	B	C
1	**Source Description**	
2		
3	Phase I ID No.	201
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. 5
10	Other Sister Facilities	
11	Combustor Class	Cement Kiln
12	Combustor Type	Wet, long
13	Combustor Characteristics	
14	Capacity (MMBtu/hr)	
15	APCS	FF
16	APCS Characteristics	Fabric filter, Fuller, A/C = 4
17	Hazardous Wastes	Liq
18	Haz Waste Description	
19	Supplemental Fuel	Coal
20		
21	Stack Characteristics	
22	Diameter (ft)	10.0
23	Height (ft)	175.0
24	Gas Velocity (ft/sec)	12.0
25	Gas Temperature (°F)	425.6
26		
27	Permitting Status	Tier I for Hg, Ag, Tl, Sb, and Ba; Tier III for Pb, As, Be, Cd, Cr, Se, Ni
28	HWC Burn Status (Date if Terminat	Y

	B	C
1	**Condition Description**	
2		
3	**201C10**	
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	6/24/98, 10/7/98
9	Condition Descr	CoC, Max operating mode waste feed, temp, prod rate
10	Content	CO, HC, HCl/Cl2, metals (no Hg stack gas), PM
11		
12	**201C11**	
13		
14	Report Name/Date	Giant Cement Company, BIF Recertification of Compliance, Cement Kin Nos. 2, 3, 4, and 5, November 1998
15	Report Prepare	Roy F. Weston
16	Testing Firm	R. F. Weston
17	Testing Dates	10/7/98 - 10/8/98
18	Condition Descr	CoC, Min dp on FF
19	Content	CO, HC, HCl/Cl2, metals (no Hg stack gas), PM
20		
21		
22	PCDD/PCDF measurements not taken during 1998 ReCoC	
23		
24	**201C1**	
25		
26	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
27	Report Prepare	Giant Cement / Imagineering
28	Testing Firm	TRC Environmental Consultants
29	Cond Descr	CoC, MAX HW FEED, SPIKED METAL, SPIKED CHLORINE
30	Test Dates	July 14-19, 1992
31	Cond Date	08/21/92
32		
33	**201C2**	
34		
35	Report Name/Date	Stationary Source Sampling Report, Reference No. 10000, Giant Cement, Harleyville, SC, Kiln No. 5 Dust Collector Outlet, January 30, 1991
36	Report Prepare	Entropy
37	Testing Firm	Entropy
38	Cond Descr	DRE TEST, also PM, metals, HCl; pre BIF rule
39	Test Dates	1/30/91
40	Cond Date	01/30/91
41		
42	**201C3**	
43		
44	Report Name/Date	Particulate Emission Evaluation No. 5 Kiln Exhaust Duct, Giant Cement Co, Harleyville, SC, Davis and Floyd, June 1989
45	Report Prepare	Davis and Flyod
46	Testing Firm	
47	Cond Descr	Emissions evaluation, pre-BIF
48	Test Dates	6/22/89
49	Cond Date	06/22/89

	B	C	D	E	F	G	H	I	J	K	L	M
1	**Stack Gas Emissions 1**											
2												
3	**201C10**	mode A				R1		R2		R3		Cond Avg
4												
5	PM		gr/dscf	y		0.0021		0.0029		0.0025		0.0025
6												
7	CO (MHRA)		ppmv	y		770		827		725		774.0
8	HC (MHRA)		ppmv	y		18.7		18		16.9		17.9
9												
10	HCl		ppmv	n		3.62		2.5		3.32		
11	Cl2		ppmv	n		0.16		0.72		0.93		
12												
13	As		ug/dscm	y		0.68		1.13		1.02		0.9
14	Be		ug/dscm	y		0.05		0.06		0.06		0.1
15	Cd		ug/dscm	y		1.37		2.03		4.69		2.7
16	Cr		ug/dscm	y		5.29		4.59		8.16		6.0
17	Pb		ug/dscm	y		21.87		21.89		18.54		20.8
18	Ni		ug/dscm	y		3.11		18.96		3.82		8.6
19	Se		ug/dscm	y		33.37		12.1		10.2		18.6
20												
21	LVM		ug/dscm	y		6.0		5.8		9.2		7.0
22	SVM		ug/dscm	y		23.2		23.9		23.2		23.5
23												
24	Sampling Train	PM, HCl/Cl2										
25	Stack Gas Flowrate		dscfm			59137		69121		72009		66756
26	O2		%			6.6		8.2		9.1		8.0
27	Moisture		%			33.4		29.1		30		30.8
28	Temperature		°F			487		514		519		506.7
29												
30	Sampling Train	Metals										
31	Stack Gas Flowrate		dscfm			58158		70665		69215		66013
32	O2		%			6.6		8.2		9.1		8.0
33	Moisture		%			35.3		29.8		31.2		32.1
34	Temperature		°F			486		522		524		510.7
35												
36	HCl		ppmv	y		3.52		2.73		3.91		3.4
37	Cl2		ppmv	y		0.16		0.79		1.09		0.7
38	Total Cl		ppmv	y		3.83		4.31		6.09		4.7
39												
40	**201C11**	mode B				R1		R2		R3		Cond Avg
41												
42	CO (MHRA)		ppmv	y		219		149		297		221.7
43	HC (MHRA)		ppmv	y		16.1		14		13.6		14.6
44												
45	PM		gr/dscf	y		0.0013		0.0005		0.0005		0.0008
46												
47	HCl		ppmv	n		5.57		4.6		12.32		
48	Cl2		ppmv	n		2.09		1.39		2.39		
49												
50	As		ug/dscm	y		0.74		0.72		0.93		0.8
51	Be		ug/dscm	y	nd	0.04	nd	0.05	nd	0.04		0.0
52	Cd		ug/dscm	y		1.78		9.73		3.11		4.9
53	Cr		ug/dscm	y		4.87		5.36		3.33		4.5
54	Pb		ug/dscm	y		21.46		20.02		29.88		23.8
55	Ni		ug/dscm	y		1.9		1.84		1.36		1.7
56	Se		ug/dscm	y		2.9		1.71		2.79		2.5
57												
58	LVM		ug/dscm	y		5.6		6.1		4.3		5.3
59	SVM		ug/dscm	y		23.2		29.8		33.0		28.7
60												
61	Sampling Train	PM, HCl/Cl2										
62	Stack Gas Flowrate		dscfm			38783		41737		40471		40330.3
63	O2		%			7.2		8.3		6.9		7.5
64	Moisture		%			31.15		30.74		30.99		31.0
65	Temperature		°F			403		411		391		401.7
66												
67	Sampling Train	Metals										
68	Stack Gas Flowrate		dscfm			38789		39180		39150		39039.7
69	O2		%			7.2		8.3		6.9		7.5
70	Moisture		%			31.1		30.7		31.3		31.0
71	Temperature		°F			403		414		391		402.7

	B	C	D	E	F	G	H	I	J	K	L	M
72												
73	HCl		ppmv	y		5.65		5.07		12.23		7.7
74	Cl2		ppmv	y		2.12		1.53		2.37		2.0
75	Total Cl		ppmv	y		9.89		8.14		16.98		11.7

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	**Stack Gas Emissions 2**																
2																	
3	**201C1**					R1		R2		R3		R4		Cond Avg			
4																	
5	PM		gr/dscf			0.01084		0.00773		0.01506		0.11081		0.01121		R4 outlier	
6	HCl		ppmv			22.95		19.79		17.38		18.71					
7	Cl2		ppmv			0.01		0.00		0.01		0.00					
8	Total Cl		ppmv			22.96		19.80		17.39		18.72		19.72			
9	Antimony		ug/dscm			554.17		205.30		219.03		218.00					
10	Arsenic		ug/dscm			110.83		20.15		44.07		43.55					
11	Barium		ug/dscm				nd	707.84	nd	752.99		872.00				R1 high Ba ND?	
12	Beryllium		ug/dscm			11.08		4.16		4.41		4.35					
13	Cadmium		ug/dscm			11.08		4.16		4.41		4.35					
14	Chromium		ug/dscm			55.42		45.34		22.03		21.80					
15	Lead		ug/dscm		nd	387.92		45.34		44.07		43.55				R1 high Pb ND?	
16	Mercury		ug/dscm			1.23		15.87		2.98		16.82		9.23			
17	Silver		ug/dscm			11.08		2.02		4.41							
18	Thallium		ug/dscm			554.17		205.30		219.03							
19	SVM		ug/dscm			205.04		49.50		48.47		47.90		87.73			
20	LVM		ug/dscm			133.00		28.46		52.88		52.25		66.65			
21																	
22	Sampling Train	Halogens															
23	Gas Flowrate					60722		64514		52720		59058					
24	Moisture					31.08		27.56		31.12		28.65					
25	Oxygen					10.5		10.2		10.4		10.4					
26	Temperature					429.6		423.7		399.3		463.1					
27																	
28	Sampling Train	Metals															
29	Gas Flowrate					50979		59474		58907		57403					
30	Moisture					29.64		29.76		29.97		28.81					
31	Oxygen					10.5		10		10.2		10					
32	Temperature					382.9		458.1		380.5		467.9					
33																	
34	**201C2**					R1		R2		R3		R4		Cond Avg			
35																	
36	PM		gr/dscf			0.02470		0.02150		0.02680				0.02433			
37	HCl		ppmv			5.80		9.42		3.76							
38	Cl2		ppmv			0.46		0.12		0.08							
39	Total Cl		ppmv			6.72		9.66		3.92				6.77			
40	Antimony		ug/dscm			1.54		3.19		1.76							
41	Arsenic		ug/dscm			0.96		1.42		1.08							
42	Barium		ug/dscm			22.49		26.56		25.89							
43	Beryllium		ug/dscm		nd	0.04	nd	0.05	nd	0.04							
44	Cadmium		ug/dscm			57.91		157.14		41.82							
45	Chromium		ug/dscm			31.11		33.30		34.87							
46	Lead		ug/dscm			91.58		106.45		54.13							
47	Mercury		ug/dscm			857.40		1145.63		893.15				965.39			
48	Nickel		ug/dscm			23.97		26.46		23.55							
49	Selenium		ug/dscm			6.87		5.93		13.94							
50	Silver		ug/dscm		nd	44.44	nd	4.83	nd	4.36							
51	Thallium		ug/dscm		nd	8.89	nd	9.68	nd	8.71							
52	SVM		ug/dscm			149.48		263.60		95.95				169.68			
53	LVM		ug/dscm			32.11		34.77		35.99				34.29			
54																	
55	Sampling Train	Halogens															
56	Gas Flowrate					63076		60436		60480							
57	Moisture					0		0		0							
58	Oxygen					7.4		8.8		7.3							
59	Temperature					0		0		0							
60																	
61	Sampling Train	Metals															
62	Gas Flowrate					63076		60436		60480							
63	Moisture					32.3		32.8		33.1							
64	Oxygen					7.8		8.8		7.3							
65	Temperature					405		401		401							
66																	
67	Sulfur Hexafluoride	DRE	%			99.9977		99.9988		99.9996							
68																	
69	**201C3**					R1		R2		R3		R4		Cond Avg			
70																	
71	PM		gr/dscf			0.05452		0.05304		0.05990				0.05582			

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
72																	
73	Sampling Train	Particulate															
74	Gas Flowrate					45521.7		48979.67		50752.55							
75	Moisture					30.19		29.5423		29.6339							
76	Oxygen					4.2		4.2		4.2							
77	Temperature					364.6		372.3		372.8							

	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	AE
1	**Feedstreams 1**																													
2																														
3	**201C10**	mode A			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1	
4																														
5	Feedstream Description				Coal		Coal		Coal		Coal		Raw Matl		Raw Matl		Raw Matl		Raw Matl		Slag		Slag		Slag		Slag		Spike	
6	Feed Rate		g/hr		6.35E+05		6.35E+05		6.35E+05		6.35E+05		5.70E+07		5.51E+07		5.56E+07		5.59E+07		0.00E+00		9.07E+05		9.98E+05		6.35E+05		2.27E+05	
7	Thermal Feedrate		MMBtu/hr		18.8		18.8		45.2		2.76E+01		0		0		0		0.00E+00		0		0		0		0.00E+00			
8	Chlorine		g/hr		468		327		617		4.71E+02		0		9470		8620		6.03E+03		0		19.1		20.3		1.31E+01		1.74E+05	
9	Antimony		g/hr		0.56		0.27		0.154		3.28E-01		49		55.1		55.6		5.32E+01		0		0.91		0.998		6.36E-01			
10	Arsenic		g/hr		9.59		20.1		29.3		1.97E+01		216		771		779		5.89E+02		0		7.89		7.68		5.19E+00		3780	
11	Barium		g/hr		51.5		120		154		1.09E+02		518		3910		4060		2.83E+03		0		363		439		2.67E+02			
12	Beryllium		g/hr		0.375		1.91		2.62		1.64E+00		0		0		0		0.00E+00		0		0		0.998		3.33E-01		254	
13	Cadmium		g/hr		0		0.11		0.154		8.80E-02		0		0		0		0.00E+00		0		0.998		1.1		6.99E-01		2030	
14	Chromium		g/hr		4.38		9.91		13.3		9.20E+00		137		716		834		5.62E+02		0		907		1300		7.36E+02		25500	
15	Lead		g/hr		3.94		10.7		11.3		8.65E+00		0		182		195		1.26E+02		0		87.1		94.8		6.06E+01		21000	
16	Mercury		g/hr		0.0254		0.218		0.247		1.63E-01		1.71		1.65		1.67		1.68E+00		0		0.91		0.0998		3.37E-01			
17	Silver		g/hr		0.559		0.65		0.154		4.54E-01		49		27.5		27.8		3.48E+01		0		0.45		0.499		3.16E-01			
18	Thallium		g/hr		0.21		0.599		0.93		5.80E-01		9.12		55.1		55.6		3.99E+01		0		0.91		0.998		6.36E-01			
19																														
20	Stack Gas Flowrate		dscfm		58158.0		70665.0		69215.0		66012.7		58158.0		70665.0		69215.0		66012.7		58158.0		70665.0		69215.0		66012.7		58158.0	
21	Oxygen		%		6.6		8.2		9.1		8.0		6.6		8.2		9.1		8.0		6.6		8.2		9.1		8.0		6.6	
22																														
23	*Feedrate MTEC Calculations*																													
24	Chlorine		ug/dscm		4607.5		2980.7		6176.3		4510.5		0.0		86322.9		86288.0		57786.3		0.0		174.1		203.2		125.9		1713040.5	
25	Antimony		ug/dscm		5.5		2.5		1.5		3.1		482.4		502.3		556.6		510.1		0.0		8.3		10.0		6.1		0.0	
26	Arsenic		ug/dscm		94.4		183.2		293.3		188.4		2126.5		7028.0		7798.0		5641.3		0.0		71.9		76.9		49.7		37214.3	
27	Barium		ug/dscm		507.0		1093.8		1541.6		1039.8		5099.7		35641.2		40641.5		27113.9		0.0		3308.9		4394.5		2561.9		0.0	
28	Beryllium		ug/dscm		3.7		17.4		26.2		15.7		0.0		0.0		0.0		0.0		0.0		0.0		10.0		3.2		2500.6	
29	Cadmium		ug/dscm		0.0		1.0		1.5		0.8		0.0		0.0		0.0		0.0		0.0		9.1		11.0		6.7		19985.5	
30	Chromium		ug/dscm		43.1		90.3		133.1		88.1		1348.8		6526.6		8348.5		5388.9		0.0		8267.7		13013.3		7050.0		251049.0	
31	Lead		ug/dscm		38.8		97.5		113.1		82.9		0.0		1659.0		1952.0		1204.3		0.0		794.0		949.0		581.1		206746.3	
32	Mercury		ug/dscm		0.3		2.0		2.5		1.6		16.8		15.0		16.7		16.1		0.0		8.3		1.0		3.2		0.0	
33	Silver		ug/dscm		5.5		5.9		1.5		4.4		482.4		250.7		278.3		333.2		0.0		4.1		5.0		3.0		0.0	
34	Thallium		ug/dscm		2.1		5.5		9.3		5.6		89.8		502.3		556.6		382.8		0.0		8.3		10.0		6.1		0.0	
35																														
36	SVM		ug/dscm		38.8		98.5		114.7		83.7		0.0		1659.0		1952.0		1204.3		0.0		803.0		960.0		587.8		226731.7	
37	LVM		ug/dscm		141.2		291.0		452.7		292.2		3475.3		13554.6		16146.5		11030.2		0.0		8339.6		13100.1		7102.9		290764.0	
38																														
39	**201C11**	mode B			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1	
40																														
41																														
42	Feedstream Description				Coal		Coal		Coal		Coal		Raw Matl		Raw Matl		Raw Matl		Raw Matl		Slag		Slag		Slag		Cond Avg		Spike	
43	Feed Rate		g/hr		6.35E+05		6.35E+05		6.35E+05		6.35E+05		3.22E+07		3.16E+07		3.15E+07		3.18E+07		8.16E+05		9.07E+05		9.07E+05		8.77E+05		2.25E+05	
44	Thermal Feedrate		MMBtu/hr		18.8		22.6		23		2.15E+01		0		0		0		0.00E+00		0		0		0		0.00E+00			
45	Chlorine		g/hr		472		408		408		4.29E+02		5280		5710		5260		5.42E+03		14		15.9		15.1		1.50E+01		1.71E+05	
46	Antimony		g/hr		0.236		0.245		0.163		2.15E-01		32.2		31.6		31.5		3.18E+01		0.816		0.907		0.907		8.77E-01			
47	Arsenic		g/hr		21.2		13.1		13.1		1.58E+01		451		474		409		4.45E+02		4.9		6.99		6.89		6.26E+00		4110	
48	Barium		g/hr		1.18		98		106		6.84E+01		2540		2530		2330		2.47E+03		400		372		390		3.87E+02			
49	Beryllium		g/hr		2		1.47		1.47		1.65E+00		0		0		0		0.00E+00		0		0.91		0.998		6.36E-01		259	
50	Cadmium		g/hr		0.118		0.082		0.082		9.40E-02		0		0		0		0.00E+00		0.82		0.91		0.907		8.79E-01		2150	
51	Chromium		g/hr		10.4		9.8		8.98		9.73E+00		483		600		504		5.29E+02		1060		898		907		9.55E+02		27200	
52	Lead		g/hr		8.26		15.5		12.2		1.20E+01		116		123		409		2.16E+02		71		109		90.7		9.02E+01		19700	
53	Mercury		g/hr		0.236		0.163		2.12		8.40E-01		0.966		1.58		1.57		1.37E+00		0.33		0.091		0.0181		1.46E-01			
54	Silver		g/hr		0.118		0.082		0.082		9.40E-02		16.1		15.8		15.7		1.59E+01		0.41		0.454		0.454		4.39E-01			
55	Thallium		g/hr		0.59		0.41		0.41		4.70E-01		32.2		31.6		31.5		3.18E+01		0.82		0.91		0.907		8.79E-01			
56																														
57	Stack Gas Flowrate		dscfm		38789.0		39180.0		39150.0		39039.7		38789.0		39180.0		39150.0		39039.7		38789.0		39180.0		39150.0		39039.7		38789.0	
58	Oxygen		%		7.2		8.3		6.9		7.5		7.2		8.3		6.9		7.5		7.2		8.3		6.9		7.5		7.2	
59																														
60	*Feedrate MTEC Calculations*																													

	B	AF	AH	AJ	AL	AN	AP	AR	AT	AV	AX	AZ
1	**Feedstreams 1**											
2												
3	**201C10**	R2	R3	Cond Avg	R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg
4												
5	Feedstream Descriptior	Spike	Spike	Spike	HW Liquid	HW Liquid	HW Liquid	HW Liquid	Total	Total	Total	Total
6	Feed Rate	1.81E+05	2.15E+05		6.82E+06	6.65E+06	6.45E+06	6.64E+06				
7	Thermal Feedrate				155	149	144	1.49E+02				
8	Chlorine	1.30E+05	1.59E+05	1.54E+05	39000	8.18E+04	81900	6.76E+04				
9	Antimony				149	519	2.71	2.24E+02				
10	Arsenic	3920	4230	3.98E+03	0	17.3	4.52	7.27E+00				
11	Barium				557	17.6	41.9	2.06E+02				
12	Beryllium	259	259	2.57E+02	0	0	0	0.00E+00				
13	Cadmium	2120	2240	2.13E+03	0	0.665	0	2.22E-01				
14	Chromium	27200	28800	2.72E+04	208	40.2	41.3	9.65E+01				
15	Lead	17200	20500	1.96E+04	737	18	18.1	2.58E+02				
16	Mercury				0.478	0.266	0.323	3.56E-01				2.53
17	Silver				5.59	1.66	0.645	2.63E+00				
18	Thallium				1.16	1.33	1.29	1.26E+00				
19												
20	Stack Gas Flowrate	70665.0	69215.0	66012.7	58158.0	70665.0	69215.0	66012.7				
21	Oxygen	8.2	9.1	8.0	6.6	8.2	9.1	8.0				
22												
23	*Feedrate MTEC Calcula*											
24	Chlorine	1185002.8	1591623.3	1478997.0	383957.4	745640.2	819836.2	647500.4	2.10E+06	2.02E+06	2.50E+06	2.19E+06
25	Antimony	0.0	0.0	0.0	1466.9	4730.9	27.1	2142.5	1.95E+03	5.24E+03	5.95E+02	2.66E+03
26	Arsenic	35732.4	42343.2	38108.9	0.0	157.7	45.2	69.7	3.94E+04	4.32E+04	5.06E+04	4.41E+04
27	Barium	0.0	0.0	0.0	5483.7	160.4	419.4	1969.3	1.11E+04	4.02E+04	4.70E+04	3.27E+04
28	Beryllium	2360.9	2592.6	2466.1	0.0	0.0	0.0	0.0	2.50E+03	2.38E+03	2.63E+03	2.48E+03
29	Cadmium	19324.7	22422.9	20412.1	0.0	6.1	0.0	2.1	2.00E+04	1.93E+04	2.24E+04	2.04E+04
30	Chromium	247939.0	288294.0	260341.8	2047.8	366.4	413.4	924.8	2.54E+05	2.63E+05	3.10E+05	2.74E+05
31	Lead	156785.0	205209.3	187510.0	7255.8	164.1	181.2	2469.6	2.14E+05	1.59E+05	2.08E+05	1.92E+05
32	Mercury	0.0	0.0	0.0	4.7	2.4	3.2	3.4	2.18E+01	2.77E+01	2.34E+01	2.43E+01
33	Silver	0.0	0.0	0.0	55.0	15.1	6.5	25.2	5.43E+02	2.76E+02	2.91E+02	3.66E+02
34	Thallium	0.0	0.0	0.0	11.4	12.1	12.9	12.1	1.03E+02	5.28E+02	5.89E+02	4.06E+02
35												
36	SVM	176109.6	227632.2	207922.1	7255.8	170.1	181.2	2471.7	2.34E+05	1.79E+05	2.31E+05	2.12E+05
37	LVM	286032.3	333229.9	300916.8	2047.8	524.1	458.7	994.5	2.96E+05	3.09E+05	3.63E+05	3.20E+05
38												
39	**201C11**	R2	R3	Cond Avg	R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg
40												
41												
42	Feedstream Descriptior	Spike	Spike	Spike	HW Liquid	HW Liquid	HW Liquid	HW Liquid	Total	Total	Total	Total
43	Feed Rate	2.27E+05	2.27E+05		4.15E+06	3.85E+06	3.87E+06	3.96E+06				
44	Thermal Feedrate				103	130	130	1.21E+02				
45	Chlorine	1.74E+05	1.74E+05	1.73E+05	45700	32700	32500	3.70E+04				
46	Antimony				357	150	136	2.14E+02				
47	Arsenic	4110	4110	4.11E+03	14.5	5	3.1	7.53E+00				
48	Barium				5.4	2.31	659	2.22E+02				
49	Beryllium	259	259	2.59E+02	0	0	0	0.00E+00				
50	Cadmium	2150	2150	2.15E+03	0	0	0	0.00E+00				
51	Chromium	27200	27200	2.72E+04	24.9	13.5	12.4	1.69E+01				
52	Lead	19700	19700	1.97E+04	11.6	10.4	15.5	1.25E+01				
53	Mercury				0.125	0.192	0.387	2.35E-01				2.45
54	Silver				1.25	0.385	0.387	6.74E-01				
55	Thallium				0.831	0.769	0.775	7.92E-01				
56												
57	Stack Gas Flowrate	39180.0	39150.0	39039.7	38789.0	39180.0	39150.0	39039.7				
58	Oxygen	8.3	6.9	7.5	7.2	8.3	6.9	7.5				
59												
60	*Feedrate MTEC Calcula*											

	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	AE
61	Chlorine		ug/dscm		7270.2		6760.6		6094.0		6700.0		81327.3		94614.6		78564.3		84530.1		215.6		263.5		225.5		234.1		2633897.0	
62	Antimony		ug/dscm		3.6		4.1		2.4		3.3		496.0		523.6		470.5		495.7		12.6		15.0		13.5		13.7		0.0	
63	Arsenic		ug/dscm		326.5		217.1		195.7		246.6		6946.7		7854.2		6108.9		6939.3		75.5		115.8		102.9		97.7		63305.9	
64	Barium		ug/dscm		18.2		1623.9		1583.2		1067.3		39123.4		41922.1		34801.3		38493.7		6161.2		6164.0		5825.1		6044.6		0.0	
65	Beryllium		ug/dscm		30.8		24.4		22.0		25.7		0.0		0.0		0.0		0.0		0.0		15.1		14.9		9.9		3989.4	
66	Cadmium		ug/dscm		1.8		1.4		1.2		1.5		0.0		0.0		0.0		0.0		12.6		15.1		13.5		13.7		33116.2	
67	Chromium		ug/dscm		160.2		162.4		134.1		151.8		7439.6		9942.0		7527.8		8255.3		16327.1		14879.8		13547.1		14903.3		418959.1	
68	Lead		ug/dscm		127.2		256.8		182.2		187.1		1786.7		2038.1		6108.9		3370.8		1093.6		1806.1		1354.7		1408.1		303437.3	
69	Mercury		ug/dscm		3.6		2.7		31.7		13.1		14.9		26.2		23.4		21.4		5.1		1.5		0.3		2.3		0.0	
70	Silver		ug/dscm		1.8		1.4		1.2		1.5		248.0		261.8		234.5		247.6		6.3		7.5		6.8		6.9		0.0	
71	Thallium		ug/dscm		9.1		6.8		6.1		7.3		496.0		523.6		470.5		495.7		12.6		15.1		13.5		13.7		0.0	
72																														
73	SVM		ug/dscm		129.0		258.2		183.4		188.5		1786.7		2038.1		6108.9		3370.8		1106.2		1821.2		1368.3		1421.9		336553.5	
74	LVM		ug/dscm		517.5		403.8		351.7		424.1		14386.3		17796.2		13636.7		15194.6		16402.6		15010.8		13664.9		15010.9		486254.4	

	B	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ
61	Chlorine	2883177.9		2598894.9		2699762.6		703912.8		541838.6		485425.8		576885.7		3.43E+06		3.53E+06		3.17E+06		3.37E+06
62	Antimony	0.0		0.0		0.0		5498.8		2485.5		2031.3		3344.8		6.01E+03		3.03E+03		2.52E+03		3.86E+03
63	Arsenic	68102.7		61387.7		64138.9		223.3		82.8		46.3		117.6		7.09E+04		7.64E+04		6.78E+04		7.15E+04
64	Barium	0.0		0.0		0.0		83.2		38.3		9842.9		3468.1		4.54E+04		4.97E+04		5.21E+04		4.91E+04
65	Beryllium	4291.6		3868.5		4041.8		0.0		0.0		0.0		0.0		4.02E+03		4.33E+03		3.91E+03		4.08E+03
66	Cadmium	35625.5		32112.8		33552.0		0.0		0.0		0.0		0.0		3.31E+04		3.56E+04		3.21E+04		3.36E+04
67	Chromium	450703.7		406264.0		424471.3		383.5		223.7		185.2		264.3		4.43E+05		4.76E+05		4.28E+05		4.48E+05
68	Lead	326428.8		294242.7		307429.6		178.7		172.3		231.5		195.1		3.07E+05		3.31E+05		3.02E+05		3.13E+05
69	Mercury	0.0		0.0		0.0		1.9		3.2		5.8		3.7		2.55E+01		3.36E+01		6.12E+01		4.05E+01
70	Silver	0.0		0.0		0.0		19.3		6.4		5.8		10.5		2.75E+02		2.77E+02		2.48E+02		2.66E+02
71	Thallium	0.0		0.0		0.0		12.8		12.7		11.6		12.4		5.30E+02		5.58E+02		5.02E+02		5.29E+02
72																						
73	SVM	362054.2		326355.5		340981.6		178.7		172.3		231.5		195.1		3.40E+05		3.66E+05		3.34E+05		3.46E+05
74	LVM	523098.0		471520.2		492652.1		606.9		306.5		231.5		381.8		5.18E+05		5.57E+05		4.99E+05		5.24E+05

	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	AE
1	**Feedstream 2**																													
2																														
3																														
4																														
5	**201C1**			R1		R2		R3		R4		R1		R2		R3		R4		R1		R2		R3		R4		R1		R2
6																														
7	Feedstream			Coal		Coal		Coal		Coal		Raw Material		Raw Material		Raw Material		Raw Material		Waste		Waste		Waste		Waste		Spike A		Spike A
8	Feedrate	lb/hr		2400		5800		1400		600		98600		86200		81600		82800		17800		7800		9600		10200		313.82		403.27
9	Heating value	ppmw		19791.7		8206.9		13000		13000										9516.853933		10115.38462		13000		10392.15686		0		0
10	Chlorine	ppmw		1900		1500		1400				12		11		50		4.4		42000		42000		38000		50000	1	500	1	500
11	Arsenic	ppmw		11	1	20	1	20			1	20	1	20	1	20	1	20	1	20	1	20	1	20	1	20	1	20	1	20
12	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
13	Cadmium	ppmw	1	1	1	1	1	1			1	1	1	1	1	1	1	1		13		5.9		4.8		3		470		110
14	Chromium	ppmw	1	5		8.3		7.4			1	5		12		9.5		13		98		51		40		35		96000		94000
15	Lead	ppmw	1	10	1	10	1	10			1	10	1	10	1	10	1	10		220		130		110		94		420		490
16																														
17	Gas flowrate			50979		59474		52720		59058		50979		59474		52720		59058		50979		59474		52720		59058		50979		59474
18	Oxygen			10.5		10		10.2		10		10.5		10		10.2		10		10.5		10		10.2		10		10.5		10
19																														
20	Chlorine	ug/dscm		31888		49779		12886		0		8274		5425		26823		2099		5227992		1874434		2398291		2938630	1	1097	1	1154
21	Arsenic	ug/dscm		185	1	664	1	184		0	1	13790	1	9864	1	10729	1	9542	1	2490	1	893	1	1262	1	1175	1	44	1	46
22	Beryllium	ug/dscm	1	8	1	17	1	5		0	1	345	1	247	1	268	1	239	1	62	1	22	1	32	1	29	1	1	1	1
23	Cadmium	ug/dscm	1	17	1	33	1	9		0	1	690	1	493	1	536	1	477		1618		263		303		176		1031		254
24	Chromium	ug/dscm	1	84		275		68		0	1	3448		5919		5096		6202		12199		2276		2525		2057		210677		216895
25	Lead	ug/dscm	1	168	1	332	1	92		0	1	6895	1	4932	1	5365	1	4771		27385		5802		6942		5525		922		1131
26	SVM	ug/dscm		92		183		51		0		3792		2713		2951		2624		29003		6065		7245		5701		1953		1384
27	LVM	ug/dscm		231		616		162		0		8791		10974		10595		11092		13475		2734		3171		2659		210700		216919
28																														
29	**201C2**																													
30																														
31	Feedrate																													
32	Heating value																													
33																														
34	no feedrates available from report?																													

	B	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	BF	BG	BH	BI
1	**Feedstream 2**																														
2																															
3																															
4																															
5	**201C1**		R3		R4		R1		R2		R3		R4		R1		R2		R3		R4		R1		R2		R3		R4		Cond Avg
6																															
7	Feedstream		Spike A		Spike A		Spike B		Spike B		Spike B		Spike B		Spike C		Spike C		Spike C		Spike C		Total		Total		Total		Total		Total
8	Feedrate		415.39		548.12		365.09		420.41		343.4		525.68		421.82		435.1		384.36		770.82										
9	Heating value		0		0		0		0		0		0		0		0		0		0										
10	Chlorine	1	500	1	500		4500		4700	1	500		4100		7700		11000		11000		600										
11	Arsenic	1	20	1	20	1	20	1	20	1	20	1	20		20000		19000		6700		11000										
12	Beryllium	1	0.5	1	0.5	1	0.5	1	0.5	1	0.5	1	0.5		150		150		120		170										
13	Cadmium		100		120		710		630		860		800		7500		7100		5300		8900										
14	Chromium		83000		87000		1200		7600		4300		9000		2900		2400		1800		1300										
15	Lead		78		36		18000		62000		43000		83000		500		140		94		30										
16																															
17	Gas flowrate		52720		59058		50979		59474		52720		59058		50979		59474		52720		59058										
18	Oxygen		10.2		10		10.5		10		10.2		10		10.5		10		10.2		10										
19																															
20	Chlorine	1	1365	1	1579		11489		11306	1	1129		12419		22713		27385		27796		2665		5303454		1969483		2468289		2957392		3174655
21	Arsenic	1	55	1	63	1	51	1	48	1	45	1	61		58996		47301		16930		48856		75555		58816		29205		59697		55818
22	Beryllium	1	1	1	2	1	1	1	1	1	1	1	2		442		373		303		755		860		661		610		1026		789
23	Cadmium		273		379		1813		1515		1942		2423		22124		17676		13392		39529		27292		20235		16456		42985		26742
24	Chromium		226663		274770		3064		18282		9708		27261		8554		5975		4548		5774		238025		249622		248608		316064		263080
25	Lead		213		114		45956		149139		97077		251405		1475		349		238		133		82800		161684		109926		261948		154089
26	SVM		486		493		47768		150654		99018		253828		23598		18024		13630		39662		106207		179023		123381		302309		177730
27	LVM		226691		274803		3116		18331		9754		27323		67993		53649		21782		55385		304305		303222		272156		371263		312736
28																															
29	**201C2**																														
30																															
31	Feedrate																														
32	Heating value																														
33																															
34	no feedrates a																														

	B	C	D	E	F	G
1	**Process Information 1**					
2						
3	**201C10**		mode A	1	2	3
4						
5	FF Inlet Temp	F	max HRA	509	570	566
6	Chain Temp	F	max HRA	1829	1794	1871
7						
8	**201C11**		mode B	1	2	3
9						
10	FF Pressure Drop	in H2O	min HRA	1.8	1.9	2

	C	D	E	F	G	H
1	**Process Information 2**					
2						
3	**201C1**					
4						
5	Combustion Temperature	F	1605	1610	1608	1611
6	FF Temperature	F	480	518	468	509
7	FF Pressure Drop	in H2O	4.1	4.9	4.3	4.3