	11.10	ug/L	5.1		
20081256	HNO3/H2O2 IMPINGER AHI TEST 4	101	50	10	2145	2178		2160	2.16	ug/L	1.5		
20081257	KMNO4 IMPINGER AHI TEST 4	102	10	2	71.0	70.8		70.9	0.071	ug/L	0.3		
20081258	KMNO4 ACID RINSE AHI TEST 4	103	10	10	744	707		726	0.73	ug/L	5.1		101
20081259	PROBE & FILTER RINSE AHO TEST 4	105	10	10	4246	4270		4260	4.26	ug/L	0.6		
20081260	HEATED LINE RINSE AHO TEST 4	106	50	10	704	691		698	0.70	ug/L	1.9		107
20081261	KCL IMPINGER AHO TEST 4	107	200	2	20961	20664		20800	20.80	ug/L	1.4		120
20081261D	KCL IMPINGER AHO TEST 4	107	200	2	20596	21152		20900	20.90	ug/L	2.7		
20081262	HNO3/H2O2 IMPINGER AHO TEST 4	108	10	10	434	423		428	0.43	ug/L	2.7		
20081263	KMNO4 IMPINGER AHO TEST 4	109	10	2	12.8	9.60		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	ug/L	14.3		
20081264	KMNO4 ACID RINSE AHO TEST 4	110	10	10	610	600		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	ug/L	1.0		
20081266	HEATED LINE RINSE STK TEST 4	113	50	10	156	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	ug/L	23.0		
20081268	HNO3/H2O2 IMPINGER STK TEST 4	115	10	10	89.0	106		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	ug/L	17.0		100
20081270	KMNO4 ACID RINSE STK TEST 4	117	10	2	84.0	85.4		84.7	0.08	ug/L	1.7		
20081271	KMNO4 BLANK	15	10	2	6.60	7.00		6.8	0.01	ug/L	5.9		
20081278	KCL IMP BLANK TRAIN	118	10	2	6.54	7.02		6.78	0.01	ug/L	7.1		
20081279	HNO3/H2O2 BLANK TRAIN	119	10	10	135	124	144	134	0.13	ug/L	8.2	7.5	
20081280	KMNO4 BLANK TRAIN	120	10	2	2.80	2.80		2.8	0.0028	ug/L	0.0		
20081281	HCL RINSE BLANK TRAIN	121	10	10	1172	1212		1190	1.19	ug/L	3.4		
	Blank Filter		10	0.051	0.38	0.33		0.358	0.00036	ug	13.0		

CONSOL ENERGY

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	594		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		
20082429D	HNO3/H2O2 IMPINGER AHI TEST 1	12	50	10	1351	1311		1330	1.330	ug/L	3.0		
20082429S	HNO3/H2O2 IMPINGER AHI TEST 1	12	50	10	23015	22794		22900	22.900	ug/L	1.0		108
20082430	KMNO4 IMPINGER AHI TEST 1	13	50	2	1355	1357		1360	1.360	ug/L	0.1		
20082431	KMNO4 ACID RINSE AHI TEST 1	14	50	10	119	124		122	0.122	ug/L	4.1		
20082432	PROBE & FILTER RINSE STACK TEST 1	16	2	10	31	30.5		30.8	0.031	ug/L	1.6		
20082433	HEATED LINE RINSE STACK TEST 1	17	50	10	141	129		135	0.135	ug/L	8.9		
20082434	KCL IMPINGER STACK TEST 1	18	10	2	139	141		140	0.140	ug/L	1.1		
20082434D	KCL IMPINGER STACK TEST 1	18	10	2	142	143		143	0.143	ug/L	0.8		
20082434S	KCL IMPINGER STACK TEST 1	18	50	2	4617	4660		4640	4.640	ug/L	0.9		112
20082435	HNO3/H2O2 IMPINGER STACK TEST 1	19	10	10	90.6	88.5		89.6	0.090	ug/L	2.3		103
20082436	KMNO4 IMPINGER STACK TEST 1	20	50	2	200	184		192	0.192	ug/L	7.9		100
20082437	KMNO4 ACID RINSE STACK TEST 1	21	10	10	40	41		40.5	0.041	ug/L	2.5		
20082438	PROBE & FILTER RINSE ECON OUT TEST 2	23	10	10	161	152		157	0.157	ug/L	5.8		107
20082438rpt	PROBE & FILTER RINSE ECON OUT TEST 2	23	10	10	168	164		166	0.166	ug/L	2.7		
20082439	HEATED LINE RINSE ECON OUT TEST 2	24	50	10	602	593		598	0.598	ug/L	1.5		
20082439rpt	PROBE & FILTER RINSE ECON OUT TEST 2	23	10	10	620	630		625	0.625	ug/L	1.6		
20082440 rpt	KCL IMPINGER ECON OUT TEST 2	25	500	2	18752	19357		19100	19.100	ug/L	3.2		
20082441	HNO3/H2O2 IMPINGER ECON OUT TEST 2	26	50	10	1870	1745		1810	1.810	ug/L	6.9		
20082442	KMNO4 IMPINGER ECON OUT TEST 2	27	50	2	7305	7486		7400	7.400	ug/L	2.5		
20082442D	KMNO4 IMPINGER ECON OUT TEST 2	27	50	2	7514	7440	7471	7470	7.470	ug/L	1.0	0.5	
20082442S	KMNO4 IMPINGER ECON OUT TEST 2	27	50	2	11572	11809		11700	11.700	ug/L	2.0		107

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20082443	KMNO4 ACID RINSE ECON OUT TEST 2	28	50	10	212	217		215	0.215	ug/L	2.3		
20082444	PROBE & FILTER RINSE AHI TEST 2	30	50	10	259	247		253	0.253	ug/L	4.7		
20082445	HEATED LINE RINSE AHI TEST 2	31	50	10	5186	5301		5240	5.240	ug/L	2.2		
20082446	KCL IMPINGER AHI TEST 2	32	200	2	21095	20722		20900	20.900	ug/L	1.8		
20082447	HNO3/H2O2 IMPINGER AHI TEST 2	33	50	10	1624	1622		1620	1.620	ug/L	0.1		
20082448	KMNO4 IMPINGER AHI TEST 2	34	50	2	8535	8371		8450	8.450	ug/L	1.9		
20082449	KMNO4 ACID RINSE AHI TEST 2	35	50	10	546	548		547	0.547	ug/L	0.4		
20082450	PROBE & FILTER RINSE STACK TEST 2	37	10	10	103	109		106	0.106	ug/L	5.7		92
20082451	HEATED LINE RINSE STACK TEST 2	38	10	10	124	119	119	121	0.121	ug/L	4.1	2.4	
20082452	KCL IMPINGER STACK TEST 2	39	10	2	149	143		146	0.146	ug/L	4.1		
20082453	HNO3/H2O2 IMPINGER STACK TEST 2	40	10	10	119	118		119	0.119	ug/L	0.8		
20082454	KMNO4 IMPINGER STACK TEST 2	41	50	2	260	247		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	ug/L	5.7		
20082456	KCL IMPINGER	43	10	2	39.1	36.8		37.9	0.038	ug/L	6.1		
20082457	HNO3/H2O2 IMPINGER	44	2	10	29.8	29.4		29.6	0.030	ug/L	1.4		
20082458	KMNO4 IMPINGER	45	10	2	4.36	4.46		4.41	0.004	ug/L	2.3		104
20082459	KMNO4 ACID RINSE	46	10	10	42.0	39.0		40.5	0.041	ug/L	7.4		
20082460	KCL BLANK	47	2	2	1.26	1.36		1.31	0.001	ug/L	7.6		
20082461	HNO3/H2O2 BLANK	61	10	10	112	104		108	0.108	ug/L	7.4		
20082462	KMNO4 BLANK	50	10	2	5.42	5.30	5.40	5.37	0.005	ug/L	2.2	1.2	
20082463	HNO3/HCL BLANK	49	2	10	4.70	3.60		4.15	0.004	ug/L	26.5		

CONSOL ENERGY

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	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	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	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	0.00223	ug	4.8		
20083235	47-MM FILTER BLANK	85	50	0.051	0.66	0.66		0.66	0.00066	ug	0.5		
20083236	THIMBLE BLANK	96	5	0.051	1.59	1.53		1.56	0.00156	ug	3.5		
20083237	PROBE & FILTER RINSE ECON OUT TEST 1	2	10	10	874	896		885	0.885	ug/L	2.5		
20083238	HEATED LINE RINSE ECON OUT TEST 1	3	10	10	406	398		402	0.402	ug/L	2.0		
20083239	KCL IMPINGER ECON OUT TEST 1	4	400	2	2880	2884		2880	2.88	ug/L	0.1		107
20083239R	KCL IMPINGER ECON OUT TEST 1	4	400	2	2746	2806		2780	2.78	ug/L	2.2		
20083240	HNO3/H2O2 IMPINGER ECON OUT TEST 1	5	50	10	1420	1340		1380	1.38	ug/L	5.8		
20083241	KMNO4 IMPINGER ECON OUT TEST 1	6	50	2	1902	1888		1900	1.90	ug/L	0.7		
20083242	KMNO4 ACID RINSE ECON OUT TEST 1	7	10	10	121	116		119	0.119	ug/L	4.2		
20083243	PROBE & FILTER RINSE AHI TEST 1	9	10	10	60.7	61.4		61.1	0.061	ug/L	1.1		
20083244	HEATED LINE RINSE AHI TEST 1	10	10	10	1963	1879		1920	1.92	ug/L	4.4		
20083245	KCL IMPINGER AHI TEST 1	11	1000	2	14518	14492		14500	14.5	ug/L	0.2		
20083245D	KCL IMPINGER AHI TEST 1	11	1000	2	15234	15278		15300	15.3	ug/L	0.3		
20083245S	KCL IMPINGER AHI TEST 1	11	1000	2	17962	18406		18200	18.2	ug/L	2.4		93
20083246	HNO3/H2O2 IMPINGER AHI TEST 1	12	10	10	1050	1020		1040	1.04	ug/L	2.9		
20083247	KMNO4 IMPINGER AHI TEST 1	13	50	2	1478	1458		1470	1.47	ug/L	1.4		
20083247D	KMNO4 IMPINGER AHI TEST 1	13	50	2	1418	1386		1400	1.40	ug/L	2.3		
20083247S	KMNO4 IMPINGER AHI TEST 1	13	50	2	6358	6254		6310	6.31	ug/L	1.6		81
20083248	KMNO4 ACID RINSE AHI TEST 1	14	10	10	223	221		222	0.222	ug/L	1.1		
20083249	PROBE & FILTER RINSE STK TEST 1	16	10	10	446	433		440	0.440	ug/L	3.0		
20083250	HEATED LINE RINSE STK TEST 1	17	10	10	112	110		111	0.111	ug/L	1.2		
20083251	KCL IMPINGER STK TEST 1	18	10	2	146	146		146	0.146	ug/L	0.1		
20083252	HNO3/H2O2 IMPINGER STK TEST 1	19	10	10	67.2	67.8		67.5	0.068	ug/L	0.9		
20083253	KMNO4 IMPINGER STK TEST 1	20	10	2	15.8	14.7		15.2	0.015	ug/L	7.6		
20083254R	KMNO4 ACID RINSE STK TEST 1	21	5	10	45.3	41.4		43.4	0.043	ug/L	9.0	6.4	
20083255	PROBE & FILTER RINSE ECON OUT TEST 2	23	10	10	257	242		250	0.250	ug/L	6.1		
20083256	HEATED LINE RINSE ECON OUT TEST 2	24	10	10	212	210		211	0.211	ug/L	0.9		
20083257	KCL IMPINGER ECON OUT TEST 2	25	400	2	4004	3762		3880	3.88	ug/L	6.2		
20083257R	KCL IMPINGER ECON OUT TEST 2	25	400	2	3528	3402		3470	3.47	ug/L	3.6		
20083258	HNO3/H2O2 IMPINGER ECON OUT TEST 2	26	50	10	2000	1960		1980	1.98	ug/L	2.0		
20083259	KMNO4 IMPINGER ECON OUT TEST 2	27	50	2	2384	2428		2410	2.41	ug/L	1.8		104
20083260	KMNO4 ACID RINSE ECON OUT TEST 2	28	10	10	160	153		156	0.156	ug/L	4.0		
20083261	PROBE & FILTER RINSE AHI TEST 2	30	10	10	553	530		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	6970	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	283	273		278	0.278	ug/L	3.6		
20083266R	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		
20083275R	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
20083277	KMNO4 IMPINGER ECON OUT TEST 3	48	50	2	3210	3226		3220	3.22	ug/L	0.5		
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		63.1	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		
20083292	HEATED LINE RINSE ECON OUT TEST 4	66	10	10	243	237		240	0.240	ug/L	2.5		102
20083293	KCL IMPINGER ECON OUT TEST 4	67	400	2	6466	6330		6400	6.40	ug/L	2.1		
20083293R	KCL IMPINGER ECON OUT TEST 4	67	400	2	6218	5888		6050	6.05	ug/L	5.5		
20083294	HNO3/H2O2 IMPINGER ECON OUT TEST 4	68	50	10	2440	2330		2390	2.39	ug/L	4.6		
20083295	KMNO4 IMPINGER ECON OUT TEST 4	69	1000	2	27612	26840		27200	27.2	ug/L	2.8		
20083296	KMNO4 ACID RINSE ECON OUT TEST 4	70	10	10	876	839		858	0.858	ug/L	4.3		105
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		
20083300D	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	5	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		26.7	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		107
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	10	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

DATE	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
END TIME	1152	1156	943	1530	1540	1543	440	600	1508	1529	1536
RUN	AHI-1	AHO-1	STK-1	AHI-2	AHO-2	STK-2	AHO-3	AHO-4	AHI-3	AHO-5	STK-3
Titration Information:											
FILTER PLUG:											
NORMALITY	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
ALIQUOT	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	0.08
PROBE:											
NORMALITY	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
ALIQUOT	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
CONDENSER:											
VOLUME	50	50	50	50	50	50	50	50	50	50	50
ALIQUOT	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
SO2 IMPINGERS:											
VOLUME	250	250	250	250	250	250	250	250	250	250	250
ALIQUOT	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

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
Titration Information:						
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
Titration Information:						
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% H202 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% H202 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

	-------- WATER ANALYSIS ---------			
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

	-------- WATER ANALYSIS ---------			
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

	-------- WATER ANALYSIS ---------			
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
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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_2	48.66	48.13	48.18
Al_2O_3	24.23	24.22	24.15
TiO_2	1.15	1.07	1.07
Fe_2O_3	17.28	17.81	17.62
CaO	2.99	3.08	3.08
MgO	0.82	0.81	0.81
Na_2O	0.52	0.55	0.50
K_2O	1.85	1.88	1.83
P_2O_5	0.52	0.51	0.51
SO_3	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_2	46.61	44.66	44.05	40.12
Al_2O_3	22.16	21.80	21.31	19.32
TiO_2	1.06	1.05	1.00	0.89
Fe_2O_3	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_2O	0.41	0.38	0.35	0.32
K_2O	1.48	1.43	1.38	1.24
P_2O_5	0.30	0.33	0.30	0.30
SO_3	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_2	37.90
Al_2O_3	17.98
TiO_2	0.83
Fe_2O_3	21.75
CaO	2.43
MgO	0.55
Na_2O	0.28
K_2O	1.12
P_2O_5	0.28
SO_3	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_2	44.49	43.80	45.88	44.42	32.54	34.14	39.23
Al_2O_3	21.48	21.27	21.95	21.24	16.18	16.98	19.86
TiO_2	1.07	1.06	1.10	1.07	0.85	0.89	1.08
Fe_2O_3	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_2O	0.47	0.46	0.47	0.45	0.36	0.38	0.50
K_2O	1.61	1.60	1.62	1.56	1.17	1.26	1.54
P_2O_5	0.45	0.46	0.45	0.45	0.44	0.46	0.58
SO_3	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_2	45.01	46.07	45.41	44.61	29.69	31.87	35.63
Al_2O_3	21.24	21.58	21.46	21.09	14.61	15.61	17.85
TiO_2	1.09	1.10	1.12	1.09	0.78	0.84	0.99
Fe_2O_3	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_2O	0.43	0.43	0.43	0.43	0.32	0.34	0.42
K_2O	1.56	1.55	1.53	1.51	1.03	1.11	1.35
P_2O_5	0.44	0.42	0.45	0.44	0.41	0.42	0.50
SO_3	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_2	44.93	43.54	44.76	43.97	35.15	32.12	28.91
Al_2O_3	21.19	20.47	20.90	20.57	17.45	15.78	14.04
TiO_2	1.11	1.08	1.13	1.10	0.99	0.89	0.76
Fe_2O_3	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_2O	0.42	0.41	0.42	0.41	0.40	0.34	0.28
K_2O	1.53	1.45	1.47	1.46	1.29	1.14	0.96
P_2O_5	0.43	0.42	0.43	0.42	0.51	0.43	0.37
SO_3	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_2	44.60	43.84	43.50	45.40	28.45	32.34	28.40
Al_2O_3	20.94	20.50	20.54	22.63	14.97	16.91	14.99
TiO_2	1.07	1.05	1.08	1.06	0.71	0.81	0.72
Fe_2O_3	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_2O	0.41	0.39	0.40	0.50	0.34	0.40	0.36
K_2O	1.46	1.41	1.43	1.73	1.09	1.29	1.13
P_2O_5	0.41	0.41	0.46	0.46	0.40	0.43	0.41
SO_3	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[b]	TEST 2[c]	TEST 3[d]
Date & Time[a]	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_2	44.98	42.69	44.62	42.22	42.34	41.41	43.52	41.81	42.67	42.38
Al_2O_3	20.75	20.16	22.46	21.80	20.94	20.78	21.48	20.75	20.97	20.88
TiO_2	0.92	0.88	0.99	0.92	0.90	0.86	0.91	0.87	0.90	0.89
Fe_2O_3	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_2O	0.80	0.76	0.81	0.86	0.81	0.82	0.83	0.87	0.84	0.86
K_2O	1.46	1.39	1.57	1.57	1.58	1.51	1.61	1.53	1.46	1.71
P_2O_5	0.36	0.38	0.48	0.37	0.34	0.37	0.40	0.37	0.38	0.37
SO_3	4.81	4.97	3.78	5.31	4.29	5.83	3.83	5.14	4.92	4.82

[a]If a range of times is listed, result is for a composite of samples collected at the beginning and end of the range. [b]Mercury Test #4. [c]Mercury Test #5. [d]Mercury Test #6.

Turbosorp® Hopper Ash Sample Analysis Results

Analytical Number	20071805	20071806	20071807	20071835	20071836	20071837
Test Identification	TEST 1	TEST 2	TEST 3	TEST 1[a]	TEST 2[b]	TEST 3[c]
Date & Time	MARCH 28 11:30	MARCH 28 16:00	MARCH 28 20:00	MARCH 30 10:00	MARCH 30 13:45	MARCH 30 16:45
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_2	25.86	25.48	26.31	26.34	26.73	26.05
Al_2O_3	11.66	10.36	11.96	12.01	12.18	11.73
TiO_2	0.46	0.46	0.47	0.45	0.48	0.46
Fe_2O_3	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_2O	0.38	0.31	0.38	0.42	0.42	0.40
K_2O	0.69	0.54	0.70	0.71	0.71	0.68
P_2O_5	0.28	0.35	0.32	0.28	0.26	0.25
SO_3	1.50	2.10	1.52	1.47	2.38	2.46

[a]Mercury test #4. [b]Mercury test #5. [c]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_2	12.28	12.18	11.85	11.65	11.82	11.37
Al_2O_3	6.08	6.06	5.93	5.85	5.94	5.71
TiO_2	0.26	0.26	0.25	0.25	0.26	0.25
Fe_2O_3	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_2O	0.32	0.32	0.30	0.31	0.30	0.30
K_2O	0.45	0.45	0.43	0.43	0.43	0.44
P_2O_5	0.14	0.12	0.12	0.13	0.11	0.11
SO_3	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[a]	TEST 2[b]	TEST 3[c]
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_2	12.41	12.06	12.03	12.93	12.59	12.12
Al_2O_3	6.17	6.05	6.06	6.61	6.28	6.06
TiO_2	0.26	0.26	0.26	0.29	0.27	0.26
Fe_2O_3	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_2O	0.32	0.31	0.31	0.33	0.33	0.33
K_2O	0.46	0.45	0.44	0.48	0.48	0.47
P_2O_5	0.11	0.13	0.14	0.13	0.13	0.12
SO_3	21.14	21.90	21.91	20.92	21.57	21.84

[a]Mercury test #4. [b]Mercury test #5. [c]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[a]	TEST 2[b]	TEST 3[c]
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[d,g]			88.07[e,g]			92.57[f,g]		
Slaking Rate, temperature rise in 30 sec., °C	32.0[d,g]			30.0[e,g]			33.0[f,g]		
Slaking Rate, temperature rise in 3 min., °C	52.0[d,g]			50.5[e,g]			52.0[f,g]		
Slaking Residue, %	0.97[d,g]			3.79[e,g]			2.06[f,g]		
Major Ash Elements, % dry									
SiO_2	1.06	1.07	0.98	1.03	1.61	1.33	0.65	1.81	2.34
Al_2O_3	0.48	0.49	0.48	0.54	0.49	0.43	0.44	0.46	0.46
TiO_2	0.02	0.02	0.02	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Fe_2O_3	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_2O	0.08	0.06	0.08	0.05	0.09	0.08	0.06	0.05	0.06
K_2O	0.07	0.06	0.06	<0.03	0.07	0.06	0.04	0.03	<0.03
P_2O_5	0.01	0.01	0.01	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
SO_3	0.16	0.18	0.17	0.14	0.15	0.17	0.09	0.10	0.12

[a]Mercury test #4. [b]Mercury test #5. [c]Mercury test #6. [d]Composite of samples 20071811, 20071812, and 20071813. [e]Composite of samples 20071826, 20071827, and 20071828. [f]Composite of samples 20071841, 20071842, and 20071843. [g]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	TEST 2	TEST 3	TEST 1	TEST 2	TEST 3	TEST 1[a]	TEST 2[b]	TEST 3[c]
Date & Time	3/28/2007 11:00	3/28/2007 14:30	3/28/2007 17:00	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, %	0.27	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^3	22.32[d,g]			22.83[e,g]			22.14[f,g]		
Apparent Density - Packed, lb/ft^3	39.58[d,g]			37.17[e,g]			36.78[f,g]		
BET Surface Area, m^2/g	15.73[d,g]			17.29[e,g]			17.62[f,g]		
Major Ash Elements, % dry									
SiO_2	0.83	0.73	0.71	1.31	1.31	1.31	1.31	1.34	1.25
Al_2O_3	0.40	0.40	0.41	0.38	0.38	0.37	0.36	0.36	0.35
TiO_2	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Fe_2O_3	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_2O	0.08	0.07	0.07	0.01	0.02	0.02	0.03	0.02	0.02
K_2O	0.05	0.05	0.05	0.04	0.04	0.04	0.06	0.05	0.04
P_2O_5	0.01	0.01	0.01	0.01	0.02	0.01	0.01	<0.01	<0.03
SO_3	0.13	0.12	0.17	0.20	0.21	0.18	0.20	0.22	0.17

[a]Mercury test #4. [b]Mercury test #5. [c]Mercury test #6. [d]Composite of samples 20071808, 20071809, and 20071810. [e]Composite of samples 20071823, 20071824, and 20071825. [f]Composite of samples 20071838, 20071839, and 20071840. [g]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_2	2.11	1.02
Al_2O_3	4.10	3.53
TiO_2	0.35	0.33
Fe_2O_3	13.52	13.27
CaO	40.93	39.96
MgO	19.20	20.14
Na_2O	4.04	5.80
K_2O	0.31	0.50
P_2O_5	0.03	<0.01
SO_3	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^3
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

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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

Proximate (Dry)	Wt%
Ash	
Volatile Matter	
Fixed Carbon	
BTU/lb	
MAF BTU/lb	

Ultimate (Dry)%	
Carbon	20.87
Hydrogen	
Nitrogen	
Chlorine	
Sulfur, Total	
Ash	
Oxygen (DIFF)	

Major Ash Elem.
SiO2
Al2O3
TiO2
Fe2O3
CaO
MgO
Na2O
K2O
P2O5
SO3
Undetermined

Total Moisture

Ash Fusion Reducing Temp (F)
Initial
Softening
Hemispherical.
Fluid

Ash Fusion Oxidizing
Initial
Softening
Hemispherical.
Fluid

Misc.	
Analysis	Value

Trace Elements (ppm (Dry)	
Hg	0.729
F	
As	
Ba	
Be	
Cd	
Co	
Cr	
Cu	
Li	
Mn	
Mo	
Ni	
Pb	
Sb	
Se	
Sn	
Th	
Tl	
U	
V	
Zn	

Seive Analysis	
SIZE	WT %

Sulfur Forms (Dry)
Pyritic Sulfur
Sulfate
Organic
Sulfur, Total

HGI/FSI
HGI
FSI

As Determined Moisture 0.63 %

These values have been reviewed and are approved for transmission. JMT

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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

Proximate	(Dry)	Wt%
Ash		
Volatile Matter		
Fixed Carbon		
BTU/lb		
MAF BTU/lb		

Ultimate (Dry)%	
Carbon	16.87
Hydrogen	
Nitrogen	
Chlorine	
Sulfur, Total	
Ash	
Oxygen (DIFF)	

Major Ash Elem.	
SiO2	
Al2O3	
TiO2	
Fe2O3	
CaO	
MgO	
Na2O	
K2O	
P2O5	
SO3	
Undetermined	

Total Moisture

Sulfur Forms (Dry)	
Pyritic Sulfur	
Sulfate	
Organic	
Sulfur, Total	

Ash Fusion Reducing Temp (F)	
Initial	
Softening	
Hemispherical.	
Fluid	

Ash Fusion Oxidizing	
Initial	
Softening	
Hemispherical.	
Fluid	

Misc.

Analysis	Value

HGI/FSI

HGI

FSI

Trace Elements (ppm	(Dry)
Hg	0.566
F	
As	
Ba	
Be	
Cd	
Co	
Cr	
Cu	
Li	
Mn	
Mo	
Ni	
Pb	
Sb	
Se	
Sn	
Th	
Tl	
U	
V	
Zn	

Seive Analysis

SIZE	WT %

As Determined Moisture 0.56 %

These values have been reviewed and are approved for transmission. JMT

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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

Proximate	(Dry)	Wt%
Ash		
Volatile Matter		
Fixed Carbon		
BTU/lb		
MAF BTU/lb		

Ultimate (Dry)%	
Carbon	17.89
Hydrogen	
Nitrogen	
Chlorine	
Sulfur, Total	
Ash	
Oxygen (DIFF)	

Major Ash Elem.	
SiO2	
Al2O3	
TiO2	
Fe2O3	
CaO	
MgO	
Na2O	
K2O	
P2O5	
SO3	
Undetermined	

Total Moisture

Sulfur Forms (Dry)	
Pyritic Sulfur	
Sulfate	
Organic	
Sulfur, Total	

Ash Fusion Reducing Temp (F)	
Initial	
Softening	
Hemispherical.	
Fluid	

Ash Fusion Oxidizing	
Initial	
Softening	
Hemispherical.	
Fluid	

Misc.	
Analysis	Value

HGI/FSI	
HGI	
FSI	

Trace Elements (ppm	(Dry)
Hg	0.692
F	
As	
Ba	
Be	
Cd	
Co	
Cr	
Cu	
Li	
Mn	
Mo	
Ni	
Pb	
Sb	
Se	
Sn	
Th	
Tl	
U	
V	
Zn	

Seive Analysis	
SIZE	WT %

As Determined Moisture 0.53 %

These values have been reviewed and are approved for transmission. JMT

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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

Proximate (Dry)	Wt%
Ash	
Volatile Matter	
Fixed Carbon	
BTU/lb	
MAF BTU/lb	

Ultimate (Dry)%	
Carbon	17.90
Hydrogen	
Nitrogen	
Chlorine	
Sulfur, Total	
Ash	
Oxygen (DIFF)	

Major Ash Elem.
SiO2
Al2O3
TiO2
Fe2O3
CaO
MgO
Na2O
K2O
P2O5
SO3
Undetermined

Total Moisture

Sulfur Forms (Dry)
Pyritic Sulfur
Sulfate
Organic
Sulfur, Total

Ash Fusion Reducing Temp (F)
Initial
Softening
Hemispherical.
Fluid

Ash Fusion Oxidizing
Initial
Softening
Hemispherical.
Fluid

Misc.	
Analysis	Value

HGI/FSI
HGI
FSI

Trace Elements (ppm (Dry)	
Hg	0.602
F	
As	
Ba	
Be	
Cd	
Co	
Cr	
Cu	
Li	
Mn	
Mo	
Ni	
Pb	
Sb	
Se	
Sn	
Th	
Tl	
U	
V	
Zn	

Seive Analysis	
SIZE	WT %

As Determined Moisture 0.635 %

These values have been reviewed and are approved for transmission. JW

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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

Proximate (Dry)	Wt%
Ash	
Volatile Matter	
Fixed Carbon	
BTU/lb	
MAF BTU/lb	

Ultimate (Dry)%	
Carbon	17.50
Hydrogen	
Nitrogen	
Chlorine	
Sulfur, Total	
Ash	
Oxygen (DIFF)	

Major Ash Elem.
SiO2
Al2O3
TiO2
Fe2O3
CaO
MgO
Na2O
K2O
P2O5
SO3
Undetermined

Total Moisture

Sulfur Forms (Dry)
Pyritic Sulfur
Sulfate
Organic
Sulfur, Total

Ash Fusion Reducing Temp (F)
Initial
Softening
Hemispherical.
Fluid

Ash Fusion Oxidizing
Initial
Softening
Hemispherical.
Fluid

Misc.	
Analysis	Value

HGI/FSI
HGI
FSI

Trace Elements (ppm (Dry)	
Hg	0.664
F	
As	
Ba	
Be	
Cd	
Co	
Cr	
Cu	
Li	
Mn	
Mo	
Ni	
Pb	
Sb	
Se	
Sn	
Th	
Tl	
U	
V	
Zn	

Seive Analysis	
SIZE	WT %

As Determined Moisture 0.52 %

These values have been reviewed and are approved for transmission: JMT

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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

Proximate (Dry)	Wt%
Ash	
Volatile Matter	
Fixed Carbon	
BTU/lb	
MAF BTU/lb	

Ultimate (Dry)%	
Carbon	15.59
Hydrogen	
Nitrogen	
Chlorine	
Sulfur, Total	
Ash	
Oxygen (DIFF)	

Major Ash Elem.
SiO2
Al2O3
TiO2
Fe2O3
CaO
MgO
Na2O
K2O
P2O5
SO3
Undetermined

Total Moisture

Ash Fusion Reducing Temp (F)
Initial
Softening
Hemispherical.
Fluid

Ash Fusion Oxidizing
Initial
Softening
Hemispherical.
Fluid

Misc.	
Analysis	Value

Trace Elements (ppm (Dry)	
Hg	0.626
F	
As	
Ba	
Be	
Cd	
Co	
Cr	
Cu	
Li	
Mn	
Mo	
Ni	
Pb	
Sb	
Se	
Sn	
Th	
Tl	
U	
V	
Zn	

Seive Analysis	
SIZE	WT %

Sulfur Forms (Dry)
Pyritic Sulfur
Sulfate
Organic
Sulfur, Total

HGI/FSI
HGI
FSI

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
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Client:	CONSOL Energy, Inc.	CTL Project No:	403423
Project:	Chemical Analysis	CTL Project Mgr.:	Ella Shkolnik
		Analyst:	Cecylia Wedzicha
Contact:	Daniel Connell	Approved:	
Submitter:	Daniel Connell	Date Analyzed:	May 1, 2007
Date Received:	April 23, 2007	Date Reported:	May 1, 2007

REPORT of AVAILABLE LIME ANALYSIS

Sample Identification			Determined Results (wt. %)	
CTL ID	Client ID	Description	as CaO	as $Ca(OH)_2$
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.
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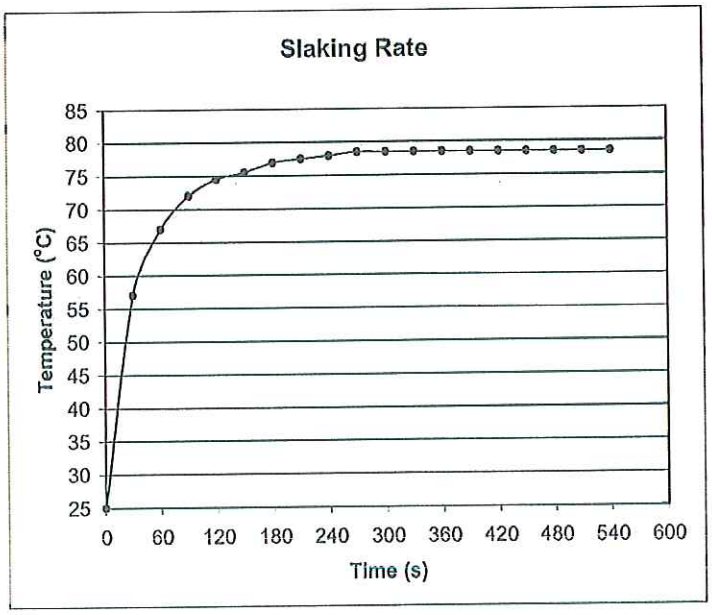
Client:	CONSOL Energy, Inc.	CTL Project No:	403423
Project:	Chemical Analysis	CTL Project Mgr.:	Ella Shkolnik
		Analyst:	Cecylia Wedzicha
Contact:	Daniel Connell	Approved:	
Submitter:	Daniel Connell	Date Analyzed:	May 1, 2007
Date Received:	April 23, 2007	Date Reported:	May 2, 2007

REPORT of SLAKING RATE ANALYSIS
(ASTM C 110)

Sample Identification
CTL ID: 1839004
Client ID: PEB032807
Description: Pebble lime

Time (minute)	Time (second)	Temperature (°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	
10.0	600	



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:
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2. The results were determined in accordance with ASTM C 110-05, Sec.11.
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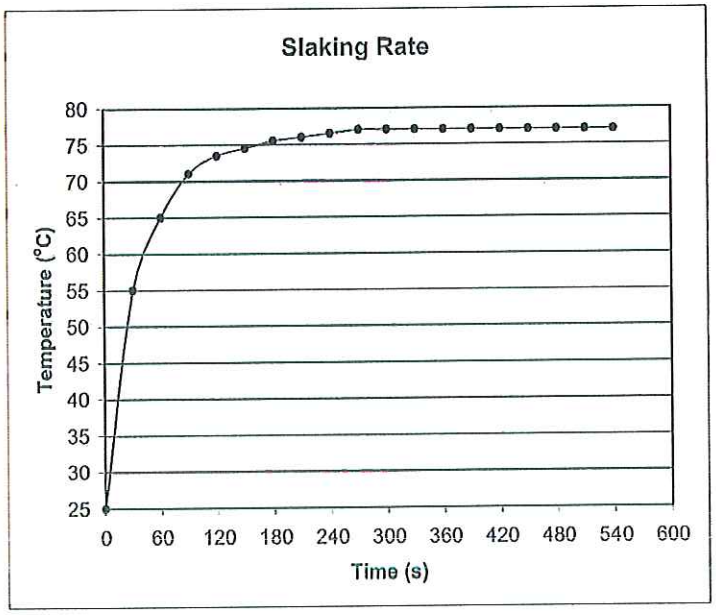
Client:	CONSOL Energy, Inc.	CTL Project No:	403423
Project:	Chemical Analysis	CTL Project Mgr.:	Ella Shkolnik
		Analyst:	Cecylia Wedzicha
Contact:	Daniel Connell	Approved:	
Submitter:	Daniel Connell	Date Analyzed:	May 1, 2007
Date Received:	April 23, 2007	Date Reported:	May 2, 2007

REPORT of SLAKING RATE ANALYSIS
(ASTM C 110)

Sample Identification
CTL ID: 1839005
Client ID: PEB032907
Description: Pebble lime

Time (minute)	Time (second)	Temperature (°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	
10.0	600	



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.
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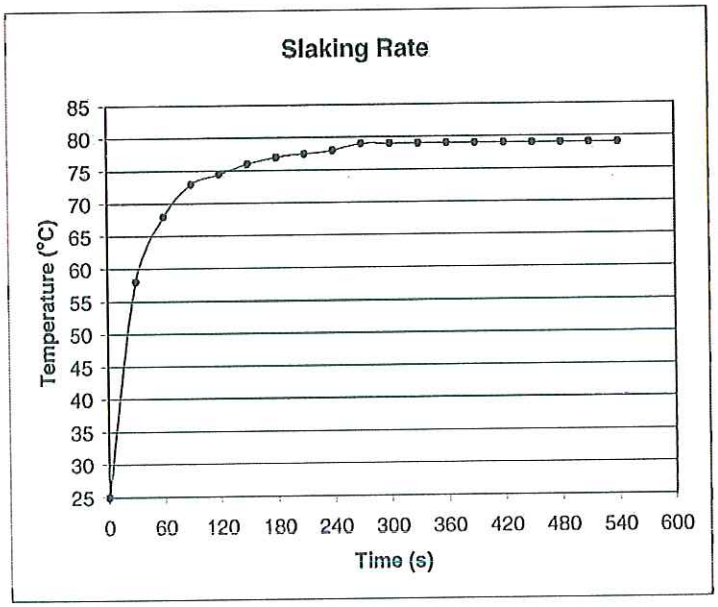
Client:	CONSOL Energy, Inc.	CTL Project No:	403423
Project:	Chemical Analysis	CTL Project Mgr.:	Ella Shkolnik
		Analyst:	Cecylia Wedzicha
Contact:	Daniel Connell	Approved:	
Submitter:	Daniel Connell	Date Analyzed:	May 1, 2007
Date Received:	April 23, 2007	Date Reported:	May 2, 2007

REPORT of SLAKING RATE ANALYSIS
(ASTM C 110)

Sample Identification

CTL ID:	1839006
Client ID:	PEB033007
Description:	Pebble lime

Time (minute)	Time (second)	Temperature
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	
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.
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Client:	CONSOL Energy, Inc.	CTL Project No.:	403423
Project:	ASTM C 110 Density Analysis	CTL Proj. Mgr.:	Ella Shkolnik
		Analyst:	Charlotte Hernandez
Contact:	Daniel Connell	Approved:	E. Shkolnik
Submitter:	Daniel Connell	Date Analyzed:	April 30, 2007
Date Received:	April 23, 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 note 2			
Loose (g/cm^3)	0.36	0.37	0.35
Loose (lb/ft^3)	22.32	22.83	22.14
Packed (g/cm^3)	0.63	0.60	0.59
Packed (lb/ft^3)	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.
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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
Size at 50% (μm)	**5.54**	**5.96**	**5.97**
Cumulative Volume under Stated Size note 2			
<45 μm	88.70	86.91	86.17
<30 μm	83.67	81.53	80.78
<10 μm	67.02	63.99	63.71
<7 μm	57.60	54.84	54.74
<3 μm	28.29	27.16	27.36
<1 μm	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.

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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

PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #1839001-Sample "HYD032807" (Averaged Result)

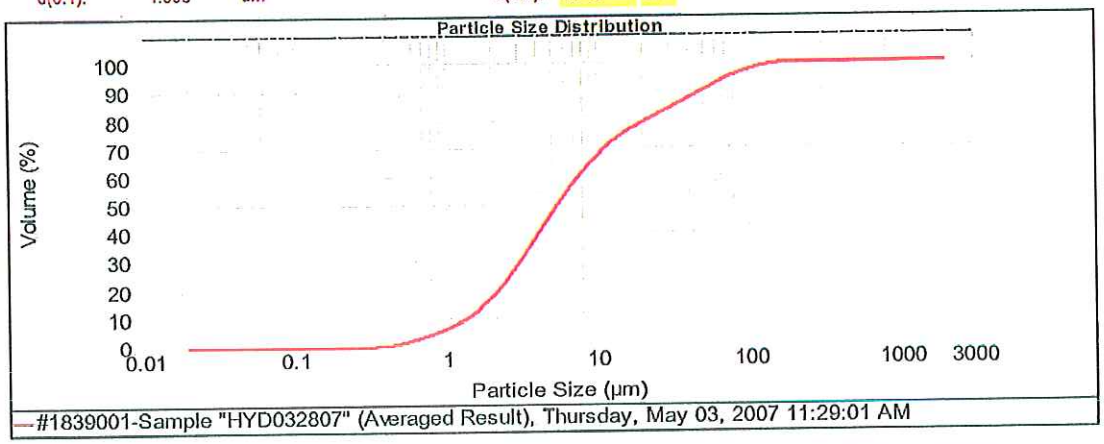
Measured by: Unknown

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 m²/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 %
1.000	6.14

Size (µm)	Vol Under %
3.000	28.29

Size (µm)	Vol Under %
7.000	57.60

Size (µm)	Vol Under %
10.000	67.02

Size (µm)	Vol Under %
30.000	83.67

Size (µm)	Vol Under %
45.000	88.70

Operator notes: *Average of four measurements*

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File name: Samples 1839001-00
Record Number: 13
03 May 2007 1:42:26 PM

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

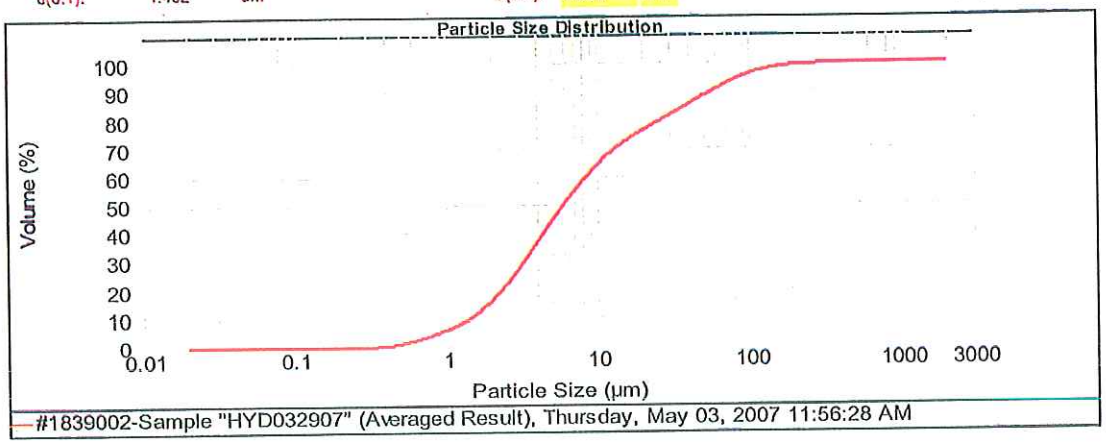
Analysed: Thursday, May 03, 2007 11:56:29 AM

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	m²/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 %
1.000	5.91
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*

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Serial Number : 34403-28

File name: Samples 1839001-00
Record Number: 14
03 May 2007 1:42:26 PM

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

Particle RI: 1.560 **Absorption:** 0.1

Dispersant Name: Propan-2-ol

Dispersant RI: 1.390

Accessory Name: Hydro 2000MU (A)

Analysis model: General purpose

Size range: 0.020 to 2000.000 um

Result Emulation: Off

Obscuration: 12.16 %

Weighted Residual: 1.734 %

Concentration: 0.0068 %Vol

Span : 9.824

Result units: Volume

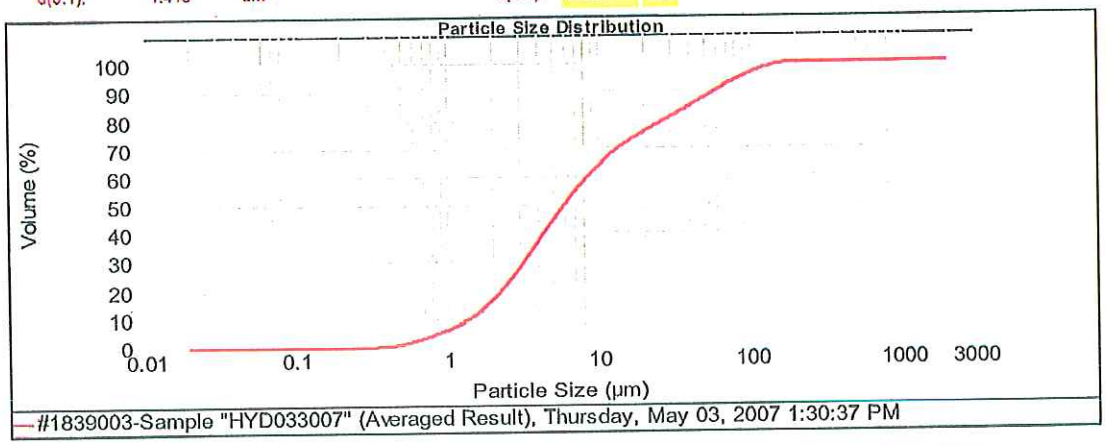
Vol. Weighted Mean D[4,3]: 19.408 um

Uniformity: 2.77

Specific Surface Area: 1.76 m²/g

Surface Weighted Mean D[3,2]: 3.408 um

d(0.1): 1.416 um d(0.5): 5.966 um d(0.9): 60.031 um



Size (µm)	Vol Under %
1.000	5.96

Size (µm)	Vol Under %
3.000	27.36

Size (µm)	Vol Under %
7.000	54.74

Size (µm)	Vol Under %
10.000	63.71

Size (µm)	Vol Under %
30.000	80.78

Size (µm)	Vol Under %
45.000	86.17

Operator notes: *Average of four measurements*

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File name: Samples 1839001-00
Record Number: 15
03 May 2007 1:42:26 PM

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

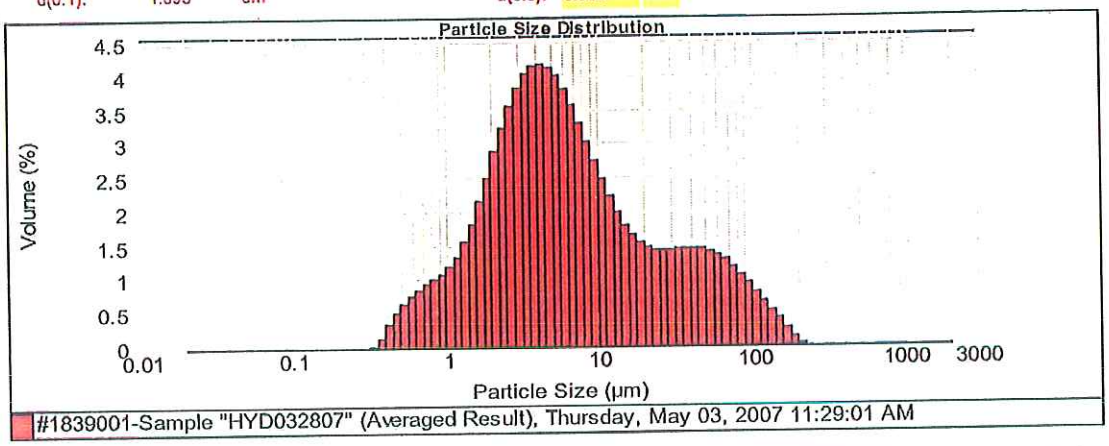
Dispersant RI: 1.390 **Result Emulation:** Off **Weighted Residual:** 1.543 %

Concentration: 0.0071 %Vol **Vol. Weighted Mean D[4,3]:** 16.727 um **Specific Surface Area:** 1.83 m²/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	91.46	399.052	100.00
0.025	0.00	0.178	0.00	1.262	8.68	8.934	64.33	63.246	92.80	447.744	100.00
0.028	0.00	0.200	0.00	1.416	10.22	10.024	67.07	70.963	94.07	502.377	100.00
0.032	0.00	0.224	0.00	1.589	12.03	11.247	69.53	79.621	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	14.155	73.72	100.237	97.21	709.627	100.00
0.045	0.00	0.317	0.00	2.244	19.54	15.887	75.50	112.468	98.00	796.214	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	30.15	22.440	80.11	158.866	99.57	1124.683	100.00
0.071	0.00	0.502	0.94	3.557	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	99.96	1415.892	100.00
0.089	0.00	0.632	2.33	4.477	42.50	31.698	84.34	224.404	100.00	1588.656	100.00
0.100	0.00	0.710	3.17	5.024	46.62	35.566	85.77	251.785	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
0.126	0.00	0.893	5.09	6.325	54.44	44.774	88.64	316.979	100.00		

Operator notes: *Average of four measurements*

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03 May 2007 1:43:53 PM

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

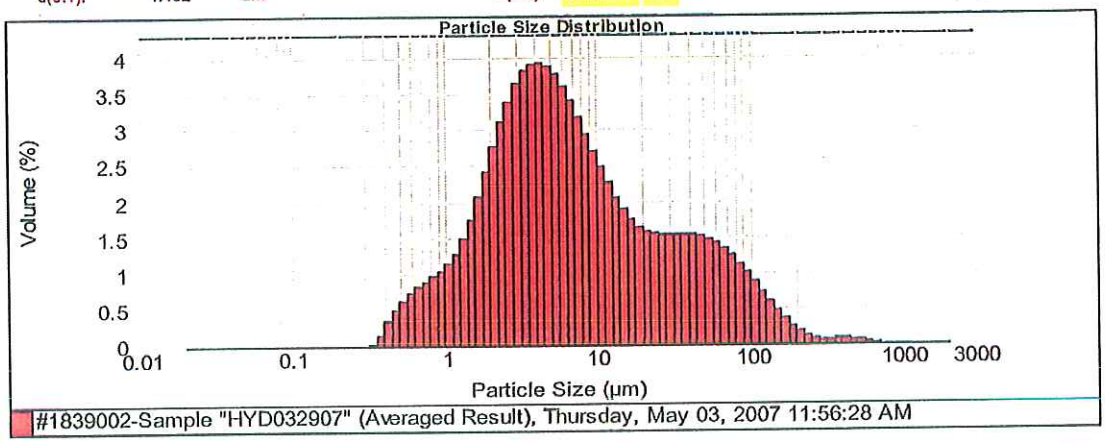
Dispersant RI: 1.390 **Result Emulation:** Off **Weighted Residual:** 1.422 %

Concentration: 0.0069 %Vol **Vol. Weighted Mean D[4,3]:** 20.678 um **Specific Surface Area:** 1.76 m²/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 %
0.020	0.00	0.142	0.00	1.002	5.93	7.096	55.24	50.238	88.35	355.656	99.69
0.022	0.00	0.159	0.00	1.125	7.09	7.962	58.41	56.368	89.82	399.052	99.76
0.025	0.00	0.178	0.00	1.262	8.37	8.934	61.35	63.246	91.23	447.744	99.83
0.028	0.00	0.200	0.00	1.416	9.85	10.024	64.05	70.963	92.56	502.377	99.89
0.032	0.00	0.224	0.00	1.589	11.59	11.247	66.51	79.621	93.80	563.677	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	709.627	100.00
0.045	0.00	0.317	0.00	2.244	18.80	15.887	72.70	112.468	96.79	796.214	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	141.569	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	178.250	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	31.698	82.26	224.404	99.37	1588.656	100.00
0.100	0.00	0.710	3.09	5.024	44.46	35.566	83.78	251.785	99.49	1782.502	100.00
0.112	0.00	0.796	3.98	5.637	48.23	39.905	85.32	282.508	99.57	2000.000	100.00
0.126	0.00	0.893	4.93	6.325	51.84	44.774	86.84	316.979	99.63		

Operator notes: *Average of four measurements*

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File name: Samples 1839001-00
Record Number: 14
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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

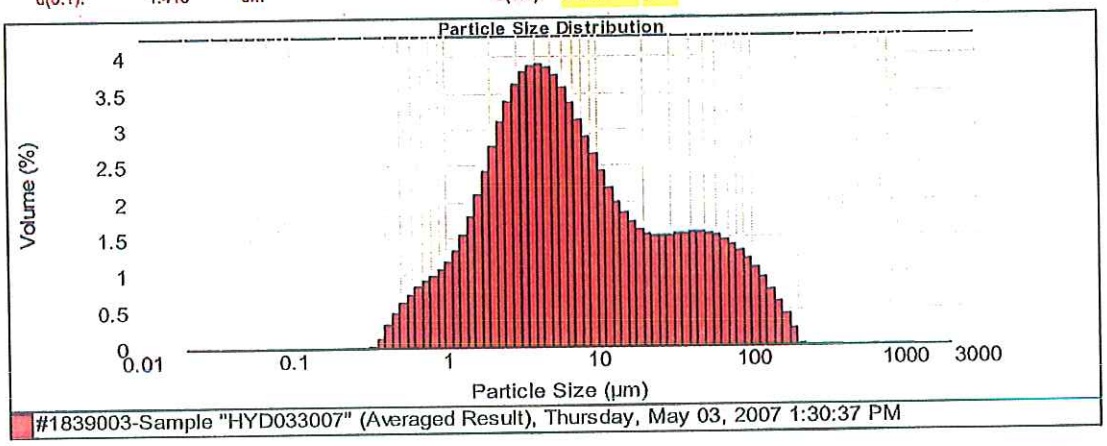
Dispersant RI: 1.390 **Result Emulation:** Off **Weighted Residual:** 1.734 %

Concentration: 0.0068 %Vol **Vol. Weighted Mean D[4,3]:** 19.408 um **Specific Surface Area:** 1.76 m²/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	7.096	55.13	50.238	87.64	355.656	100.00
0.022	0.00	0.159	0.00	1.125	7.16	7.962	58.25	56.368	89.17	399.052	100.00
0.025	0.00	0.178	0.00	1.262	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	1.589	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	100.237	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	796.214	100.00
0.050	0.00	0.356	0.00	2.518	22.13	17.825	73.85	126.191	97.99	893.367	100.00
0.056	0.00	0.399	0.12	2.825	25.50	20.000	75.45	141.589	98.78	1002.374	100.00
0.063	0.00	0.448	0.42	3.170	29.11	22.440	76.98	158.866	99.35	1124.683	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	99.98	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	35.566	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	282.508	100.00	2000.000	100.00
0.126	0.00	0.893	4.92	6.325	51.78	44.774	86.10	316.979	100.00		

Operator notes: *Average of four measurements*

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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:	ASH032807	ASH032907	ASH033007
Material Type:	Fly ash	Fly ash	Fly ash
CTL Sample ID:	1839007	1839008	1839009
Size at 50% (μm)	**6.47**	**6.74**	**6.49**
Cumulative Volume under Stated Size note 2			
<45 μm	82.59	81.76	83.02
<30 μm	76.79	75.84	77.02
<10 μm	61.96	60.64	61.70
<7 μm	52.59	51.21	52.44
<3 μm	21.25	20.77	21.59
<1 μm	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.

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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

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

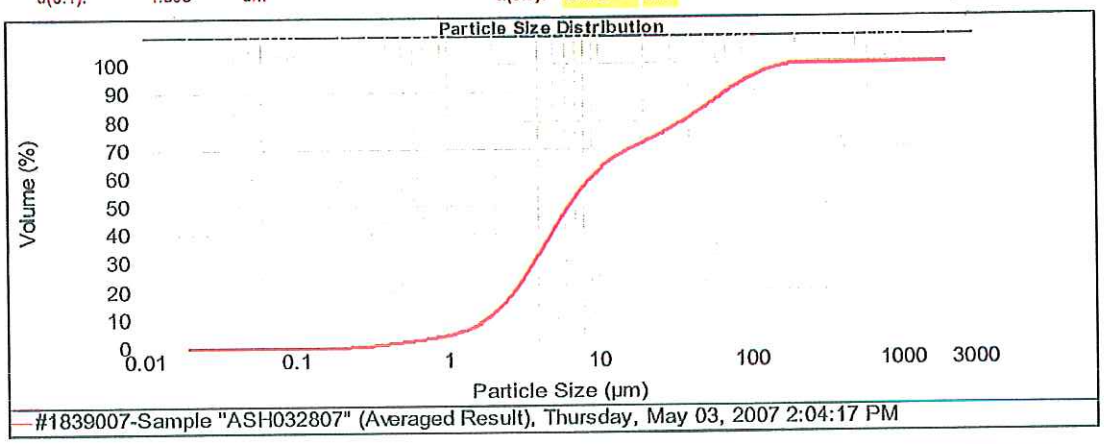
Dispersant RI: 1.390 **Result Emulation:** Off **Weighted Residual:** 1.323 %

Concentration: 0.0062 %Vol **Vol. Weighted Mean D[4,3]:** 23.056 um **Specific Surface Area:** 0.583 m²/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 %
1.000	3.97

Size (µm)	Vol Under %
3.000	21.25

Size (µm)	Vol Under %
7.000	52.59

Size (µm)	Vol Under %
10.000	61.96

Size (µm)	Vol Under %
30.000	76.79

Size (µm)	Vol Under %
45.000	82.59

Operator notes: *Average of four measurements*

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Serial Number : 34403-28

File name: Samples 1839007-03
Record Number: 13
03 May 2007 3:10:21 PM

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

Particle RI: 1.650 **Absorption:** 1

Dispersant Name: Propan-2-ol

Dispersant RI: 1.390

Accessory Name: Hydro 2000MU (A)

Analysis model: General purpose

Size range: 0.020 to 2000.000 um

Result Emulation: Off

Obscuration: 12.87 %

Weighted Residual: 1.268 %

Concentration: 0.0067 %Vol

Span : 11.191

Result units: Volume

Vol. Weighted Mean D[4,3]: 25.409 um

Uniformity: 3.25

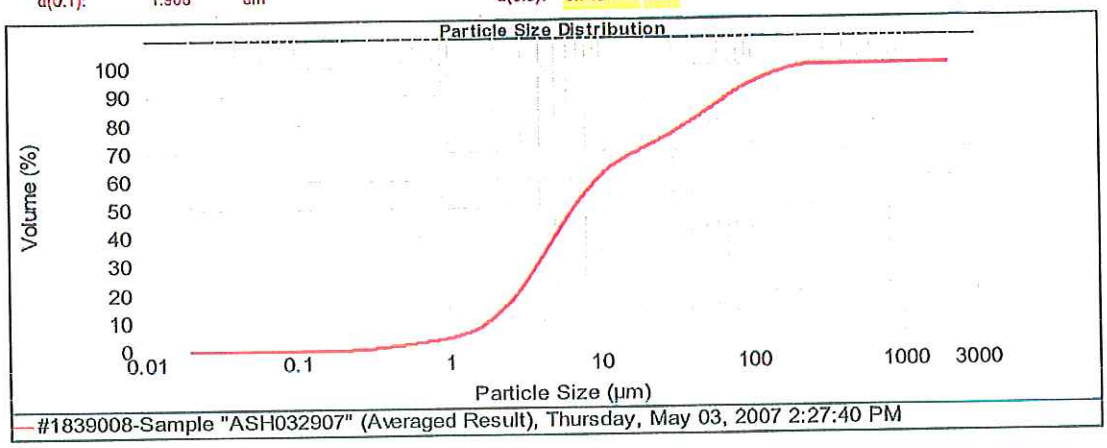
Specific Surface Area: 0.573 m²/g

Surface Weighted Mean D[3,2]: 3.891 um

d(0.1): 1.906 um

d(0.5): 6.743 um

d(0.9): 77.364 um



Size (µm)	Vol Under %
1.000	3.96

Size (µm)	Vol Under %
3.000	20.77

Size (µm)	Vol Under %
7.000	51.21

Size (µm)	Vol Under %
10.000	60.64

Size (µm)	Vol Under %
30.000	75.84

Size (µm)	Vol Under %
45.000	81.76

Operator notes: *Average of four measurements*

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Serial Number : 34403-28

File name: Samples 1839007-00
Record Number: 14
03 May 2007 3:10:21 PM

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

Particle RI: 1.650 **Absorption:** 1

Dispersant Name: Propan-2-ol

Dispersant RI: 1.390

Accessory Name: Hydro 2000MU (A)

Analysis model: General purpose

Size range: 0.020 to 2000.000 um

Result Emulation: Off

Obscuration: 12.85 %

Weighted Residual: 0.540 %

Concentration: 0.0065 %Vol

Span : 10.484

Result units: Volume

Vol. Weighted Mean D[4,3]: 23.198 um

Uniformity: 3.06

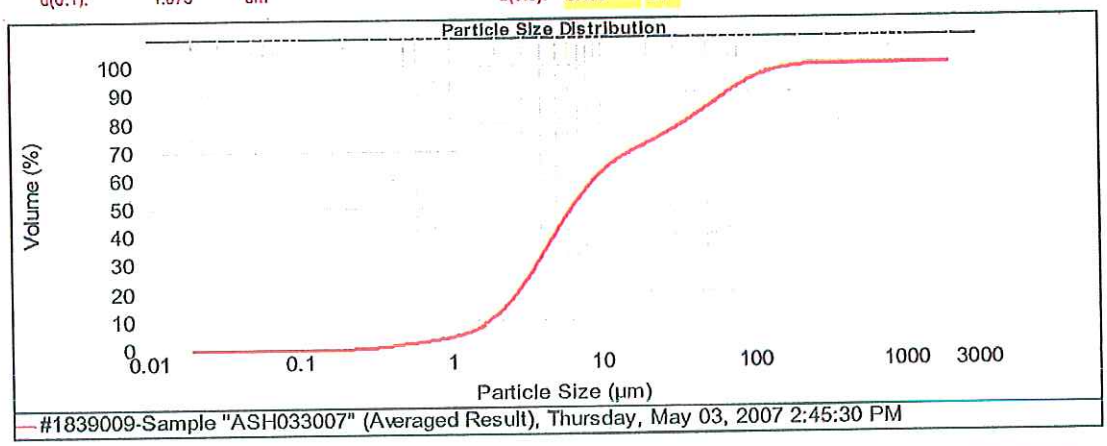
Specific Surface Area: 0.587 m²/g

Surface Weighted Mean D[3,2]: 3.801 um

d(0.1): 1.873 um

d(0.5): 6.493 um

d(0.9): 69.943 um



Size (µm)	Vol Under %
1.000	3.99

Size (µm)	Vol Under %
3.000	21.59

Size (µm)	Vol Under %
7.000	52.44

Size (µm)	Vol Under %
10.000	61.70

Size (µm)	Vol Under %
30.000	77.02

Size (µm)	Vol Under %
45.000	83.02

Operator notes: *Average of four measurements*

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Serial Number 34403-28

File name: Samples 1839007-00
Record Number: 15
03 May 2007 3:10:21 PM

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

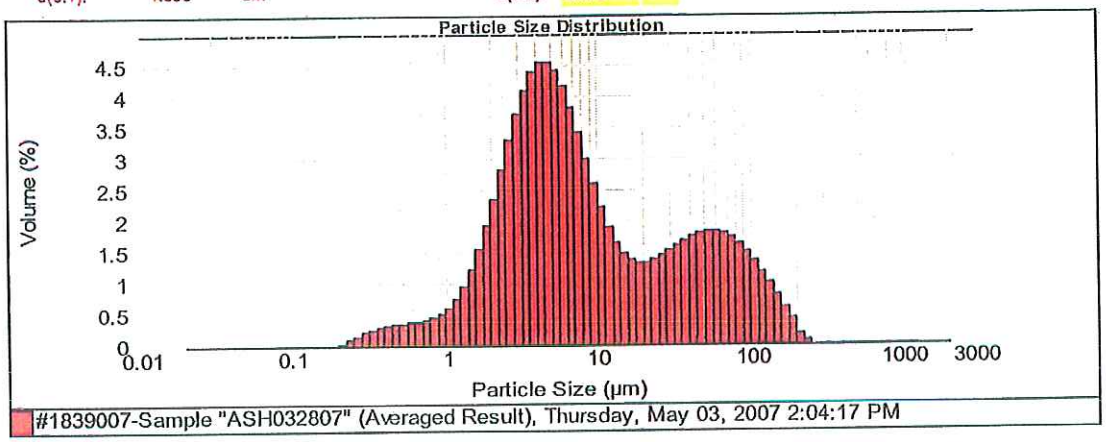
Dispersant RI: 1.390 **Result Emulation:** Off **Weighted Residual:** 1.323 %

Concentration: 0.0062 %Vol **Vol. Weighted Mean D[4,3]:** 23.056 um **Specific Surface Area:** 0.583 m²/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	7.096	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	56.368	86.10	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	70.963	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	112.468	95.83	795.214	100.00
0.050	0.00	0.356	0.69	2.518	16.08	17.825	70.58	126.191	97.00	893.367	100.00
0.056	0.00	0.399	0.97	2.825	19.36	20.000	71.89	141.569	97.99	1002.374	100.00
0.063	0.00	0.448	1.28	3.170	23.08	22.440	73.21	158.866	98.78	1124.683	100.00
0.071	0.00	0.502	1.61	3.557	27.17	25.179	74.56	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	31.698	77.52	224.404	99.95	1588.656	100.00
0.100	0.00	0.710	2.67	5.024	40.62	35.566	79.11	251.785	100.00	1782.502	100.00
0.112	0.00	0.796	3.06	5.637	45.03	39.905	80.78	282.508	100.00	2000.000	100.00
0.126	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

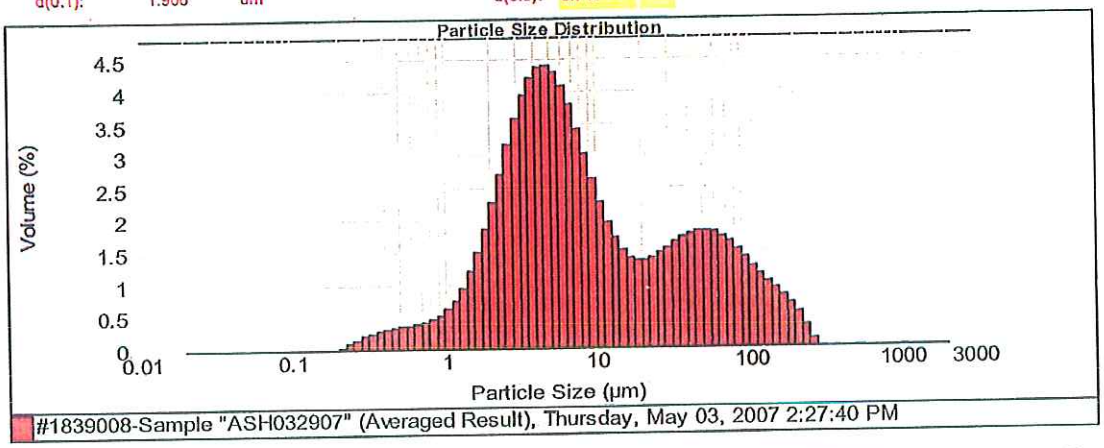
Dispersant RI: 1.390 **Result Emulation:** Off **Weighted Residual:** 1.268 %

Concentration: 0.0067 %Vol **Vol. Weighted Mean D[4,3]:** 25.409 um **Specific Surface Area:** 0.573 m²/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	7.096	51.64	50.238	83.48	355.656	100.00
0.022	0.00	0.159	0.00	1.125	4.58	7.962	55.05	56.368	85.28	399.052	100.00
0.025	0.00	0.178	0.00	1.262	5.33	8.934	58.07	63.245	87.06	447.744	100.00
0.028	0.00	0.200	0.00	1.416	6.27	10.024	60.69	70.963	88.77	502.377	100.00
0.032	0.00	0.224	0.00	1.589	7.48	11.247	62.95	79.621	90.40	563.677	100.00
0.036	0.00	0.252	0.09	1.783	8.96	12.619	64.90	89.337	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	0.356	0.67	2.518	15.81	17.825	69.51	126.191	95.67	893.387	100.00
0.056	0.00	0.399	0.95	2.825	18.96	20.000	70.86	141.589	96.68	1002.374	100.00
0.063	0.00	0.448	1.25	3.170	22.53	22.440	72.20	158.866	97.57	1124.683	100.00
0.071	0.00	0.502	1.58	3.557	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	1588.656	100.00
0.100	0.00	0.710	2.64	5.024	39.45	35.566	78.22	251.785	99.89	1782.502	100.00
0.112	0.00	0.796	3.03	5.637	43.76	39.905	79.92	282.508	100.00	2000.000	100.00
0.126	0.00	0.893	3.47	6.325	47.85	44.774	81.68	316.979	100.00		

Operator notes: *Average of four measurements*

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Mastersizer 2000 Ver. 5.12
Serial Number : 34403-28

File name: Samples 1839007-00
Record Number: 14
03 May 2007 3:09:43 PM

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

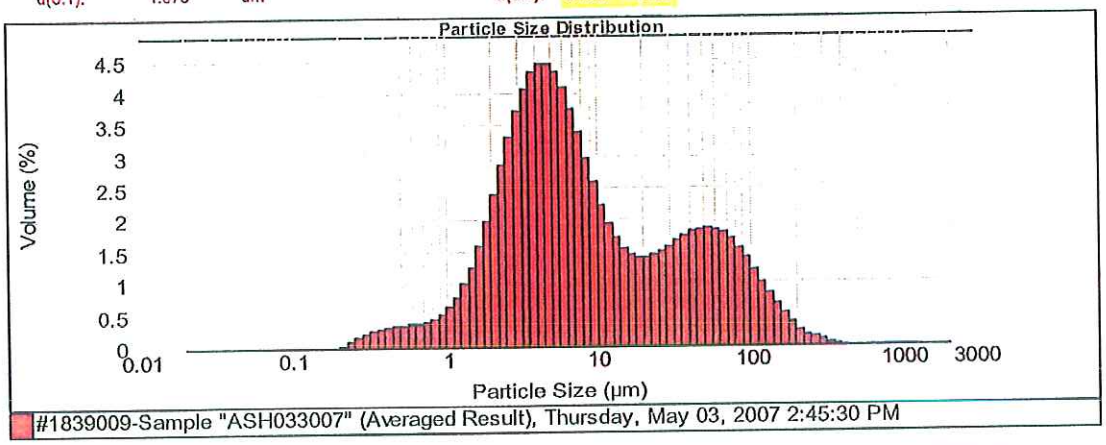
Dispersant RI: 1.390 **Result Emulation:** Off **Weighted Residual:** 0.540 %

Concentration: 0.0065 %Vol **Vol. Weighted Mean D[4,3]:** 23.198 um **Specific Surface Area:** 0.587 m²/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	52.66	50.238	84.77	355.656	100.00
0.022	0.00	0.159	0.00	1.125	4.62	7.962	56.22	56.368	86.62	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	70.933	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	14.159	67.59	100.237	94.80	709.627	100.00
0.045	0.00	0.317	0.45	2.244	13.56	15.887	69.12	112.468	96.00	795.214	100.00
0.050	0.00	0.356	0.70	2.518	16.40	17.825	70.54	126.191	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	3.557	27.48	25.179	74.72	178.250	98.97	1261.915	100.00
0.080	0.00	0.564	1.96	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	36.26	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	0.796	3.06	5.637	45.04	39.905	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	99.96		

Operator notes: *Average of four measurements*

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Client:	CONSOL Energy, Inc.	CTL Project No.:	403423
Project:	BET Analysis PO #4700142976	CTL Proj. Mgr.:	Ella Shkolnik
		Analyst:	note 2
Contact:	Daniel Connell	Approved:	
Submitter:	Daniel Connell	Date Analyzed:	May 9, 2007
Date Received:	April 23, 2007	Date Reported:	May 10, 2007

REPORT of BET SURFACE AREA

Sample Identification			
CTL ID	Client ID	Material	BET Surface Area (m^2/kg) note 2
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.

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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

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

555 Rogers Street • Downers Grove, IL 60515 • 630/969-2703 • FAX 630/969-2745 • experts@particletechlabs.com
www.particletechlabs.com

TABLE 2

B.E.T. SURFACE AREA DATA SUMMARY

SAMPLE ID	SPECIFIC SURFACE AREA (m^2/g)
1839001	15.73
1839002	17.29
1839003	17.62

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^3 Measured	Cold Free Space:	24.2140 cm^3 Measured
Equilibration Interval:	20 s	Low Pressure Dose:	None
Sample Density:	1.000 g/cm^3	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^2/g

ML 5/9/07

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^3 Measured	Cold Free Space:	25.2163 cm^3 Measured
Equilibration Interval:	20 s	Low Pressure Dose:	None
Sample Density:	1.000 g/cm^3	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^2/g

ML 5/9/07

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^3 Measured
Equilibration Interval: 20 s
Sample Density: 1.000 g/cm^3
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^3 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^2/g

ck 5/9/07
ML 5/9/07

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_2	42.89	43.12	42.72	43.03	43.40	42.03	43.00	43.14	43.06
Al_2O_3	21.86	21.81	21.69	21.76	22.08	21.33	21.67	22.03	21.81
TiO_2	0.90	0.90	0.89	0.90	0.91	0.86	0.87	0.90	0.87
Fe_2O_3	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_2O	0.79	0.80	0.79	0.99	0.76	0.88	1.20	0.75	0.99
K_2O	1.46	1.41	1.38	1.42	1.40	1.38	1.46	1.40	1.43
P_2O_5	0.26	0.27	0.24	0.24	0.25	0.23	0.25	0.27	0.24
SO_3	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_2	34.53	39.20	39.63	38.90	35.99	34.71	37.21	37.65	38.72
Al_2O_3	16.86	19.74	20.07	19.38	18.33	17.06	17.91	17.52	18.73
TiO_2	0.72	0.89	0.90	0.87	0.82	0.75	0.80	0.81	0.89
Fe_2O_3	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_2O	0.62	0.78	0.79	0.71	0.67	0.64	0.72	0.68	0.75
K_2O	1.09	1.35	1.38	1.26	1.20	1.08	1.31	1.21	1.32
P_2O_5	0.15	0.22	0.21	0.18	0.18	0.14	0.19	0.16	0.18
SO_3	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_2	44.52	44.50
Al_2O_3	22.04	21.56
TiO_2	0.94	0.94
Fe_2O_3	18.23	19.56
CaO	4.92	5.07
MgO	0.93	0.94
Na_2O	0.95	0.92
K_2O	1.66	1.65
P_2O_5	0.27	0.32
SO_3	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_2	47.71
Al_2O_3	23.32
TiO_2	1.04
Fe_2O_3	15.98
CaO	4.04
MgO	0.97
Na_2O	1.04
K_2O	1.86
P_2O_5	0.48
SO_3	4.07

APPENDIX J.5
PROCESS PERFORMANCE TESTS
OCTOBER 2007

CONSOL ENERGY

Submitted by: D. Connell
Date: 1/2/2008
Project #: 1621-085
General Description: Coal Samples - Process Performance Tests - October 2007

				Wt. % Dry Basis							ppm Dry Basis		Dry Basis
Analytical Number	Sample Description	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

		Major Ash Elements, Wt. %, Ignited 750 Ash									
Analytical Number	Sample Description	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	1.38	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	1.58	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

CONSOL ENERGY

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

			Wt. % Dry Basis			ppm Dry Basis		
Analytical Number	Sample Description	As Determined Moisture %	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

		Major Ash Elements, Wt. % Dry Basis									
Analytical Number	Sample Description	SiO_2	Al_2O_3	TiO_2	Fe_2O_3	CaO	MgO	Na_2O	K_2O	P_2O_5	SO_3
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

CONSOL ENERGY

Submitted by: D. Connell
Date: 1/2/2008
Project #: 1621-085
General Description: Turbosorp Product Ash Samples - Process Performance Tests - October 2007

			Wt. % Dry Basis			ppm Dry Basis	
Analytical Number	Sample Description	As Determined Moisture %	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	

		Major Ash Elements, Wt. % Dry Basis									
Analytical Number	Sample Description	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

CONSOL ENERGY

Submitted by: D. Connell
Date: 1/2/2008
Project #: 1621-085
General Description: Pebble Lime Samples - Process Performance Tests - October 2007

			Wt. % Dry Basis		ppm Dry Basis	Wt. %
Analytical Number	Sample Description	As Determined Moisture %	Ash	Carbon	Mercury	Available CaO
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

		Major Ash Elements, Wt. % Dry Basis									
Analytical Number	Sample Description	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

CONSOL ENERGY

Submitted by: D. Connell
Date: 1/2/2008
Project #: 1621-085
General Description: Hydrated Lime Samples - Process Performance Tests - October 2007

			Wt. % Dry Basis		ppm Dry Basis	Additional Lime Parameters Wt. %	g/cm^3	
Analytical Number	Sample Description	As Determined Moisture %	Ash	Carbon	Mercury	Available Ca(OH)2	Loose Denisty	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

		Major Ash Elements, Wt. % Dry Basis									
Analytical Number	Sample Description	SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3
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	72.59	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

CONSOL ENERGY

Submitted by: D. Connell
Date: 1/2/2008
Project #: 1621-085
General Description: Powdered Activated Carbon Sample - Process Performance Tests - October 2007

			Wt. % Dry Basis						ppm Dry Basis
Analytical Number	Sample Description	As Determined Moisture %	Volatile 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

		Major Ash Elements, Wt. % Dry Basis									
Analytical Number	Sample Description	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

CONSOL ENERGY

Submitted by: D. Connell
Date: 1/2/2008
Project #: 1621-085
General Description: Urea and Process Water Samples - Process Performance Tests - October 2007

			ppm or mg/L			g/cm^3
Analytical Number	**Sample Identification**	**pH**	**TSS**	**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

RJ Lee*Group*, Inc.
350 Hochberg Road, Monroeville, PA 15146
Tel: (724) 325-1776 | Fax: (724) 733-1799

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^2/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

CONSOL ENERGY

Submitted by: D. Connell
Date: 2/1/2008
Project #: 1621-085
General Description: Coal and Wood Samples - Process Performance Tests - November 2007

				Wt. % Dry Basis							ppm Dry Basis	Dry Basis
Analytical Number	Sample Description	Total Moisture %	As Determined Moisture %	Volatile Matter	Ash	Carbon	Hydrogen	Nitrogen	Sulfur	Chlorine	Mercury	Btu/lb
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	0.151	13757
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	0.137	13667
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	0.171	13328
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	0.184	13457
20077318	11/16/07 COAL 1315	7.47	1.42	35.06	11.57	73.20	5.41	1.51	2.68	0.0923	0.216	13297
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	0.262	13028
20077320	11/16/07 WOOD 1300		8.66	93.08	1.16	48.89	6.25	4.43	0.11	0.1478	0.054	8369
20077321	11/16/07 WOOD 1630-1845		9.83	89.81	1.52	48.84	6.23	4.92	0.09	0.2129	0.058	8312

		Major Ash Elements, Wt. %, Ignited 750 Ash									
Analytical Number	Sample Description	SiO_2	Al_2O_3	TiO_2	Fe_2O_3	CaO	MgO	Na_2O	K_2O	P_2O_5	SO_3
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

CONSOL ENERGY

Submitted by: D. Connell
Date: 2/1/2008
Project #: 1621-085
General Description: Air Heater Outlet Fly Ash Samples - Process Performance Tests - November 2007

			Wt. % Dry Basis			ppm Dry Basis	ug NH3/ g sample
Analytical Number	Sample Description	As Determined Moisture %	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

		Major Ash Elements, Wt% Dry Basis									
Analytical Number	Sample Description	SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3
20077336	AHO FLYASH 11/14/07 0145	41.65	20.86	0.89	14.24	3.25	0.76	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	0.80	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	0.77	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	0.59	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	0.58	1.76	0.31	0.89
20077341	AHO FLYASH 11/16/07 1530	43.47	21.81	1.00	13.83	3.03	0.86	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	0.83	0.57	1.80	0.32	0.83

CONSOL ENERGY

Submitted by: D. Connell
Date: 2/1/2008
Project #: 1621-085
General Description: Turbosorp Product Ash Samples - Process Performance Tests - November 2007

			Wt. % Dry Basis			ppm Dry Basis
Analytical Number	Sample Description	As Determined Moisture %	Ash	Carbon	Chlorine	Mercury
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

		Major Ash Elements, Wt. % Dry Basis									
Analytical Number	Sample Description	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

		ug/g sample leached	ug/L leachate
Analytical Number	Sample Description	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

CONSOL ENERGY

Submitted by: D. Connell
Date: 2/1/2008
Project #: 1621-085
General Description: Pebble Lime and Hydrated Lime Samples - Process Performance Tests - November 2007

						Additional Lime Parameters			
			Wt. % Dry Basis		ppm Dry Basis	Wt. %		g/cm^3	
Analytical Number	Sample Description	As Determined Moisture %	Ash	Carbon	Mercury	Available CaO	Available Ca(OH)2	Loose Denisty	Packed Density
20077328	11/14/07 PEBBLE LIME 0030	<0.01	98.27	0.46	<0.005	88.8			
20077329	11/14/07 PEBBLE LIME 0400	<0.01	98.42	0.41	<0.005	89.7			
20077330	11/14/07 PEBBLE LIME 2300	<0.01	98.61	0.38	<0.005	90.5			
20077331	11/15/07 PEBBLE LIME 0400	<0.01	97.82	0.53	<0.005	89.4			
20077332	11/14/07 HYDRATED LIME 0030	<0.01	75.49	0.55	<0.005		89.5	0.37	0.58
20077333	11/14/07 HYDRATED LIME 0400	0.16	75.40	0.54	<0.005		89.0	0.37	0.64
20077334	11/14/07 HYDRATED LIME 2300	0.10	75.54	0.44	<0.005		88.9	0.36	0.63
20077335	11/15/07 HYDRATED LIME 0400	0.06	74.71	0.47	<0.005		89.8	0.37	0.68

		Major Ash Elements, Wt% Dry Basis									
Analytical Number	Sample Description	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

CONSOL ENERGY

Submitted by: D. Connell
Date: 2/1/2008
Project #: 1621-085
General Description: Urea and Process Water Samples - Process Performance Tests - November 2007

			ppm or mg/L			g/cm³
Analytical Number	**Sample Identification**	**pH**	**TSS**	**Hg**	**Ammonia, N**	**Density**
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

RJ Lee*Group*, Inc.
350 Hochberg Road, Monroeville, PA 15146
Tel: (724) 325-1776 | Fax: (724) 733-1799

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:

RJ Lee Group Sample ID	Customer Sample ID
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.

RJ Lee Group Sample ID	Specific Surface Area (m^2/g)
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

CONSOL ENERGY

Submitted by: D. Connell
Date: 4/24/2008
Project #: 1621-085
General Description: Coal and Wood Samples - Process Performance Tests - March 2008

					Wt. % Dry Basis							ppm Dry Basis		Dry Basis
Analytical Number	Sample Description		Total Moisture %	As Determined Moisture %	Volatile Matter	Ash	Carbon	Hydrogen	Nitrogen	Sulfur	Chlorine	Mercury	Fluorine	Btu/lb
20081017	COAL 3/10/08	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 3/11/08	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 3/11/08	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 3/12/08	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 3/12/08	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 3/13/08	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 3/13/08	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 3/10/08	WOOD 1530	38.04		93.26	1.82	48.89	5.56	0.38	<0.1	0.0078	<.0005	11.8	8186
20081025	WOOD 3/11/08	WOOD 0930-1100	30.90		91.01	1.81	49.16	5.81	0.40	<0.1	0.0054	<.0005		8225
20081026	WOOD 3/11/08	WOOD 1330-1430	35.18		87.14	1.84	49.09	5.78	0.43	<0.1	0.0054	<.0005		8226
20081027	WOOD 3/12/08	WOOD 0945-1100	19.29		89.00	3.22	48.72	5.44	0.23	<0.1	0.0076	<.0005		8302
20081028	WOOD 3/12/08	WOOD 1330-1500	18.78		89.21	3.41	48.33	5.63	0.25	<0.1	0.0062	<.0005		8333
20081029	WOOD 3/13/08	WOOD 1000	18.17		89.12	3.21	49.29	5.54	0.26	<0.1	0.0075	<.0005	15.6	8397
20081030	WOOD 3/13/08	WOOD 1300	19.06		89.91	2.84	49.36	5.55	0.22	<0.1	0.0075	<.0005	16.2	8468

			Major Ash Elements, Wt. %, Ignited 750 Ash									
Analytical Number	Sample Description		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3
20081017	COAL 3/10/08	COAL 1530	47.82	23.00	1.05	18.04	3.16	0.74	0.63	1.54	0.43	3.14
20081018	COAL 3/11/08	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 3/11/08	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 3/12/08	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 3/12/08	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 3/13/08	COAL 1000	45.07	23.80	1.10	18.31	3.55	0.79	0.67	1.60	0.48	3.52
20081023	COAL 3/13/08	COAL 1300	47.86	23.96	1.07	18.53	3.33	0.79	0.64	1.57	0.43	2.99
20081024	WOOD 3/10/08	WOOD 1530	19.97	5.59	0.27	5.51	36.08	4.62	0.66	8.93	3.96	12.85
20081025	WOOD 3/11/08	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 3/11/08	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 3/12/08	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 3/12/08	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 3/13/08	WOOD 1000	61.29	7.57	0.34	5.12	14.19	3.03	1.05	4.41	0.93	1.95
20081030	WOOD 3/13/08	WOOD 1300	48.71	8.95	0.35	5.21	21.80	2.69	0.83	3.63	0.80	5.90

CONSOL ENERGY

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

				Wt. % Dry Basis			ppm Dry Basis		ug NH3/ g sample
Analytical Number	Sample Description		As Determined Moisture %	Ash	Carbon	Chlorine	Mercury	Fluorine	Ammonia
20081055	AHO FLYASH 3/10/08	AHO 0900-1030	0.34	81.23	18.23	0.0143	0.345	66.8	187
20081056	AHO FLYASH 3/10/08	AHO 1430-1630	3.14	79.18	19.40	0.0478	0.280	74.6	206
20081057	AHO FLYASH 3/10/08	AHO 1800	2.41	83.27	15.99	0.0361	0.265	71.9	208
20081058	AHO FLYASH 3/11/08	AHO 0900-1200	2.05	79.26	19.92	0.0315	0.254		195
20081059	AHO FLYASH 3/11/08	AHO 1300-1700	0.37	75.29	23.13	0.0080	0.348		210
20081060	PM AHO FLYASH 3/11/08	PM AHO (no wood)	0.51	79.48	18.85	0.0319	0.298		250
20081061	AHO FLYASH 3/12/08	AHO 0945-1200	0.31	76.99	23.23	0.0090	0.266		223
20081062	AHO FLYASH 3/12/08	AHO 1330-1630	0.23	76.02	23.45	0.0090	0.266		236
20081063	AHO FLYASH 3/13/08	AHO 0900-1130	2.23	79.55	19.12	0.0339	0.236	55.2	305
20081064	AHO FLYASH 3/13/08	AHO 1130-1330	2.21	78.82	19.48	0.0276	0.222	59.5	283
20081065	AHO FLYASH 3/13/08	AHO 1330-1600	0.25	80.06	18.55	0.0090	0.189	42.1	266
20081066	BOTTOM ASH 3/11/08	BOTTOM ASH 1645	0.34	72.25	8.15	0.0301	<0.005	20.9	

			Major Ash Elements, Wt% Dry Basis									
Analytical Number	Sample Description		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3
20081055	AHO FLYASH 3/10/08	AHO 0900-1030	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	AHO 1430-1630	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	AHO 1800	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	AHO 0900-1200	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	AHO 1300-1700	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	PM AHO (no wood)	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	AHO 0945-1200	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	AHO 1330-1630	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	AHO 0900-1130	40.67	20.07	0.96	11.06	2.87	0.65	0.59	1.37	0.93	1.30
20081064	AHO FLYASH 3/13/08	AHO 1130-1330	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	AHO 1330-1600	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	BOTTOM ASH 1645	29.69	15.38	0.69	21.42	2.26	0.50	0.41	1.05	0.23	2.67

CONSOL ENERGY

Submitted by: D. Connell
Date: 4/24/2008
Project #: 1621-085
General Description: Turbosorp Product Ash Samples - Process Performance Tests - March 2008

				Wt. % Dry Basis			ppm Dry Basis		ug NH3/ g sample		Wt. %
Analytical Number	Sample Description		As Determined Moisture %	Ash	Carbon	Chlorine	Mercury	Fluorine	Ammonia	Paste pH	Available Ca(OH)2
20081047	PRODUCT ASH 3/10/08	ASH 1530	0.84	84.48	9.77	0.3081	0.439	158	59	12.4	3.43
20081048	PRODUCT ASH 3/11/08	ASH 1230	0.86	84.88	9.41	0.3038	0.414	217			
20081049	PRODUCT ASH 3/11/08	ASH 1645	0.86	84.14	9.86	0.2831	0.458		48	12.5	3.56
20081050	PRODUCT ASH 3/12/08	ASH 1215	0.77	83.20	10.20	0.3154	0.416				
20081051	PRODUCT ASH 3/12/08	ASH 1630	0.85	82.92	10.70	0.3212	0.422		26	12.8	3.56
20081052	PRODUCT ASH 3/13/08	ASH 1130	1.02	83.73	10.10	0.3203	0.421	122			
20081053	PRODUCT ASH 3/13/08	ASH 1330	0.71	84.13	9.86	0.3414	0.463	187			4.22
20081054	PRODUCT ASH 3/13/08	ASH 1600	0.95	83.73	10.14	0.3220	0.453	164	5.4	12.4	

			Major Ash Elements, Wt. % Dry Basis									
Analytical Number	Sample Description		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

			ug/g sample leached	ug/L leachate
Analytical Number	Sample Description		Mercury	Mercury
20081047	PRODUCT ASH 3/10/08	ASH 1530	0.000164	0.00820
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

CONSOL ENERGY

Submitted by: D. Connell
Date: 4/24/2008
Project #: 1621-085
General Description: Pebble Lime and Hydrated Lime Samples - Process Performance Tests - March 2008

							Additional Lime Parameters					
				Wt. % Dry Basis		ppm Dry Basis	Wt. %				lb/ft^3	
Analytical Number	Sample Description		As Determined Moisture %	Ash	Carbon	Mercury	Available CaO	Available Ca(OH)2	LOI	Free Moisture	Loose Denisty	Packed Density
20081033	PEBBLE LIME 3/10/08	PEBBLE LIME 1530	<0.01	99.03	0.37	<0.005	91.9		0.97			
20081034	PEBBLE LIME 3/11/08	PEBBLE LIME 0930	<0.01	98.96	0.41	<0.005	93.0		1.04			
20081035	PEBBLE LIME 3/11/08	PEBBLE LIME 1330	<0.01	98.40	0.45	<0.005	90.7		1.60			
20081036	PEBBLE LIME 3/12/08	PEBBLE LIME 0945	<0.01	98.69	0.39	<0.005	92.8		1.31			
20081037	PEBBLE LIME 3/12/08	PEBBLE LIME 1330	<0.01	98.30	0.44	<0.005	90.5		1.70			
20081038	PEBBLE LIME 3/13/08	PEBBLE LIME 1000	<0.01	99.21	0.33	<0.005	90.6		0.79			
20081039	PEBBLE LIME 3/13/08	PEBBLE LIME 1300	<0.01	99.25	0.34	<0.005	90.3		0.75			
20081040	HYDRATED LIME 3/10/08	HYDRATED 1530	0.21	76.12	0.40	<0.005		90.7	24.21	0.28	18.53	40.96
20081041	HYDRATED LIME 3/11/08	HYDRATED 0930	<0.01	75.73	0.40	<0.005		92.5	24.27	0.31	19.16	41.07
20081042	HYDRATED LIME 3/11/08	HYDRATED 1330	0.25	75.87	0.45	<0.005		90.2	24.33	0.26	20.95	43.34
20081043	HYDRATED LIME 3/12/08	HYDRATED 0945	<0.01	75.93	0.40	<0.005		91.2	24.07	0.26	19.82	40.04
20081044	HYDRATED LIME 3/12/08	HYDRATED 1330	0.04	75.94	0.39	<0.005		91.8	24.09	0.30	21.61	42.06
20081045	HYDRATED LIME 3/13/08	HYDRATED 1000	<0.01	76.57	0.37	<0.005		86.3	23.43	0.26	24.36	45.78
20081046	HYDRATED LIME 3/13/08	HYDRATED 1300	<0.01	75.96	0.45	<0.005		90.7	24.02	0.29	22.01	45.74

			Major Ash Elements, Wt% Dry Basis									
Analytical Number	Sample Description		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3
20081033	PEBBLE LIME 3/10/08	PEBBLE LIME 1530	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	PEBBLE LIME 0930	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	PEBBLE LIME 1330	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	PEBBLE LIME 0945	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	PEBBLE LIME 1330	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	PEBBLE LIME 1000	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	PEBBLE LIME 1300	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	HYDRATED 1530	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	HYDRATED 0930	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	HYDRATED 1330	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	HYDRATED 0945	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	HYDRATED 1330	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	HYDRATED 1000	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	HYDRATED 1300	1.51	0.32	0.02	0.12	75.17	0.66	0.05	0.06	0.01	0.03

CONSOL ENERGY

Submitted by: D. Connell
Date: 4/24/2008
Project #: 1621-085
General Description: Urea and Process Water Samples - Process Performance Tests - March 2008

			ppm or mg/L		ug/L	g/cm^3
Analytical Number	**Sample Identification**	**pH**	**TSS**	**Ammonia, N**	**Hg**	**Density**
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

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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.

Sincerely,

CONSTRUCTION TECHNOLOGY LABORATORIES, INC.
An AASHTO Accredited Laboratory – Aggregates, Cement and Concrete

E. Shkolnik/sam

Ella Shkolnik
Senior Materials Technologist
Materials Testing and Analysis

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

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Client:	**CONSOL Energy, Inc.**	CTL Project No:	**403554**
Project:	**Chemical Analysis**	CTL Project Mgr.:	**Ella Shkolnik**
		Analyst:	**Cecylia Wedzicha**
Contact:	**Daniel Connel**	Approved:	
Submitter:	**Daniel Connel**	Date Analyzed:	**March 31, 2008**
Date Received:	**March 25, 2008**	Date Reported:	**March 31, 2008**

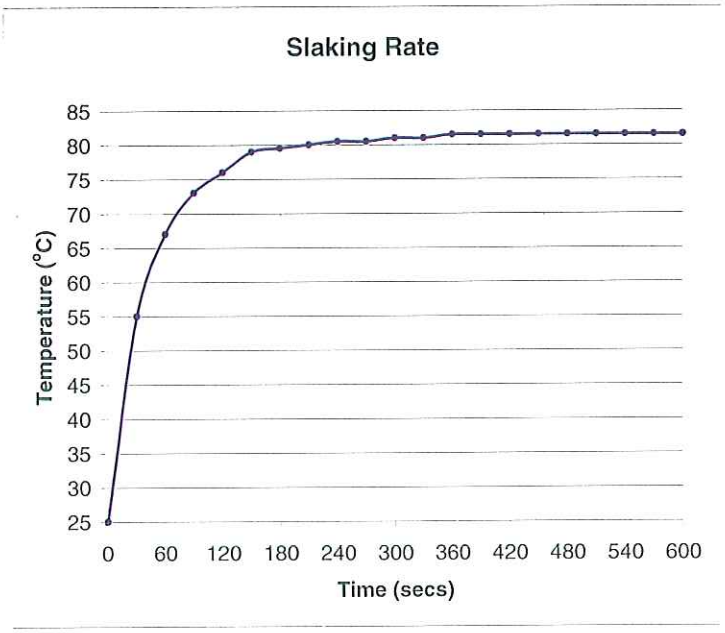
REPORT of SLAKING RATE ANALYSIS

ASTM C 110 - 05, Sec. 11

Sample Identification

CTL ID:	**2071801**
Client ID:	**20081033**
Description:	**Pebble Lime**

Time (minutes)	Time (seconds)	Temperature (°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.

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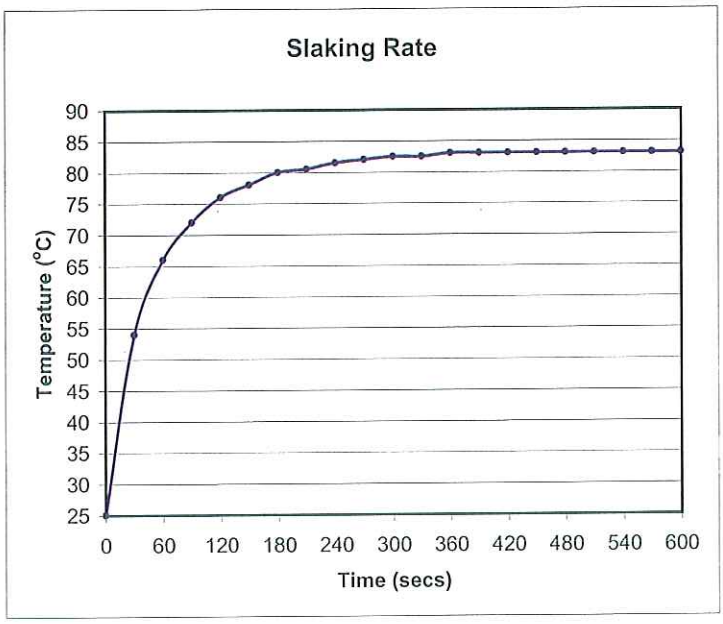
Client:	**CONSOL Energy, Inc.**	CTL Project No:	**403554**
Project:	**Chemical Analysis**	CTL Project Mgr.:	**Ella Shkolnik**
		Analyst:	**Cecylia Wedzicha**
Contact:	**Daniel Connel**	Approved:	
Submitter:	**Daniel Connel**	Date Analyzed:	**March 31, 2008**
Date Received:	**March 25, 2008**	Date Reported:	**March 31, 2008**

REPORT of SLAKING RATE ANALYSIS
ASTM C 110 - 05, Sec. 11

Sample Identification
CTL ID: **2071802**
Client ID: **20081037**
Description: **Pebble Lime**

Time (minutes)	Time (seconds)	Temperature (°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.

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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:	E. Shkolnik
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
Size at 50% (μm)	**7.79**	**8.16**
Cumulative Volume under Stated Size note 2		
<45 μm	82.14	79.61
<30 μm	75.47	72.89
3-30 μm	52.14	50.02
<10 μm	55.78	54.42
<7 μm	47.33	46.37
<1 μm	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.

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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

Particle RI: 1.560 **Absorption:** 0.1

Dispersant Name: Propan-2-ol

Dispersant RI: 1.390

Accessory Name: Hydro 2000MU (A)

Analysis model: General purpose

Size range: 0.020 to 2000.000 um

Result Emulation: Off

Obscuration: 12.54 %

Weighted Residual: 1.738 %

Concentration: 0.0081 %Vol

Span : 9.053

Result units: Volume

Vol. Weighted Mean D[4,3]: 23.660 um

Uniformity: 2.59

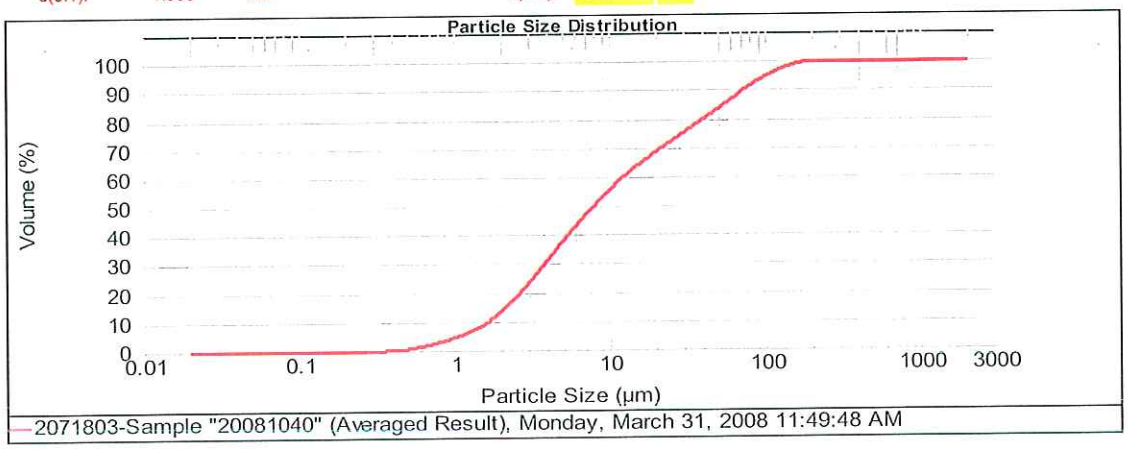
Specific Surface Area: 1.5 m²/g

Surface Weighted Mean D[3,2]: 4.003 um

d(0.1): 1.638 um

d(0.5): 7.789 um

d(0.9): 72.152 um



Size (µm)	Vol Under %
1.000	4.55

Size (µm)	Vol Under %
3.000	23.33

Size (µm)	Vol Under %
7.000	47.33

Size (µm)	Vol Under %
10.000	55.78

Size (µm)	Vol Under %
30.000	75.47

Size (µm)	Vol Under %
45.000	82.14

Operator notes: *Average of four measurements*

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Serial Number : 34403-28

File name: Samples 2071803-804.mea
Record Number: 13
01 Apr 2008 8:51:55 AM

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

Particle RI: 1.560 **Absorption:** 0.1

Dispersant Name: Propan-2-ol

Dispersant RI: 1.390

Accessory Name: Hydro 2000MU (A)

Analysis model: General purpose

Size range: 0.020 to 2000.000 um

Result Emulation: Off

Obscuration: 15.17 %

Weighted Residual: 1.361 %

Concentration: 0.0102 %Vol

Span : 9.891

Result units: Volume

Vol. Weighted Mean D[4,3]: 27.417 um

Uniformity: 2.92

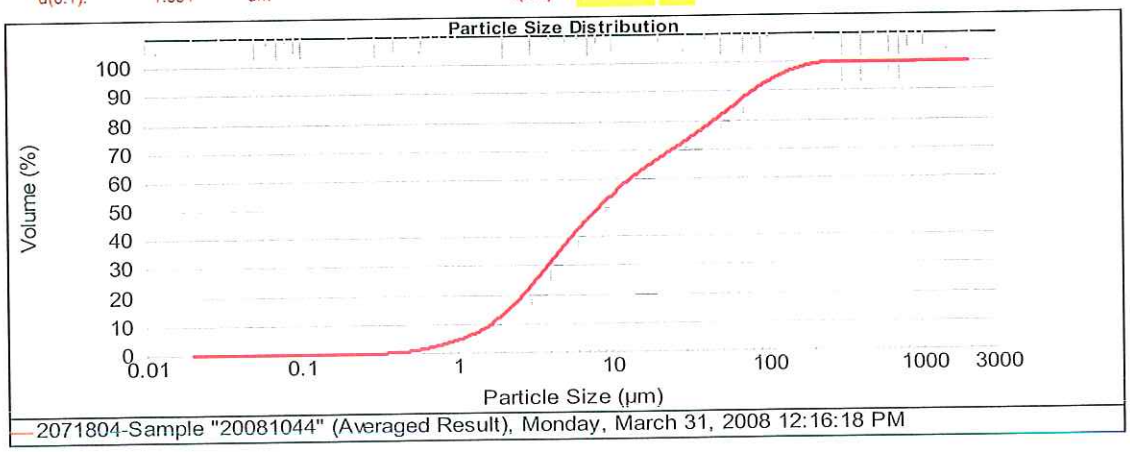
Specific Surface Area: 1.45 m²/g

Surface Weighted Mean D[3,2]: 4.139 um

d(0.1): 1.681 um

d(0.5): 8.158 um

d(0.9): 82.366 um



Size (µm)	Vol Under %
1.000	4.22
3.000	22.87
7.000	46.37
10.000	54.42
30.000	72.89
45.000	79.61

Operator notes: *Average of four measurements*

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Serial Number : 34403-28

File name: Samples 2071803-804.mea
Record Number: 14
01 Apr 2008 8:51:55 AM

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

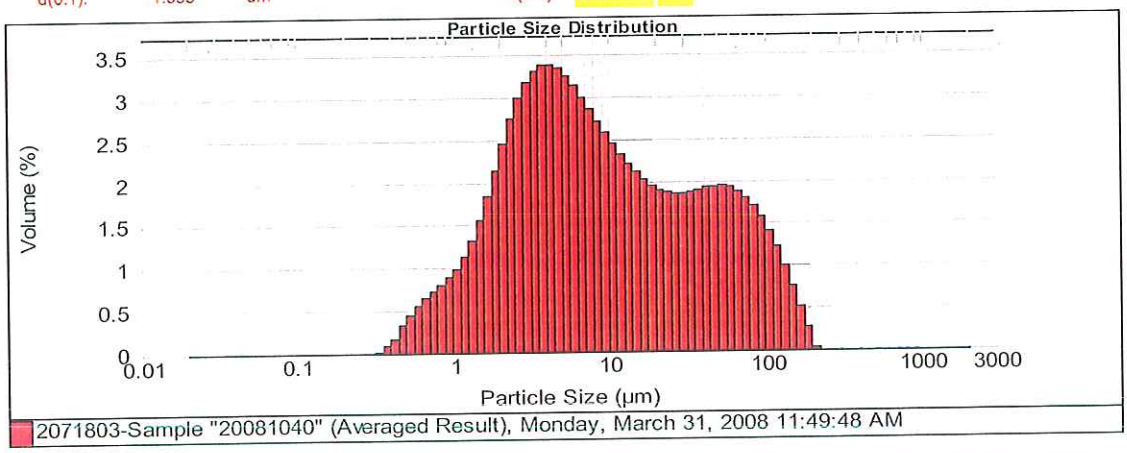
Dispersant RI: 1.390 **Result Emulation:** Off **Weighted Residual:** 1.738 %

Concentration: 0.0081 %Vol **Vol. Weighted Mean D[4,3]:** 23.660 um **Specific Surface Area:** 1.5 m²/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	0.08	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	1782.502	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
0.126	0.00	0.893	3.70	6.325	44.68	44.774	82.06	316.979	100.00		

Operator notes: *Average of four measurements*

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Mastersizer 2000 Ver. 5.12
Serial Number : 34403-28

File name: Samples 2071803-804.mea
Record Number: 13
01 Apr 2008 8:50:48 AM

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

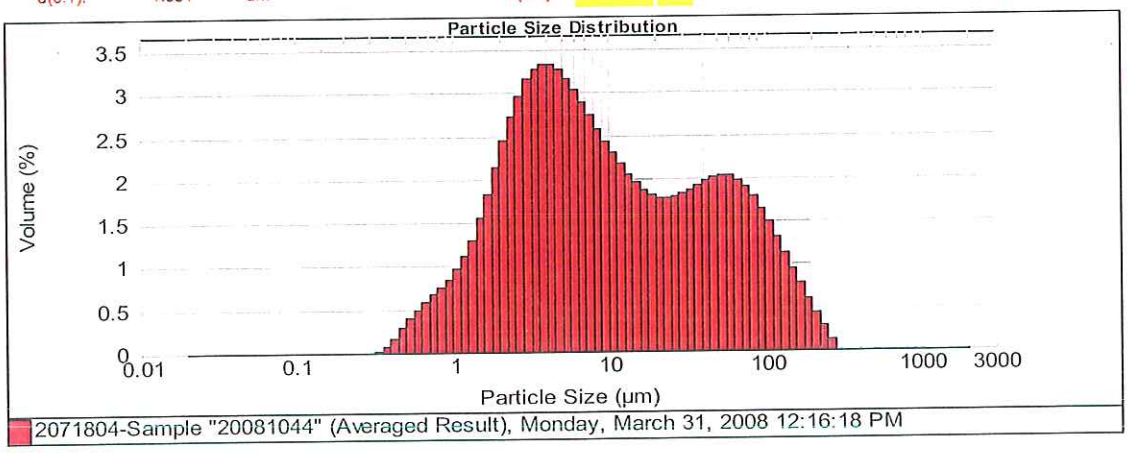
Dispersant RI: 1.390 **Result Emulation:** Off **Weighted Residual:** 1.361 %

Concentration: 0.0102 %Vol **Vol. Weighted Mean D[4,3]:** 27.417 um **Specific Surface Area:** 1.45 m²/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 %
0.020	0.00	0.142	0.00	1.002	4.24	7.096	46.70	50.238	81.53	355.656	100.00
0.022	0.00	0.159	0.00	1.125	5.19	7.962	49.44	56.368	83.56	399.052	100.00
0.025	0.00	0.178	0.00	1.262	6.30	8.934	52.03	63.246	85.58	447.744	100.00
0.028	0.00	0.200	0.00	1.416	7.60	10.024	54.47	70.963	87.56	502.377	100.00
0.032	0.00	0.224	0.00	1.589	9.14	11.247	56.76	79.621	89.46	563.677	100.00
0.036	0.00	0.252	0.00	1.783	10.97	12.619	58.93	89.337	91.25	632.456	100.00
0.040	0.00	0.283	0.00	2.000	13.10	14.159	60.99	100.237	92.90	709.627	100.00
0.045	0.00	0.317	0.00	2.244	15.54	15.887	62.94	112.468	94.39	796.214	100.00
0.050	0.00	0.356	0.00	2.518	18.27	17.825	64.81	126.191	95.70	893.367	100.00
0.056	0.00	0.399	0.07	2.825	21.24	20.000	66.62	141.589	96.84	1002.374	100.00
0.063	0.00	0.448	0.22	3.170	24.39	22.440	68.39	158.866	97.79	1124.683	100.00
0.071	0.00	0.502	0.51	3.557	27.67	25.179	70.16	178.250	98.56	1261.915	100.00
0.080	0.00	0.564	0.90	3.991	31.01	28.251	71.95	200.000	99.17	1415.892	100.00
0.089	0.00	0.632	1.39	4.477	34.33	31.698	73.77	224.404	99.60	1588.656	100.00
0.100	0.00	0.710	1.98	5.024	37.60	35.566	75.63	251.785	99.89	1782.502	100.00
0.112	0.00	0.796	2.64	5.637	40.77	39.905	77.55	282.508	100.00	2000.000	100.00
0.126	0.00	0.893	3.39	6.325	43.81	44.774	79.52	316.979	100.00		

Operator notes: *Average of four measurements*

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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			
CTL ID	**Client ID**	**Material**	**BET Surface Area (m^2/kg)** note 2
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.

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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^2/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^3/g
SPECIFIC SURFACE AREA=	20.75 M^2/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
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WL 4/10/08
DJ 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	Cm^3/g
SPECIFIC SURFACE AREA=	19.30	M^2/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

ugl 4/10/08
DD 4/9/08

APPENDIX J.8
PROCESS PERFORMANCE TESTS
MAY 2008

CONSOLENERGY

Submitted by: D. Connell
Date: 6/17/2008
Project #: 1621-085
General Description: Coal Samples - Process Performance Tests - May 2008

				Wt. % Dry Basis							ppm Dry Basis		Dry Basis
Analytical Number		Total Moisture %	As Determined Moisture %	Volatile Matter	Ash	Carbon	Hydrogen	Nitrogen	Sulfur	Chlorine	Mercury	Fluorine	Btu/lb
20082477	COAL 5/19 2330-5/20 0110	6.02	1.36	32.81	11.47	73.12	4.60	1.72	2.36	0.0953	0.096		13426
20082478	COAL 5/20 0305-0445	6.32	1.24	32.34	11.74	73.00	4.54	1.72	2.26	0.0886	0.096		13385
20082479	COAL 5/20 2300	5.71	1.24	29.80	12.06	74.61	4.60	1.78	2.03	0.0881	0.102	72.6	13340
20082480	COAL 5/21 0200	5.98	1.22	30.14	12.76	73.85	4.55	1.60	2.11	0.0810	0.117	76.3	13293
20082481	COAL 5/21 2300	5.85	1.24	32.36	11.54	73.78	4.54	1.65	2.31	0.0891	0.106	85.8	13384
20082482	COAL 5/22 0200	5.83	1.35	35.73	10.73	74.64	4.66	1.69	2.42	0.0912	0.114	78.5	13514

		Major Ash Elements, Wt. %, Ignited 750 Ash									
Analytical Number		SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3
20082477	COAL 5/19 2330-5/20 0110	49.69	27.53	1.92	13.52	3.73	0.78	0.61	1.59	0.46	2.95
20082478	COAL 5/20 0305-0445	50.26	27.73	1.92	12.04	3.28	0.76	0.58	1.61	0.41	2.75
20082479	COAL 5/20 2300	49.82	27.56	2.13	11.32	2.81	0.70	0.53	1.62	0.34	2.46
20082480	COAL 5/21 0200	50.02	28.12	2.15	10.84	2.49	0.66	0.52	1.60	0.35	2.12
20082481	COAL 5/21 2300	49.57	26.29	1.83	12.98	3.55	0.77	0.59	1.66	0.49	2.89
20082482	COAL 5/22 0200	48.72	26.03	1.64	14.01	4.23	1.03	0.67	1.62	0.47	3.78

CONSOL ENERGY

Submitted by: D. Connell
Date: 6/17/2008
Project #: 1621-085
General Description: Air Heater Outlet Fly Ash Samples - Process Performance Tests - May 2008

			Wt. % Dry Basis			ppm Dry Basis		ug NH3/ g sample
Analytical Number	Sample Description	As Determined Moisture %	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

		Major Ash Elements, Wt% Dry Basis									
Analytical Number	Sample Description	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

CONSOL ENERGY

Submitted by: D. Connell
Date: 6/17/2008
Project #: 1621-085
General Description: Turbosorp Product Ash Samples - Process Performance Tests - May 2008

			Wt. % Dry Basis			ppm Dry Basis		ug NH3/ g sample		Wt. %
Analytical Number	Sample Description	As Determined Moisture %	Ash	Carbon	Chlorine	Mercury	Fluorine	Ammonia	Paste pH	Available Ca(OH)2
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	8.4	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	8.5	12.4	10.8

		Major Ash Elements, Wt. % Dry Basis									
Analytical Number	Sample Description	SiO2	Al2O3	Fe2O3	TiO2	CaO	MgO	Na2O	K2O	P2O5	SO3
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

		ug/g sample leached	ug/L sample leached
Analytical Number	Sample Description	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

CONSOL ENERGY

Submitted by: D. Connell
Date: 6/17/2008
Project #: 1621-085
General Description: Pebble Lime and Hydrated Lime Samples - Process Performance Tests - May 2008

						Additional Lime Parameters					
			Wt. % Dry Basis		ppm Dry Basis	Wt. %				lb/ft^3	
Analytical Number	Sample Description	As Determined Moisture %	Ash	Carbon	Mercury	Available CaO	Available Ca(OH)2	LOI	Free Moisture	Loose Denisty	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	39.3
20082488	HYDRATED LIME 5/20/08 0305	0.14	76.34	0.43	<.005		90.7	23.66	0.52	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	41.2
20082490	HYDRATED LIME 5/21/08 2300	0.07	76.31	0.39	<.005		88.7	23.69	0.55	23.7	42.5

		Major Ash Elements, Wt% Dry Basis									
Analytical Number	Sample Description	SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3
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	0.03	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

CONSOL ENERGY

Submitted by: D. Connell
Date: 6/17/2008
Project #: 1621-085
General Description: Urea Samples - Process Performance Tests - May 2008

			ppm or mg/L		g/cm^3	ppb or ug/L
Analytical Number	**Sample Identification**	**pH**	**TSS**	**Ammonia, N**	**Density**	**Hg**
20082403	UREA 05/20/2008	9.46	<6	370	1.15	<0.35
20082404	UREA 05/20/2008	9.48	<6	390	1.14	<0.35
20082405	UREA 05/20/2008	9.40	<6	340	1.14	<0.35

APPENDIX J.9
PROCESS PERFORMANCE AND FOLLOW-UP TESTS
JUNE 2008

CONSOLENERGY

Submitted by: D. Connell
Date: 7/28/2008
Project #: 1621-085
General Description: Coal Samples - Process Performance and Follow-Up Tests - June 2008

				Wt. % Dry Basis							ppm Dry Basis		Dry Basis
Analytical Number	Sample Description	Total Moisture %	As Determined Moisture %	Volatile Matter	Ash	Carbon	Hydrogen	Nitrogen	Sulfur	Chlorine	Mercury	Fluorine	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

		Major Ash Elements, Wt. %, Ignited 750 Ash									
Analytical Number	Sample Description	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

CONSOL ENERGY

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

			Wt. % Dry Basis			ppm Dry Basis		ug NH3/ g sample
Analytical Number	Sample Description	As Determined Moisture %	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

		Major Ash Elements, Wt% Dry Basis									
Analytical Number	Sample Description	SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3
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

CONSOL ENERGY

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

			Wt. % Dry Basis			ppm Dry Basis		ug NH3/ g sample	S.U.	Wt. %
Analytical Number	Sample Description	As Determined Moisture %	Ash	Carbon	Chlorine	Mercury	Fluorine	Ammonia	Paste pH	Available Ca(OH)2
20083389	PRODUCT ASH 6/10/08 1630	0.89	81.29	12.89	0.3380	0.321	100			
20083390	PRODUCT ASH 6/11/08 1300	0.87	82.45	11.63	0.3359	0.309	73.7	26.3	12.90	5.15
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		31.2	12.70	3.15
20083396	PRODUCT ASH 6/16/08 1730A	0.90	87.11	9.09	0.3562	0.475	187			
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

		Major Ash Elements, Wt. % Dry Basis									
Analytical Number	Sample Description	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

		ug/g sample leached	ug/L leachate
Analytical Number	Sample Description	Mercury	Mercury
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

CONSOL ENERGY

Submitted by: D. Connell
Date: 7/28/2008
Project #: 1621-085
General Description: Pebble Lime and Hydrated Lime Samples - Process Performance and Follow-Up Tests - June 2008

						Additional Lime Parameters					
			Wt. % Dry Basis		ppm Dry Basis	Wt. %				lbs/ft^3	
Analytical Number	Sample Description	As Determined Moisture %	Ash	Carbon	Mercury	Available CaO	Available Ca(OH)2	LOI	Free Moisture	Loose Denisty	Packed Density
20083337	HYDRATED LIME 6/10/08 1330	0.01	75.88	0.27	<0.005		91.6	24.15	0.40	23.7	42.5
20083338	HYDRATED LIME 6/11/08 1000	<0.01	75.98	0.12	<0.005		91.7	24.02	0.32	24.3	42.5
20083339	HYDRATED LIME 6/12/08 1000	<0.01	76.09	0.07	<0.005		90.9	23.91	0.38	25.6	40.0
20083340	HYDRATED LIME 6/12/08 1345	<0.01	75.98	0.09	<0.005		93.0	24.02	0.41	25.0	43.1
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	73.68	0.10	<0.005		92.1	26.32	0.52	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	98.33	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			

		Major Ash Elements, Wt% Dry Basis									
Analytical Number	Sample Description	SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	P2O5	SO3
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	0.98	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	0.49	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	<.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	0.98	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	0.96	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

CONSOL ENERGY

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

			ppm or mg/L		g/cm^3	ppb or ug/L
Analytical Number	**Sample Identification**	**pH**	**TSS**	**Ammonia, N**	**Density**	**Hg**
20083333	UREA 06/12/2008 1300	9.13	<6	295	1.11	<0.35
20083334	UREA 06/13/2008 1345	9.13	<6	260	1.13	<0.35
20083335	UREA 06/18/2008 1445	8.95	<6	490	1.15	<0.35
20083336	PROCESS WATER 06/18/2008 1445					<0.35

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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.

Sincerely,

CONSTRUCTION TECHNOLOGY LABORATORIES, INC.
An AASHTO Accredited Laboratory – Aggregates, Cement and Concrete

E. Shkolnik /ksm

Ella Shkolnik
Senior Materials Technologist
Materials Testing and Analysis

Eshkolnik@ctlgroup.com

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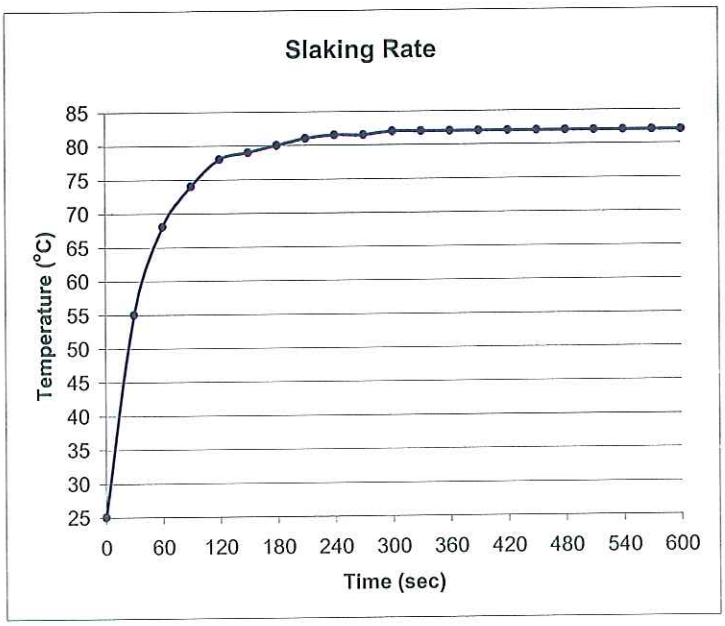
Client:	**CONSOL Energy, Inc.**	CTL Project No:	**403554**
Project:	**Chemical Analysis**	CTL Project Mgr.:	**Ella Shkolnik**
		Analyst:	**Cecylia Wedzicha**
Contact:	**Dan Connell**	Approved:	
Submitter:	**Dan Connell**	Date Analyzed:	**July 9, 2008**
Date Received:	**June 30, 2008**	Date Reported:	**July 10, 2008**

REPORT of SLAKING RATE ANALYSIS
ASTM C 110-05, Section 11

Sample Identification
CTL ID: **2141301**
Client ID: **083378**
Description: **Pebble Lime**

Time (minutes)	Time (seconds)	Temperature (°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	81.5
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.

Corporate Office: 5400 Old Orchard Road Skokie, Illinois 60077-1030 Phone 847-965-7500 Fax 847-965-6541
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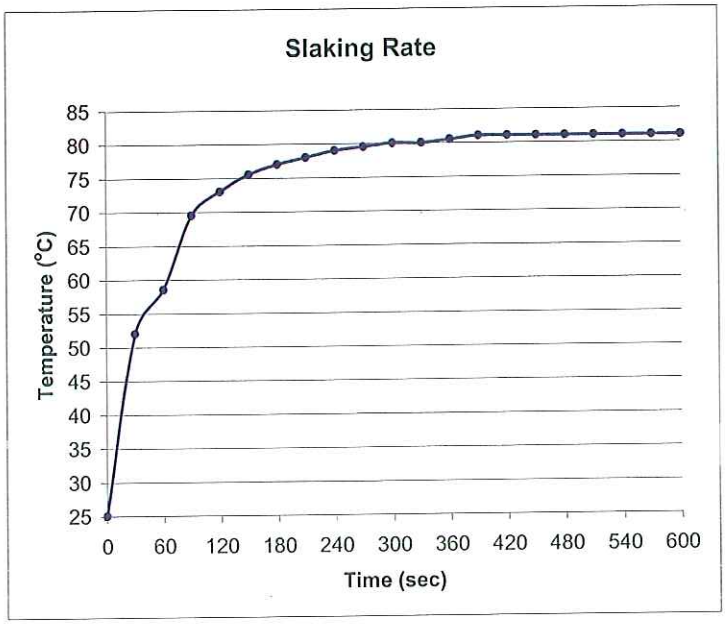
Client:	CONSOL Energy, Inc.	CTL Project No:	403554
Project:	Chemical Analysis	CTL Project Mgr.:	Ella Shkolnik
		Analyst:	Cecylia Wedzicha
Contact:	Dan Connell	Approved:	
Submitter:	Dan Connell	Date Analyzed:	July 9, 2008
Date Received:	June 30, 2008	Date Reported:	July 10, 2008

REPORT of SLAKING RATE ANALYSIS
ASTM C 110-05 Section 11

Sample Identification
CTL ID: **2141302**
Client ID: **083382**
Description: **Pebble Lime**

Time (minutes)	Time (seconds)	Temperature (°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.
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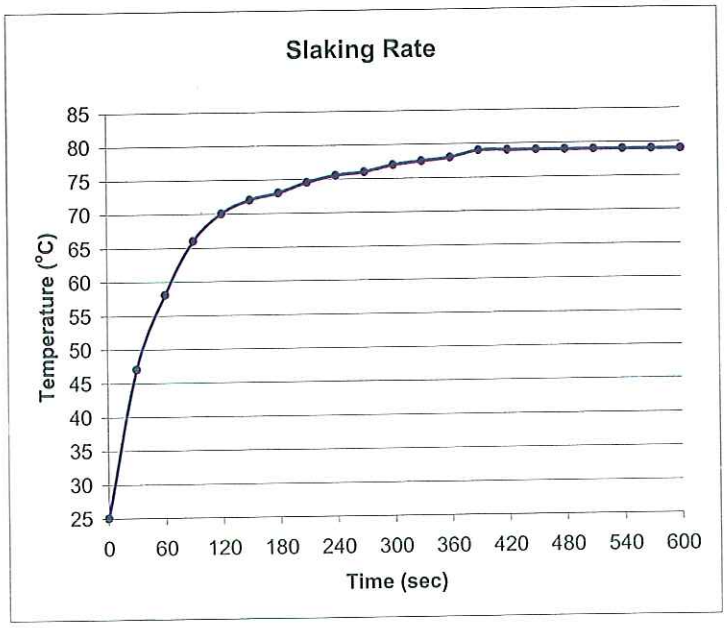
Client:	CONSOL Energy, Inc.	CTL Project No:	403554
Project:	Chemical Analysis	CTL Project Mgr.:	Ella Shkolnik
		Analyst:	Cecylia Wedzicha
Contact:	Dan Connell	Approved:	
Submitter:	Dan Connell	Date Analyzed:	July 9, 2008
Date Received:	June 30, 2008	Date Reported:	July 10, 2008

REPORT of SLAKING RATE ANALYSIS
ASTM C 110-05, Section 11

Sample Identification
CTL ID: **2141303**
Client ID: **083388**
Description: **Pebble Lime**

Time (minutes)	Time (seconds)	Temperature (°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.
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Client:	**CONSOL Energy, Inc**	CTL Project No.:	**403554**
Project:	**Fineness Analysis**	CTL Proj. Mgr.:	**Ella Shkolnik**
		Analyst:	**Charlotte Hernandez**
Contact:	**Daniel Connell**	Approved:	**Ella Shkolnik**
Submitter:	**Daniel Connell**	Date Analyzed:	**July 11. 2008**
Date Received:	**June 30, 2008**	Date Reported:	**July 14, 2008**

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
Size at 50% (μm)	**5.44**	**5.50**	**9.12**
Cumulative Volume under Stated Size note 2			
<45 μm	87.46	87.95	77.59
<30 μm	82.71	83.36	69.89
3-30 μm	53.73	55.71	47.32
<10 μm	67.13	67.91	51.72
<7 μm	58.04	58.22	44.60
<1 μm	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.

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Client:	**CONSOL Energy, Inc**	CTL Project No.:	**403554**
Project:	**Fineness Analysis**	CTL Proj. Mgr.:	**Ella Shkolnik**
		Analyst:	**Charlotte Hernandez**
Contact:	**Daniel Connell**	Approved:	**Ella Shkolnik**
Submitter:	**Daniel Connell**	Date Analyzed:	**July 11. 2008**
Date Received:	**June 30, 2008**	Date Reported:	**July 14, 2008**

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
Size at 50% (μm)	**4.98**	**7.19**
Cumulative Volume under Stated Size note 2		
<45 μm	91.42	80.93
<30 μm	88.47	75.35
3-30 μm	60.09	55.46
<10 μm	74.28	59.55
<7 μm	63.69	49.10
<1 μm	5.59	6.54

Notes:
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2. The provided results are volume based and expressed in terms of equivalent spheres.
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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

Particle RI: 1.560 **Absorption:** 0.1

Dispersant Name: Propan-2-ol

Dispersant RI: 1.390

Accessory Name: Hydro 2000MU (A)

Analysis model: General purpose

Size range: 0.020 to 2000.000 um

Result Emulation: Off

Obscuration: 13.03 %

Weighted Residual: 1.485 %

Concentration: 0.0070 %Vol

Span : 9.964

Result units: Volume

Vol. Weighted Mean D[4,3]: 19.244 um

Uniformity: 3.04

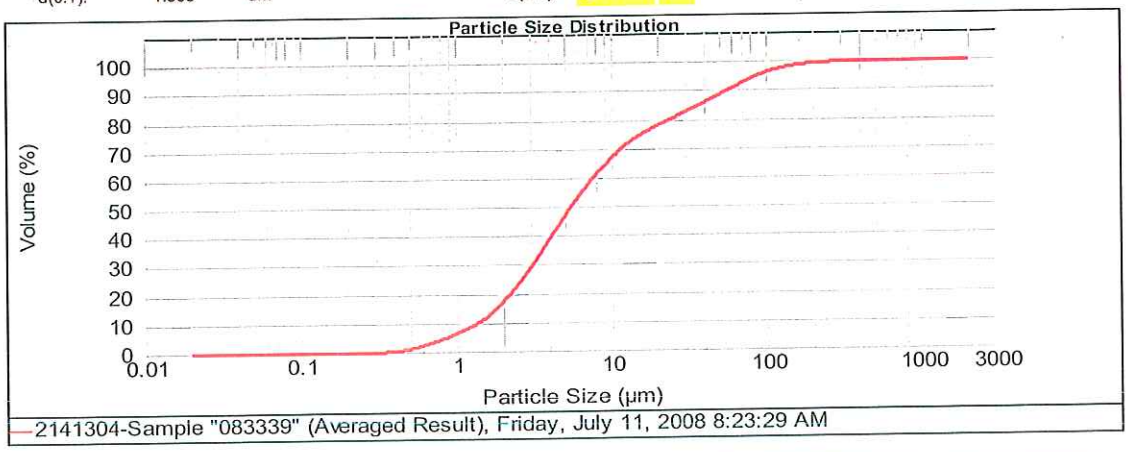
Specific Surface Area: 1.85 m²/g

Surface Weighted Mean D[3,2]: 3.241 um

d(0.1): 1.368 um

d(0.5): 5.435 um

d(0.9): 55.525 um



Size (µm)	Vol Under %
1.000	6.30

Size (µm)	Vol Under %
3.000	28.98

Size (µm)	Vol Under %
7.000	58.04

Size (µm)	Vol Under %
10.000	67.13

Size (µm)	Vol Under %
30.000	82.71

Size (µm)	Vol Under %
45.000	87.46

Operator notes: *Average of four measurements*

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Record Number: 25
11 Jul 2008 1:46:00 PM

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

Particle RI: 1.560 **Absorption:** 0.1

Dispersant Name: Propan-2-ol

Dispersant RI: 1.390

Accessory Name: Hydro 2000MU (A)

Analysis model: General purpose

Size range: 0.020 to 2000.000 um

Result Emulation: Off

Obscuration: 12.68 %

Weighted Residual: 1.745 %

Concentration: 0.0069 %Vol

Span : 9.484

Result units: Volume

Vol. Weighted Mean D[4,3]: 17.397 um

Uniformity: 2.65

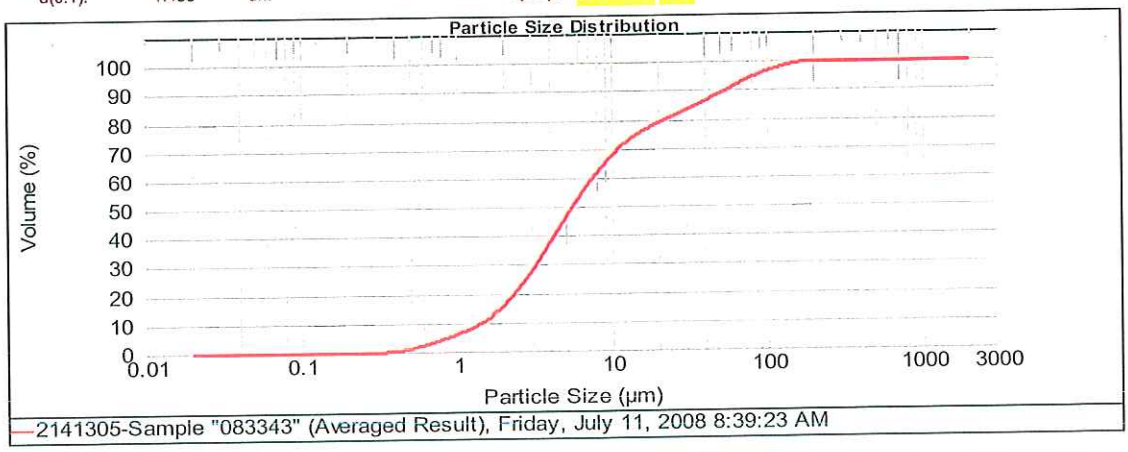
Specific Surface Area: 1.82 m²/g

Surface Weighted Mean D[3,2]: 3.303 um

d(0.1): 1.430 um

d(0.5): 5.496 um

d(0.9): 53.554 um



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*

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Serial Number : 34403-28

File name: Samples 2141304-308 (ave).mea
Record Number: 26
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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

Particle RI: 1.560 **Absorption:** 0.1

Dispersant Name: Propan-2-ol

Dispersant RI: 1.390

Accessory Name: Hydro 2000MU (A)

Analysis model: General purpose

Size range: 0.020 to 2000.000 um

Result Emulation: Off

Obscuration: 12.94 %

Weighted Residual: 1.206 %

Concentration: 0.0088 %Vol

Span : 8.983

Result units: Volume

Vol. Weighted Mean D[4,3]: 30.516 um

Uniformity: 2.94

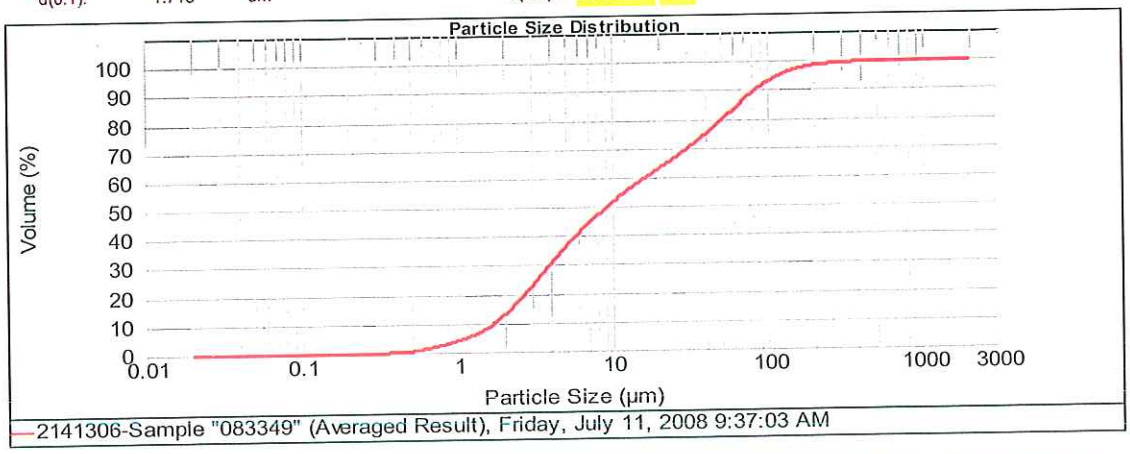
Specific Surface Area: 1.4 m²/g

Surface Weighted Mean D[3,2]: 4.280 um

d(0.1): 1.718 um

d(0.5): 9.120 um

d(0.9): 83.649 um



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*

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File name: Samples 2141304-308 (ave).mea
Record Number: 27
11 Jul 2008 1:46:00 PM

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

Particle RI: 1.560 **Absorption:** 0.1

Dispersant Name: Propan-2-ol

Dispersant RI: 1.390

Accessory Name: Hydro 2000MU (A)

Analysis model: General purpose

Size range: 0.020 to 2000.000 um

Result Emulation: Off

Obscuration: 12.71 %

Weighted Residual: 1.551 %

Concentration: 0.0066 %Vol

Span : 7.087

Result units: Volume

Vol. Weighted Mean D[4,3]: 16.281 um

Uniformity: 2.72

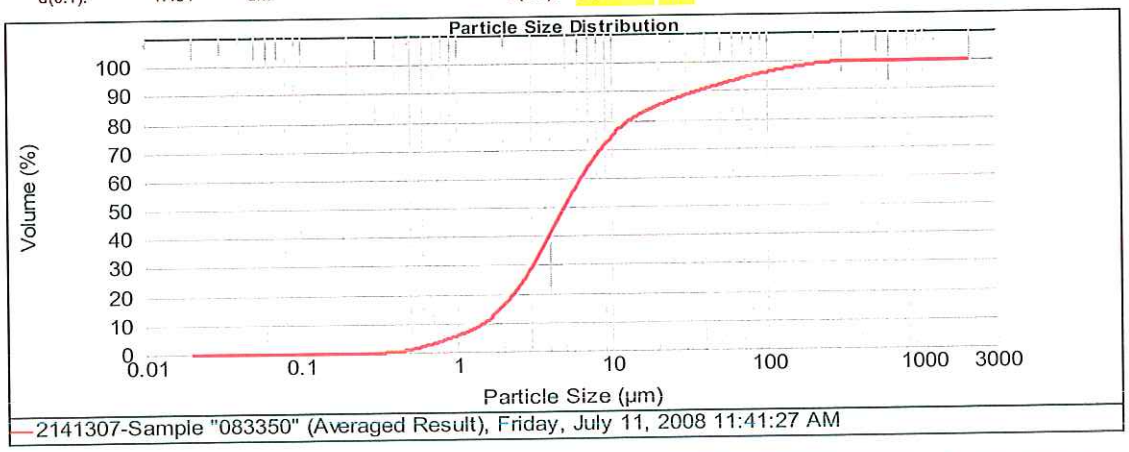
Specific Surface Area: 1.86 m²/g

Surface Weighted Mean D[3,2]: 3.233 um

d(0.1): 1.491 um

d(0.5): 4.976 um

d(0.9): 36.753 um



Size (µm)	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*

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File name: Samples 2141304-308 (ave).mea
Record Number: 28
11 Jul 2008 1:46:00 PM

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

Particle RI: 1.560 **Absorption:** 0.1

Dispersant Name: Propan-2-ol

Dispersant RI: 1.390

Accessory Name: Hydro 2000MU (A)

Analysis model: General purpose

Size range: 0.020 to 2000.000 um

Result Emulation: Off

Obscuration: 14.39 %

Weighted Residual: 1.380 %

Concentration: 0.0096 %Vol

Span : 11.094

Result units: Volume

d(0.1): 1.655 um

Vol. Weighted Mean D[4,3]: 26.981 um

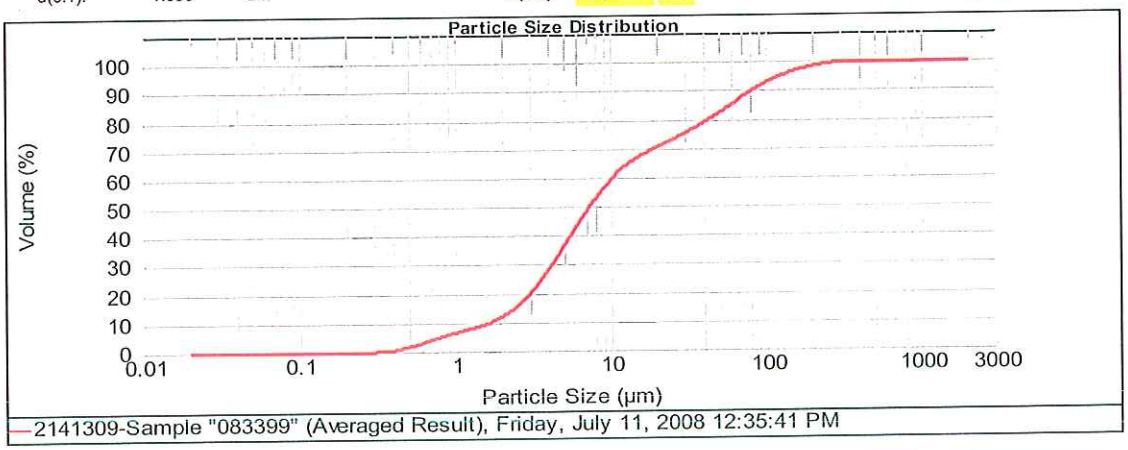
Uniformity: 3.26

d(0.5): 7.190 um

Specific Surface Area: 1.62 m²/g

Surface Weighted Mean D[3,2]: 3.705 um

d(0.9): 81.421 um



Size (µm)	Vol Under %
1.000	6.54

Size (µm)	Vol Under %
3.000	19.89

Size (µm)	Vol Under %
7.000	49.10

Size (µm)	Vol Under %
10.000	59.55

Size (µm)	Vol Under %
30.000	75.35

Size (µm)	Vol Under %
45.000	80.93

Operator notes: *Average of four measurements*

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Record Number: 29
11 Jul 2008 1:46:01 PM

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

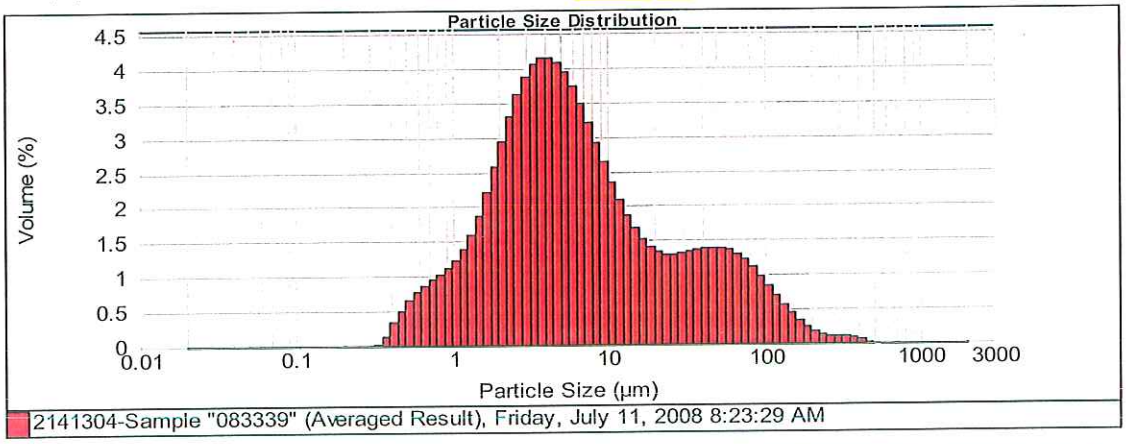
Dispersant RI: 1.390 **Result Emulation:** Off **Weighted Residual:** 1.485 %

Concentration: 0.0070 %Vol **Vol. Weighted Mean D[4,3]:** 19.244 um **Specific Surface Area:** 1.85 m²/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*

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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

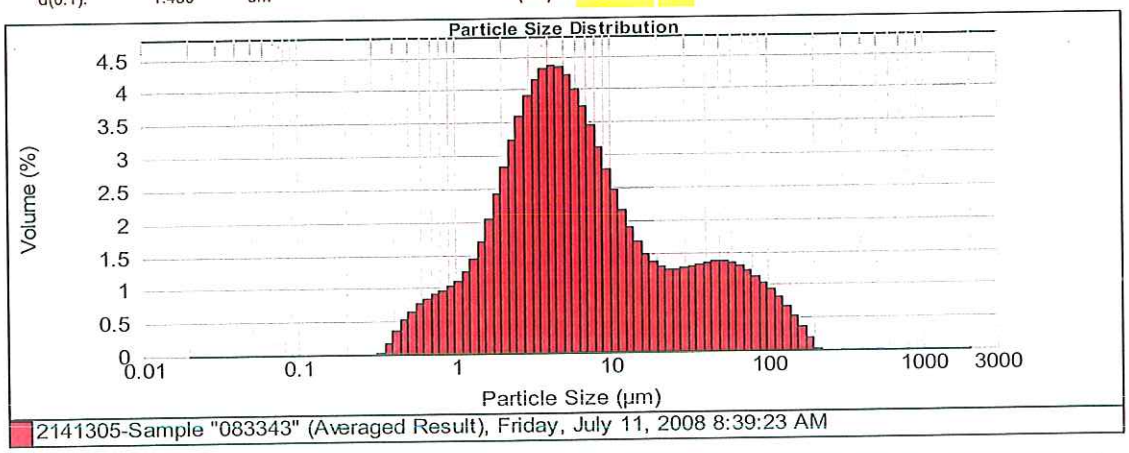
Dispersant RI: 1:390 **Result Emulation:** Off **Weighted Residual:** 1.745 %

Concentration: 0.0069 %Vol **Vol. Weighted Mean D[4,3]:** 17.397 um **Specific Surface Area:** 1.82 m²/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	15.887	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	158.866	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*

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Record Number: 26
11 Jul 2008 1:44:44 PM

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

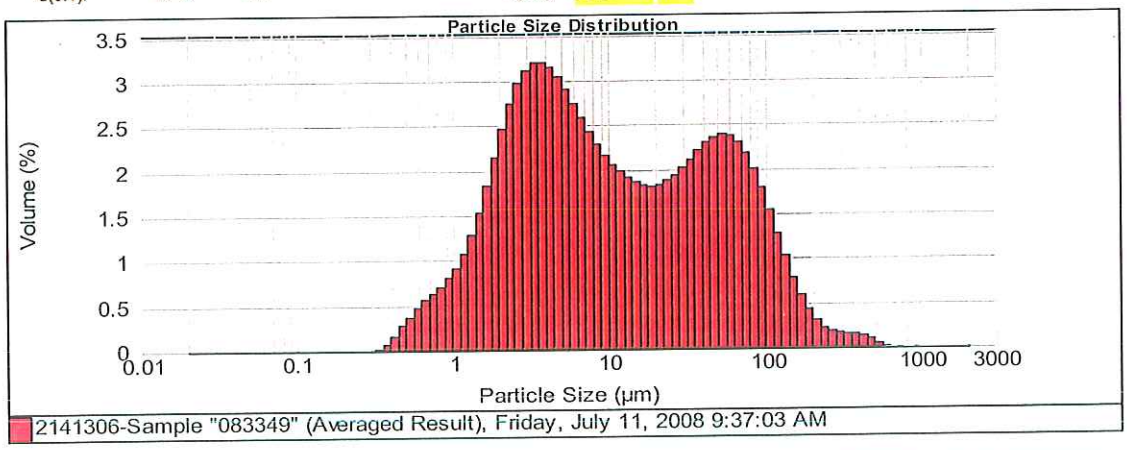
Dispersant RI: 1.390 **Result Emulation:** Off **Weighted Residual:** 1.206 %

Concentration: 0.0088 %Vol **Vol. Weighted Mean D[4,3]:** 30.516 um **Specific Surface Area:** 1.4 m²/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 %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	4.01	7.096	44.90	50.238	79.85	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	1588.656	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*

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Serial Number : 34403-28

File name: Samples 2141304-308 (ave).mea
Record Number: 27
11 Jul 2008 1:44:44 PM

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

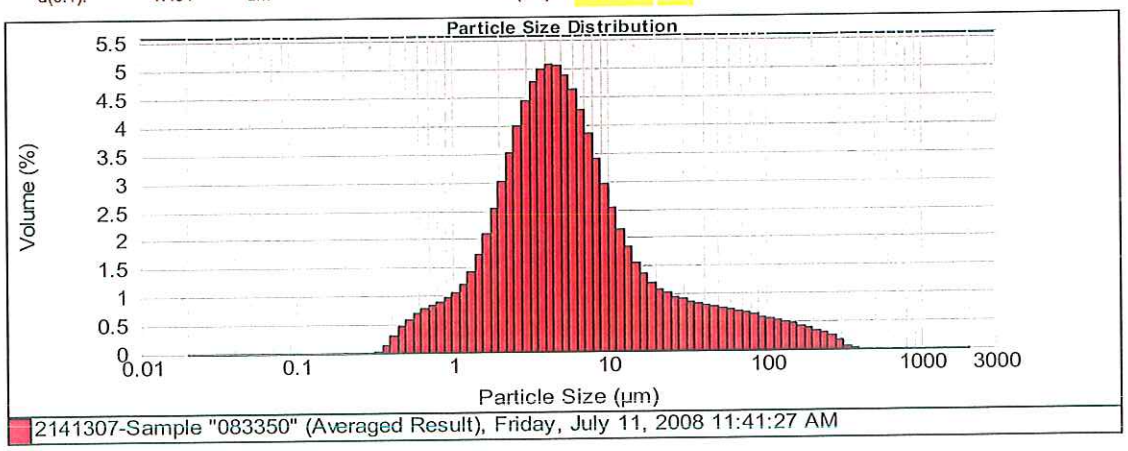
Dispersant RI: 1.390 **Result Emulation:** Off **Weighted Residual:** 1.551 %

Concentration: 0.0066 %Vol **Vol. Weighted Mean D[4,3]:** 16.281 um **Specific Surface Area:** 1.86 m²/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	1415.692	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*

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Record Number: 28
11 Jul 2008 1:44:44 PM

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

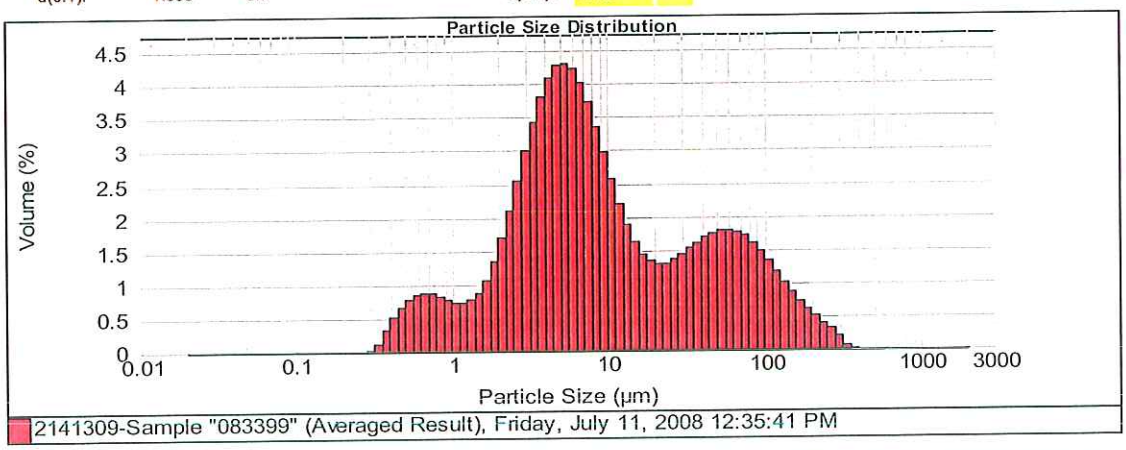
Dispersant RI: 1.390 **Result Emulation:** Off **Weighted Residual:** 1.380 %

Concentration: 0.0096 %Vol **Vol. Weighted Mean D[4,3]:** **26.981** um **Specific Surface Area:** 1.62 m²/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	112.468	94.11	796.214	100.00
0.050	0.00	0.356	0.13	2.518	15.84	17.825	69.33	126.191	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	77.56	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*

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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:	**July 16, 2008**
Date Received:	**June 30, 2008**	Date Reported:	**July 17, 2008**

REPORT of BET SURFACE AREA

Sample Identification			
CTL ID	Client ID	Material	BET Surface Area (m^2/kg) note 2
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.

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

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^2/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 Cm^3/g
SPECIFIC SURFACE AREA=	16.46 M^2/g

SINGLE-POINT B.E.T.
COMPUTED LEAST SQUARES FIT

CORRELATION=	N.A.
SLOPE=	0.2644
Y INT=	0

Revision #1 (2/23/04)

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ck 7/14/08
BD 7/14/08

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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 Cm^3/g
SPECIFIC SURFACE AREA=	16.13 M^2/g

SINGLE-POINT B.E.T.
COMPUTED LEAST SQUARES FIT

CORRELATION=	N.A.
SLOPE=	0.2699
Y INT=	0

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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 Cm^3/g
SPECIFIC SURFACE AREA=	17.71 M^2/g

SINGLE-POINT B.E.T.
COMPUTED LEAST SQUARES FIT

CORRELATION=	N.A.
SLOPE=	0.2458
Y INT=	0

Revision #1 (2/23/04)

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DJ 7/14/08
DJ 7/14/08

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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 Cm^3/g
SPECIFIC SURFACE AREA=	14.02 M^2/g

SINGLE-POINT B.E.T.
COMPUTED LEAST SQUARES FIT

CORRELATION=	N.A.
SLOPE=	0.3105
Y INT=	0

Revision #1 (2/23/04)

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MK 7/14/08
DJ 7/15/08

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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 Cm^3/g
SPECIFIC SURFACE AREA=	5.75 M^2/g

SINGLE-POINT B.E.T.
COMPUTED LEAST SQUARES FIT

CORRELATION=	N.A.
SLOPE=	0.7569
Y INT=	0

Revision #1 (2/23/04)

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WL 7/16/08
DD 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

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

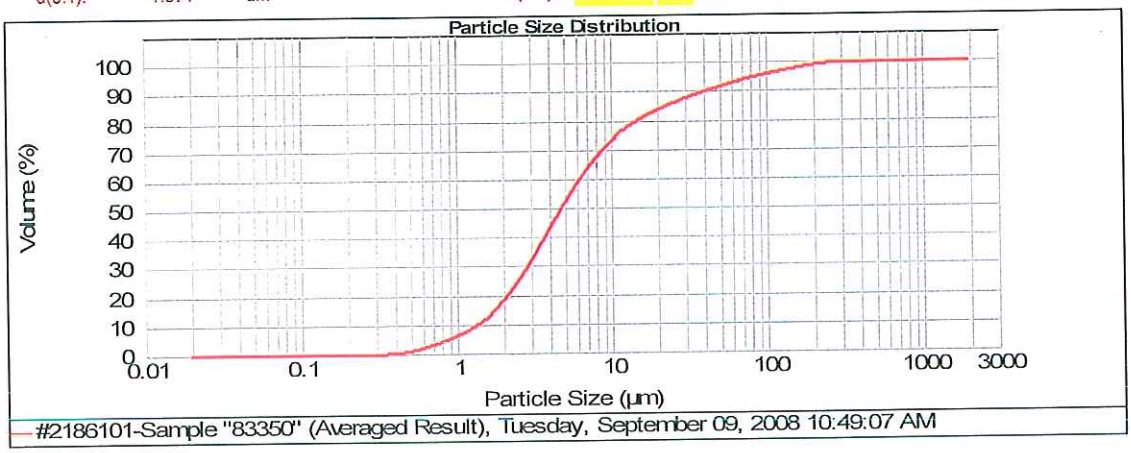
Dispersant RI: 1.390 **Result Emulation:** Off **Weighted Residual:** 1.609 %

Concentration: 0.0063 %Vol **Vol. Weighted Mean D[4,3]:** 16.806 um **Specific Surface Area:** 1.94 m²/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 %
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*

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Serial Number : 34403-28

File name: Samples 2186101-102 Repeat.mea
Record Number: 9
12 Sep 2008 1:53:02 PM

PARTICLE SIZE DISTRIBUTION (PSD) ANALYSIS REPORT

Sample Name: #2186102-Sample "83349" (Averaged Result)

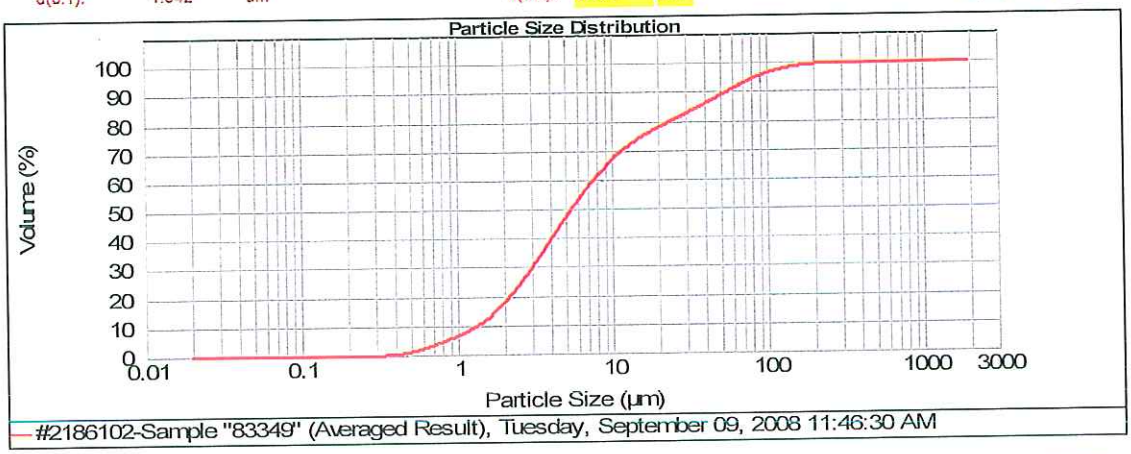
Measured by: Charlotte Hernandez

Measured: Tuesday, September 09, 2008 11:46:30 AM **Analysed:** Tuesday, September 09, 2008 11:46:31

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 m²/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 %
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*

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Serial Number : 34403-28

File name: Samples 2186101-102 Repeat.mea
Record Number: 10
12 Sep 2008 1:53:03 PM

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

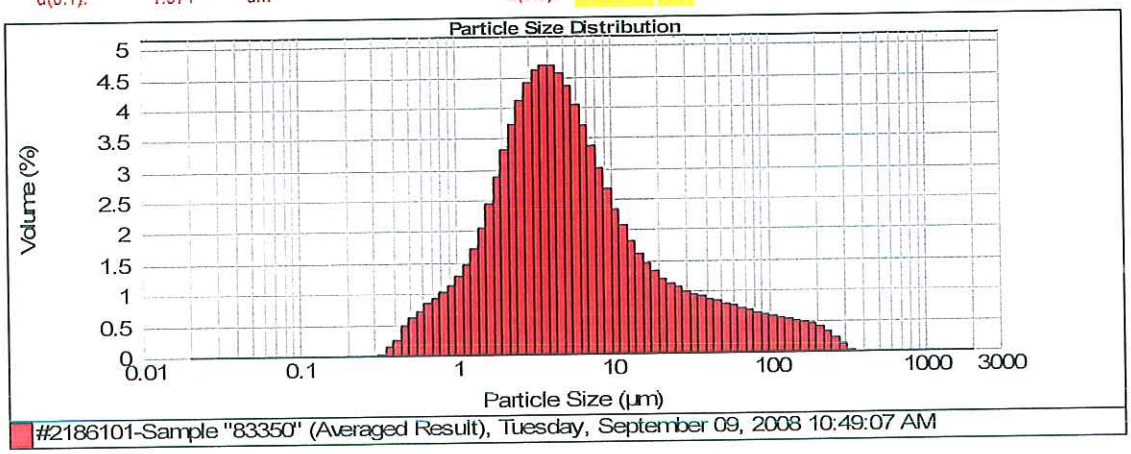
Dispersant RI: 1.390 **Result Emulation:** Off **Weighted Residual:** 1.609 %

Concentration: 0.0063 %Vol **Vol. Weighted Mean D[4,3]:** 16.806 um **Specific Surface Area:** 1.94 m²/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 %
0.020	0.00
0.022	0.00
0.025	0.00
0.028	0.00
0.032	0.00
0.036	0.00
0.040	0.00
0.045	0.00
0.050	0.00
0.056	0.00
0.063	0.00
0.071	0.00
0.080	0.00
0.089	0.00
0.100	0.00
0.112	0.00
0.126	0.00

Size (µm)	Vol Under %
0.142	0.00
0.159	0.00
0.178	0.00
0.200	0.00
0.224	0.00
0.252	0.00
0.283	0.00
0.317	0.00
0.356	0.00
0.399	0.13
0.448	0.39
0.502	0.86
0.564	1.45
0.632	2.17
0.710	3.00
0.796	3.92
0.893	4.94

Size (µm)	Vol Under %
1.002	6.06
1.125	7.33
1.262	8.79
1.416	10.51
1.589	12.56
1.783	15.00
2.000	17.87
2.244	21.19
2.518	24.92
2.825	29.03
3.170	33.43
3.557	38.02
3.991	42.71
4.477	47.39
5.024	51.93
5.637	56.27
6.325	60.32

Size (µm)	Vol Under %
7.096	64.03
7.962	67.39
8.934	70.39
10.024	73.05
11.247	75.39
12.619	77.46
14.159	79.28
15.887	80.90
17.825	82.35
20.000	83.67
22.440	84.88
25.179	86.01
28.251	87.07
31.698	88.07
35.566	89.02
39.905	89.93
44.774	90.80

Size (µm)	Vol Under %
50.238	91.63
56.368	92.42
63.246	93.17
70.953	93.89
79.621	94.56
89.337	95.21
100.237	95.82
112.468	96.40
126.191	96.96
141.589	97.50
158.866	98.01
178.250	98.50
200.000	98.96
224.404	99.35
251.785	99.67
282.508	99.88
316.979	99.99

Size (µm)	Vol Under %
355.656	100.00
399.052	100.00
447.744	100.00
502.377	100.00
563.677	100.00
632.456	100.00
709.627	100.00
796.214	100.00
893.357	100.00
1002.374	100.00
1124.683	100.00
1261.915	100.00
1415.892	100.00
1588.656	100.00
1782.502	100.00
2000.000	100.00

Operator notes: *Average of four measurements*

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Mastersizer 2000 Ver. 5.12
Serial Number : 34403-28

File name: Samples 2186101-102 Repeat.mea
Record Number: 9
12 Sep 2008 1:49:22 PM

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

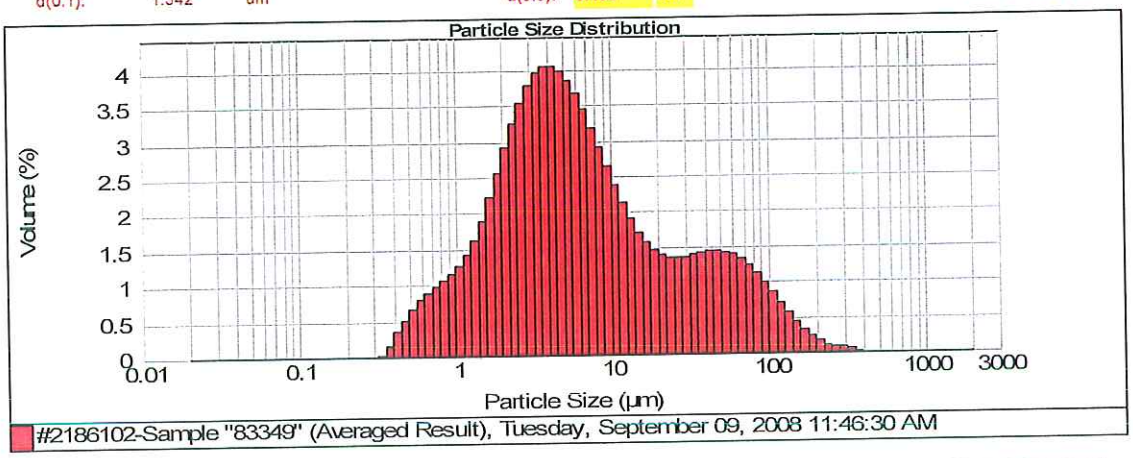
Dispersant RI: 1.390 **Result Emulation:** Off **Weighted Residual:** 1.469 %

Concentration: 0.0071 %Vol **Vol. Weighted Mean D[4,3]:** 18.508 um **Specific Surface Area:** 1.86 m²/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 %
0.020	0.00
0.022	0.00
0.025	0.00
0.028	0.00
0.032	0.00
0.036	0.00
0.040	0.00
0.045	0.00
0.050	0.00
0.056	0.00
0.063	0.00
0.071	0.00
0.080	0.00
0.089	0.00
0.100	0.00
0.112	0.00
0.126	0.00

Size (µm)	Vol Under %
0.142	0.00
0.159	0.00
0.178	0.00
0.200	0.00
0.224	0.00
0.252	0.00
0.283	0.00
0.317	0.00
0.356	0.00
0.399	0.14
0.448	0.48
0.502	0.98
0.564	1.65
0.632	2.43
0.710	3.32
0.796	4.30
0.893	5.35

Size (µm)	Vol Under %
1.002	6.49
1.125	7.75
1.262	9.16
1.416	10.79
1.589	12.68
1.783	14.89
2.000	17.44
2.244	20.36
2.518	23.61
2.825	27.15
3.170	30.93
3.557	34.88
3.991	38.93
4.477	42.99
5.024	46.98
5.637	50.84
6.325	54.51

Size (µm)	Vol Under %
7.096	57.95
7.962	61.13
8.934	64.03
10.024	66.66
11.247	69.03
12.619	71.16
14.159	73.06
15.887	74.78
17.825	76.35
20.000	77.81
22.440	79.20
25.179	80.55
28.251	81.90
31.698	83.25
35.566	84.65
39.905	86.05
44.774	87.48

Size (µm)	Vol Under %
50.238	88.92
56.368	90.34
63.245	91.73
70.953	93.06
79.621	94.29
89.337	95.42
100.237	96.41
112.468	97.26
126.191	97.96
141.589	98.52
158.866	98.95
178.250	99.27
200.000	99.50
224.404	99.66
251.785	99.77
282.508	99.85
316.979	99.92

Size (µm)	Vol Under %
355.656	99.96
399.052	100.00
447.744	100.00
502.377	100.00
563.677	100.00
632.456	100.00
709.627	100.00
795.214	100.00
893.357	100.00
1002.374	100.00
1124.683	100.00
1261.915	100.00
1415.892	100.00
1588.656	100.00
1782.502	100.00
2000.000	100.00

Operator notes: *Average of four measurements*

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Serial Number : 34403-28

File name: Samples 2186101-102 Repeat.mea
Record Number: 10
12 Sep 2008 1:49:23 PM

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

Particle RI: 1.560 **Absorption:** 0.1

Dispersant Name: Propan-2-ol

Dispersant RI: 1.390

Accessory Name: Hydro 2000MU (A)

Analysis model: General purpose

Size range: 0.020 to 2000.000 um

Result Emulation: Off

Obscuration: 12.56 %

Weighted Residual: 1.609 %

Concentration: 0.0063 %Vol

Span : 8.133

Result units: Volume

Vol. Weighted Mean D[4,3]: 16.806 um

Uniformity: 2.98

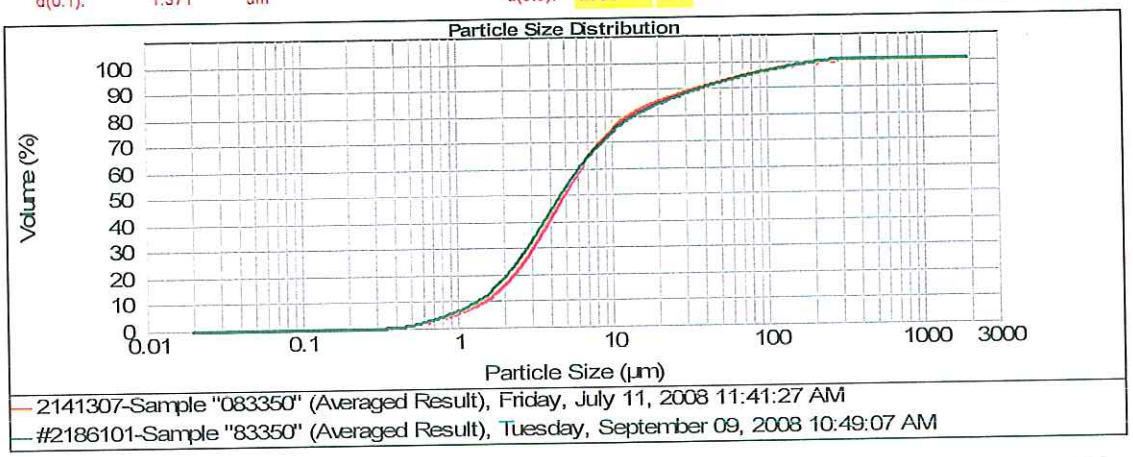
Specific Surface Area: 1.94 m²/g

Surface Weighted Mean D[3,2]: 3.098 um

d(0.1): 1.371 um

d(0.5): 4.781 um

d(0.9): 40.254 um



Size (µm)	Vol Under %
0.020	0.00
0.022	0.00
0.025	0.00
0.028	0.00
0.032	0.00
0.036	0.00
0.040	0.00
0.045	0.00
0.050	0.00
0.056	0.00
0.063	0.00
0.071	0.00
0.080	0.00
0.089	0.00
0.100	0.00
0.112	0.00
0.126	0.00

Size (µm)	Vol Under %
0.142	0.00
0.159	0.00
0.178	0.00
0.200	0.00
0.224	0.00
0.252	0.00
0.283	0.00
0.317	0.00
0.356	0.00
0.399	0.13
0.448	0.39
0.502	0.86
0.564	1.45
0.632	2.17
0.710	3.00
0.796	3.92
0.893	4.94

Size (µm)	Vol Under %
1.002	6.05
1.125	7.33
1.262	8.79
1.416	10.51
1.589	12.56
1.783	15.00
2.000	17.87
2.244	21.19
2.518	24.92
2.825	29.03
3.170	33.43
3.557	38.02
3.991	42.71
4.477	47.39
5.024	51.93
5.637	56.27
6.325	60.32

Size (µm)	Vol Under %
7.096	64.03
7.962	67.39
8.934	70.39
10.024	73.05
11.247	75.39
12.619	77.46
14.159	79.28
15.887	80.90
17.825	82.35
20.000	83.67
22.440	84.88
25.179	86.01
28.251	87.07
31.698	88.07
35.566	89.02
39.905	89.93
44.774	90.80

Size (µm)	Vol Under %
50.238	91.63
56.368	92.42
63.246	93.17
70.953	93.89
79.621	94.56
89.337	95.21
100.237	95.82
112.468	96.40
126.191	96.96
141.589	97.50
158.866	98.01
178.250	98.50
200.000	98.96
224.404	99.35
251.785	99.67
282.508	99.88
316.979	99.99

Size (µm)	Vol Under %
355.656	100.00
399.052	100.00
447.744	100.00
502.377	100.00
563.677	100.00
632.456	100.00
709.627	100.00
796.214	100.00
893.357	100.00
1002.374	100.00
1124.683	100.00
1261.915	100.00
1415.892	100.00
1588.656	100.00
1782.502	100.00
2000.000	100.00

Operator notes: *Average of four measurements*

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Serial Number : 34403-28

File name: Repeat and Compare.mea
Record Number: 3
12 Sep 2008 1:52:04 PM

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

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

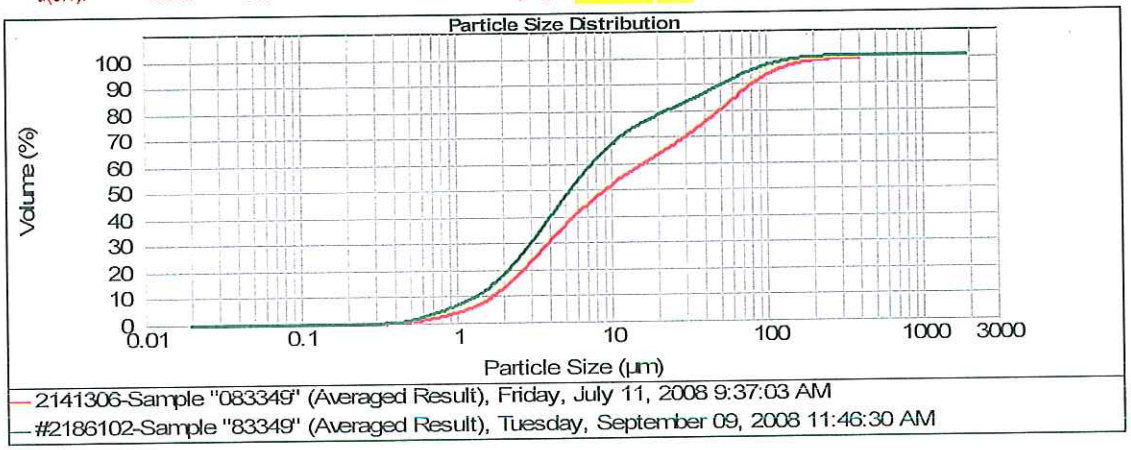
Dispersant RI: 1.390 **Result Emulation:** Off **Weighted Residual:** 1.469 %

Concentration: 0.0071 %Vol **Vol. Weighted Mean D[4,3]:** 18.508 um **Specific Surface Area:** 1.86 m²/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): 5.496 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 %
0.020	0.00	0.142	0.00	1.002	6.49	7.096	57.95	50.238	88.92	355.656	99.98
0.022	0.00	0.159	0.00	1.125	7.75	7.962	61.13	56.368	90.34	399.052	100.00
0.025	0.00	0.178	0.00	1.262	9.16	8.934	64.03	63.246	91.73	447.744	100.00
0.028	0.00	0.200	0.00	1.416	10.79	10.024	66.66	70.953	93.06	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
0.036	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	73.06	100.237	96.41	709.627	100.00
0.045	0.00	0.317	0.00	2.244	20.36	15.887	74.78	112.468	97.26	796.214	100.00
0.050	0.00	0.356	0.00	2.518	23.61	17.825	76.35	126.191	97.96	893.357	100.00
0.056	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	158.866	98.95	1124.683	100.00
0.071	0.00	0.502	0.98	3.557	34.88	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	31.698	83.26	224.404	99.66	1588.656	100.00
0.100	0.00	0.710	3.32	5.024	46.98	35.566	84.65	251.785	99.77	1782.502	100.00
0.112	0.00	0.796	4.30	5.637	50.84	39.905	86.05	282.508	99.85	2000.000	100.00
0.126	0.00	0.893	5.35	6.325	54.51	44.774	87.48	316.979	99.92		

Operator notes: *Average of four measurements*

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Serial Number : 34403-28

File name: Repeat and Compare.mea
Record Number: 4
12 Sep 2008 1:51:24 PM

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 =		6.90	kpph
Bottom Ash Fraction =	0.095	0.66	kpph
ESP Hopper Ash Fraction =	0.905	6.25	kpph

Coal Analysis

Sample ID	Coal Test W-1		
Test No.	W-1		
Sample Date	11/17/04		
Analytical Number	20045931		
Total Moisture (%)	4.49		
Moisture (%, as det'd)	1.61		
VM (%, dry)	37.11		
Ash (%, dry)	8.43	**6.90**	kpph
Carbon (%, dry)	77.32	63.30	kpph
Hydrogen (%, dry)	4.82	3.95	kpph
Nitrogen (%, dry)	1.46		
Total Sulfur (%, dry)	1.89	1.55	kpph
HHV (Btu/lb, dry)	13,813	1,131	mm Btu/hr
Chlorine (%, dry)	0.09		
Hg (ppm, as det'd)	0.120	9.98E-03	lb/hr
Major Ash Elements (%, dry)			
SiO_2	48.66	3.36	kpph
Al_2O_3	24.23	1.67	kpph
TiO_2	1.15	0.08	kpph
Fe_2O_3	17.28	1.19	kpph
CaO	2.99	0.21	kpph
MgO	0.82		
Na_2O	0.52		
K_2O	1.85		
P_2O_5	0.52		
SO_3	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		
Ananlytical No.	20045934		
Moisture (%)	0.09		
Ash (%, dry)	99.40	**0.66**	kpph
Carbon (%, dry)	0.96		
Total Sulfur (%, dry)	0.06		
Chlorine (%, dry)	0.003		
Hg (ppm, as det'd)	0.008	5.30E-06	lb/Hr
Major Ash Elements (%, dry)			
SiO_2	46.61	0.31	kpph
Al_2O_3	22.16	0.15	kpph
TiO_2	1.06	0.01	kpph
Fe_2O_3	24.09	0.16	kpph
CaO	2.42	0.02	kpph
MgO	0.66	0.00	kpph
Na_2O	0.41		
K_2O	1.48		
P_2O_5	0.30		
SO_3	0.16		
	99.35		

ESP ash from coal =		6.25	kpph
ESP ash moisture conten (%)	0.17		
ESP ash carbon conten (%)	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	6.25	
Carbon (%, dry)	13.38		kpph
Total Sulfur (%, dry)	0.26		kpph
Chlorine (%, dry)	0.00		kpph
Hg (ppm, as det'd)	0.59	4.23E-03	lb/Hr
Major Ash Elements (%)			
SiO_2	43.71	3.15	kpph
Al_2O_3	21.10	1.52	kpph
TiO_2	1.06		
Fe_2O_3	12.83	0.92	kpph
CaO	2.40	0.17	kpph
MgO	0.72		
Na_2O	0.46		
K_2O	1.57		
P_2O_5	0.46		
SO_3	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 =	1.025E-02	lb/Hr
Total Hg Output =	1.448E-02	lb/Hr
Hg closure (output / input) =	**145.014%**	

SiO2 Closure (output / input) =	102.8%
Al2O3 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	0.63	kpph
ESP Hopper Ash Fraction =	0.905	6.03	kpph

Coal Analysis

Sample ID	Coal Test W-3		
Test No.	W-3 & W2		
Sample Date	11.17.2004		
Analytical Number	20045932		
Total Moisture (%)	3.91		
As determined Moisture (%)	1.75		
VM (%, dry)	36.76		
Ash (%, dry)	8.27	**6.66**	kpph
Carbon (%, dry)	77.37	62.29	kpph
Hydrogen (%, dry)	4.77	3.84	kpph
Nitrogen (%, dry)	1.45		
Total Sulfur (%, dry)	1.96	1.58	kpph
HHV (Btu/lb, dry)	13,891	1,118	mm Btu/hr
Chlorine (%, dry)	0.09		
Hg (ppm, as det'd)	0.145	1.19E-02	lb/hr
Major Ash Elements (%, dry)			
SiO_2	48.13	3.20	kpph
Al_2O_3	24.22	1.61	kpph
TiO_2	1.07	0.07	kpph
Fe_2O_3	17.81	1.19	kpph
CaO	3.08	0.21	kpph
MgO	0.81		
Na_2O	0.55		
K_2O	1.88		
P_2O_5	0.51		
SO_3	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		
Ananlytical No.	20045936 & 20045935		
Moisture (%)	0.20		
Ash (%, dry)	96.75	**0.63**	kpph
Carbon (%, dry)	3.51		
Total Sulfur (%, dry)	0.12		
Chlorine (%, dry)	0.007		
Hg (ppm, as det'd)	0.007	4.60E-06	lb/Hr
Major Ash Elements (%, dry)			
SiO_2	44.36	0.28	kpph
Al_2O_3	21.56	0.14	kpph
TiO_2	1.03	0.01	kpph
Fe_2O_3	24.56	0.16	kpph
CaO	2.47	0.02	kpph
MgO	0.64	0.00	kpph
Na_2O	0.37		
K_2O	1.41		
P_2O_5	0.32		
SO_3	0.29		
	96.96		

ESP ash from coal =		6.03	kpph
ESP ash moisture conten (%)	0.13		
ESP ash carbon conten (%)	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	W-3 & W2		
Moisture (%)	0.13		
Ash (%, dry)	87.32		
Carbon (%, dry)	11.76	6.83	kpph
Total Sulfur (%, dry)	0.24	6.03	kpph
Chlorine (%, dry)	0.00		kpph
Hg (ppm, as det'd)	0.49	3.37E-03	lb/Hr
Major Ash Elements (%, dry)			
SiO_2	43.53	2.97	kpph
Al_2O_3	20.55	1.40	kpph
TiO_2	1.08		
Fe_2O_3	13.54	0.92	kpph
CaO	2.47	0.17	kpph
MgO	0.70		
Na_2O	0.42		
K_2O	1.47		
P_2O_5	0.43		
SO_3	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) =	**86.969%**	

SiO2 Closure (output / input) =	101.4%
Al2O3 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	0.62	kpph
ESP Hopper Ash Fraction =	0.905	5.95	kpph

Coal Analysis

Sample ID	Coal Test T-2		
Test No.	T-2		
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	**6.58**	kpph
Carbon (%, dry)	77.44	61.00	kpph
Hydrogen (%, dry)	4.84	3.81	kpph
Nitrogen (%, dry)	1.47		
Total Sulfur (%, dry)	2.11	1.66	kpph
HHV (Btu/lb, dry)	13898.00	1,095	mm Btu/hr
Chlorine (%, dry)	0		
Hg (ppm, as det'd)	0.128	1.03E-02	lb/hr
Major Ash Elements (%, dry)			
SiO_2	48.18	3.17	kpph
Al_2O_3	24.15	1.59	kpph
TiO_2	1.07	0.07	kpph
Fe_2O_3	17.62	1.16	kpph
CaO	3.08	0.20	kpph
MgO	0.81		
Na_2O	0.50		
K_2O	1.83		
P_2O_5	0.51		
SO_3	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		
Ananlytical No.	20045937		
Moisture (%)	0.51		
Ash (%, dry)	89.64	**0.62**	kpph
Carbon (%, dry)	10.28		
Total Sulfur (%, dry)	0.22		
Chlorine (%, dry)	0.01		
Hg (ppm, as det'd)	0.011	7.70E-06	lb/Hr
Major Ash Elements (%, dry)			
SiO_2	40.12	0.25	kpph
Al_2O_3	19.32	0.12	kpph
TiO_2	0.89	0.01	kpph
Fe_2O_3	24.90	0.16	kpph
CaO	2.32	0.01	kpph
MgO	0.57	0.00	kpph
Na_2O	0.32		
K_2O	1.24		
P_2O_5	0.30		
SO_3	0.55		
	90.53		

ESP ash from coal =		5.95	kpph
ESP ash moisture conten (%)	0.05		
ESP ash carbon conten (%)	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	5.95	
Carbon (%, dry)	12.16		kpph
Total Sulfur (%, dry)	0.29		kpph
Chlorine (%, dry)	0.00		kpph
Hg (ppm, as det'd)	0.32	2.20E-03	lb/Hr
Major Ash Elements (%, dry)			
SiO_2	42.88	2.90	kpph
Al_2O_3	20.60	1.40	kpph
TiO_2	1.03		
Fe_2O_3	15.15	1.03	kpph
CaO	2.71	0.18	kpph
MgO	0.70		
Na_2O	0.42		
K_2O	1.47		
P_2O_5	0.43		
SO_3	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%**	

SiO2 Closure (output / input) =	99.6%
Al2O3 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	0.60 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	3.78 kpph
Nitrogen (%, dry)	1.41	
Total Sulfur (%, dry)	2.68	1.98 kpph
HHV (Btu/lb, dry)	13,768	1,015 mm Btu/hr
Chlorine (%, dry)	0.00	
Hg (ppm, dry)	0.101	7.45E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	44.98	2.85 kpph
Al_2O_3	20.75	1.31 kpph
TiO_2	0.92	0.06 kpph
Fe_2O_3	20.51	1.30 kpph
CaO	4.98	0.32 kpph
MgO	0.85	
Na_2O	0.80	
K_2O	1.46	
P_2O_5	0.36	
SO_3	4.81	
	100.42	

Mercury Input from Coal	7.34 lb/Tbtu
Hg Measured at Air Heater Outlet	7.07E-03 lb/h
% 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	
Carbon (%, dry)	0.32	0.03 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	4.96E-05 lb/hr
Major Ash Elements (%)		
SiO_2	0.83	
Al_2O_3	0.40	
TiO_2	0.02	
Fe_2O_3	0.16	
CaO	75.45	
MgO	0.82	
Na_2O	0.08	
K_2O	0.05	
P_2O_5	0.01	
SO_3	0.13	
	77.95	

SO_2 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%
Sulfur at Turbosorp Inlet	1.97 kpph
Sulfur at Stack	0.09 kpph
Sulfur in Product Ash	1.88 kpph
Product Ash Flow Rate (estimated from S balance)	20.62 kpph

Product Ash Analysis

Sample Description	noaci-1	
Sample Date	3/28/2007	
Moisture (%)	0.85	
Ash (%, dry)	84.58	
Carbon (%, dry)	8.12	1.67 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.00	
Hg (ppm, dry)	0.35	7.14E-03 lb/hr
Major Ash Elements (%)		
SiO_2	12.23	
Al_2O_3	6.07	
TiO_2	0.26	
Fe_2O_3	4.55	
CaO	37.66	
MgO	0.65	
Na_2O	0.32	
K_2O	0.45	
P_2O_5	0.13	
SO_3	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) =	**99.9%**	

Mass Balance Closure - SiO_2	94.9%
Mass Balance Closure - Al_2O_3	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	0.58 kpph
Fly Ash Fraction (assumed) =	0.905	5.56 kpph

Coal Analysis

Sample ID	Coal 2	
Test No.	noaci-2	
Sample Date	03/28/07	
Analytical Number	20071796	
Total Moisture (%)	6.28	
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/hr
Chlorine (%, dry)	0.00	
Hg (ppm, dry)	0.113	8.30E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	42.69	2.62 kpph
Al_2O_3	20.16	1.24 kpph
TiO_2	0.88	0.05 kpph
Fe_2O_3	22.46	1.38 kpph
CaO	5.29	0.32 kpph
MgO	0.85	
Na_2O	0.76	
K_2O	1.39	
P_2O_5	0.38	
SO_3	4.97	
	99.83	

Mercury Input from Coal	8.19 lb/Tbtu
Hg Measured at Air Heater Outlet	7.76E-03 lb/h
% 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	
Carbon (%, dry)	0.30	0.03 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	5.01E-05 lb/hr
Major Ash Elements (%)		
SiO_2	0.73	
Al_2O_3	0.40	
TiO_2	0.02	
Fe_2O_3	0.16	
CaO	74.30	
MgO	0.82	
Na_2O	0.07	
K_2O	0.05	
P_2O_5	0.01	
SO_3	0.12	
	76.68	

SO_2 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%
Sulfur at Turbosorp Inlet	1.97 kpph
Sulfur at Stack	0.09 kpph
Sulfur in Product Ash	1.88 kpph
Product Ash Flow Rate (estimated from S balance)	20.29 kpph

Product Ash Analysis

Sample Description	noaci-2	
Sample Date	3/28/2007	
Moisture (%)	0.73	
Ash (%, dry)	84.57	
Carbon (%, dry)	7.90	1.60 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.00	
Hg (ppm, dry)	0.36	7.38E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	11.75	
Al_2O_3	5.89	
TiO_2	0.25	
Fe_2O_3	4.35	
CaO	38.10	
MgO	0.64	
Na_2O	0.31	
K_2O	0.43	
P_2O_5	0.13	
SO_3	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_2	97.5%
Mass Balance Closure - Al_2O_3	103.0%

Greenidge Unit #4 NoACI-3

Gross Generation (MW) =		**105.13** MW
Net Generation (MW) =		**97.03** 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	0.56 kpph
Fly Ash Fraction (assumed) =	0.905	5.31 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/hr
Chlorine (%, dry)	#DIV/0!	
Hg (ppm, dry)	0.096	7.01E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	43.42	2.55 kpph
Al_2O_3	22.13	1.30 kpph
TiO_2	0.96	0.06 kpph
Fe_2O_3	20.68	1.21 kpph
CaO	5.15	0.30 kpph
MgO	1.14	
Na_2O	0.84	
K_2O	1.57	
P_2O_5	0.43	
SO_3	4.55	
	100.85	

Mercury Input from Coal	6.86 lb/Tbtu
Hg Measured at Air Heater Outlet	7.54E-03 lb/h
% 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	
Carbon (%, dry)	0.32	0.03 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	4.82E-05 lb/hr
Major Ash Elements (%)		
SiO_2	0.71	
Al_2O_3	0.41	
TiO_2	0.02	
Fe_2O_3	0.16	
CaO	74.19	
MgO	0.81	
Na_2O	0.07	
K_2O	0.05	
P_2O_5	0.01	
SO_3	0.17	
	76.6	

SO_2 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%
Sulfur at Turbosorp Inlet	1.92 kpph
Sulfur at Stack	0.11 kpph
Sulfur in Product Ash	1.81 kpph
Product Ash Flow Rate (estimated from S balance)	19.73 kpph

Product Ash Analysis

Sample Description	noaci-3	
Sample Date	03/28/07	
Moisture (%)	0.80	
Ash (%, dry)	84.77	
Carbon (%, dry)	7.54	1.49 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.00	
Hg (ppm, dry)	0.37	7.25E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	11.60	
Al_2O_3	5.83	
TiO_2	0.26	
Fe_2O_3	4.29	
CaO	37.62	
MgO	0.63	
Na_2O	0.30	
K_2O	0.44	
P_2O_5	0.11	
SO_3	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_2	96.4%
Mass Balance Closure - Al_2O_3	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	5.90 kpph
Carbon (%, dry)	76.02	56.66 kpph
Hydrogen (%, dry)	4.98	3.71 kpph
Nitrogen (%, dry)	1.48	
Total Sulfur (%, dry)	2.61	1.95 kpph
HHV (Btu/lb, dry)	14,015	1,045 mm Btu/hr
Chlorine (%, dry)	0.08	
Hg (ppm, dry)	0.097	7.23E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	41.81	2.47 kpph
Al_2O_3	20.75	1.22 kpph
TiO_2	0.87	0.05 kpph
Fe_2O_3	21.95	1.30 kpph
CaO	6.42	0.38 kpph
MgO	0.95	
Na_2O	0.87	
K_2O	1.53	
P_2O_5	0.37	
SO_3	5.14	
	100.66	

Mercury Input from Coal	6.92 lb/Tbtu
Hg Measured at Air Heater Outlet	6.92E-03 lb/h
% 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	0.04 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.006	6.51E-05 lb/hr
Major Ash Elements (%)		
SiO_2	1.31	
Al_2O_3	0.36	
TiO_2	0.01	
Fe_2O_3	0.16	
CaO	70.94	
MgO	0.80	
Na_2O	0.03	
K_2O	0.06	
P_2O_5	0.01	
SO_3	0.20	
	73.88	

SO_2 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	1.81 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.21	
Hg (ppm, dry)	0.38	8.21E-03 lb/hr
Major Ash Elements (%)		
SiO_2	12.93	
Al_2O_3	6.61	
TiO_2	0.29	
Fe_2O_3	4.52	
CaO	37.10	
MgO	0.65	
Na_2O	0.33	
K_2O	0.48	
P_2O_5	0.13	
SO_3	20.92	
	83.96	

Stack Hg mass flowrate =	0.05 mg/sec
Stack Hg mass flowrate =	4.08E-04 lb/hr
Stack Hg Emission =	0.39 lb/T 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_2	117.9%
Mass Balance Closure - Al_2O_3	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) =		**75.41** 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	6.17 kpph
Carbon (%, dry)	76.41	57.62 kpph
Hydrogen (%, dry)	4.83	3.64 kpph
Nitrogen (%, dry)	1.40	
Total Sulfur (%, dry)	2.65	2.00 kpph
HHV (Btu/lb, dry)	13,956	1,052 mm Btu/hr
Chlorine (%, dry)	0.08	
Hg (ppm, dry)	0.090	6.79E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	42.67	2.63 kpph
Al_2O_3	20.97	1.29 kpph
TiO_2	0.90	0.06 kpph
Fe_2O_3	21.39	1.32 kpph
CaO	5.59	0.34 kpph
MgO	0.98	
Na_2O	0.84	
K_2O	1.46	
P_2O_5	0.38	
SO_3	4.92	
	100.10	

Mercury Input from Coal	6.45 lb/Tbtu
Hg Measured at Air Heater Outlet	7.01E-03 lb/h
% 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	0.05 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	5.70E-05 lb/hr
Major Ash Elements (%)		
SiO_2	1.34	
Al_2O_3	0.36	
TiO_2	0.01	
Fe_2O_3	0.14	
CaO	71.24	
MgO	0.80	
Na_2O	0.02	
K_2O	0.05	
P_2O_5	0.01	
SO_3	0.22	
	74.19	

SO_2 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	1.80 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.27	
Hg (ppm, dry)	0.35	7.70E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	12.59	
Al_2O_3	6.28	
TiO_2	0.27	
Fe_2O_3	4.73	
CaO	38.21	
MgO	0.66	
Na_2O	0.33	
K_2O	0.48	
P_2O_5	0.13	
SO_3	21.57	
	85.25	

Stack Hg mass flowrate =	0.05 mg/sec
Stack Hg mass flowrate =	4.19E-04 lb/hr
Stack Hg Emission =	0.40 lb/T 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_2	109.6%
Mass Balance Closure - Al_2O_3	114.4%

Greenidge Unit #4 ACI-6

Gross Generation (MW) =		**105.38** MW
Net Generation (MW) =		**97.41** MW
Coal Feed Rate (kpph) =		**78.39** 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	6.14 kpph
Carbon (%, dry)	76.35	56.93 kpph
Hydrogen (%, dry)	4.91	3.66 kpph
Nitrogen (%, dry)	1.42	
Total Sulfur (%, dry)	2.65	1.98 kpph
HHV (Btu/lb, dry)	13948	1,040 mm Btu/hr
Chlorine (%, dry)	0.07	
Hg (ppm, dry)	0.089	6.64E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	42.38	2.60 kpph
Al_2O_3	20.88	1.28 kpph
TiO_2	0.89	0.05 kpph
Fe_2O_3	21.46	1.32 kpph
CaO	4.99	0.31 kpph
MgO	0.94	
Na_2O	0.86	
K_2O	1.71	
P_2O_5	0.37	
SO_3	4.82	
	99.30	

Mercury Input from Coal	6.38 lb/Tbtu
Hg Measured at Air Heater Outlet	6.48E-03 lb/h
% 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	0.04 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.004	4.54E-05 lb/hr
Major Ash Elements (%)		
SiO_2	1.25	
Al_2O_3	0.35	
TiO_2	0.01	
Fe_2O_3	0.14	
CaO	71.27	
MgO	0.80	
Na_2O	0.02	
K_2O	0.04	
P_2O_5	0.03	
SO_3	0.17	
	74.08	

SO_2 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	03/30/07	
Moisture (%)	0.51	
Ash (%, dry)	83.69	
Carbon (%, dry)	8.12	1.75 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.28	
Hg (ppm, dry)	0.35	7.59E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	12.12	
Al_2O_3	6.06	
TiO_2	0.26	
Fe_2O_3	4.57	
CaO	38.77	
MgO	0.66	
Na_2O	0.33	
K_2O	0.47	
P_2O_5	0.12	
SO_3	21.84	
	85.20	

Stack Hg mass flowrate =	0.05 mg/sec
Stack Hg mass flowrate =	4.31E-04 lb/hr
Stack Hg Emission =	0.41 lb/T 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_2	104.7%
Mass Balance Closure - Al_2O_3	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	0.67 kpph
Fly Ash Fraction (assumed) =	0.905	6.41 kpph

Coal Analysis

Sample ID	Coal	
Test No.	1	
Sample Date	10/02/07	
Analytical Number	20076583	
Total Moisture (%)	6.51	
As determined Moisture (%)	1.63	
VM (%, dry)	40.30	
Ash (%, dry)	9.22	7.08 kpph
Carbon (%, dry)	75.01	57.61 kpph
Hydrogen (%, dry)	5.25	4.03 kpph
Nitrogen (%, dry)	1.37	
Total Sulfur (%, dry)	3.23	2.48 kpph
HHV (Btu/lb, dry)	13,750	1,056 mm Btu/hr
Chlorine (%, dry)	0.07	
Hg (ppm, dry)	0.105	8.06E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	42.65	3.02 kpph
Al_2O_3	20.93	1.48 kpph
TiO_2	0.86	0.06 kpph
Fe_2O_3	21.61	1.53 kpph
CaO	6.22	0.44 kpph
MgO	1.07	
Na_2O	0.82	
K_2O	1.47	
P_2O_5	0.27	
SO_3	4.93	
	100.83	

Mercury Input from Coal	7.64 lb/Tbtu
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	0.03 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	5.58E-05 lb/hr
Major Ash Elements (%)		
SiO_2	0.96	
Al_2O_3	0.32	
TiO_2	0.02	
Fe_2O_3	0.14	
CaO	74.51	
MgO	0.74	
Na_2O	0.02	
K_2O	0.07	
P_2O_5	0.02	
SO_3	0.16	
	76.96	

SO_2 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	1.59 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.25	
Hg (ppm, dry)	0.31	7.46E-03 lb/hr
Major Ash Elements (%)		
SiO_2	12.17	
Al_2O_3	5.85	
TiO_2	0.25	
Fe_2O_3	4.42	
CaO	36.11	
MgO	0.61	
Na_2O	0.24	
K_2O	0.40	
P_2O_5	0.01	
SO_3	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 =	5.580E-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_2	103.4%
Mass Balance Closure - Al_2O_3	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	0.65 kpph
Fly Ash Fraction (assumed) =	0.905	6.16 kpph

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	6.80 kpph
Carbon (%, dry)	75.30	57.10 kpph
Hydrogen (%, dry)	5.35	4.06 kpph
Nitrogen (%, dry)	1.37	
Total Sulfur (%, dry)	3.35	2.54 kpph
HHV (Btu/lb, dry)	13,748	1,043 mm Btu/hr
Chlorine (%, dry)	0.09	
Hg (ppm, dry)	0.102	7.73E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	41.50	2.82 kpph
Al_2O_3	20.44	1.39 kpph
TiO_2	0.86	0.06 kpph
Fe_2O_3	23.61	1.61 kpph
CaO	5.19	0.35 kpph
MgO	0.84	
Na_2O	0.83	
K_2O	1.36	
P_2O_5	0.26	
SO_3	3.84	
	98.73	

Mercury Input from Coal	7.42 lb/Tbtu
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	0.03 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	6.12E-05 lb/hr
Major Ash Elements (%)		
SiO_2	1.39	
Al_2O_3	0.34	
TiO_2	0.02	
Fe_2O_3	0.16	
CaO	74.72	
MgO	0.74	
Na_2O	0.03	
K_2O	0.09	
P_2O_5	0.02	
SO_3	0.54	
	78.05	

SO_2 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	1.68 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.27	
Hg (ppm, dry)	0.32	8.26E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	11.31	
Al_2O_3	5.49	
TiO_2	0.24	
Fe_2O_3	4.08	
CaO	36.58	
MgO	0.60	
Na_2O	0.24	
K_2O	0.41	
P_2O_5	0.07	
SO_3	23.72	
	82.75	

Stack Hg mass flowrate =	0.0159 mg/sec
Stack Hg mass flowrate =	1.26E-04 lb/hr
Stack Hg Emission =	0.12 lb/T Btu

Hg input from Coal =	7.735E-03	lb/Hr
Hg input from Hydrated Lime =	6.121E-05	lb/Hr
Total Hg Input =	7.796E-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) =	**107.5%**	

Mass Balance Closure - SiO_2	107.4%
Mass Balance Closure - Al_2O_3	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	0.65 kpph
Fly Ash Fraction (assumed) =	0.905	6.17 kpph

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	6.82 kpph
Carbon (%, dry)	75.39	58.17 kpph
Hydrogen (%, dry)	5.34	4.12 kpph
Nitrogen (%, dry)	1.41	
Total Sulfur (%, dry)	3.26	2.52 kpph
HHV (Btu/lb, dry)	13731	1,059 mm Btu/hr
Chlorine (%, dry)	0.07	
Hg (ppm, dry)	0.102	7.87E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	40.36	2.75 kpph
Al_2O_3	20.40	1.39 kpph
TiO_2	0.87	0.06 kpph
Fe_2O_3	22.88	1.56 kpph
CaO	6.11	0.42 kpph
MgO	0.88	
Na_2O	0.79	
K_2O	1.33	
P_2O_5	0.27	
SO_3	4.99	
	98.88	

Mercury Input from Coal	7.43 lb/Tbtu
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	0.03 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	5.67E-05 lb/hr
Major Ash Elements (%)		
SiO_2	0.99	
Al_2O_3	0.29	
TiO_2	0.01	
Fe_2O_3	0.13	
CaO	75.67	
MgO	0.74	
Na_2O	0.01	
K_2O	0.05	
P_2O_5	0.02	
SO_3	0.12	
	78.03	

SO_2 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	1.68 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.24	
Hg (ppm, dry)	0.33	8.23E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	11.95	
Al_2O_3	5.88	
TiO_2	0.25	
Fe_2O_3	4.56	
CaO	35.80	
MgO	0.60	
Na_2O	0.26	
K_2O	0.41	
P_2O_5	0.21	
SO_3	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_2	114.8%
Mass Balance Closure - Al_2O_3	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/hr
Chlorine (%, dry)	0.11	
Hg (ppm, dry)	0.101	7.66E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	42.23	2.80 kpph
Al_2O_3	21.30	1.41 kpph
TiO_2	0.88	0.06 kpph
Fe_2O_3	21.03	1.39 kpph
CaO	5.62	0.37 kpph
MgO	0.91	
Na_2O	1.02	
K_2O	1.42	
P_2O_5	0.28	
SO_3	4.85	
	99.54	

Mercury Input from Coal	7.33 lb/Tbtu
Hg Measured at Air Heater Outlet	8.04E-03 lb/h
% Deviation from Coal Hg	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	
Carbon (%, dry)	0.27	0.03 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	5.31E-05 lb/hr
Major Ash Elements (%)		
SiO_2	1.57	
Al_2O_3	0.28	
TiO_2	0.01	
Fe_2O_3	0.11	
CaO	71.72	
MgO	0.66	
Na_2O	0.01	
K_2O	0.05	
P_2O_5	0.06	
SO_3	0.04	
	74.51209701	

SO_2 at Stack (plant CEM)	64.9 ppmvd
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	7.5%
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	
Carbon (%, dry)	7.22	1.59 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.27	
Hg (ppm, dry)	0.36	7.85E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	11.57	
Al_2O_3	5.66	
TiO_2	0.25	
Fe_2O_3	4.25	
CaO	36.07	
MgO	0.58	
Na_2O	0.25	
K_2O	0.43	
P_2O_5	0.23	
SO_3	25.67	
	84.97	

Stack Hg mass flowrate =	0.0725 mg/sec
Stack Hg mass flowrate =	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_2	94.5%
Mass Balance Closure - Al_2O_3	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 (%)	6.79	
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/hr
Chlorine (%, dry)	0.10	
Hg (ppm, dry)	0.095	7.15E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	42.24	2.72 kpph
Al_2O_3	21.37	1.38 kpph
TiO_2	0.91	0.06 kpph
Fe_2O_3	20.89	1.34 kpph
CaO	5.36	0.35 kpph
MgO	0.88	
Na_2O	0.88	
K_2O	1.42	
P_2O_5	0.29	
SO_3	4.35	
	98.59	

Mercury Input from Coal	6.87 lb/Tbtu
Hg Measured at Air Heater Outlet	7.29E-03 lb/h
% Deviation from Coal Hg	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	
Carbon (%, dry)	0.28	0.03 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	5.50E-05 lb/hr
Major Ash Elements (%)		
SiO_2	1.05	
Al_2O_3	0.29	
TiO_2	0.02	
Fe_2O_3	0.10	
CaO	71.64	
MgO	0.64	
Na_2O	0.01	
K_2O	0.07	
P_2O_5	0.03	
SO_3	0.11	
	73.96	

SO_2 at Stack (plant CEM)	66.5 ppmvd
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)	246262 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	
Carbon (%, dry)	6.99	1.60 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.27	
Hg (ppm, dry)	0.37	8.47E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	11.48	
Al_2O_3	5.57	
TiO_2	0.25	
Fe_2O_3	4.10	
CaO	35.85	
MgO	0.57	
Na_2O	0.25	
K_2O	0.44	
P_2O_5	0.47	
SO_3	24.14	
	83.12	

Stack Hg mass flowrate =	0.0314 mg/sec
Stack Hg mass flowrate =	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_2	101.8%
Mass Balance Closure - Al_2O_3	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/hr
Chlorine (%, dry)	0.09	
Hg (ppm, dry)	0.103	7.78E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	43.17	2.77 kpph
Al_2O_3	21.89	1.40 kpph
TiO_2	0.99	0.06 kpph
Fe_2O_3	19.41	1.24 kpph
CaO	5.13	0.33 kpph
MgO	0.86	
Na_2O	0.66	
K_2O	1.39	
P_2O_5	0.43	
SO_3	4.06	
	97.99	

Mercury Input from Coal	7.47 lb/Tbtu
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	
Carbon (%, dry)	0.25	0.02 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	4.99E-05 lb/hr
Major Ash Elements (%)		
SiO_2	1.05	
Al_2O_3	0.35	
TiO_2	0.02	
Fe_2O_3	0.13	
CaO	73.28	
MgO	0.67	
Na_2O	0.01	
K_2O	0.10	
P_2O_5	0.03	
SO_3	0.11	
	75.75	

SO_2 at Stack (plant CEM)	15.7 ppmvd
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	
Carbon (%, dry)	6.18	1.34 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.26	
Hg (ppm, dry)	0.41	8.87E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	12.76	
Al_2O_3	6.28	
TiO_2	0.28	
Fe_2O_3	4.25	
CaO	35.17	
MgO	0.54	
Na_2O	0.15	
K_2O	0.43	
P_2O_5	0.15	
SO_3	24.45	
	84.47	

Stack Hg mass flowrate =	0.0548 mg/sec
Stack Hg mass flowrate =	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 =	4.986E-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_2	105.8%
Mass Balance Closure - Al_2O_3	104.1%

Mercury Material Balances - October 2007 (continued)

Greenidge Unit #4 **Test 7**
10/9/07 1545-1640

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	
Test No.	7	
Sample Date	10/09/07	
Analytical Number	20076594	
Total Moisture (%)	5.88	
As determined Moisture (%)	1.76	
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/hr
Chlorine (%, dry)	0.10	
Hg (ppm, dry)	0.098	7.26E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	44.77	2.83 kpph
Al_2O_3	23.46	1.48 kpph
TiO_2	1.10	0.07 kpph
Fe_2O_3	18.83	1.19 kpph
CaO	4.75	0.30 kpph
MgO	0.85	
Na_2O	0.89	
K_2O	1.58	
P_2O_5	0.46	
SO_3	4.29	
	100.98	

Mercury Input from Coal	7.11 lb/Tbtu
Hg Measured at Air Heater Outlet	8.37E-03 lb/h
% 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	
Carbon (%, dry)	0.35	0.03 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	4.58E-05 lb/hr
Major Ash Elements (%)		
SiO_2	1.04	
Al_2O_3	0.38	
TiO_2	0.02	
Fe_2O_3	0.13	
CaO	71.90	
MgO	0.67	
Na_2O	0.01	
K_2O	0.09	
P_2O_5	0.02	
SO_3	0.12	
	74.38	

SO_2 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	13.5%
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	
Carbon (%, dry)	8.04	1.62 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.34	
Hg (ppm, dry)	0.40	8.10E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	14.13	
Al_2O_3	6.89	
TiO_2	0.31	
Fe_2O_3	4.62	
CaO	34.06	
MgO	0.63	
Na_2O	0.26	
K_2O	0.47	
P_2O_5	0.23	
SO_3	25.25	
	86.85	

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 =	8.382E-03	lb/Hr
Hg closure (output / input) =	**114.7%**	

Mass Balance Closure - SiO_2	107.2%
Mass Balance Closure - Al_2O_3	100.9%

Greenidge Unit #4 **Test 8**
10/10/07 1040-1245

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	
Test No.	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/hr
Chlorine (%, dry)	0.09	
Hg (ppm, dry)	0.109	8.42E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	42.16	2.85 kpph
Al_2O_3	22.44	1.52 kpph
TiO_2	0.99	0.07 kpph
Fe_2O_3	19.50	1.32 kpph
CaO	4.53	0.31 kpph
MgO	0.81	
Na_2O	0.72	
K_2O	1.46	
P_2O_5	0.42	
SO_3	4.03	
	97.06	

Mercury Input from Coal	7.94 lb/Tbtu
Hg Measured at Air Heater Outlet	8.09E-03 lb/h
% 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)	76.18	
Carbon (%, dry)	0.30	0.03 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	4.71E-05 lb/hr
Major Ash Elements (%)		
SiO_2	1.40	
Al_2O_3	0.33	
TiO_2	0.02	
Fe_2O_3	0.14	
CaO	72.59	
MgO	0.68	
Na_2O	0.01	
K_2O	0.09	
P_2O_5	0.02	
SO_3	0.14	
	75.42	

SO_2 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	
Carbon (%, dry)	7.41	1.54 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.30	
Hg (ppm, dry)	0.43	8.98E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	13.18	
Al_2O_3	6.61	
TiO_2	0.30	
Fe_2O_3	4.53	
CaO	34.25	
MgO	0.57	
Na_2O	0.24	
K_2O	0.49	
P_2O_5	0.20	
SO_3	25.40	
	85.76	

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_2	101.1%
Mass Balance Closure - Al_2O_3	97.9%

Greenidge Unit #4 **Test 9**
10/11/07 1230-1435

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	
Test No.	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/hr
Chlorine (%, dry)	0.08	
Hg (ppm, dry)	0.126	9.72E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	44.75	3.31 kpph
Al_2O_3	21.79	1.61 kpph
TiO_2	1.16	0.09 kpph
Fe_2O_3	20.16	1.49 kpph
CaO	4.28	0.32 kpph
MgO	0.84	
Na_2O	0.81	
K_2O	1.67	
P_2O_5	0.43	
SO_3	3.82	
	99.71	

Mercury Input from Coal	9.21 lb/Tbtu
Hg Measured at Air Heater Outlet	7.98E-03 lb/h
% 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	
Carbon (%, dry)	0.33	0.04 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	5.61E-05 lb/hr
Major Ash Elements (%)		
SiO_2	1.33	
Al_2O_3	0.34	
TiO_2	0.02	
Fe_2O_3	0.18	
CaO	72.30	
MgO	0.70	
Na_2O	0.01	
K_2O	0.10	
P_2O_5	0.04	
SO_3	0.14	
	75.16	

SO_2 at Stack (plant CEM)	83.8 ppmvd
Wet Flue Gas Flowrate at Stack (plant)	281480 scfm
Flue Gas Moisture at Stack (CONSOL)	13.5 %
Flue Gas Flowrate at Stack (CONSOL)	265894 dscfm
Flue Gas Flowrate at Stack (plant)	243480 dscfm
RPD - CONSOL vs plant flowrate	8.8%
Sulfur at Turbosorp Inlet	2.26 kpph
Sulfur at Stack	0.11 kpph
Sulfur in Product Ash	2.15 kpph
Product Ash Flow Rate (estimated from S balance)	23.25 kpph

Product Ash Analysis

Sample Description	9	
Sample Date	10/11/07	
Moisture (%)	0.74	
Ash (%, dry)	83.10	
Carbon (%, dry)	7.36	1.71 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.32	
Hg (ppm, dry)	0.45	1.05E-02 lb/hr
Major Ash Elements (%, dry)		
SiO_2	12.58	
Al_2O_3	6.31	
TiO_2	0.29	
Fe_2O_3	4.11	
CaO	36.10	
MgO	0.59	
Na_2O	0.21	
K_2O	0.47	
P_2O_5	0.10	
SO_3	23.11	
	83.85	

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 =	9.716E-03	lb/Hr
Hg input from Hydrated Lime =	5.606E-05	lb/Hr
Total Hg Input =	9.772E-03	lb/Hr
Hg output via Product ash =	1.049E-02	lb/Hr
Hg output via Stack Flue Gas =	5.238E-05	lb/Hr
Total Hg Output =	1.054E-02	lb/Hr
Hg closure (output / input) =	**107.8%**	

Mass Balance Closure - SiO_2	93.1%
Mass Balance Closure - Al_2O_3	98.0%

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	0.36	kpph
Fly Ash Fraction (assumed) = 0.905	3.39	kpph

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	3.75	kpph
Carbon (%, dry)	75.30	31.69	kpph
Hydrogen (%, dry)	5.62	2.37	kpph
Nitrogen (%, dry)	1.58		
Total Sulfur (%, dry)	2.60	1.09	kpph
HHV (Btu/lb, dry)	13,757	579	mm Btu/hr
Chlorine (%, dry)	0.08		
Hg (ppm, dry)	0.151	6.35E-03	lb/hr
Major Ash Elements (%, dry)			
SiO_2	44.91	1.68	kpph
Al_2O_3	23.08	0.86	kpph
TiO_2	0.98	0.04	kpph
Fe_2O_3	19.83	0.74	kpph
CaO	3.64	0.14	kpph
MgO	0.82		
Na_2O	0.75		
K_2O	1.60		
P_2O_5	0.30		
SO_3	3.86		
	99.77		

Mercury Input from Coal	10.98	lb/Tbtu
Hg Measured at Air Heater Outlet	#N/A	lb/h
% 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	0.03	kpph
Total Sulfur (%, dry)			
Chlorine (%, dry)			
Hg (ppm, dry)	0.005	2.74E-05	lb/hr
Major Ash Elements (%)			
SiO_2	1.06		
Al_2O_3	0.37		
TiO_2	0.01		
Fe_2O_3	0.15		
CaO	73.07		
MgO	0.81		
Na_2O	0.15		
K_2O	0.11		
P_2O_5	0.01		
SO_3	0.17		
	75.91		

SO_2 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	6.5%	
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	0.72	kpph
Total Sulfur (%, dry)	0.89		
Chlorine (%, dry)	0.34		
Hg (ppm, dry)	0.47	5.46E-03	lb/hr
Major Ash Elements (%)			
SiO_2	14.76		
Al_2O_3	7.37		
TiO_2	0.33		
Fe_2O_3	4.64		
CaO	35.46		
MgO	0.66		
Na_2O	0.50		
K_2O	0.57		
P_2O_5	0.12		
SO_3	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_2	108.6%
Mass Balance Closure - Al_2O_3	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	0.39	kpph
Fly Ash Fraction (assumed) = 0.905	3.71	kpph

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	4.10	kpph
Carbon (%, dry)	75.47	31.30	kpph
Hydrogen (%, dry)	5.63	2.33	kpph
Nitrogen (%, dry)	1.65		
Total Sulfur (%, dry)	2.51	1.04	kpph
HHV (Btu/lb, dry)	13,667	567	mm Btu/hr
Chlorine (%, dry)	0.08		
Hg (ppm, dry)	0.137	5.68E-03	lb/hr
Major Ash Elements (%, dry)			
SiO_2	47.27	1.94	kpph
Al_2O_3	23.49	0.96	kpph
TiO_2	1.07	0.04	kpph
Fe_2O_3	16.24	0.67	kpph
CaO	3.26	0.13	kpph
MgO	0.92		
Na_2O	0.65		
K_2O	1.72		
P_2O_5	0.32		
SO_3	3.44		
	98.38		

Mercury Input from Coal	10.02	lb/Tbtu
Hg Measured at Air Heater Outlet	#N/A	lb/h
% 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	0.03	kpph
Total Sulfur (%, dry)			
Chlorine (%, dry)			
Hg (ppm, dry)	0.005	2.72E-05	lb/hr
Major Ash Elements (%)			
SiO_2	1.02		
Al_2O_3	0.37		
TiO_2	0.01		
Fe_2O_3	0.13		
CaO	71.28		
MgO	0.81		
Na_2O	0.16		
K_2O	0.07		
P_2O_5	0.01		
SO_3	0.16		
	74.02		

SO_2 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	0.62	kpph
Total Sulfur (%, dry)	8.25		
Chlorine (%, dry)	0.31		
Hg (ppm, dry)	0.48	5.26E-03	lb/hr
Major Ash Elements (%, dry)			
SiO_2	14.40		
Al_2O_3	7.23		
TiO_2	0.33		
Fe_2O_3	4.45		
CaO	36.23		
MgO	0.66		
Na_2O	0.50		
K_2O	0.56		
P_2O_5	0.14		
SO_3	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 =	5.635E-05	lb/Hr
Total Hg Output =	5.312E-03	lb/Hr
Hg closure (output / input) =	**93.1%**	

Mass Balance Closure - SiO_2	87.8%
Mass Balance Closure - Al_2O_3	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	0.61	kpph
Fly Ash Fraction (assumed) = 0.905	5.78	kpph

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	6.39	kpph
Carbon (%, dry)	73.93	44.22	kpph
Hydrogen (%, dry)	5.45	3.26	kpph
Nitrogen (%, dry)	1.47		
Total Sulfur (%, dry)	2.65	1.59	kpph
HHV (Btu/lb, dry)	13328	797	mm Btu/hr
Chlorine (%, dry)	0.11		
Hg (ppm, dry)	0.171	1.02E-02	lb/hr
Major Ash Elements (%, dry)			
SiO_2	47.36	3.03	kpph
Al_2O_3	23.56	1.51	kpph
TiO_2	1.00	0.06	kpph
Fe_2O_3	17.05	1.09	kpph
CaO	3.56	0.23	kpph
MgO	0.87		
Na_2O	0.64		
K_2O	1.91		
P_2O_5	0.37		
SO_3	3.95		
	100.27		

Mercury Input from Coal	12.83	lb/Tbtu
Hg Measured at Air Heater Outlet	#N/A	lb/h
% 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	0.03	kpph
Total Sulfur (%, dry)			
Chlorine (%, dry)			
Hg (ppm, dry)	0.005	3.66E-05	lb/hr
Major Ash Elements (%)			
SiO_2	1.57		
Al_2O_3	0.39		
TiO_2	0.02		
Fe_2O_3	0.15		
CaO	72.23		
MgO	0.77		
Na_2O	0.15		
K_2O	0.14		
P_2O_5	0.01		
SO_3	0.52		
	75.94		

SO_2 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	1.04	kpph
Total Sulfur (%, dry)	8.67		
Chlorine (%, dry)	0.26		
Hg (ppm, dry)	0.57	9.22E-03	lb/hr
Major Ash Elements (%, dry)			
SiO_2	15.77		
Al_2O_3	7.99		
TiO_2	0.37		
Fe_2O_3	4.79		
CaO	33.71		
MgO	0.64		
Na_2O	0.50		
K_2O	0.66		
P_2O_5	0.17		
SO_3	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_2	90.1%
Mass Balance Closure - Al_2O_3	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	0.56 kpph
Fly Ash Fraction (assumed) =	0.905	5.37 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/hr
Chlorine (%, dry)	0.10	
Hg (ppm, dry)	0.184	1.03E-02 lb/hr
Major Ash Elements (%, dry)		
SiO_2	47.66	2.83 kpph
Al_2O_3	23.54	1.40 kpph
TiO_2	1.02	0.06 kpph
Fe_2O_3	15.85	0.94 kpph
CaO	3.68	0.22 kpph
MgO	0.95	
Na_2O	0.60	
K_2O	1.98	
P_2O_5	0.36	
SO_3	3.94	
	99.58	

Mercury Input from Coal		13.67 lb/Tbtu
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	
Carbon (%, dry)	0.47	0.03 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	2.95E-05 lb/hr
Major Ash Elements (%)		
SiO_2	1.46	
Al_2O_3	0.40	
TiO_2	0.02	
Fe_2O_3	0.16	
CaO	73.63	
MgO	0.78	
Na_2O	0.16	
K_2O	0.07	
P_2O_5	0.01	
SO_3	0.57	
	77.25	

SO_2 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	
Carbon (%, dry)	6.31	0.86 kpph
Total Sulfur (%, dry)	8.77	
Chlorine (%, dry)	0.34	
Hg (ppm, dry)	0.61	8.25E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	15.99	
Al_2O_3	7.99	
TiO_2	0.37	
Fe_2O_3	4.73	
CaO	33.46	
MgO	0.66	
Na_2O	0.50	
K_2O	0.64	
P_2O_5	0.17	
SO_3	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_2	82.0%
Mass Balance Closure - Al_2O_3	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	0.92 kpph
Fly Ash Fraction (assumed) =	0.905	8.78 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)	12669	980 mm Btu/hr
Chlorine (%, dry)	0.11	
Hg (ppm, dry)	0.246	1.90E-02 lb/hr
Major Ash Elements (%, dry)		
SiO_2	46.98	4.56 kpph
Al_2O_3	23.26	2.26 kpph
TiO_2	1.29	0.13 kpph
Fe_2O_3	17.57	1.70 kpph
CaO	3.64	0.35 kpph
MgO	1.20	
Na_2O	0.99	
K_2O	2.42	
P_2O_5	0.49	
SO_3	3.11	
	100.95	

Mercury Input from Coal		19.42 lb/Tbtu
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	
Carbon (%, dry)	0.50	0.04 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	4.07E-05 lb/hr
Major Ash Elements (%)		
SiO_2	1.28	
Al_2O_3	0.38	
TiO_2	0.01	
Fe_2O_3	0.15	
CaO	72.55	
MgO	0.79	
Na_2O	0.16	
K_2O	0.10	
P_2O_5	0.01	
SO_3	0.35	
	75.78	

SO_2 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	5.6%
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	
Carbon (%, dry)	6.30	1.30 kpph
Total Sulfur (%, dry)	8.63	
Chlorine (%, dry)	0.46	
Hg (ppm, dry)	0.67	1.38E-02 lb/hr
Major Ash Elements (%, dry)		
SiO_2	17.77	
Al_2O_3	8.94	
TiO_2	0.41	
Fe_2O_3	5.54	
CaO	30.28	
MgO	0.67	
Na_2O	0.50	
K_2O	0.67	
P_2O_5	0.19	
SO_3	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_2	86.4%
Mass Balance Closure - Al_2O_3	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	0.70 kpph
Fly Ash Fraction (assumed) =	0.905	6.70 kpph

Coal Analysis

Sample ID	Coal/Wood	
Test No.	1	
Sample Date	03/11/08	
Analytical Number	0	
Total Moisture (%)	8.26	
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)	13,606	1,050 mm Btu/hr
Chlorine (%, dry)	0.10	
Hg (ppm, dry)	0.096	7.37E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	44.80	3.32 kpph
Al_2O_3	22.33	1.65 kpph
TiO_2	1.00	0.07 kpph
Fe_2O_3	19.49	1.44 kpph
CaO	4.60	0.34 kpph
MgO	0.95	
Na_2O	0.60	
K_2O	1.76	
P_2O_5	0.58	
SO_3	3.76	
	99.88	

Mercury Input from Coal	7.03 lb/Tbtu
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	0.31 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_2	1.78	
Al_2O_3	0.35	
TiO_2	0.02	
Fe_2O_3	0.14	
CaO	72.99	
MgO	0.73	
Na_2O	0.06	
K_2O	0.05	
P_2O_5	0.01	
SO_3	0.03	
	76.16	

SO_2 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)	256084 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_2	18.74	
Al_2O_3	8.57	
TiO_2	0.38	
Fe_2O_3	5.41	
CaO	29.30	
MgO	0.55	
Na_2O	0.30	
K_2O	0.59	
P_2O_5	0.17	
SO_3	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_2	114.9%
Mass Balance Closure - Al_2O_3	108.1%

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	0.64 kpph
Fly Ash Fraction (assumed) =	0.905	6.09 kpph

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/hr
Chlorine (%, dry)	0.09	
Hg (ppm, dry)	0.097	7.48E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	44.04	2.96 kpph
Al_2O_3	22.64	1.52 kpph
TiO_2	1.01	0.07 kpph
Fe_2O_3	19.72	1.33 kpph
CaO	5.26	0.35 kpph
MgO	0.86	
Na_2O	0.62	
K_2O	1.73	
P_2O_5	0.62	
SO_3	4.19	
	100.68	

Mercury Input from Coal	7.07 lb/Tbtu
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_2	1.52	
Al_2O_3	0.36	
TiO_2	0.02	
Fe_2O_3	0.14	
CaO	73.97	
MgO	0.73	
Na_2O	0.07	
K_2O	0.06	
P_2O_5	0.01	
SO_3	0.07	
	76.95	

SO_2 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)	255452 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 (%, dry)		
SiO_2	17.46	
Al_2O_3	8.23	
TiO_2	0.36	
Fe_2O_3	4.94	
CaO	29.38	
MgO	0.53	
Na_2O	0.29	
K_2O	0.56	
P_2O_5	0.16	
SO_3	21.65	
	83.56	

Stack Hg mass flowrate =	0.0123 mg/sec
Stack Hg mass flowrate =	9.76E-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_2	124.9%
Mass Balance Closure - Al_2O_3	117.1%

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	0.65 kpph
Fly Ash Fraction (assumed) =	0.905	6.20 kpph

Coal Analysis

Sample ID	Coal/Wood	
Test No.	3	
Sample Date	03/12/08	
Analytical Number	0	
Total Moisture (%)	8.16	
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)	5.16	4.00 kpph
Nitrogen (%, dry)	1.50	
Total Sulfur (%, dry)	2.22	1.72 kpph
HHV (Btu/lb, dry)	13569	1,052 mm Btu/hr
Chlorine (%, dry)	0.10	
Hg (ppm, dry)	0.085	6.63E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	48.32	3.31 kpph
Al_2O_3	23.31	1.60 kpph
TiO_2	1.05	0.07 kpph
Fe_2O_3	17.13	1.17 kpph
CaO	4.02	0.28 kpph
MgO	0.87	
Na_2O	0.64	
K_2O	1.74	
P_2O_5	0.48	
SO_3	3.19	
	100.76	

Mercury Input from Coal	6.30 lb/Tbtu
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_2	1.42	
Al_2O_3	0.36	
TiO_2	0.02	
Fe_2O_3	0.17	
CaO	74.32	
MgO	0.74	
Na_2O	0.06	
K_2O	0.05	
P_2O_5	0.01	
SO_3	0.02	
	77.17	

SO_2 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 (%, dry)		
SiO_2	17.94	
Al_2O_3	8.02	
TiO_2	0.36	
Fe_2O_3	4.97	
CaO	30.08	
MgO	0.54	
Na_2O	0.28	
K_2O	0.54	
P_2O_5	0.16	
SO_3	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_2	113.2%
Mass Balance Closure - Al_2O_3	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	Coal/Wood	
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	7.08 kpph
Carbon (%, dry)	74.40	57.65 kpph
Hydrogen (%, dry)	5.12	3.97 kpph
Nitrogen (%, dry)	1.44	
Total Sulfur (%, dry)	2.29	1.78 kpph
HHV (Btu/lb, dry)	13528	1,048 mm Btu/hr
Chlorine (%, dry)	0.09	
Hg (ppm, dry)	0.094	7.32E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	47.33	3.35 kpph
Al_2O_3	22.82	1.62 kpph
TiO_2	1.04	0.07 kpph
Fe_2O_3	17.85	1.26 kpph
CaO	3.81	0.27 kpph
MgO	0.83	
Na_2O	0.64	
K_2O	1.70	
P_2O_5	0.49	
SO_3	3.19	
	99.70	

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	0.03 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	4.01E-05 lb/hr
Major Ash Elements (%)		
SiO_2	1.29	
Al_2O_3	0.34	
TiO_2	0.02	
Fe_2O_3	0.13	
CaO	72.32	
MgO	0.70	
Na_2O	0.06	
K_2O	0.04	
P_2O_5	0.01	
SO_3	0.03	
	74.94	

SO_2 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 (%)	0.85	
Ash (%, dry)	82.92	
Carbon (%, dry)	10.70	2.18 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)	0.32	
Hg (ppm, dry)	0.42	8.61E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	17.62	
Al_2O_3	8.08	
TiO_2	0.37	
Fe_2O_3	4.86	
CaO	29.64	
MgO	0.53	
Na_2O	0.27	
K_2O	0.54	
P_2O_5	0.16	
SO_3	21.40	
	83.47	

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_2	114.6%
Mass Balance Closure - Al_2O_3	110.7%

Mercury Material Balances - May 2008

Greenidge Unit #4 **Test 1**
05/19/08 2330-0147

Gross Generation (MW) =		**56.4** MW
Net Generation (MW) =		**50.7** MW
Coal Feed Rate, reported by plant (kpph) =		**42.05** kpph
Coal Feed Rate (kpph, dry basis) =		**42.34** kpph
Ash in coal =		4.86 kpph
Bottom Ash Fraction (assumed) =	0.095	0.46 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/hr
Chlorine (%, dry)	0.10	
Hg (ppm, dry)	0.096	4.06E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	49.69	2.41 kpph
Al_2O_3	27.53	1.34 kpph
TiO_2	1.92	0.09 kpph
Fe_2O_3	13.52	0.66 kpph
CaO	3.73	0.18 kpph
MgO	0.78	
Na_2O	0.61	
K_2O	1.59	
P_2O_5	0.46	
SO_3	2.95	
	102.78	

Mercury Input from Coal	7.15	lb/Tbtu
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	
Carbon (%, dry)	0.51	0.03 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	2.82E-05 lb/hr
Major Ash Elements (%)		
SiO_2	0.78	
Al_2O_3	0.35	
TiO_2	0.02	
Fe_2O_3	0.31	
CaO	70.43	
MgO	0.72	
Na_2O	0.02	
K_2O	0.06	
P_2O_5	0.02	
SO_3	1.09	
	73.8	

SO_2 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	
Carbon (%, dry)	6.87	0.82 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)	0.22	
Hg (ppm, dry)	0.37	4.41E-03 lb/hr
Major Ash Elements (%)		
SiO_2	15.14	
Al_2O_3	7.91	
TiO_2	0.50	
Fe_2O_3	3.78	
CaO	34.55	
MgO	0.63	
Na_2O	0.26	
K_2O	0.52	
P_2O_5	0.13	
SO_3	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 =	4.093E-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_2	81.5%
Mass Balance Closure - Al_2O_3	77.1%

Greenidge Unit #4 **Test 2**
05/20/08 0305-0514

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	0.47 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/hr
Chlorine (%, dry)	0.09	
Hg (ppm, dry)	0.096	4.08E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	50.26	2.51 kpph
Al_2O_3	27.73	1.38 kpph
TiO_2	1.92	0.10 kpph
Fe_2O_3	12.04	0.60 kpph
CaO	3.28	0.16 kpph
MgO	0.76	
Na_2O	0.58	
K_2O	1.61	
P_2O_5	0.41	
SO_3	2.75	
	101.34	

Mercury Input from Coal	7.17	lb/Tbtu
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	
Carbon (%, dry)	0.43	0.03 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	3.35E-05 lb/hr
Major Ash Elements (%)		
SiO_2	0.81	
Al_2O_3	0.35	
TiO_2	0.02	
Fe_2O_3	0.16	
CaO	71.77	
MgO	0.71	
Na_2O	0.07	
K_2O	0.05	
P_2O_5	0.01	
SO_3	0.17	
	74.12	

SO_2 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	
Carbon (%, dry)	6.17	0.81 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)	0.23	
Hg (ppm, dry)	0.36	4.68E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	13.03	
Al_2O_3	7.42	
TiO_2	0.47	
Fe_2O_3	3.29	
CaO	37.89	
MgO	0.61	
Na_2O	0.22	
K_2O	0.46	
P_2O_5	0.17	
SO_3	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_2	73.4%
Mass Balance Closure - Al_2O_3	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	0.51	kpph
Fly Ash Fraction (assumed) = 0.905	4.84	kpph

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	5.34 kpph
Carbon (%, dry)	77.48	56.72 kpph
Hydrogen (%, dry)	5.34	3.91 kpph
Nitrogen (%, dry)	1.71	
Total Sulfur (%, dry)	2.35	1.72 kpph
HHV (Btu/lb, dry)	14,184	1,038 mm Btu/hr
Chlorine (%, dry)	0.08	
Hg (ppm, dry)	0.071	5.20E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	44.14	2.36 kpph
Al_2O_3	23.23	1.24 kpph
TiO_2	1.05	0.06 kpph
Fe_2O_3	18.95	1.01 kpph
CaO	5.29	0.28 kpph
MgO	1.11	
Na_2O	1.12	
K_2O	1.31	
P_2O_5	0.28	
SO_3	5.67	
	102.15	

Mercury Input from Coal	5.01	lb/Tbtu
Hg Measured at Air Heater Outlet	#N/A	lb/h
% 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	0.00 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	3.56E-05 lb/hr
Major Ash Elements (%)		
SiO_2	1.11	
Al_2O_3	0.35	
TiO_2	0.02	
Fe_2O_3	0.15	
CaO	74.82	
MgO	0.71	
Na_2O	0.04	
K_2O	0.07	
P_2O_5	0.01	
SO_3	0.08	
	77.36	

SO_2 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	1.82 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.31	
Hg (ppm, dry)	0.31	5.24E-03 lb/hr
Major Ash Elements (%)		
SiO_2	13.22	
Al_2O_3	6.79	
TiO_2	0.31	
Fe_2O_3	4.58	
CaO	32.77	
MgO	0.60	
Na_2O	0.38	
K_2O	0.39	
P_2O_5	0.09	
SO_3	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_2	101.6%
Mass Balance Closure - Al_2O_3	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	0.52	kpph
Fly Ash Fraction (assumed) = 0.905	4.98	kpph

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	5.51 kpph
Carbon (%, dry)	77.26	56.88 kpph
Hydrogen (%, dry)	5.38	3.96 kpph
Nitrogen (%, dry)	1.71	
Total Sulfur (%, dry)	2.55	1.88 kpph
HHV (Btu/lb, dry)	13,963	1,028 mm Btu/hr
Chlorine (%, dry)	0.09	
Hg (ppm, dry)	0.080	5.89E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	41.71	2.30 kpph
Al_2O_3	21.79	1.20 kpph
TiO_2	1.01	0.06 kpph
Fe_2O_3	20.40	1.12 kpph
CaO	5.57	0.31 kpph
MgO	1.09	
Na_2O	1.10	
K_2O	1.32	
P_2O_5	0.29	
SO_3	5.99	
	100.27	

Mercury Input from Coal	5.73	lb/Tbtu
Hg Measured at Air Heater Outlet	#N/A	lb/h
% 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	0.01 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	4.00E-05 lb/hr
Major Ash Elements (%)		
SiO_2	0.94	
Al_2O_3	0.34	
TiO_2	0.02	
Fe_2O_3	0.16	
CaO	73.63	
MgO	0.71	
Na_2O	0.04	
K_2O	0.07	
P_2O_5	0.01	
SO_3	0.09	
	76.01	

SO_2 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	2.08 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.38	
Hg (ppm, dry)	0.31	5.82E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	13.02	
Al_2O_3	6.65	
TiO_2	0.30	
Fe_2O_3	4.55	
CaO	33.09	
MgO	0.60	
Na_2O	0.37	
K_2O	0.39	
P_2O_5	0.09	
SO_3	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_2	112.7%
Mass Balance Closure - Al_2O_3	111.4%

Greenidge Unit #4 **Test 3**
6/13/08 1000-1328

Gross Generation (MW) =	**108.72**	MW
Net Generation (MW) =	**100.77**	MW
Coal Feed Rate (kpph) =	**79.40**	kpph
Coal Feed Rate (kpph, dry basis) =	**75.77**	kpph
Ash in coal =	5.68	kpph
Bottom Ash Fraction (assumed) = 0.095	0.54	kpph
Fly Ash Fraction (assumed) = 0.905	5.14	kpph

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	5.68 kpph
Carbon (%, dry)	77.28	58.55 kpph
Hydrogen (%, dry)	5.38	4.08 kpph
Nitrogen (%, dry)	1.70	
Total Sulfur (%, dry)	2.51	1.90 kpph
HHV (Btu/lb, dry)	14137	1,071 mm Btu/hr
Chlorine (%, dry)	0.08	
Hg (ppm, dry)	0.080	6.06E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	42.54	2.42 kpph
Al_2O_3	22.45	1.28 kpph
TiO_2	0.97	0.06 kpph
Fe_2O_3	19.99	1.14 kpph
CaO	5.52	0.31 kpph
MgO	1.06	
Na_2O	1.07	
K_2O	1.30	
P_2O_5	0.33	
SO_3	6.53	
	101.77	

Mercury Input from Coal	5.66	lb/Tbtu
Hg Measured at Air Heater Outlet	#N/A	lb/h
% 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	0.01 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	3.57E-05 lb/hr
Major Ash Elements (%)		
SiO_2	0.98	
Al_2O_3	0.44	
TiO_2	0.02	
Fe_2O_3	0.21	
CaO	74.62	
MgO	0.76	
Na_2O	0.06	
K_2O	0.06	
P_2O_5	0.01	
SO_3	0.18	
	77.34	

SO_2 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	16.5%	
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	2.00 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.35	
Hg (ppm, dry)	0.34	6.13E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	14.77	
Al_2O_3	7.26	
TiO_2	0.33	
Fe_2O_3	5.37	
CaO	31.37	
MgO	0.64	
Na_2O	0.44	
K_2O	0.42	
P_2O_5	0.10	
SO_3	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 =	3.568E-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_2	117.0%
Mass Balance Closure - Al_2O_3	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
Major Ash Elements (%, dry)			
SiO_2	42.64	2.32	kpph
Al_2O_3	23.05	1.25	kpph
TiO_2	1.04	0.06	kpph
Fe_2O_3	19.43	1.06	kpph
CaO	4.99	0.27	kpph
MgO	1.06		
Na_2O	1.25		
K_2O	1.34		
P_2O_5	0.29		
SO_3	5.76		
	100.85		

Mercury Input from Coal	5.34	lb/Tbtu
Hg Measured at Air Heater Outlet	#N/A	lb/h
% 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		
Carbon (%, dry)	0.08	0.01	kpph
Total Sulfur (%, dry)			
Chlorine (%, dry)			
Hg (ppm, dry)	0.005	3.26E-05	lb/hr
Major Ash Elements (%)			
SiO_2	0.86		
Al_2O_3	0.42		
TiO_2	0.02		
Fe_2O_3	0.19		
CaO	74.97		
MgO	0.76		
Na_2O	0.05		
K_2O	0.06		
P_2O_5	0.01		
SO_3	0.20		
	77.54		

SO_2 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)	270408	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		
Carbon (%, dry)	11.29	1.85	kpph
Total Sulfur (%, dry)	0.00		
Chlorine (%, dry)	0.32		
Hg (ppm, dry)	0.34	5.53E-03	lb/hr
Major Ash Elements (%, dry)			
SiO_2	14.26		
Al_2O_3	7.14		
TiO_2	0.32		
Fe_2O_3	5.20		
CaO	31.31		
MgO	0.64		
Na_2O	0.42		
K_2O	0.42		
P_2O_5	0.09		
SO_3	27.19		
	86.99		

Stack Hg mass flowrate =	0.0082	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) =	**99.0%**	

Mass Balance Closure - SiO_2	108.6%
Mass Balance Closure - Al_2O_3	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	0.60	kpph
Fly Ash Fraction (assumed) =	0.905	5.71	kpph

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	6.31	kpph
Carbon (%, dry)	76.08	57.16	kpph
Hydrogen (%, dry)	5.30	3.98	kpph
Nitrogen (%, dry)	1.69		
Total Sulfur (%, dry)	2.52	1.89	kpph
HHV (Btu/lb, dry)	13,777	1,035	mm Btu/hr
Chlorine (%, dry)	0.10		
Hg (ppm, dry)	0.102	7.66E-03	lb/hr
Major Ash Elements (%, dry)			
SiO_2	44.02	2.78	kpph
Al_2O_3	22.31	1.41	kpph
TiO_2	1.06	0.07	kpph
Fe_2O_3	18.69	1.18	kpph
CaO	5.21	0.33	kpph
MgO	1.17		
Na_2O	1.11		
K_2O	1.50		
P_2O_5	0.27		
SO_3	6.11		
	101.43		

Mercury Input from Coal		7.40	lb/Tbtu
Hg Measured at Air Heater Outlet	#N/A	lb/h	
% 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	0.01	kpph
Total Sulfur (%, dry)			
Chlorine (%, dry)			
Hg (ppm, dry)	0.005	3.12E-05	lb/hr
Major Ash Elements (%)			
SiO_2	0.78		
Al_2O_3	0.40		
TiO_2	0.02		
Fe_2O_3	0.17		
CaO	72.87		
MgO	0.79		
Na_2O	0.07		
K_2O	0.06		
P_2O_5	0.01		
SO_3	0.21		
	75.355		

SO_2 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	1.49	kpph
Total Sulfur (%, dry)	0.00		
Chlorine (%, dry)	0.36		
Hg (ppm, dry)	0.48	7.88E-03	lb/hr
Major Ash Elements (%)			
SiO_2	15.96		
Al_2O_3	7.92		
TiO_2	0.37		
Fe_2O_3	5.67		
CaO	29.54		
MgO	0.66		
Na_2O	0.47		
K_2O	0.51		
P_2O_5	0.09		
SO_3	26.52		
	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 =	7.663E-03	lb/Hr
Hg input from Hydrated Lime =	3.121E-05	lb/Hr
Total Hg Input =	7.695E-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) =	**102.7%**	

Mass Balance Closure - SiO_2	102.1%
Mass Balance Closure - Al_2O_3	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	0.53	kpph
Fly Ash Fraction (assumed) =	0.905	5.04	kpph

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	5.57	kpph
Carbon (%, dry)	76.97	57.51	kpph
Hydrogen (%, dry)	5.42	4.05	kpph
Nitrogen (%, dry)	1.71		
Total Sulfur (%, dry)	2.59	1.93	kpph
HHV (Btu/lb, dry)	14,049	1,050	mm Btu/hr
Chlorine (%, dry)	0.09		
Hg (ppm, dry)	0.085	6.35E-03	lb/hr
Major Ash Elements (%, dry)			
SiO_2	43.75	2.44	kpph
Al_2O_3	22.82	1.27	kpph
TiO_2	0.99	0.06	kpph
Fe_2O_3	19.66	1.09	kpph
CaO	4.92	0.27	kpph
MgO	1.03		
Na_2O	1.24		
K_2O	1.22		
P_2O_5	0.29		
SO_3	5.58		
	101.51		

Mercury Input from Coal		6.05	lb/Tbtu
Hg Measured at Air Heater Outlet	#N/A	lb/h	
% 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	0.01	kpph
Total Sulfur (%, dry)			
Chlorine (%, dry)			
Hg (ppm, dry)	0.005	3.76E-05	lb/hr
Major Ash Elements (%)			
SiO_2	1.22		
Al_2O_3	0.39		
TiO_2	0.02		
Fe_2O_3	0.15		
CaO	73.12		
MgO	0.78		
Na_2O	0.06		
K_2O	0.06		
P_2O_5	0.01		
SO_3	0.21		
	76.01		

SO_2 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		16.5%	
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	1.55	kpph
Total Sulfur (%, dry)	0.00		
Chlorine (%, dry)	0.37		
Hg (ppm, dry)	0.35	6.19E-03	lb/hr
Major Ash Elements (%, dry)			
SiO_2	12.66		
Al_2O_3	6.66		
TiO_2	0.30		
Fe_2O_3	4.98		
CaO	32.53		
MgO	0.66		
Na_2O	0.46		
K_2O	0.40		
P_2O_5	0.08		
SO_3	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 =	3.756E-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_2	97.3%
Mass Balance Closure - Al_2O_3	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	0.53	kpph
Fly Ash Fraction (assumed) =	0.905	5.06	kpph

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	5.59	kpph
Carbon (%, dry)	77.39	58.53	kpph
Hydrogen (%, dry)	5.40	4.08	kpph
Nitrogen (%, dry)	1.67		
Total Sulfur (%, dry)	2.48	1.88	kpph
HHV (Btu/lb, dry)	14070	1,064	mm Btu/hr
Chlorine (%, dry)	0.08		
Hg (ppm, dry)	0.076	5.75E-03	lb/hr
Major Ash Elements (%, dry)			
SiO_2	44.35	2.48	kpph
Al_2O_3	23.50	1.31	kpph
TiO_2	1.04	0.06	kpph
Fe_2O_3	18.28	1.02	kpph
CaO	4.81	0.27	kpph
MgO	1.09		
Na_2O	1.36		
K_2O	1.31		
P_2O_5	0.28		
SO_3	5.43		
	101.43		

Mercury Input from Coal		5.40	lb/Tbtu
Hg Measured at Air Heater Outlet	#N/A	lb/h	
% 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	0.02	kpph
Total Sulfur (%, dry)			
Chlorine (%, dry)			
Hg (ppm, dry)	0.005	4.48E-05	lb/hr
Major Ash Elements (%)			
SiO_2	0.82		
Al_2O_3	0.43		
TiO_2	0.02		
Fe_2O_3	0.16		
CaO	75.20		
MgO	0.79		
Na_2O	0.06		
K_2O	0.06		
P_2O_5	0.01		
SO_3	0.21		
	77.74		

SO_2 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	2.05	kpph
Total Sulfur (%, dry)	0.00		
Chlorine (%, dry)	0.30		
Hg (ppm, dry)	0.31	6.19E-03	lb/hr
Major Ash Elements (%, dry)			
SiO_2	11.47		
Al_2O_3	5.86		
TiO_2	0.27		
Fe_2O_3	4.44		
CaO	35.23		
MgO	0.64		
Na_2O	0.42		
K_2O	0.34		
P_2O_5	0.07		
SO_3	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_2	98.1%
Mass Balance Closure - Al_2O_3	94.7%

Mercury Material Balances - June 2008 (continued)

Greenidge Unit #4 **Test 30B-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.	30B-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_2	44.25	2.45 kpph
Al_2O_3	23.19	1.28 kpph
TiO_2	1.04	0.06 kpph
Fe_2O_3	18.58	1.03 kpph
CaO	5.01	0.28 kpph
MgO	1.08	
Na_2O	1.49	
K_2O	1.33	
P_2O_5	0.30	
SO_3	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	30B-8	
Sample Date	6/19/2008	
Moisture (%)	0.01	
Ash (%, dry)	75.22	
Carbon (%, dry)	0.50	0.04 kpph
Total Sulfur (%, dry)		
Chlorine (%, dry)		
Hg (ppm, dry)	0.005	4.47E-05 lb/hr
Major Ash Elements (%)		
SiO_2	0.77	
Al_2O_3	0.41	
TiO_2	0.02	
Fe_2O_3	0.22	
CaO	73.21	
MgO	0.80	
Na_2O	0.06	
K_2O	0.06	
P_2O_5	0.01	
SO_3	0.21	
	75.77	

SO_2 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	30B-8	
Sample Date	06/19/08	
Moisture (%)	0.86	
Ash (%, dry)	81.70	
Carbon (%, dry)	11.04	2.21 kpph
Total Sulfur (%, dry)	0.00	
Chlorine (%, dry)	0.30	
Hg (ppm, dry)	0.31	6.24E-03 lb/hr
Major Ash Elements (%, dry)		
SiO_2	12.32	
Al_2O_3	6.27	
TiO_2	0.28	
Fe_2O_3	4.69	
CaO	33.90	
MgO	0.63	
Na_2O	0.48	
K_2O	0.36	
P_2O_5	0.08	
SO_3	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_2	108.1%
Mass Balance Closure - Al_2O_3	105.0%

APPENDIX L
BULK CHEMICAL ANALYSIS OF LPA AND ASH SAMPLES COLLECTED IN AND AROUND THE SCR REACTOR IN DECEMBER 2007

CONSOL ENERGY

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.

CONSOL ENERGY

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

			Wt. % Dry Basis						
Analytical Number	Sample	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

		Major Ash Elements, Wt. % of Total Sample, Dry Basis									
Analytical Number	Sample	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