

US EPA ARCHIVE DOCUMENT

	B	C
1	Source Description	
2		
3	Phase I ID No.	200
4	EPA ID No.	SCD003351699
5	Facility Name	Giant Cement
6	Facility Location	
7	City	Harleyville
8	State	SC
9	Unit ID Name/No.	Kiln No. 4
10	Other Sister Facilities	Kiln Nos. 2 and 3 (ID Nos. 680 and 681)
11	Number of Sister Facilities	2
12	Combustor Class	Cement Kiln (CK)
13	Combustor Type	Wet, long
14	Combustor Characteristics	
15	Capacity (MMBtu/hr)	
16	APCS Detailed Acronym	FF
17	APCS General Class	FF
18	APCS Characteristics	Fabric filter, Fuller, reverse air, graphite impregnated fabric bag cloth, A/C = 4
19	Hazardous Wastes	Liq
20	Haz Waste Description	
21	Supplemental Fuel	Coal
22		
23	Stack Characteristics	
24	Diameter (ft)	10.0
25	Height (ft)	175.0
26	Gas Velocity (ft/sec)	10.0
27	Gas Temperature (°F)	426.5
28		
29	Permitting Status	Tier I for Hg, Ag, Tl, Sb, and Ba; Tier III for Pb, As, Be, Cd, Cr, Se, Ni
30	HWC Burn Status (Date if Terminated)	

	B	C
1	Cond Description	
2		
3	200C10	
4		
5	Report Name/Date	Giant Cement Company, BIF Recertification of Compliance, Cement Kin Nos. 2, 3, 4, and 5, November 1998
6	Report Prepare	Roy F. Weston
7	Testing Firm	R. F. Weston
8	Testing Dates	September 16, 1995
9	Cond Dates	Sep-98
10	Condition Descr	CoC, Max operating mode waste feed, temp, prod rate
11	Content	CO, HC, HCl/Cl ₂ , metals (no Hg stack gas), PM
12		
13	200C11	
14		
15	Report Name/Date	Giant Cement Company, BIF Recertification of Compliance, Cement Kin Nos. 2, 3, 4, and 5, November 1998
16	Report Prepare	Roy F. Weston
17	Testing Firm	R. F. Weston
18	Testing Dates	September 15, 1995
19	Cond Dates	Sep-98
20	Condition Descr	CoC, Min dp on FF
21	Content	CO, HC, HCl/Cl ₂ , metals (no Hg stack gas), PM
22		
23		PCDD/PCDF and other organics not sampled for in stack gas during 1998 reCoC
24		
25	200C1	
26		
27	Report Name/Date	Certification of Compliance, Giant Cement Co., Boiler and Industrial Furnace Regulations, August 21, 1992; Source Test Report BIF Compliance Program, Giant Resource Recovery Company, Harleyville, SC, August 13, 1992, TRC Project No. 12667-E13
28	Report Prepare	Giant Cement / Imagineering
29	Testing Firm	TRC Environmental Consultants
30	Cond Descr	CoC, MAX HW FEED, SPIKED METAL, SPIKED CHLORINE
31	Test Dates	July 19-20, 1992
32	Cond Date	Aug-92
33		
34	200C2	
35		
36	Report Name/Date	Source Emission Test on Hazardous Waste Fuels No. 4 Kiln Baghouse Exhaust Giant Cement Company, Harleyville, South Carolina, May 1989, Davis and Floyd Job No. 6781.01
37	Report Prepare	Davis and Floyd
38	Testing Firm	Davis and Floyd
39	Cond Descr	COMPLIANCE WITH PSD CRITERIA
40	Test Dates	May 3, 1989
41	Cond Date	May-89
42		
43	200C3	
44		
45	Report Name/Date	Stationary Source Sampling Report, Reference No. 10181F, Giant Cement, Harleyville, South Carolina, Unit No. 4 Baghouse Outlet, July 9 and 10, 1991
46	Report Prepare	Entropy
47	Testing Firm	Entropy
48	Cond Descr	?
49	Test Dates	July 9-10, 1991
50	Cond Date	Jul-91
51		
52	200C4	
53		
54	Report Name/Date	Giant Cement Company Boiler and Industrial Furnace Compliance Recertification Report, prepared by Roy F. Weston, WO #06633-033-001, August 1995
55	Report Prepare	Roy W. Weston
56	Testing Firm	Roy W. Weston
57	Cond Descr	CoC, MAX HW FIRING, MAX TIER III METALS SPIKING, MAX SLURRY FEED
58	Test Dates	May 23-24, 1995
59	Cond Date	Aug-95
60		
61	200C5	
62		
63	Report Name/Date	Giant Cement Company Boiler and Industrial Furnace Compliance Recertification Report, prepared by Roy F. Weston, WO #06633-033-001, August 1995

	B	C
64	Report Prepare	Roy W. Weston
65	Testing Firm	Roy W. Weston
66	Cond Descr	CoC, MIN FF PRESSURE DROP
67	Test Dates	May 24, 1995
68	Cond Date	Aug-95
69		
70	200C6	
71		
72	Report Name/Date	Giant Cement Company Boiler and Industrial Furnace Compliance Recertification Report, prepared by Roy F. Weston, WO #06633-033-001, August 1995
73	Report Prepare	Roy W. Weston
74	Testing Firm	Roy W. Weston
75	Cond Descr	CoC, MIN COMB ZONE TEMP
76	Test Dates	July 26, 1995
77	Cond Date	Aug-95

	B	C	D	E	F	G	H	I	J	K	L	M
1	Stack Gas Emissions 1											
2												
3												
4						7% O2						
5	200C10	mode A -- max operation				R1		R2		R3		Cond Avg
6												
7	PM	E1	gr/dscf	y		0.0075		0.0074		0.0084		0.0078
8												
9	CO (MHRA)	E1	ppmv	y		738		698		513		649.7
10	HC (MHRA)	E1	ppmv	y		19.2		20.5		19.6		19.8
11												
12	HCl		ppmv	n		5.33		6.47		10.39		
13	Cl2		ppmv	n		0.61		1.1		2.2		
14												
15	Arsenic	E2	ug/dscm	y		2.9		1.3		2.0		2.1
16	Beryllium	E2	ug/dscm	y		0.1	nd	0.1	nd	0.1	71	0.1
17	Cadmium	E2	ug/dscm	y		4.0		2.1		3.5		3.2
18	Chromium	E2	ug/dscm	y		8.0		3.8		6.5		6.1
19	Lead	E2	ug/dscm	y		26.9		12.6		25.2		21.6
20	Nickel	E2	ug/dscm	y		3.6		1.5		2.2		2.4
21	Selenium	E2	ug/dscm	y		24.7		14.4		13.6		17.6
22												
23	LVM	E2	ug/dscm	y		11.0	1.7	5.2	1.2	8.6	1	8.3
24	SVM	E2	ug/dscm	y		30.9		14.7		28.6		24.7
25												
26	Sampling Train	PM, HCE1										
27	Stack Gas Flowrate		dscfm			69152		70009		68144		69102
28	O2		%			11.7		11.3		11.2		11.4
29	Moisture		%			28.1		27		28.2		27.8
30	Temperature		°F			440		449		458		449.0
31												
32	Sampling Train	Metals E2										
33	Stack Gas Flowrate		dscfm			69751		72660		66159		69523
34	O2		%			11.7		11.3		11.2		11.4
35	Moisture		%			28.2		27.2		29.7		28.4
36	Temperature		°F			443		452		460		451.7
37												
38	HCl	E1	ppmv	y		8.02		9.34		14.84		10.7
39	Cl2	E1	ppmv	y		0.92		1.59		3.14		1.9
40	Total Chlorine	E1	ppmv	y		9.86		12.51		21.13		14.5
41												
42	200C11	mode B -- min dp				R1		R2		R3		Cond Avg
43												
44	CO (MHRA)	E1	ppmv	y		185		224		306		238.3
45	HC (MHRA)	E1	ppmv	y		16.1		15.2		12.7		14.7
46												
47	PM	E1	gr/dscf	y		0.0025		0.0027		0.0026		0.0026
48												
49	HCl		ppmv	n		4.53		16.26		30.26		
50	Cl2		ppmv	n	nd	0.47		3.52		2.4		
51												
52	Arsenic	E2	ug/dscm	y		0.8		0.8		1.1		0.9
53	Beryllium	E2	ug/dscm	y	nd	0.1	nd	0.1	nd	0.1	100	0.1
54	Cadmium	E2	ug/dscm	y		5.5		4.4		4.2		4.7
55	Chromium	E2	ug/dscm	y		4.5		5.7		3.9		4.7
56	Lead	E2	ug/dscm	y		26.5		33.9		31.6		30.7
57	Nickel	E2	ug/dscm	y		2.2		2.3		2.4		2.3
58	Selenium	E2	ug/dscm	y		10.9		15.0		13.0		12.9
59												
60	LVM	E2	ug/dscm	y	1.5	5.4	1.1	6.6	1.4	5.0	1	5.7
61	SVM	E2	ug/dscm	y		32.0		38.3		35.8		35.4
62												
63	Sampling Train	PM, HCE1										
64	Stack Gas Flowrate		dscfm			36406		35839		36330		36191.7
65	O2		%			10.3		10.1		10		10.1
66	Moisture		%			26.6		27.1		25.8		26.5
67	Temperature		°F			340		331		315		328.7
68												
69	Sampling Train	Metals E2										
70	Stack Gas Flowrate		dscfm			36903		37281		37945		37376.3
71	O2		%			10.3		10.1		10		10.1

	B	C	D	E	F	G	H	I	J	K	L	M
72	Moisture		%			25.7		28.1		25.3		26.4
73	Temperature		°F			349		332		316		332.3
74												
75	HCl	E1	ppmv	y		5.93		20.88		38.51		21.8
76	Cl2	E1	ppmv	y	100	0.61		4.52		3.05	8	2.7
77	Total Chlorine	E1	ppmv	y	17	7.16		29.93		44.62	2	27.2

	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Stack Gas Emissions 2													
2														
3														
4	7% O2													
5	200C1					R1		R2		R3		R4	Cond Avg	
6														
7	PM	E1	gr/dscf	y		0.01063				0.01347		0.01581		0.0133
8	HCl	E1	ppmv	y		16.82		14.54		23.10		17.41		17.97
9	Cl2	E1	ppmv	y		0.01		0.00		0.01		0.01		0.01
10	Total Chlorine	E1	ppmv	y		16.84		14.54		23.12		17.43		17.98
11	Antimony	E2	ug/dscm	y		185.65				136.28		309.44		210.46
12	Arsenic	E2	ug/dscm	y		36.59		59.74		63.56		61.89		55.44
13	Barium	E2	ug/dscm	y	nd	1641.01	nd	2540.00	nd	3027.00	nd	372.92	100	1895.23
14	Beryllium	E2	ug/dscm	y		3.66		5.98		6.36		6.19		5.55
15	Cadmium	E2	ug/dscm	y		3.66	nd	14.99		6.36		6.19	48	7.80
16	Chromium	E2	ug/dscm	y		18.56		29.70		31.62		30.79		27.67
17	Lead	E2	ug/dscm	y		36.59		59.81		63.56		61.89		55.46
18	Mercury	E2	ug/dscm	y		12.20		3.40		8.15		0.10		5.96
19	Silver	E2	ug/dscm	y		3.66				6.36		6.19		5.40
20	Thallium	E2	ug/dscm	y		185.65				316.16		309.44		270.42
21	SVM	E2	ug/dscm	y		40.25	20	74.80		69.91		68.08	6	63.26
22	LVM	E2	ug/dscm	y		58.81		95.42		101.53		98.86		88.66
23														
24	Sampling Train	Halog		E1										
25	Stack Gas Flowrate	dscfm												
26	Moisture	%												
27	O2	%												
28	Temperature	°F												
29														
30	Sampling Train	Metal		E2										
31	Stack Gas Flowrate	dscfm												
32	Moisture	%												
33	O2	%												
34	Temperature	°F												
35														
36	200C2					R1		R2		R3		R4	Cond Avg	
37														
38	PM	E1	gr/dscf	y		0.01372		0.03119		0.02486				0.02326
39														
40	Sampling Train	Partic		E1										
41	Stack Gas Flowrate	dscfm												
42	Moisture	%												
43	O2	%												
44	Temperature	°F												
45														
46	200C3					R1		R2		R3		R4	Cond Avg	
47														
48	CO (RA)	E1	ppmv	y		463.00		354.00		272.00				363.0
49	HC (RA)	E1	ppmv	y		109.80		92.00		61.50				87.8
50	Antimony	E2	ug/dscm	y		0.74		0.71		1.08				0.8
51	Chromium (Hex)	E2	ug/dscm	y	nd	0.81	nd	1.19	nd	1.44				1.1
52	Thallium	E2	ug/dscm	y		1.27		1.34		1.24				1.3
53														
54	Sampling Train	Cr He		E1										
55	Stack Gas Flowrate	dscfm												
56	Moisture	%												
57	O2	%												
58	Temperature	°F												
59														
60	Sampling Train	Metal		E2										
61	Stack Gas Flowrate	dscfm												
62	Moisture	%												
63	O2	%												
64	Temperature	°F												
65														
66	any other metals??													
67														
68	200C4					R1		R2		R3		R4	Cond Avg	
69														
70	PM	E1	gr/dscf	y				0.00310		0.00430				0.00370
71	CO (MHRA)	E1	ppmv	y		648.0		647.0		759.0				684.7

	B	C	D	E	F	G	H	I	J	K	L	M	N	O
72	HC (MHRA)	E1	ppmv	y		16.4		15.9		14.0				15.4
73	HCl	E1	ppmv	y				9.9		56.9				33.4
74	Cl2	E1	ppmv	y				0.2		0.2				0.2
75	Total Chlorine	E1	ppmv	y				10.3		57.4				33.9
76	Arsenic	E2	ug/dscm	y		1.2		5.6						3.4
77	Beryllium	E2	ug/dscm	y	nd	0.1		0.1						0.1
78	Cadmium	E2	ug/dscm	y		2.8		7.4						5.1
79	Chromium	E2	ug/dscm	y		2.4		3.7						3.0
80	Lead	E2	ug/dscm	y		17.9		14.6						16.2
81	Nickel	E2	ug/dscm	y	nd	1.0	nd	1.1					100	1.1
82	Selenium	E2	ug/dscm	y		0.4		2.6						1.5
83	SVM	E2	ug/dscm	y		20.6		22.0						21.3
84	LVM	E2	ug/dscm	y	3	3.6		9.4						6.5
85														
86	Sampling Train	Partic	E1											
87	Stack Gas Flowrate		dscfm					67022		68977				
88	Moisture		%					28.1		25.4				
89	O2		%					10.7		9.4				
90	Temperature		°F					432		414				
91														
92	Sampling Train	Metal:	E2											
93	Stack Gas Flowrate		dscfm			65336		65552						
94	Moisture		%			28.8		29						
95	O2		%			10.1		10.7						
96	Temperature		°F			432		435						
97														
98	only 2 runs for PM/HCl/Cl2; leak check failed for one run													
99														
100	200C5					R1		R2		R3		R4		Cond Avg
101														
102	PM	E1	gr/dscf	y		0.00213		0.00106						0.002
103	CO (MHRA)	E1	ppmv	y		207.00		453.00						330.0
104	HC (MHRA)	E1	ppmv	y		13.00		13.80						13.4
105	HCl	E1	ppmv	y		4.20		11.25						7.7
106	Cl2	E1	ppmv	y		0.08		0.17						0.1
107	Total Chlorine	E1	ppmv	y		4.37		11.60						8.0
108														
109	Arsenic	E2	ug/dscm	y		0.65		3.79						2.2
110	Beryllium	E2	ug/dscm	y	nd	0.06	nd	0.10					100	0.1
111	Cadmium	E2	ug/dscm	y		0.89		4.57						2.7
112	Chromium	E2	ug/dscm	y		0.82		12.60						6.7
113	Lead	E2	ug/dscm	y		10.67		14.13						12.4
114	Nickel	E2	ug/dscm	y		2.61		1.11						1.9
115	Selenium	E2	ug/dscm	y		0.24		1.65						0.9
116	SVM	E2	ug/dscm	y		11.57		18.70						15.1
117	LVM	E2	ug/dscm	y	4	1.53	1	16.49					0.9	9.0
118														
119	Sampling Train	Partic	E1											
120	Stack Gas Flowrate		dscfm			34118		35124						
121	Moisture		%			32.7		27.7						
122	O2		%			6.6		9						
123	Temperature		°F			345		404						
124														
125	Sampling Train	Metal:	E2											
126	Stack Gas Flowrate		dscfm			34518		34139						
127	Moisture		%			34.3		28.3						
128	O2		%			6.6		9						
129	Temperature		°F			347		404						
130														
131	200C6					R1		R2		R3		R4		Cond Avg
132														
133	CO (MHRA)		ppmv	y		386.0		216.0						301.0
134	HC (MHRA)		ppmv	y		10.4		12.8						11.6

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	
1	Feedstreams 1																											
2																												
3	200C10	mode A -- max operation		R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg					
4																												
5	Feedstream Number			F1	F1	F1	F1	F2	F2	F2	F2	F3	F3	F3	F3													
6	Feed Class			Coal	Coal	Coal	Coal	Raw Material	Raw Material	Raw Material	Raw Material	Spike	Spike	Spike	Spike													
7	Feed Class 2			Coal	Coal	Coal	Coal	RM	RM	RM	RM	Spike	Spike	Spike	Spike													
8	Feedstream Description			Coal	Coal	Coal	Coal	Raw Matl	Raw Matl	Raw Matl	Raw Matl	Spike	Spike	Spike	Spike													
9	Feed Rate		g/hr	816,000	635,000	272,000	574,333	49,100,000	47,300,000	51,800,000	49,400,000	186,000	187,000	187,000	186,667													
10	Heating Value		Btu/lb	12017.6	11939.8	12284.7	12031.1																					
11	Thermal Feedrate		MMBtu/hr	21.6	16.7	7.36	15.22	0	0	6.85	2.28																	
12	Chlorine		g/hr	0	191	136	109.00	6430	7180	8340	7316.67	140000	140000	140000	140000													
13	Antimony		g/hr	1.24	1.04	0.354	0.88	35.1	29.7	34.7	33.17																	
14	Arsenic		g/hr	10.7	7.84	2.97	7.17	340	322	356	339.33	3660	3670	3480	3603													
15	Barium		g/hr	61.3	43.6	19.1	41.33	1540	1460	1490	1496.67																	
16	Beryllium		g/hr	0.972	0.667	0.29	0.64	0	0	0	0.00	236	236	236	236													
17	Cadmium		g/hr	0	0	0	0.00	0	0	0	0.00	1950	1950	1950	1950													
18	Chromium		g/hr	9.8	7.4	2.67	6.62	303	352	353	336.00	24800	24800	24700	24767													
19	Lead		g/hr	7.55	4.25	2.1	4.63	81.5	78.9	84.4	81.60	16100	16100	16100	16100													
20	Mercury		g/hr	0.082	0.051	0.027	0.05	4.91	0.945	10.4	5.42																	
21	Silver		g/hr	0.41	0.32	0.14	0.29	24.5	23.6	25.9	24.67																	
22	Thallium		g/hr	0.41	0.32	0.14	0.29	24.5	23.6	25.9	24.67																	
23																												
24	Stack Gas Flowrate		dscfm	69751.0	72660.0	66159.0	69523.3	69751.0	72660.0	66159.0	69523.3	69751.0	72660.0	66159.0	69523.3													
25	Oxygen		%	11.7	11.3	11.2	11.4	11.7	11.3	11.2	11.4	11.7	11.3	11.2	11.4													
26																												
27	<i>Feedrate MTEC Calculations</i>																											
28																												
29	Chlorine		ug/dscm	0	2234	1729	1347	81727	83994	106058	90386	1779447	1637764	1780342	1729484													
30	Antimony		ug/dscm	16	12	5	11	446	347	441	410	0	0	0	0													
31	Arsenic		ug/dscm	136	92	38	89	4322	3767	4527	4192	46520	42933	44254	44514													
32	Barium		ug/dscm	779	510	243	511	19574	17080	18948	18489	0	0	0	0													
33	Beryllium		ug/dscm	12	8	4	8	0	0	0	0	3000	2761	3001	2915													
34	Cadmium		ug/dscm	0	0	0	0	0	0	0	0	24785	22812	24798	24089													
35	Chromium		ug/dscm	125	87	34	82	3851	4118	4489	4151	315216	290118	314103	305954													
36	Lead		ug/dscm	96	50	27	57	1036	923	1073	1008	204636	188343	204739	198891													
37	Mercury		ug/dscm	1	1	0	1	62	11	132	67	0	0	0	0													
38	Silver		ug/dscm	5	4	2	4	311	276	329	305	0	0	0	0													
39	Thallium		ug/dscm	5	4	2	4	311	276	329	305	0	0	0	0													
40																												
41	SVM		ug/dscm	96	50	27	57	1036	923	1073	1008	229422	211155	229537	222980													
42	LVM		ug/dscm	273	186	75	178	8173	7885	9016	8343	364736	335812	361359	353383													
43																												
44	200C11	mode B -- min dp		R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg					
45																												
46	Feedstream Number			F1	F1	F1	F1	F2	F2	F2	F2	F3	F3	F3	F3													
47	Feed Class			Coal	Coal	Coal	Coal	Raw Material	Raw Material	Raw Material	Raw Material	Spike	Spike	Spike	Spike													
48	Feed Class 2			Coal	Coal	Coal	Coal	RM	RM	RM	RM	Spike	Spike	Spike	Spike													
49	Feedstream Description			Coal	Coal	Coal	Coal	Raw Matl	Raw Matl	Raw Matl	Raw Matl	Spike	Spike	Spike	Spike													
50	Feed Rate		g/hr	816,000	544,000	635,000	665,000	22,400,000	22,600,000	21,300,000	22,100,000	217,000	217,000	217,000	217,000													
51	Heating Value		Btu/lb	12574.0	12601.8	5741.1	10406.7																					
52	Thermal Feedrate		MMBtu/hr	22.6	15.1	8.03	15.24	0	0	0	0.00																	
53	Chlorine		g/hr	163	163	127	151.00	3430	3570	2940	3313.33	171000	171000	170000	170667													
54	Antimony		g/hr	0.72	0.59	0.619	0.64	13.3	15.7	12.4	13.80																	
55	Arsenic		g/hr	9.31	7.24	7.81	8.12	156	154	151	153.67	3650	3650	3660	3653													
56	Barium		g/hr	49.9	31.9	41.2	41.00	834	895	776	835.00																	
57	Beryllium		g/hr	0.83	0.64	0.71	0.73	0	0	0	0.00	236	236	236	236													
58	Cadmium		g/hr	0	0	0	0.00	0	0	0	0.00	1940	1950	1950	1947													
59	Chromium		g/hr	4.5	4.4	3.52	4.14	155	177	149	160.33	24700	24700	24700	24700													
60	Lead		g/hr	7.9	7.24	7.24	7.46	34.5	36.1	33.7	34.77	16100	16100	16100	16100													

	B	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AN	AO	AP	AQ	AR
1	Feedstreams 1															
2																
3	200C10		R1		R2		R3		Cond Avg		R1		R2		R3	Cond Avg
4																
5	Feedstream Number		F4		F4		F4		F4		F5		F5		F5	F5
6	Feed Class		Liq HW		Liq HW		Liq HW		Liq HW		Total		Total		Total	Total
7	Feed Class 2		HW		HW		HW		HW		Total		Total		Total	Total
8	Feedstream Description		HW Liquid		HW Liquid		HW Liquid		HW Liquid		Total		Total		Total	Total
9	Feed Rate		5,600,000		5,810,000		5,870,000		5,760,000							
10	Heating Value		14592.9		14768.7		10518.6		13267.9							
11	Thermal Feedrate		180		189		136		168		201.6		205.7		150.2	185.8
12	Chlorine		28500		36000		45800		36767							
13	Antimony		51.3		8.1		82.8		47							
14	Arsenic		2.8		0		0		1							
15	Barium		5480		3430		5990		4967							
16	Beryllium		0		0		0		0							
17	Cadmium		3.78		0		15.4		6							
18	Chromium		215		115		173		168							
19	Lead		677		294		517		496							
20	Mercury		0.224		0.32		0.411		0		5.2		1.3		10.8	5.8
21	Silver		4.49		2.9		2.93		3							
22	Thallium		2.8		2.9		2.93		3							
23																
24	Stack Gas Flowrate		69751.0		72660.0		66159.0		69523.3							
25	Oxygen		11.7		11.3		11.2		11.4							
26																
27	<i>Feedrate MTEC Calculations</i>															
28																
29	Chlorine		362245		421139		582426		454195		2223419		2145131		2470555	2275412
30	Antimony		652		95		1053		586		1114		454		1499	1006
31	Arsenic		36		0		0		12		51013		46791		48819	48806
32	Barium		69653		40125		76173		61356		90006		57715		95364	80355
33	Beryllium		0		0		0		0		3012		2769		3005	2923
34	Cadmium		48		0		196		79		24833		22812		24993	24168
35	Chromium		2733		1345		2200		2071		321925		295668		320826	312258
36	Lead		8605		3439		6575		6127		214373		192755		212414	206083
37	Mercury		3		4		5		4		66		15		138	72
38	Silver		57		34		37		42		374		314		368	351
39	Thallium		36		34		37		36		352		314		368	344
40																
41	SVM		8653		3439		6770		6206		239206		215567		237407	230251
42	LVM		2768		1345		2200		2083		375950		345228		372650	363987
43																
44	200C11		R1		R2		R3		Cond Avg		R1		R2		R3	Cond Avg
45																
46	Feedstream Number		F4		F4		F4		F4		F5		F5		F5	F5
47	Feed Class		Liq HW		Liq HW		Liq HW		Liq HW		Total		Total		Total	Total
48	Feed Class 2		HW		HW		HW		HW		Total		Total		Total	Total
49	Feedstream Description		HW Liquid		HW Liquid		HW Liquid		HW Liquid		Total		Total		Total	Total
50	Feed Rate		2,340,000		2,300,000		2,300,000		2,313,333							
51	Heating Value		15909.4		9711.7		5428.3		10381.8							
52	Thermal Feedrate		82		49.2		27.5		52.9		104.6		64.3		35.53	68.1
53	Chlorine		13300		11100		13400		12600							
54	Antimony		52.4		290		279		207.13							
55	Arsenic		0		0		0		0.00							
56	Barium		33.7		1440		1240		904.57							
57	Beryllium		0		0		0		0.00							
58	Cadmium		0		0		0		0.00							
59	Chromium		18.2		68.2		60.8		49.07							
60	Lead		13.5		0		190		67.83							

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	
61	Mercury		g/hr		0.082		0.0544		0.0635		0.07		5.15		0.678		0.43		2.09									
62	Silver		g/hr		0.41		0.272		0.318		0.33		11.2		11.3		10.7		11.07									
63	Thallium		g/hr		0.41		0.272		0.318		0.33		11.2		11.3		10.7		11.07									
64																												
65	Stack Gas Flowrate		dscfm		36,903		37,281		37,945		37,376		36,903		37,281		37,945		37,376		36,903		37,281		37,945		37,376	
66	Oxygen		%		10.3		10.1		10.0		10.1		10.3		10.1		10.0		10.1		10.3		10.1		10.0		10.1	
67																												
68	<i>Feedrate MTEC Calculations</i>																											
69																												
70	Chlorine		ug/dscm		3404		3307		2509		3065		71621		72434		58075		67261		3570598		3469544		3358088		3464543	
71	Antimony		ug/dscm		15		12		12		13		278		319		245		280		0		0		0		0	
72	Arsenic		ug/dscm		194		147		154		165		3257		3125		2983		3119		76215		74058		72298		74163	
73	Barium		ug/dscm		1042		647		814		832		17414		18159		15329		16951		0		0		0		0	
74	Beryllium		ug/dscm		17		13		14		15		0		0		0		0		4928		4788		4662		4791	
75	Cadmium		ug/dscm		0		0		0		0		0		0		0		0		40509		39565		38519		39517	
76	Chromium		ug/dscm		94		89		70		84		3237		3591		2943		3255		515753		501156		487910		501411	
77	Lead		ug/dscm		165		147		143		151		720		732		666		706		336179		326665		318031		326831	
78	Mercury		ug/dscm		2		1		1		1		108		14		8		42		0		0		0		0	
79	Silver		ug/dscm		9		6		6		7		234		229		211		225		0		0		0		0	
80	Thallium		ug/dscm		9		6		6		7		234		229		211		225		0		0		0		0	
81																												
82	SVM		ug/dscm		165		147		143		151		720		732		666		706		376688		366230		356550		366348	
83	LVM		ug/dscm		306		249		238		264		6494		6716		5926		6374		596895		580002		564870		580365	

	B	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AN	AO	AP	AQ	AR	
61	Mercury		0.0936		0.23		0.184		0.17								
62	Silver		1.17		1.78		1.89		1.61								
63	Thallium		1.17		1.15		1.15		1.16								
64																	
65	Stack Gas Flowrate		36,903		37,281		37,945		37,376								
66	Oxygen		10.3		10.1		10.0		10.1								
67																	
68	<i>Feedrate MTEC Calculations</i>																
69																	
70	Chlorine		277713		225216		264696		255781		3923336		3770502		3683368		3790650
71	Antimony		1094		5884		5511		4205		1387		6215		5768		4498
72	Arsenic		0		0		0		0		79666		77329		75435		77447
73	Barium		704		29217		24494		18363		19160		48024		40637		36146
74	Beryllium		0		0		0		0		4945		4801		4676		4806
75	Cadmium		0		0		0		0		40509		39565		38519		39517
76	Chromium		380		1384		1201		996		519464		506221		492124		505746
77	Lead		282		0		3753		1377		337346		327544		322593		329065
78	Mercury		2		5		4		3		111		20		13		47
79	Silver		24		36		37		33		267		271		255		264
80	Thallium		24		23		23		23		267		258		240		255
81																	
82	SVM		282		0		3753		1377		377855		367109		361112		368583
83	LVM		380		1384		1201		996		604075		588351		572235		587999

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	
1	Feedstreams 2																													
2																														
3																														
4	200C1		R1		R2		R3		R4		R1		R2		R3		R4		R1		R2		R3		R4		R1			
5																														
6	Feedstream Number		F1		F1		F1		F1		F2		F2		F2		F2		F3		F3		F3		F3		F4			
7	Feed Class		Liq HW		Liq HW		Liq HW		Liq HW		Raw Material		Raw Material		Raw Material		Raw Material		Coal		Coal		Coal		Coal		Coal		Spike	
8	Feed Class 2		HW		HW		HW		HW		RM		RM		RM		RM		Coal		Coal		Coal		Coal		Coal			
9	Feedstream Description		Waste		Waste		Waste		Waste		Raw Material		Raw Material		Raw Materv Material		Raw Material		Coal		Coal		Coal		Coal		Coal		Spike B	
10	Feed Rate	lb/hr	10,200		8,400		9,000		8,400		77,600		77,800		75,200		74,800		1,185		2,000		400		1,000		627			
11	Heating Value	Btu/lb	11,784		12,048		10,267		12,310										13,000		13,000		13,000		13,000					
12	Thermal Feedrate	MMBtu/hr	120.2		101.2		92.4		103.4										15.4		26		5.2		13					
13	Chlorine	ppmw	42000		44000		57000		66000	1	5	1	5		39		39		1300		1300		1200		1200		1500			
14	Arsenic	ppmw	1	20	1	20	1	20	1	20	1	20	1	20	1	20	1	20	1	20	1	20	1	20	1	20	1	20	1	20
15	Beryllium	ppmw	1	0.5	1	0.5	1	0.5	1	0.5	1	0.5	1	0.5	1	0.5	1	0.5	1	0.5	1	0.5	1	0.5	1	0.5	1	0.5	1	
16	Cadmium	ppmw		23		23		37		8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	910	
17	Chromium	ppmw		98		110		50		7.8		7.8		12		8		7		9.1		7.3		5		5		4700		
18	Lead	ppmw		200		200		42		9.6	1	10	1	10	1	10	1	10	1	10	1	10	1	10	1	10	1	10	67000	
19																														
20	Stack Gas Flowrate	dscfm	58829		50346		52396		45096		58829		50346		52396		45096		58829		50346		52396		45096		58829			
21	Oxygen	%	10.3		10.4		10.9		10.7		10.3		10.4		10.9		10.7		10.3		10.4		10.9		10.7		10.3			
22																														
23	<i>Feedrate MTEC Calculations</i>																													
24																														
25	Chlorine	ug/dscm	2,547,537		2,592,432		3,628,641		4,467,805	100	2,307	100	2,729		20,745		23,509		9,158		18,237		3,395		9,671		5,593			
26	Arsenic	ug/dscm	100	1,213		1,178	100	1,273	100	1,354	100	9,229	100	10,914	100	10,638	100	12,056	100	141	100	281	100	57	100	161	100	75		
27	Beryllium	ug/dscm	100	30	100	29	100	32	100	34	100	231	100	273	100	266	100	301	100	4	100	7	100	1	100	4	100	2		
28	Cadmium	ug/dscm		1,395	100	1,355		2,355		542	100	461	100	546	100	532	100	603	100	7	100	14	100	3	100	8		3,393		
29	Chromium	ug/dscm		5,944		6,481		3,183		528		3,599		6,548		4,255		4,220		64		102	100	14	100	40		17,524		
30	Lead	ug/dscm		12,131		11,784		2,674		650	100	4,615	100	5,457	100	5,319	100	6,028	100	70	100	140	100	28	100	81		249,812		
31	SVM	ug/dscm		13,526		12,461		5,029		1,191	100	2,538	100	3,001	100	2,926	100	3,315	100	77	100	154	100	31	100	89		253,205		
32	LVM	ug/dscm	17	7,188	0	7,689	29	4,488	72	1,916	72	13,059	63	17,735	72	15,160	75	16,577	69	209	74	390	80	72	80	205		17,601		
33																														
34	200C4		R1		R2		R3		R4		R1		R2		R3		R4		R1		R2		R3		R4		R1			
35																														
36	Feedstream Number		F1		F1		F1		F1		F2		F2		F2		F2		F3		F3		F3		F3		F4			
37	Feed Class		Liq HW		Liq HW		Liq HW		Liq HW		Raw Material		Raw Material		Raw Material		Raw Material		Coal		Coal		Coal		Coal		Coal		Spike	
38	Feed Class 2		HW		HW		HW		HW		RM		RM		RM		RM		Coal		Coal		Coal		Coal		Coal			
39	Feedstream Description		Waste		Waste		Waste		Waste		Raw Material		Raw Material		Raw Materv Material		Raw Material		Coal		Coal		Coal		Coal		Coal		Spike B	
40	Feed Rate	lb/hr	12200		13200		12200				104200		106200		105400				3800		3200		2800							
41	Heating Value	Btu/lb	10700		10700		10700												13400		13400		13400							
42	Thermal Feedrate	MMBtu/hr	130.54		141.24		130.54												50.92		42.88		37.52							
43	Chlorine	lb/hr	99.553		91.345		95.649				29.279		25.382		14.123													292.381		
44	Antimony	lb/hr	7.271		10.388		9.542				0.198		0.202		0.043															
45	Arsenic	lb/hr	0.015		0.022		0.013				1.772		1.636		1.486													7.227		
46	Barium	lb/hr	9.017		9.226		8.441				7.460		7.837		7.156															
47	Beryllium	lb/hr	0.000		0.000		0.000				0.097		0.102		0.095													0.474		
48	Cadmium	lb/hr	0.196		0.174		0.157				0.090		0.000		0.093													4.187		
49	Chromium	lb/hr	0.862		0.988		0.893				2.011		2.209		2.130													50.130		
50	Lead	lb/hr	2.586		3.353		3.100				0.844		0.732		0.432													31.072		
51	Mercury	lb/hr	0.012		0.012		0.010				0.010		0.015		0.012															
52	Nickel	lb/hr	0.692		0.498		0.459				1.166		1.232		1.224															
53	Selenium	lb/hr	0.027		0.025		0.024				0.167		0.191		0.243															
54	Silver	lb/hr	0.099		0.084		0.072				0.026		0.026		0.031															
55	Thallium	lb/hr	0.002		0.002		0.002				0.026		0.027		0.028															
56																														
57	Stack Gas Flowrate	dscfm	65336		65552		68977				65336		65552		68977				65336		65552		68977				65336			
58	Oxygen	%	10.1		10.7		9.4				10.1		10.7		9.4				10.1		10.7		9.4				10.1			
59																														
60	<i>Feedrate MTEC Calculations</i>																													

	B	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE
1	Feedstreams 2																											
2																												
3																												
4	200C1		R2		R3		R4		R1		R2		R3		R4		R1		R2		R3		R4		R1		R2	
5																												
6	Feedstream Number		F4		F4		F4		F5		F5		F5		F5		F6		F6		F6		F6		F6		F6	
7	Feed Class		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike	
8	Feed Class 2																											
9	Feedstream Descriptio		Spike B		Spike B		Spike B		Spike C		Spike C		Spike C		Spike C		Spike A		Spike A		Spike A		Spike A		Spike		Spike	
10	Feed Rate		502		455		588		493		455		412		404		492		506		332		392					
11	Heating Value																											
12	Thermal Feedrate																											
13	Chlorine		12000		6300		6200		10		16		19		45	1	500	1	500	1	500	1	500					
14	Arsenic	1	20	1	20	1	20		7900		7500		9700		9800	1	20	1	20	1	20	1	20					
15	Beryllium	1	0.5	1	0.5	1	0.5		100		61		88		120	1	0.5	1	0.5	1	0.5	1	0.5					
16	Cadmium		1100		630		890		4800		2700		2900		4500		190		190		280		300					
17	Chromium		7100		4400		6700	1	5	1	5	1	5	1	5		110000		110000		110000		120000					
18	Lead		32000		50000		80000	1	10		29	1	10	1	10		46	1	10	1	10	1	10					
19																												
20	Stack Gas Flowrate		50346		52396		45096		58829		50346		52396		45096		58829		50346		52396		45096					
21	Oxygen		10.4		10.9		10.7		10.3		10.4		10.9		10.7		10.3		10.4		10.9		10.7					
22																												
23	<i>Feedrate MTEC Calcu</i>																											
24																												
25	Chlorine		42,253		20,276		29,379		29		51		55		147	100	1,463	100	1,775	100	1,174	100	1,580	21	7,085	4	44,079	5
26	Arsenic	100	70	100	64	100	95		23,160		23,936		28,268		31,906	100	59	100	71	100	47	100	63	0	23,293		24,077	
27	Beryllium	100	2	100	2	100	2		293		195		256		391	100	1	100	2	100	1	100	2	0	296		198	
28	Cadmium		3,873		2,028		4,217		14,072		8,617		8,451		14,651		556		674		658		948		18,021		13,164	
29	Chromium		25,000		14,161		31,748	100	15	100	16	100	15	100	16		321,832		390,408		258,320		379,086		339,370		415,424	
30	Lead		112,675		160,919		379,086	100	29		93	100	29	100	33		135	100	35	100	23	100	32		249,976		112,803	
31	SVM		116,549		162,947		383,304		14,101		8,709		8,480		14,683		690		710		681		979		267,997		125,968	
32	LVM		25,072		14,227		31,846		23,468		24,146		28,539		32,313		321,892		390,481		258,368		379,151		362,960		439,699	
33																												
34	200C4		R2		R3		R4		R1		R2		R3		R4		R1		R2		R3		R4		R1		R2	
35																												
36	Feedstream Number		F4		F4		F4		F5		F5		F5		F5		F6		F6		F6		F6		F6		F6	
37	Feed Class		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike	
38	Feed Class 2																											
39	Feedstream Descriptio		Spike B		Spike B		Spike B		Spike C		Spike C		Spike C		Spike C		Spike A		Spike A		Spike A		Spike A		Spike		Spike	
40	Feed Rate																											
41	Heating Value																											
42	Thermal Feedrate																											
43	Chlorine		282.941		300.5																							
44	Antimony																											
45	Arsenic		7.227																									
46	Barium																											
47	Beryllium		0.474																									
48	Cadmium		4.187																									
49	Chromium		52.758																									
50	Lead		32.273																									
51	Mercury																											
52	Nickel																											
53	Selenium																											
54	Silver																											
55	Thallium																											
56																												
57	Stack Gas Flowrate		65552		68977		65336		65552		68977		65336		65552		65336		65552		68977		65336					
58	Oxygen		10.7		9.4		10.1		10.7		9.4		10.1		10.7		10.1		10.7		9.4		10.1					
59																												
60	<i>Feedrate MTEC Calcu</i>																											

	B	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR
1	Feedstreams 2													
2														
3														
4	200C1	R3		R4		R1		R2		R3		R4		Cond Avg
5														
6	Feedstream Number					F7		F7		F7		F7		F7
7	Feed Class					Total		Total		Total		Total		Total
8	Feed Class 2	Spike		Spike		Total		Total		Total		Total		Total
9	Feedstream Descriptio					Total		Total		Total		Total		Total
10	Feed Rate													
11	Heating Value													
12	Thermal Feedrate					136		127		98		116		119
13	Chlorine													
14	Arsenic													
15	Beryllium													
16	Cadmium													
17	Chromium													
18	Lead													
19														
20	Stack Gas Flowrate													
21	Oxygen													
22														
23	<i>Feedrate MTEC Calcu</i>													
24														
25	Chlorine	21,505	5	31,105		2,566,087		2,657,476		3,674,287		4,532,090		3,357,485
26	Arsenic	28,379		32,064	31	33,877	3	36,450	3	40,348	3	45,635	3	39,077
27	Beryllium	259		395	100	561		508		558		734		590
28	Cadmium	11,136		19,816		19,885		15,079		14,027	0	20,968		17,490
29	Chromium	272,495		410,851		348,978		428,556		279,948		415,639		368,280
30	Lead	160,972		379,151		266,792		130,185		168,993		385,909		237,970
31	SVM	172,108		398,967		284,139	2	141,585	2	180,094	1	403,562	1	252,345
32	LVM	301,134		443,310	5	383,416	6	465,513	6	320,854	4	462,008	8	407,948
33														
34	200C4	R3		R4		R1		R2		R3		R4		Cond Avg
35														
36	Feedstream Number					F7		F7		F7		F7		F7
37	Feed Class					Total		Total		Total		Total		Total
38	Feed Class 2	Spike		Spike		Total		Total		Total		Total		Total
39	Feedstream Descriptio					Total		Total		Total		Total		Total
40	Feed Rate													
41	Heating Value													
42	Thermal Feedrate					181		184		168				178
43	Chlorine													
44	Antimony													
45	Arsenic													
46	Barium													
47	Beryllium													
48	Cadmium													
49	Chromium													
50	Lead													
51	Mercury													
52	Nickel													
53	Selenium													
54	Silver													
55	Thallium													
56														
57	Stack Gas Flowrate					65336		65552		68977				
58	Oxygen					10.1		10.7		9.4				
59														
60	<i>Feedrate MTEC Calcu</i>													

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	
61																														
62	Chlorine		ug/dscm		523,265		506,419		447,469				153,896		140,715		66,069				0		0						1,536,795	
63	Antimony		ug/dscm		38,216		57,591		44,638				1,041		1,118		202				0		0						0	
64	Arsenic		ug/dscm		77		124		63				9,317		9,069		6,951				0		0						37,984	
65	Barium		ug/dscm		47,394		51,150		39,491				39,213		43,450		33,478				0		0						0	
66	Beryllium		ug/dscm		0		0		0				510		565		443				0		0						2,491	
67	Cadmium		ug/dscm		1,032		966		736				470		0		433				0		0						22,005	
68	Chromium		ug/dscm		4,531		5,476		4,177				10,568		12,247		9,963				0		0						263,493	
69	Lead		ug/dscm		13,592		18,590		14,501				4,438		4,058		2,021				0		0						163,317	
70	Mercury		ug/dscm		61		67		46				54		82		54				0		0						0	
71	Nickel		ug/dscm		3,639		2,762		2,145				6,130		6,832		5,724				0		0						0	
72	Selenium		ug/dscm		141		139		114				876		1,060		1,135				0		0						0	
73	Silver		ug/dscm		519		468		337				137		147		143				0		0						0	
74	Thallium		ug/dscm		8		13		8				137		147		133				0		0						0	
75	SVM		ug/dscm		14,625		19,556		15,237				4,909		4,058		2,455				0		0						185,322	
76	LVM		ug/dscm		4,608		5,600		4,240				20,394		21,880		17,358				0		0						303,968	
77																														
78	200C5				R1		R2		R3		R4		R1		R2		R3		R4		R1		R2		R3		R4		R1	
79																														
80	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2		F3		F3		F3		F3		F4	
81	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		Raw Material		Raw Material		Raw Ma		Raw Material		Coal		Coal		Coal		Coal		Spike	
82	Feed Class 2				HW		HW		HW		HW		RM		RM		RM		RM		Coal		Coal		Coal		Coal			
83	Feedstream Description				Waste		Waste		Waste		Waste		Raw Material		Raw Material		Raw Ma		Raw Material		Coal		Coal		Coal		Coal		Spike B	
84	Feed Rate		lb/hr		9200		6800						66000		56200						0		2000						0	
85	Heating Value		Btu/lb		10700		10700														13400		13400						0	
86	Thermal Feedrate		MMBtu/hr		98.44		72.76														0		26.8							
87	Chlorine		lb/hr		92.461		56.440						20.889		11.014														362.83	
88	Antimony		lb/hr		6.629		5.121						0.019		0.017															
89	Arsenic		lb/hr		0.012		0.007						0.811		0.657														7.23	
90	Barium		lb/hr		6.045		4.645						3.887		3.737															
91	Beryllium		lb/hr		0.000		0.000						0.043		0.042														0.47	
92	Cadmium		lb/hr		0.117		0.086						0.000		0.000														4.19	
93	Chromium		lb/hr		0.628		0.483						1.155		1.091														53.21	
94	Lead		lb/hr		2.222		1.687						0.304		0.236														32.28	
95	Mercury		lb/hr		0.006		0.006						0.006		0.006															
96	Nickel		lb/hr		0.320		0.249						0.626		0.613															
97	Selenium		lb/hr		0.021		0.024						0.165		0.146															
98	Silver		lb/hr		0.047		0.039						0.015		0.012															
99	Thallium		lb/hr		0.002		0.001						0.014		0.012															
00																														
01	Stack Gas Flowrate		dscfm		34518		34139						34518		34139						34518		34139						34518	
02	Oxygen		%		6.6		9						6.6		9						6.6		9						6.6	
03																														
04	<i>Feedrate MTEC Calculations</i>																													
05																														
06	Chlorine		ug/dscm		696,300		515,704						157,307		100,639						0		0						2,732,354	
07	Antimony		ug/dscm		49,923		46,794						142		159						0		0						0	
08	Arsenic		ug/dscm		87		68						6,110		6,003						0		0						54,422	
09	Barium		ug/dscm		45,523		42,443						29,270		34,144						0		0						0	
10	Beryllium		ug/dscm		0		0						324		381						0		0						3,569	
11	Cadmium		ug/dscm		883		784						0		0						0		0						31,528	
12	Chromium		ug/dscm		4,732		4,412						8,700		9,971						0		0						400,713	
13	Lead		ug/dscm		16,735		15,410						2,291		2,155						0		0						243,057	
14	Mercury		ug/dscm		45		54						49		50						0		0						0	
15	Nickel		ug/dscm		2,407		2,276						4,715		5,600						0		0						0	
16	Selenium		ug/dscm		159		218						1,242		1,336						0		0						0	
17	Silver		ug/dscm		354		355						112		108						0		0						0	
18	Thallium		ug/dscm		12		10						104		113						0		0						0	
19	SVM		ug/dscm		17,618		16,194						2,291		2,155						0		0						274,585	
20	LVM		ug/dscm		4,818		4,480						15,133		16,355						0		0						458,705	

	B	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE
61																												
62	Chlorine		#####		#####				0		0		0					0		0		0			1,536,795		1,568,622	
63	Antimony		0		0				0		0		0					0		0		0			0		0	
64	Arsenic		40,065		0				0		0		0					0		0		0			37,984		40,065	
65	Barium		0		0				0		0		0					0		0		0			0		0	
66	Beryllium		2,628		0				0		0		0					0		0		0			2,491		2,628	
67	Cadmium		23,210		0				0		0		0					0		0		0			22,005		23,210	
68	Chromium		292,492		0				0		0		0					0		0		0			263,493		292,492	
69	Lead		178,922		0				0		0		0					0		0		0			163,317		178,922	
70	Mercury		0		0				0		0		0					0		0		0			0		0	
71	Nickel		0		0				0		0		0					0		0		0			0		0	
72	Selenium		0		0				0		0		0					0		0		0			0		0	
73	Silver		0		0				0		0		0					0		0		0			0		0	
74	Thallium		0		0				0		0		0					0		0		0			0		0	
75	SVM		202,132						0		0		0					0		0		0			185,322		202,132	
76	LVM		335,184						0		0		0					0		0		0			303,968		335,184	
77																												
78	200C5		R2		R3		R4		R1		R2		R3		R4		R1		R2		R3		R4		R1		R2	
79																												
80	Feedstream Number		F4		F4		F4		F5		F5		F5		F5		F6		F6		F6		F6					
81	Feed Class		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike					
82	Feed Class 2																											
83	Feedstream Descriptio		Spike B		Spike B		Spike B		Spike C		Spike C		Spike C		Spike C		Spike A		Spike A		Spike A		Spike A		Spike		Spike	
84	Feed Rate		0																									
85	Heating Value		0																									
86	Thermal Feedrate																											
87	Chlorine		329.08																									
88	Antimony																											
89	Arsenic		7.23																									
90	Barium																											
91	Beryllium		0.47																									
92	Cadmium		4.19																									
93	Chromium		53.18																									
94	Lead		32.28																									
95	Mercury																											
96	Nickel																											
97	Selenium																											
98	Silver																											
99	Thallium																											
100																												
101	Stack Gas Flowrate		34139						34518		34139							34518		34139								
102	Oxygen		9						6.6		9							6.6		9								
103																												
104	<i>Feedrate MTEC Calcu</i>																											
105																												
106	Chlorine		#####						0		0							0		0					2,732,354		3,006,863	
107	Antimony		0						0		0							0		0					0		0	
108	Arsenic		66,032						0		0							0		0					54,422		66,032	
109	Barium		0						0		0							0		0					0		0	
110	Beryllium		4,331						0		0							0		0					3,569		4,331	
111	Cadmium		38,253						0		0							0		0					31,528		38,253	
112	Chromium		485,952						0		0							0		0					400,713		485,952	
113	Lead		294,927						0		0							0		0					243,057		294,927	
114	Mercury		0						0		0							0		0					0		0	
115	Nickel		0						0		0							0		0					0		0	
116	Selenium		0						0		0							0		0					0		0	
117	Silver		0						0		0							0		0					0		0	
118	Thallium		0						0		0							0		0					0		0	
119	SVM		333,180						0		0							0		0					274,585		333,180	
120	LVM		556,315						0		0							0		0					458,705		556,315	

	B	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR
61														
62	Chlorine	1405817				2,213,956		2,215,756		1,945,176		2,124,963		2,124,963
63	Antimony					39,257		58,710		48,983		48,983		48,983
64	Arsenic					47,378		49,258		48,318		48,318		48,318
65	Barium					86,606		94,601		90,603		90,603		90,603
66	Beryllium					3,001		3,192		3,097		3,097		3,097
67	Cadmium					23,508		24,176		23,842		23,842		23,842
68	Chromium					278,591		310,214		294,403		294,403		294,403
69	Lead					181,347		201,570		191,459		191,459		191,459
70	Mercury					115		149		132		132		132
71	Nickel					9,768		9,595		9,681		9,681		9,681
72	Selenium					1,017		1,199		1,108		1,108		1,108
73	Silver					656		615		635		635		635
74	Thallium					145		160		153		153		153
75	SVM					204,855		225,746		215,301		215,301		215,301
76	LVM					328,970		362,665		345,818		345,818		345,818
77														
78	200C5	R3		R4		R1		R2		R3		R4		Cond Avg
79														
80	Feedstream Number					F7		F7		F7		F7		F7
81	Feed Class					Total		Total		Total		Total		Total
82	Feed Class 2	Spike		Spike		Total		Total		Total		Total		Total
83	Feedstream Descriptio					Total		Total		Total		Total		Total
84	Feed Rate													
85	Heating Value													
86	Thermal Feedrate					98.44		99.56						99
87	Chlorine													
88	Antimony													
89	Arsenic													
90	Barium													
91	Beryllium													
92	Cadmium													
93	Chromium													
94	Lead													
95	Mercury													
96	Nickel													
97	Selenium													
98	Silver													
99	Thallium													
100														
101	Stack Gas Flowrate													
102	Oxygen													
103														
104	<i>Feedrate MTEC Calcu</i>													
105														
106	Chlorine					3,585,961		3,623,206		3,604,584		3,604,584		3,604,584
107	Antimony					50,065		46,953		48,509		48,509		48,509
108	Arsenic					60,619		72,103		66,361		66,361		66,361
109	Barium					74,793		76,587		75,690		75,690		75,690
110	Beryllium					3,893		4,712		4,302		4,302		4,302
111	Cadmium					32,411		39,037		35,724		35,724		35,724
112	Chromium					414,144		500,335		457,239		457,239		457,239
113	Lead					262,084		312,493		287,288		287,288		287,288
114	Mercury					94		104		99		99		99
115	Nickel					7,122		7,876		7,499		7,499		7,499
116	Selenium					1,401		1,553		1,477		1,477		1,477
117	Silver					466		462		464		464		464
118	Thallium					116		123		120		120		120
119	SVM					294,495		351,530		323,012		323,012		323,012
120	LVM					478,656		577,149		527,903		527,903		527,903

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD
21																													
22	200C6				R1		R2		R3		R4		R1		R2		R3		R4		R1		R2		R3		R4		R1
23																													
24	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2		F3		F3		F3		F3		F4
25	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		Raw Material		Raw Material		Raw Ma		Raw Material		Coal		Coal		Coal		Coal		Spike
26	Feed Class 2																												
27	Feedstream Description				Waste		Waste		Waste		Waste		Raw Material		Raw Material		Raw Ma		Raw Material		Coal		Coal		Coal		Coal		Spike B
28	Feed Rate		lb/hr		6,400		5,600						53,801		46,201						1,000		200						

	B	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE
121																												
122	200C6		R2		R3		R4		R1		R2		R3		R4		R1		R2		R3		R4		R1		R2	
123																												
124	Feedstream Number		F4		F4		F4		F5		F5		F5		F5		F6		F6		F6		F6		F6		F6	
125	Feed Class		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike	
126	Feed Class 2																								Spike		Spike	
127	Feedstream Descriptio		Spike B		Spike B		Spike B		Spike C		Spike C		Spike C		Spike C		Spike A		Spike A		Spike A		Spike A		Spike A		Spike A	
128	Feed Rate																											

	B	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR
121														
122	200C6	R3		R4		R1		R2		R3		R4		Cond Avg
123														
124	Feedstream Number					F7		F7		F7		F7		F7
125	Feed Class					Total		Total		Total		Total		Total
126	Feed Class 2	Spike		Spike										
127	Feedstream Descriptio					Total		Total		Total		Total		Total
128	Feed Rate													

	B	C	D	E	F	G
1	Process Information 1					
2						
3	200C10		mode A	1	2	3
4						
5	FF Inlet Temp	F	max HRA	476	547	530
6	Chain Temp	F	max HRA	1763	1824	1911
7						
8	200C11		mode B	1	2	3
9						
10	FF Pressure Drop	in H2O	min HRA	1.7	1.8	1.9

	C	D	E	F	G	H
1	Process Information 2					
2						
3	200C1					
4						
5	Combustion Temperature	F	1612	1634	1706	1655
6	FF Temperature	F	478	446	556	491
7	FF Pressure Drop	in H2O	4.3	4.3	5.2	3.6
8						
9	200C4					
10						
11	Combustion Temperature	F	1823	1818	1840	
12	FF Temperature	F	455	457	442	
13						
14	200C5					
15						
16	FF Pressure Drop	in H2O	1.8	2		
17						
18	200C6					
19						
20	Combustion Temperature	F	1488	1490		