

US EPA ARCHIVE DOCUMENT

	B	C
1	Source Description	
2		
3	Phase I ID No.	208
4	EPA ID No.	PAD003368891
5	Facility Name	Keystone
6	Facility Location	
7	City	Bath
8	State	PA
9	Unit ID Name/No.	Kiln No. 2
10	Other Sister Facilities	
11	Number of Sister Facilities	0
12	Combustor Class	Cement Kiln (CK)
13	Combustor Type	Wet, long
14	Combustor Characteristics	
15	Capacity (MMBtu/hr)	
16	APCS Detailed Acronym	ESP
17	APCS General Class	ESP
18	APCS Characteristics	2 field, 2 in parallel?, SCA = 430,
19	Hazardous Wastes	Liq, sludge
20	Haz Waste Description	
21	Supplemental Fuel	Coal
22		
23	Stack Characteristics	
24	Diameter (ft)	12.6
25	Height (ft)	190.0
26	Gas Velocity (ft/sec)	11.6
27	Gas Temperature (°F)	304.5
28		
29	Permitting Status	Tier I for Hg, Ag, Tl, Sb, and Ba; Tier III for Pb, As, Be, Cd, and Cr
30	HWC Burn Status (Date if Terminated)	Y

	B	C
1	Cond Description	
2		
3	208C10	
4		
5	Report Name/Date	BIF Recertification of Compliance, Number 2 Kiln, Keystone Cement Company, Bath, Pennsylvania, November 6, 1998
6	Report Prepare	Roy F Weston
7	Testing Firm	Roy F Weston
8	Testing Dates	September 23, 1998
9	Cond Dates	Sep-98
10	Condition Descr	CoC; max metals, chlorine, waste, slurry, min ESP power
11	Content	PM, metals, HCl/Cl ₂ , CO, PCDD/PCDF
12		
13	208C11	
14		
15	Report Name/Date	RCRA Trial Burn Test Report, Keystone Cement Company, Kilns No. 1 and No. 2, Bath, PA, Test Dates: 7-10 December 1999, April 2000
16	Report Prepare	Roy F Weston
17	Testing Firm	Roy F Weston
18	Testing Dates	December 7-10, 1999
19	Cond Dates	Dec-99
20	Condition Descr	TB, low temp, POHC DRE
21	Content	POHC DRE, PM, HCl/Cl ₂ , HC, metals (no spiking)
22		
23	208C1	
24		
25	Report Name/Date	BIF Compliance Certification, Cement Kiln Number Two, Keystone Cement, Bath PA, August 1992, Amendments submitted January 1993
26	Report Prepare	Keystone
27	Testing Firm	R.F. Weston
28	Cond Descr	CoC, MAX PROD, MAX TIER III SPIKE, MAX SLURRY FEED
29	Testing Dates	July 17-19, 2002
30	Cond Dates	Jul-92
31		
32	208C2	
33		
34	Report Name/Date	BIF Compliance Certification, Cement Kiln Number Two, Keystone Cement, Bath PA, August 1992, Amendments submitted January 1993
35	Report Prepare	Keystone
36	Testing Firm	R.F. Weston
37	Cond Descr	CoC, MAX PROD, >25% TIER III SPIKE, MAX SLURRY FEED
38	Testing Dates	July 19-22, 1992
39	Cond Dates	Jul-92
40		
41	208C3	
42		
43	Report Name/Date	Keystone Cement Company, Bath, Pennsylvania, Source Emissions Compliance Test Report, Test Dates October 28 - November 1, 1996, January 1997, Work Order No. 0239-019-001
44	Report Prepare	Roy F. Weston
45	Testing Firm	Roy F. Weston
46	Cond Descr	purpose of test not clear
47	Testing Dates	October 28-29, 1996
48	Cond Dates	Oct-96

	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Stack Gas Emissions 1													
2														
3		Comments	Units	7% O2										
4														
5														
6	208C10	Max comb temp, max metals, chlorine				R1		R2		R3		R4		Cond Avg
7														
8	PM	E1	gr/dscf	y		0.017		0.0189		0.0154				0.0171
9														
10	CO (MHRA)	E1	ppmv	y		39		40		38				39.0
11														
12	HCl		ppmv			24.53		28.31		29.5				
13	Cl2		ppmv			0.48	nd	0.2		0.24				
14														
15	HCl	E1	ppmv	y		28.1		31.2		35.3				31.6
16	Cl2	E1	ppmv	y		0.6	nd	0.2		0.3				0.4
17	Total Chlorine	E1	ppmv	y		29.3	1.4	31.6		35.9			0.5	32.3
18														
19	Arsenic	E2	ug/dscm	y		2.58		1.01		0.89				1.5
20	Cadmium	E2	ug/dscm	y		95.79		103.36		100.18				99.8
21	Beryllium	E2	ug/dscm	y		0.09		0.13		0.11				0.1
22	Lead	E2	ug/dscm	y		358.19		438.89		426.16				407.7
23	Chromium	E2	ug/dscm	y		32.2		28.4		20.6				27.1
24	Chromium (Hex)	E2	ug/dscm	y	nd	0.10		0.93	nd	0.12				0.3
25	Mercury	E2	ug/dscm	y		103.8		88		124.9				105.6
26														
27	SVM	E2	ug/dscm	y		454.0		542.3		526.3				507.5
28	LVM	E2	ug/dscm	y		34.9		29.5		21.6				28.7
29														
30	Sampling Train	PM, HCl/Cl2	E1											
31	Stack Gas Flowrate		dscfm			135887		136952		136628				136489
32	O2		%			8.8		8.3		9.3				8.8
33	Moisture		%			33		33		34				33.3
34	Temperature		°F			334		340		339				337.7
35														
36	Sampling Train	Metals	E2											
37	Stack Gas Flowrate		dscfm			141546		139523		139226				140098
38	O2		%			8.8		8.3		9.3				8.8
39	Moisture		%			33.1		32.9		33.1				33.0
40	Temperature		°F			339		342		341				340.7
41														
42														
43	208C11					R1		R2		R3		R4		Cond Avg
44														
45	HC (RA)	E1	ppmv	y				3.7		3.9		7.2		4.9
46														
47	PM	E1	gr/dscf	y				0.0199		0.0208		0.0207		0.0205
48														
49	HCl		g/s					1.09		2.3		1.59		
50	Cl2		g/s				nd	0.015	nd	0.021	nd	0.022		
51	Total Chlorine		g/s											
52														
53	HCl	E1	ppmv	y				13.54		31.36		21.82		22.24
54	Cl2	E1	ppmv	y			nd	0.10	nd	0.15	nd	0.16	100	0.13
55	Total Chlorine	E1	ppmv	y			1.4	13.73	1	31.66	1	22.13	1.2	22.51
56														
57	POHC DRE	PCE (perchloroethylene)												
58	POHC Feedrate		lb/hr					59.98		59.97		60.01		
59	Emission Rate	E2	lb/hr				nd	2.69E-03	nd	2.90E-03	nd	2.73E-03		
60	DRE	E2	%				>	99.9955	>	99.9952	>	99.9955		
61														
62	POHC DRE	1,2 DCB (Dichlorobenzene)												
63	POHC Feedrate		lb/hr					18.9		18.88		18.9		
64	Emission Rate	E2	lb/hr				nd	1.32E-04	nd	1.54E-04	nd	1.53E-04		
65	DRE	E2	%				>	99.9993	>	99.9992	>	99.9992		
66														
67	POHC DRE	TCB (trichlorobenzene)												
68	POHC Feedrate		lb/hr					18.47		18.46		18.48		
69	Emission Rate	E2	lb/hr				nd	1.32E-04	nd	1.54E-04	nd	1.53E-04		
70	DRE	E2	%				>	99.9993	>	99.9992	>	99.9992		
71														

	B	C	D	E	F	G	H	I	J	K	L	M	N	O
72	Sampling Train	PM, HCl/Cl2	E1											
73	Stack Gas Flowrate		dscfm					137061		129351		127413		131275.0
74	O2		%					9.5		9.9		9.8		9.7
75	Moisture		%					31.2		32.4		32.8		32.1
76	Temperature		°F					310		304		293		302.3
77														
78	Sampling Train	PCDD/PCDF, F E2												
79	Stack Gas Flowrate		dscfm					141144		143343		142560		142349.0
80	O2		%					9.6		10		10		9.9
81	Moisture		%					31		31.6		32.1		31.6
82	Temperature		°F					307		306		291		301.3
83														
84														
85	Note: R1 removed (not representative of process conditions)													
86														
87	Sampling Train	metals	E3											
88	Stack Gas Flowrate		dscfm			111580		134599		132569				
89	O2		%			9.5		9.5		9.9				
90	Moisture		%			27.3		30.9		31.8				
91	Temperature		°F			293		309		305				
92														
93	Antimony	E3	ug/dscm	y		2.73		5.53		6.04				4.8
94	Arsenic	E3	ug/dscm	y		0.065	nd	3.91	nd	4.33			99	2.8
95	Beryllium	E3	ug/dscm	y	nd	0.066	nd	0.056	nd	0.062			100	0.1
96	Cadmium	E3	ug/dscm	y		0.6		0.73		0.67				0.7
97	Chromium	E3	ug/dscm	y		25.45		42.72		33.31				33.8
98	Chromium (Hex)	E3	ug/dscm	y		0.1		0.094		0.827				0.3
99	Mercury	E3	ug/dscm	y		6.64		2.88		11.01				6.8
100	Lead	E3	ug/dscm	y		41.33		65.82		72.96				60.0
101	Nickel	E3	ug/dscm	y		40.55		25.77		21.19				29.2
102	Selenium	E3	ug/dscm	y	nd	6.63	nd	5.58	nd	6.17			100	6.1
103	Thallium	E3	ug/dscm	y	nd	3.96	nd	3.34	nd	3.72			100	3.7
104														
105	SVM	E3	ug/dscm	y		41.93		66.55		73.63				60.7
106	LVM	E3	ug/dscm	y	0	25.58	8.5	46.69	12	37.70			7.7	36.7

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	
1	Stack Gas Emissions 2																		
2																			
3																			
4	208C1					R1		R2		R3		R4		R5		R6		Cond Avg	
5																			
6	PM	E1	gr/dscf	y		0.0128		0.0140		0.0153		0.0138							0.0140
7	CO (MHRA)	E1	ppmv	y		48.00		51.00		48.00		52.00							49.75
8	CO (RA)	E1	ppmv	y		47.00		47.00		45.00		50.00							47.25
9	HCl	E2	ppmv	y		4.63		2.49		3.43		5.81							4.09
10	Cl2	E2	ppmv	y		0.30		0.23		0.24		0.20							0.24
11	Total Chlorine	E2	ppmv	y		5.23		2.94		3.91		6.20							4.57
12	Antimony	E3	ug/dscm	y	nd	0.64	nd	0.65	nd	0.63	nd	0.62					100		0.64
13	Arsenic	E3	ug/dscm	y	nd	0.64	nd	0.65	nd	0.63	nd	0.62					100		0.64
14	Barium	E3	ug/dscm	y		23.62		17.55		14.01		13.93							17.28
15	Beryllium	E3	ug/dscm	y	nd	0.06	nd	0.06	nd	0.06	nd	0.06					100		0.06
16	Cadmium	E3	ug/dscm	y		28.99		31.88		26.26		35.43							30.64
17	Chromium	E3	ug/dscm	y		9.10		8.81		6.78		9.64							8.58
18	Chromium (Hex)	E4	ug/dscm	y		0.86		1.16		0.81		0.93							0.94
19	Lead	E3	ug/dscm	y		50.67		41.57		72.80		106.04							67.77
20	Mercury	E3	ug/dscm	y	nd	12.08		21.47		19.98		25.03					15		19.64
21	Nickel	E3	ug/dscm	y		8.39		5.36		4.18		5.93							5.97
22	Silver	E3	ug/dscm	y		0.35		0.38		0.46		0.42							0.40
23	Thallium	E3	ug/dscm	y	nd	0.64	nd	0.65	nd	0.63	nd	0.62					100		0.64
24	SVM	E3	ug/dscm	y		79.66		73.45		99.05		141.47							98.41
25	LVM	E3	ug/dscm	y	7	9.80	8	9.52	9	7.48	7	10.32					7.5		9.28
26																			
27	Sampling Train	Particulat E1																	
28	Stack Gas Flowrate		dscfm			152500		155000		150300		152700							
29	O2		%			12.3		11.5		11.6		11.5							
30	Moisture		%			26.4		26.5		26.8		26.4							
31	Temperature		°F			326		339		340		342							
32																			
33	Sampling Train	Halogens E2																	
34	Stack Gas Flowrate		dscfm			159600		155200		152300		151900							
35	O2		%			27		27.1		27.3		26.7							
36	Moisture		%			12.3		11.5		11.6		11.5							
37	Temperature		°F			325		336		339		340							
38																			
39	Sampling Train	Metals E3																	
40	Stack Gas Flowrate		dscfm			155800		143300		147600		148200							
41	O2		%			12.1		11.5		11.6		11.5							
42	Moisture		%			27.7		28		27.9		27.8							
43	Temperature		°F			325		337		337		340							
44																			
45	Sampling Train	Cr Hex E4																	
46	Stack Gas Flowrate		dscfm			149800		145700		149800		157700							
47	O2		%			11.3		11.1		11.3		11.5							
48	Moisture		%			27.5		27.7		27.5		25.7							
49	Temperature		°F			329		335		329		333							
50																			
51	Sampling Train	Dioxin & E5																	
52	Stack Gas Flowrate		dscfm			161000		152100		156800									
53	O2		%			12.3		11.1		11.7									
54	Moisture		%			27.2		27.7		27.4									
55	Temperature		°F			324		335		335									
56																			
57	208C2					R1		R2		R3		R4		R5		R6		Cond Avg	
58																			
59	PM	E1	gr/dscf	y		0.01475		0.01073		0.02500		0.01486		0.0120		0.0159			0.0155
60	CO (MHRA)	E1	ppmv	y		62.00		54.00		49.00		49.00		52.00		57.00			53.83
61	CO (RA)	E1	ppmv	y		48.00		49.00		48.00		44.00		52.00		57.00			49.67
62	Antimony	E2	ug/dscm	y	nd	0.69	nd	0.62		0.62		0.55		1.01	nd	0.68			0.70
63	Arsenic	E2	ug/dscm	y	nd	0.69	nd	0.62	nd	0.67	nd	0.59	nd	0.63	nd	0.68			0.65
64	Beryllium	E2	ug/dscm	y	nd	0.07	nd	0.06	nd	0.07	nd	0.06	nd	0.06	nd	0.07			0.06
65	Cadmium	E2	ug/dscm	y		29.57		18.56		24.55		14.00		12.23		13.92			18.81
66	Chromium	E2	ug/dscm	y		24.96		4.91		13.51		6.99		12.57		12.58			12.59
67	Chromium (Hex)	E3	ug/dscm	y		1.45		0.90		1.53		2.00		1.50		2.10			1.58
68	Lead	E2	ug/dscm	y		91.53		68.49		90.52		64.50		50.90		50.42			69.39
69	Thallium	E2	ug/dscm	y	nd	0.69	nd	0.62	nd	0.67	nd	0.59	nd	0.63	nd	0.68			0.65
70	SVM	E2	ug/dscm	y		121.10		87.05		115.07		78.50		63.13		64.33			88.20
71	LVM	E2	ug/dscm	y	3	25.72	12	5.59	5	14.25	9	7.64	5	13.26	6	13.33	5.4		13.30

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
72																		
73	Sampling Train	Particulat	E1															
74	Stack Gas Flowrate	dscfm				144600		148300		148200		149300		153500		153200		
75	O2	%				11.7		11.5		12.1		11.7		11.3		11.7		
76	Moisture	%				26.3		26.7		26.8		27.1		26.4		25.3		
77	Temperature	°F				318		331		330		327		331		330		
78																		
79	Sampling Train	Metals	E2															
80	Stack Gas Flowrate	dscfm				144600		149000		149100		152000		151800		144700		
81	O2	%				12.2		11.5		12.3		11.4		11.7		12.1		
82	Moisture	%				27.8		27.3		28		27.6		27.6		26.9		
83	Temperature	°F				321		332		331		327		329		330		
84																		
85	Sampling Train	Cr Hex	E3															
86	Stack Gas Flowrate	dscfm				141800		143800		145200		151600		150900		158500		
87	O2	%				11.7		11.5		12.1		11.7		11.3		11.7		
88	Moisture	%				27		27.1		27.1		27.2		27.3		25.2		
89	Temperature	°F				321		0		330		327		330		330		
90																		
91	208C3					R1		R2		R3		R4		R5		R6		Cond Avg
92																		
93	PM	E1	gr/dscf	y		0.0172		0.0162		0.0171								0.0169
94	HCl	E2	ppmv	y		10.36		5.49		5.63								7.16
95	Cl2	E2	ppmv	y		0.11		0.09		0.11								0.10
96	Total Chlorine	E2	ppmv	y		10.58		5.66		5.85								7.36
97	Arsenic	E3	ug/dscm	y	nd	0.54	nd	0.52	nd	0.56							100	0.54
98	Beryllium	E3	ug/dscm	y	nd	0.05	nd	0.05	nd	0.06							100	0.05
99	Cadmium	E3	ug/dscm	y		1.88		3.16		1.97								2.34
100	Chromium (Hex)	E4	ug/dscm	y	nd	0.15	nd	0.14	nd	0.16							100	0.15
101	Lead	E3	ug/dscm	y		22.07		20.86		23.91								22.28
102	Mercury	E3	ug/dscm	y		2.10		2.37		2.17								2.21
103	Nickel	E3	ug/dscm	y		19.51		4.75		9.58								11.28
104	SVM	E3	ug/dscm	y		23.95		24.02		25.89								24.62
105	LVM	E3	ug/dscm	y	80	0.75	81	0.71	79	0.77							80	0.74
106																		
107	Sampling Train	Particulat	E1															
108	Stack Gas Flowrate	dscfm				134300		136700		133400								
109	O2	%				9.7		9.7		9.8								
110	Moisture	%				30.4		29.4		30								
111	Temperature	°F				301		303		305								
112																		
113	Sampling Train	Halogens	E2															
114	Stack Gas Flowrate	dscfm				137600		148200		143400								
115	O2	%				9.7		9.7		9.8								
116	Moisture	%				28.8		27.3		27.5								
117	Temperature	°F				303		304		306								
118																		
119	Sampling Train	Metals	E3															
120	Stack Gas Flowrate	dscfm				139700		146000		148200								
121	O2	%				9.7		9.7		9.8								
122	Moisture	%				29.8		28.7		28.1								
123	Temperature	°F				304		306		308								
124																		
125	Sampling Train	Cr Hex	E4															
126	Stack Gas Flowrate	dscfm				133400		145800		140500								
127	O2	%				9.7		9.7		9.8								
128	Moisture	%				30.9		27.8		29.9								
129	Temperature	°F				303		304		306								
130																		
131	Sampling Train	Dioxin &	E5															
132	Stack Gas Flowrate	dscfm				130900		141700		135800								
133	O2	%				9.7		9.7		9.8								
134	Moisture	%				29.7		28.7		28.4								
135	Temperature	°F				303		304		307								

	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	
1	Feedstream 1																												
2																													
3	208C10	Max comb temp, ma		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	F3							
6	Feed Class			Raw Material	Raw Material	Raw Material	Raw Material	Coal				Coal	Coal	Coal	Liq HW				Liq HW	Liq HW	Liq HW	Liq HW							
7	Feed Class 2			RM	RM	RM	RM	Coal				Coal	Coal	Coal	HW				HW	HW	HW	HW							
8	Feedstream Description			Raw Matl	Raw Matl	Raw Matl	Raw Matl	Coal				Coal	Coal	Coal	Liq Waste				Liq Waste	Liq Waste	Liq Waste	Liq Waste							
9	Feed Rate			202,000,000	202,700,000	196,000,000	200,233,333	5,180,000				5,580,000	5,760,000	5,506,667				5,506,667	8,480,000	8,820,000	8,740,000	8,680,000							
10	Heating Value			Btu/lb				11,964				11,871	11,728	11,850				11,850	15,901	14,722	11,272	13,948							
11	Thermal Feedrate			MMBtu/hr	0	0	0	137				146	149	144				144	297	286	217	267							
12	Chlorine			g/hr	2,527	3,070	2,453	2,683				6,216	7,253	7,489				6,986	65,600	105,450	120,383	97,144							
13	Antimony			g/hr	101	101	98	100				4	6	7				6	11	8	6	8							
14	Arsenic			g/hr	165	161	148	158				137	78	72				96	0	9	8	6							
15	Barium			g/hr	1,205	915	952	1,024				544	587	858				663	66	42	44	51							
16	Beryllium			g/hr	33	30	37	33				6	7	8				7	0	0	0	0							
17	Cadmium			g/hr	0	0	0	0				0	0	0				0	0	5	5	3							
18	Chromium			g/hr	1,128	1,094	1,205	1,142				19	31	40				30	24	94	86	68							
19	Lead			g/hr	613	608	581	600				56	61	69				62	77	41	42	53							
20	Mercury			g/hr	4	5	4	4				1	1	1				1	0	0	3	1							
21	Silver			g/hr	101	101	98	100				3	3	3				3	8	9	9	9							
22	Thallium			g/hr	101	101	98	100				4	4	5				4	8	9	9	9							
23	Nickel			g/hr	1,482	1,811	1,554	1,615				74	89	102				88	39	68	62	56							
24	Selenium			g/hr	101	101	98	100				16	17	18				17	8	10	9	9							
25																													
26	Stack Gas Flowrate			dscfm	141,546	139,523	139,226	140,098				141,546	139,523	139,226				140,098	141,546	139,523	139,226	140,098							
27	Oxygen			%	8.8	8.3	9.3	8.8				8.8	8.3	9.3				8.8	8.8	8.3	9.3	8.8							
28																													
29	<i>Feedrate MTEC Calculations</i>																												
30	Chlorine			ug/dscm	12,065	14,285	12,416	12,944				29,679	33,749	37,906				33,700	313,211	490,666	609,324	468,613							
31	Antimony			ug/dscm	483	471	497	483				21	27	35				27	53	37	30	40							
32	Arsenic			ug/dscm	789	748	749	762				655	365	364				463	0	42	41	27							
33	Barium			ug/dscm	5,753	4,258	4,817	4,939				2,597	2,730	4,344				3,198	315	195	223	244							
34	Beryllium			ug/dscm	155	141	188	161				29	32	41				34	0	0	0	0							
35	Cadmium			ug/dscm	0	0	0	0				0	0	0				0	0	24	23	16							
36	Chromium			ug/dscm	5,386	5,090	6,098	5,510				92	146	204				146	115	439	437	329							
37	Lead			ug/dscm	2,925	2,829	2,939	2,896				270	283	350				300	367	190	214	257							
38	Mercury			ug/dscm	19	24	20	21				5	5	3				4	1	2	13	5							
39	Silver			ug/dscm	483	471	497	483				12	13	15				0	38	42	46	42							
40	Thallium			ug/dscm	483	471	497	483				20	19	25				21	38	42	46	42							
41	Nickel			ug/dscm	7,075	8,425	7,865	7,793				351	413	516				425	186	316	314	272							
42	Selenium			ug/dscm	483	471	497	483				76	79	89				81	38	47	46	43							
43																													
44	SVM			ug/dscm	2,925	2,829	2,939	2,896				270	283	350				300	367	214	237	273							
45	LVM			ug/dscm	6,330	5,980	7,034	6,433				777	542	609				643	115	481	478	357							
46																													
47	208C11																												
48																													
49	Feedstream Description	Coal																											
50	Feed Rate	g/hr																											
51	Thermal Feedrate	MMBtu/hr																											

	B	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AN	AO	AP	AQ	AR
1	Feedstream 1														
2															
3	208C10	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	Spike		Spike		Spike		Spike		Total		Total		Total	Total
7	Feed Class 2	Spike		Spike		Spike		Spike		Total		Total		Total	Total
8	Feedstream Descriptior	Spike		Spike		Spike		Spike		Total		Total		Total	Total
9	Feed Rate														
10	Heating Value														
11	Thermal Feedrate									434		432		366	410
12	Chlorine	123,874		99,639		100,874		108,129							
13	Antimony														
14	Arsenic	817		731		790		779							
15	Barium														
16	Beryllium	227		222		227		225							
17	Cadmium	4,286		3,832		4,140		4,086							
18	Chromium	10,038		9,675		9,784		9,832							
19	Lead	21,247		20,112		20,680		20,680							
20	Mercury	45		45		45		45							
21	Silver														
22	Thallium														
23	Nickel														
24	Selenium														
25															
26	Stack Gas Flowrate	141,546		139,523		139,226		140,098							
27	Oxygen	8.8		8.3		9.3		8.8							
28															
29	<i>Feedrate MTEC Calcul</i>														
30	Chlorine	591,443		463,630		510,581		521,603		946,398		1,002,330		1,170,227	1,036,860
31	Antimony	0		0		0		0		556		536		562	551
32	Arsenic	3,902		3,401		3,998		3,760		5,346		4,556		5,152	5,011
33	Barium	0		0		0		0		8,665		7,183		9,384	8,381
34	Beryllium	1,084		1,035		1,149		1,088		1,269		1,208		1,378	1,283
35	Cadmium	20,463		17,829		20,957		19,710		20,463		17,854		20,980	19,726
36	Chromium	47,927		45,017		49,521		47,429		53,520		50,692		56,259	53,414
37	Lead	101,446		93,584		104,671		99,757		105,007		96,885		108,175	103,210
38	Mercury	217		211		230		219		242		242		266	250
39	Silver	0		0		0		0		533		526		557	525
40	Thallium	0		0		0		0		541		533		567	546
41	Nickel	0		0		0		0		7,613		9,155		8,695	8,490
42	Selenium	0		0		0		0		597		597		631	608
43															
44	SVM	121,909		111,413		125,629		119,467		125,470		114,739		129,155	122,936
45	LVM	52,912		49,454		54,668		52,276		60,134		56,456		62,789	59,708
46															
47	208C11														
48															
49	Feedstream Descriptior														
50	Feed Rate														
51	Thermal Feedrate														

	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
1	Feedstream 2																											
2																												
3																												
4	208C1				R1		R2		R3		R4		R5		R6		R1		R2		R3		R4		R5		R6	
5																												
6	Feedstream Number				F1		F1		F1		F1		F1		F1		F2		F2		F2		F2		F2		F2	
7	Feed Class				Coal		Coal		Coal		Coal		Coal		Coal		Raw Material		Raw Material		Raw Material		Raw Material		Raw Material		Raw Material	
8	Feed Class 2				Coal		Coal		Coal		Coal		Coal		Coal		RM		RM		RM		RM		RM		RM	
9	Feedstream Description				Coal		Coal		Coal		Coal		Coal		Coal		Raw material		Raw material		Raw material		Raw material		Raw material		Raw material	
0	Feed Rate		lb/hr		9,144		8,370		10,170		10,992						322,628		325,042		325,125		328,052					
1	Heating Value		Btu/lb		14,009		13,011		12,989		12,937																	
2	Thermal Feedrate		MMBtu/hr		128		109		132		142																	
3	Chlorine		lb/hr		16.5		10.9		14.2		14.3				nd	64.5	nd	65	nd	65	nd	65.6						
4	Antimony		lb/hr	nd	0.07	nd	0.07		0.11	nd	0.07				nd	2.90	nd	3.25	nd	3.25	nd	2.95						
5	Arsenic		lb/hr		0.22		0.18		0.21		0.21				nd	0.32	nd	0.33	nd	0.33	nd	0.33						
6	Barium		lb/hr		0.46		0.05		0.42		0.55				nd	6.45	nd	6.50	nd	6.50	nd	6.56						
7	Beryllium		lb/hr		0.03		0.03		0.02		0.04				nd	0.16	nd	0.16	nd	0.16	nd	0.16						
8	Cadmium		lb/hr		0.01		0.00		0.02		0.02				nd	0.16	nd	0.16	nd	0.16	nd	0.16						
9	Chromium		lb/hr		0.15		0.13		0.18		0.19					0.65		0.65		1.63		0.98						
0	Chromium (Hex)		lb/hr																									
1	Lead		lb/hr		0.11		0.09		0.23		0.22					1.29		0.98		1.63		1.97						
2	Mercury		lb/hr		0.00		0.01		0.01		0.01				nd	0.03	nd	0.03	nd	0.03	nd	0.03						
3	Nickel		lb/hr		0.16		0.14		0.14		0.19				nd	1.29	nd	1.30		1.95	nd	1.31						
4	Silver		lb/hr	nd	0.01	nd	0.01	nd	0.01	nd	0.01				nd	0.29	nd	0.33	nd	0.33	nd	0.30						
5	Thallium		lb/hr	nd	0.01	nd	0.01	nd	0.01	nd	0.01				nd	0.32	nd	0.33	nd	0.33	nd	0.33						
6																												
7	Stack Gas Flowrate		dscfm		155,800		143,300		147,600		148,200						155,800		143,300		147,600		148,200					
8	O2		%		12.1		11.5		11.6		11.5						12.1		11.5		11.6		11.5					
9																												
0	<i>Feedrate MTEC Calculations</i>																											
1	Chlorine		ug/dscm		44,542		29,971		38,311		38,020				nd	174,120	nd	178,727	nd	175,366	nd	174,413						
2	Antimony		ug/dscm	nd	198	nd	184		302	nd	175				nd	7,829	nd	8,936	nd	8,768	nd	7,843						
3	Arsenic		ug/dscm		591		484		577		556				nd	872	nd	894	nd	877	nd	872						
4	Barium		ug/dscm		1,234		138		1,125		1,462				nd	17,412	nd	17,873	nd	17,537	nd	17,441						
5	Beryllium		ug/dscm		77		76		63		100				nd	435	nd	445	nd	437	nd	436						
6	Cadmium		ug/dscm		15		12		58		44				nd	435	nd	445	nd	437	nd	436						
7	Chromium		ug/dscm		394		368		494		497					1,741		1,787		4,398		2,616						
8	Chromium (Hex)		ug/dscm		0		0		0		0					0		0		0		0						
9	Lead		ug/dscm		297		254		631		585					3,482		2,681		4,398		5,238						
0	Mercury		ug/dscm		12		14		14		15				nd	87	nd	89	nd	87	nd	87						
1	Nickel		ug/dscm		418		390		383		497				nd	3,482	nd	3,575		5,261	nd	3,483						
2	Silver		ug/dscm	nd	22	nd	18	nd	27	nd	18				nd	783	nd	894	nd	877	nd	784						
3	Thallium		ug/dscm	nd	24	nd	21	nd	19	nd	26				nd	872	nd	894	nd	877	nd	872						
4	SVM		ug/dscm		312		265		689		629					3,917		3,126		4,835		5,674						
5	LVM		ug/dscm		1,062		928		1,134		1,153					3,048		3,126		5,712		3,924						
6																												
7	208C2				R1		R2		R3		R4		R5		R6		R1		R2		R3		R4		R5		R6	
8																												
9	Feedstream Number				F1		F1		F1		F1		F1		F1		F2		F2		F2		F2		F2		F2	
0	Feed Class				Coal		Coal		Coal		Coal		Coal		Coal		Raw Material		Raw Material		Raw Material		Raw Material		Raw Material		Raw Material	
1	Feed Class 2				Coal		Coal		Coal		Coal		Coal		Coal		RM		RM		RM		RM		RM		RM	
2	Feedstream Description				Coal		Coal		Coal		Coal		Coal		Coal		Raw material		Raw material		Raw material		Raw material		Raw material		Raw material	
3	Feed Rate		g/hr		8,300,000		6,480,000		6,570,000		6,480,000		7,080,000		5,840,000													
4	Heating Value		Btu/lb		13,009		12,999		12,995		12,993		12,991		13,007													
5	Thermal Feedrate		MMBtu/hr		238		186		188		186		203		167													
6	Chlorine		lb/hr		23.8		20		21.7		24.3		26.6		nd	65.6	nd	62.3	nd	64.8	nd	64.8	nd	42.8				
7	Antimony		lb/hr	nd	0.15	nd	0.10	nd	0.15	nd	0.11	nd	0.13	nd	0.26	nd	3.28	nd	3.11	nd	3.24	nd	3.24	nd	3.24	nd	3.24	0.03
8	Arsenic		lb/hr		0.40		0.37		0.35		0.36		0.31	nd	2.57	nd	0.33	nd	0.31	nd	0.32	nd	0.32	nd	0.32	nd	0.32	1.62
9	Barium		lb/hr		0.77		0.56		0.62		0.70		0.73	nd	1.29	nd	6.56	nd	6.23	nd	6.48	nd	6.48	nd	6.48	nd	6.48	6.71
0	Beryllium		lb/hr		0.05		0.04		0.04		0.04		0.05	nd	0.26	nd	0.16	nd	0.16	nd	0.16	nd	0.16	nd	0.16	nd	0.16	0.19

	B	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AX	AY	AZ
1	Feedstream 2																						
2																							
3																							
4	208C1	R1	R2	R3	R4	R5	R6	R1	R2	R3	R4	R5	R6										
5																							
6	Feedstream Number	F3	F3	F3	F3	F3	F3	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4
7	Feed Class	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike
8	Feed Class 2																						
9	Feedstream Description	Liquid waste	Liquid waste	Liquid waste	Liquid waste	Liquid waste	Liquid waste	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike
10	Feed Rate	13,744	13,678	13,590	13,965			476	789	417	395												
11	Heating Value	12,005	11,990	11,994	11,028			0	0	0	0												
12	Thermal Feedrate	165	164	163	154																		
13	Chlorine	79.2	116	41	76.7																		
14	Antimony							0.00	0.00	0.03	0.00												
15	Arsenic		0.01	0.01				0.00	0.02	0.00	0.00												
16	Barium			0.12																			
17	Beryllium																						
18	Cadmium	0.01	0.01	0.02	0.01			0.03	0.33	0.04	0.06												
19	Chromium	0.03	0.04	0.03	0.02			3.39	6.21	5.84	5.35												
20	Chromium (Hex)							2.72	5.42	4.67	3.74												
21	Lead	0.23	0.14	0.26	0.24			0.02	0.35	0.07	0.06												
22	Mercury	0.00	0.00	0.00				0.00	0.00	0.00	0.00												
23	Nickel	0.02		0.02				0.02	0.04	0.03	0.03												
24	Silver			0.01																			
25	Thallium																						
26																							
27	Stack Gas Flowrate	155,800	143,300	147,600	148,200			155,800	143,300	147,600	148,200												
28	O2	12.1	11.5	11.6	11.5			12.1	11.5	11.6	11.5												
29																							
30	<i>Feedrate MTEC Calculations</i>																						
31	Chlorine	213,803	318,959	110,615	203,925			0	0	0	0												
32	Antimony	0	0	0	0			3	4	82	0												
33	Arsenic	0	22	16	0			2	58	6	9												
34	Barium	0	0	321	0			0	0	0	0												
35	Beryllium	0	0	0	0			0	0	0	0												
36	Cadmium	33	21	58	15			74	896	113	146												
37	Chromium	92	109	91	44			9,151	17,075	15,756	14,224												
38	Chromium (Hex)	0	0	0	0			7,343	14,903	12,599	9,944												
39	Lead	626	374	704	641			51	962	196	162												
40	Mercury	4	4	7	0			0	0	0	0												
41	Nickel	49	0	64	0			58	103	83	74												
42	Silver	0	0	14	0			0	0	0	0												
43	Thallium	0	0	0	0			0	0	0	0												
44	SVM	659	395	762	655			124	1,859	309	308												
45	LVM	92	131	107	44			9,154	17,133	15,762	14,233												
46																							
47	208C2	R1	R2	R3	R4	R5	R6	R1	R2	R3	R4	R5	R6										
48																							
49	Feedstream Number	F3	F3	F3	F3	F3	F3	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4	F4
50	Feed Class	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike	Spike
51	Feed Class 2																						
52	Feedstream Description	Liquid waste	Liquid waste	Liquid waste	Liquid waste	Liquid waste	Liquid waste	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike	Metal Cr spike
53	Feed Rate																						
54	Heating Value							0	0	0	0												
55	Thermal Feedrate																						
56	Chlorine	104						30															
57	Antimony							0.00	0.00	0.00	0.00										0.00	0.00	0.00
58	Arsenic							0.00	0.00	0.01	0.00										0.00	0.00	0.00
59	Barium																						
60	Beryllium							0.20															

	B	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV
1	Feedstream 2																						
2																							
3																							
4	208C1		R1		R2		R3		R4		R5		R6		R1		R2		R3		R4		R5
5	Feedstream Number		F5		F5		F5		F5		F5		F5		F6		F6		F6		F6		F6
6	Feed Class		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike
7	Feed Class 2																						
8	Feedstream Description		Metal Pb spike		Metal Pb spike		Metal Pb spike		Metal Pb spike		Metal Pb spike		Metal Pb spike		Metal As/Cd spike		Metal As/Cd spike		Metal As/Cd spike		Metal As/Cd spike		Metal As/Cd spike
9	Feed Rate		1,084		1,260		872		528						586		762		305		341		
10	Heating Value		0		0		0		0						0		0		0		0		0
11	Thermal Feedrate																						
12	Chlorine																						
13	Antimony		0.03		0.05		0.06								0.00		0.00		0.00		0.00		0.00
14	Arsenic		0.01		0.03										0.22		0.46		0.34		0.40		0.40
15	Barium														0.00		0.00		0.00		0.00		0.00
16	Beryllium																						
17	Cadmium		0.21		0.23		0.05		0.01						4.69		4.48		4.10		5.68		
18	Chromium		0.02		0.06		0.02		0.02						0.24		0.06		0.04		0.08		0.08
19	Chromium (Hex)		0.02		0.01		0.02								0.05						0.00		0.00
20	Lead		4.45		14.10		6.10		5.30						0.08		0.06		0.02		0.16		0.16
21	Mercury		0.00		0.00		0.00								0.00		0.00		0.00		0.00		0.00
22	Nickel		0.15		0.19		0.21								0.01		0.01		0.01		0.01		0.01
23	Silver		0.00		0.00		0.00																
24	Thallium																						
25																							
26	Stack Gas Flowrate		155,800		143,300		147,600		148,200						155,800		143,300		147,600		148,200		
27	O2		12.1		11.5		11.6		11.5						12.1		11.5		11.6		11.5		
28																							
29																							
30	<i>Feedrate MTEC Calculations</i>																						
31	Chlorine		0		0		0		0						0		0		0		0		0
32	Antimony		70		135		163		0						1		3		2		1		1
33	Arsenic		24		70		0		0						602		1,270		928		1,053		
34	Barium		0		0		0		0						0		1		1		1		1
35	Beryllium		0		0		0		0						0		0		0		0		0
36	Cadmium		562		635		132		28						12,661		12,318		11,062		15,102		
37	Chromium		56		172		48		65						651		174		106		221		
38	Chromium (Hex)		65		27		67		0						146		0		0		1		
39	Lead		12,013		38,770		16,457		14,091						219		175		47		436		
40	Mercury		1		2		4		0						0		0		0		0		0
41	Nickel		408		533		561		0						28		33		21		26		
42	Silver		0		0		0		0						0		0		0		0		0
43	Thallium		0		0		0		0						0		0		0		0		0
44	SVM		12,574		39,405		16,590		14,119						12,880		12,493		11,109		15,538		
45	LVM		80		243		48		65						1,253		1,444		1,034		1,274		
46																							
47	208C2		R1		R2		R3		R4		R5		R6		R1		R2		R3		R4		R5
48	Feedstream Number		F5		F5		F5		F5		F5		F5		F6		F6		F6		F6		F6
49	Feed Class		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike
50	Feed Class 2																						
51	Feedstream Description		Metal Pb spike		Metal Pb spike		Metal Pb spike		Metal Pb spike		Metal Pb spike		Metal Pb spike		Metal As/Cd spike		Metal As/Cd spike		Metal As/Cd spike		Metal As/Cd spike		Metal As/Cd spike
52	Feed Rate																						
53	Heating Value		0		0		0		0		0		0		0		0		0		0		0
54	Thermal Feedrate																						
55	Chlorine																						
56	Antimony						0.00								0.00		0.00		0.00		0.00		0.00
57	Arsenic		0.00		0.00		0.00		0.00		0.00		0.00		0.17		0.18		0.19		0.18		0.17
58	Barium														0.00		0.00		0.00		0.00		0.00
59	Beryllium																						

	B	BV	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	
1	Feedstream 2																									
2																										
3																										
4	208C1		R6		R1		R2		R3		R4		R5		R6		R1		R2		R3		R4		R5	
5																										
6	Feedstream Number		F6		F7		F7		F7		F7		F7		F7		F8		F8		F8		F8		F8	
7	Feed Class		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Liq HW		Liq HW		Liq HW		Liq HW		Liq HW	
8	Feed Class 2																									
9	Feedstream Description		Metal As/Cd spike		Metal Be spike		Metal Be spike		Metal Be spike		Metal Be spike		Metal Be spike		Metal Be spike		Liquid waste 3		Liquid waste 3		Liquid waste 3		Liquid waste 3		Liquid waste 3	
10	Feed Rate				1		1		1		1		1		1		7,655		6,895		7,660		8,499		7,655	
11	Heating Value				0		0		0		0		0		0		0		0		0		0		0	
12	Thermal Feedrate																									
13	Chlorine																145		61.4		115		83.3		145	
14	Antimony																									
15	Arsenic																		0.01		0.01		0.01		0.01	
16	Barium																									
17	Beryllium				0.01		0.01		0.01		0.01		0.01													
18	Cadmium																0.02		0.02		0.01		0.01		0.02	
19	Chromium																0.05		0.03		0.06		0.02		0.05	
20	Chromium (Hex)																									
21	Lead																0.23		0.05		0.22		0.18		0.23	
22	Mercury																				0.00					
23	Nickel																									
24	Silver																				0.01					
25	Thallium																									
26																										
27	Stack Gas Flowrate				155,800		143,300		147,600		148,200						155,800		143,300		147,600		148,200		155,800	
28	O2				12.1		11.5		11.6		11.5						12.1		11.5		11.6		11.5		12.1	
29																										
30	<i>Feedrate MTEC Calculations</i>																									
31	Chlorine				0		0		0		0		0		0		391,432		168,828		310,263		221,472		391,432	
32	Antimony				0		0		0		0		0		0		0		0		0		0		0	
33	Arsenic				0		0		0		0		0		0		0		17		33		25		0	
34	Barium				0		0		0		0		0		0		0		0		0		0		0	
35	Beryllium				35		36		35		35		35		0		0		0		0		0		0	
36	Cadmium				0		0		0		0		0		0		64		44		25		13		64	
37	Chromium				0		0		0		0		0		0		130		84		149		52		130	
38	Chromium (Hex)				0		0		0		0		0		0		0		0		0		0		0	
39	Lead				0		0		0		0		0		0		621		145		580		476		621	
40	Mercury				0		0		0		0		0		0		0		0		2		0		0	
41	Nickel				0		0		0		0		0		0		0		0		0		0		0	
42	Silver				0		0		0		0		0		0		0		0		25		0		0	
43	Thallium				0		0		0		0		0		0		0		0		0		0		0	
44	SVM				0		0		0		0		0		0		685		189		605		489		685	
45	LVM				35		36		35		35		35		0		130		101		182		77		130	
46																										
47	208C2		R6		R1		R2		R3		R4		R5		R6		R1		R2		R3		R4		R5	
48																										
49	Feedstream Number		F6		F7		F7		F7		F7		F7		F7		F8		F8		F8		F8		F8	
50	Feed Class		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Liq HW		Liq HW		Liq HW		Liq HW		Liq HW	
51	Feed Class 2																									
52	Feedstream Description		Metal As/Cd spike		Metal Be spike		Metal Be spike		Metal Be spike		Metal Be spike		Metal Be spike		Metal Be spike		Liquid waste 3		Liquid waste 3		Liquid waste 3		Liquid waste 3		Liquid waste 3	
53	Feed Rate																									
54	Heating Value				0		0		0		0		0		0		0		0		0		0		0	
55	Thermal Feedrate																									
56	Chlorine																									
57	Antimony				0.00																					
58	Arsenic				0.19																					
59	Barium				0.00																					
60	Beryllium				0.00441		0.00441		0.00441		0.00441		0.00441		0.00441											

	B	CU	CV	C	CX	C	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU						
1	Feedstream 2																																	
2																																		
3																																		
4	208C1	R6	R1	R2	R3	R4	R5	R6	R1	R2	R3	R4	R5	R6																				
5																																		
6	Feedstream Number	F8																																
7	Feed Class	Liq HW																																
8	Feed Class 2																																	
9	Feedstream Description	Liquid waste 3	Spike	Spike	Spike	Spike	Spike	Spike	Spike	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW						
10	Feed Rate																																	
11	Heating Value																																	
12	Thermal Feedrate																	165	164	163	154													
13	Chlorine																																	
14	Antimony																																	
15	Arsenic																																	
16	Barium																																	
17	Beryllium																																	
18	Cadmium																																	
19	Chromium																																	
20	Chromium (Hex)																																	
21	Lead																																	
22	Mercury																																	
23	Nickel																																	
24	Silver																																	
25	Thallium																																	
26																																		
27	Stack Gas Flowrate																																	
28	O2																																	
29																																		
30	<i>Feedrate MTEC Calculations</i>																																	
31	Chlorine		391,432	168,828	310,263	221,472			605,235	487,787	420,878	425,397	0	0																				
32	Antimony		74	143	247	2			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
33	Arsenic		628	1,415	967	1,087			0	39	49	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
34	Barium		0	1	1	1			0	0	321	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
35	Beryllium		35	36	35	35			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
36	Cadmium		13,360	13,894	11,332	15,289			97	64	83	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
37	Chromium		9,989	17,505	16,059	14,563			223	192	240	96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
38	Chromium (Hex)		7,553	14,930	12,667	9,945			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
39	Lead		12,904	40,052	17,281	15,165			1,247	519	1,284	1,117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
40	Mercury		2	2	6	0			4	4	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
41	Nickel		493	669	665	100			49	0	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
42	Silver		0	0	25	0			0	0	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
43	Thallium		0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
44	SVM		26,264	53,946	28,613	30,454			1,344	584	1,367	1,145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
45	LVM		10,652	18,957	17,061	15,684			223	232	289	121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
46																																		
47	208C2	R6	R1	R2	R3	R4	R5	R6	R1	R2	R3	R4	R5	R6																				
48																																		
49	Feedstream Number	F8																																
50	Feed Class	Liq HW																																
51	Feed Class 2																																	
52	Feedstream Description	Liquid waste 3	Spike	Spike	Spike	Spike	Spike	Spike	Spike	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW	HW						
53	Feed Rate																	2,490,000	4,350,000	4,350,000	4,120,000	4,120,000	4,120,000	4,120,000										
54	Heating Value																	11,505	10,009	10,009	12,011	8,705	8,705	8,705										
55	Thermal Feedrate																	63	96	96	109	79	79	79										
56	Chlorine																																	
57	Antimony																																	
58	Arsenic																																	
59	Barium																																	
60	Beryllium																																	

	B	DV	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH
1	Feedstream 2												
2													
3													
4	208C1	R1	R2	R3	R4	R5	R6	Cond Avg					
5													
6	Feedstream Number	F9	F9	F9	F9	F9	F9	F9					
7	Feed Class	Total	Total	Total	Total	Total	Total	Total					
8	Feed Class 2	Total	Total	Total	Total	Total	Total	Total					
9	Feedstream Description	Total	Total	Total	Total	Total	Total	Total					
10	Feed Rate												
11	Heating Value												
12	Thermal Feedrate	293	273	295	296								289
13	Chlorine												
14	Antimony												
15	Arsenic												
16	Barium												
17	Beryllium												
18	Cadmium												
19	Chromium												
20	Chromium (Hex)												
21	Lead												
22	Mercury												
23	Nickel												
24	Silver												
25	Thallium												
26													
27	Stack Gas Flowrate												
28	O2												
29													
30	<i>Feedrate MTEC Calculations</i>												
31	Chlorine	736,838	607,121	546,872	550,623								610,364
32	Antimony	8,100	9,263	9,317	8,020								8,675
33	Arsenic	2,091	2,815	2,437	2,514								2,465
34	Barium	18,646	18,012	18,983	18,904								18,636
35	Beryllium	547	557	536	571								553
36	Cadmium	13,842	14,371	11,884	15,784								13,970
37	Chromium	12,216	19,770	21,041	17,720								17,687
38	Chromium (Hex)	7,553	14,930	12,667	9,945								11,274
39	Lead	17,310	43,361	23,014	21,629								26,328
40	Mercury	105	109	113	102								107
41	Nickel	4,443	4,634	6,373	4,080								4,883
42	Silver	805	912	943	802								866
43	Thallium	896	914	896	898								901
44	SVM	31,152	57,732	34,899	37,412								40,299
45	LVM	14,854	23,142	24,014	20,805								20,704
46													
47	208C2	R1	R2	R3	R4	R5	R6	Cond Avg					
48													
49	Feedstream Number	F9	F9	F9	F9	F9	F9	F9					
50	Feed Class	Total	Total	Total	Total	Total	Total	Total					
51	Feed Class 2	Total	Total	Total	Total	Total	Total	Total					
52	Feedstream Description	Total	Total	Total	Total	Total	Total	Total					
53	Feed Rate												
54	Heating Value												
55	Thermal Feedrate	301	282	284	295	282	276	287					
56	Chlorine												
57	Antimony												
58	Arsenic												
59	Barium												
60	Beryllium												

	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
1	Cadmium		lb/hr		0.04		0.02		0.03		0.02		0.02		0.53 nd		0.16 nd		0.16 nd		0.16 nd		0.16 nd		0.16		1.10	
2	Chromium		lb/hr		0.29		0.21		0.23		0.04		0.25 nd		0.52		1.64		1.56		1.62		1.94		1.62		2.40	
3	Chromium (Hex)		lb/hr																									
4	Lead		lb/hr		0.38		0.29		0.25		0.21		0.25 nd		2.57		1.64		1.25		1.62		0.97		1.30 nd		2.07	
5	Mercury		lb/hr		0.01		0.01		0.01		0.01		0.01		0.00 nd		0.03 nd		0.03 nd		0.03 nd		0.03 nd		0.03 nd		0.03	
6	Nickel		lb/hr		0.27		0.24		0.25		0.23		0.27 nd		1.29		1.64		1.56		2.59		2.27		1.94 nd		0.84	
7	Silver		lb/hr	nd	0.01 nd		0.01 nd		0.01 nd		0.01 nd		0.01 nd		0.52 nd		0.33		0.31 nd		0.32 nd		0.32 nd		0.32 nd		0.03	
8	Thallium		lb/hr	nd	0.01 nd		0.01 nd		0.01 nd		0.01 nd		0.01 nd		0.01 nd		0.33 nd		0.31 nd		0.32 nd		0.32 nd		0.32 nd		0.10	
9																												
10	Stack Gas Flowrate		dscfm		144,600		149,000		149,100		152,000		151,800		144,700		144,600		149,000		149,100		152,000		151,800		144,700	
11	O2		%		12.2		11.5		12.3		11.4		11.7		12.1		12.2		11.5		12.3		11.4		11.7		12.1	
12																												
13	<i>Feedrate MTEC Calculations</i>																											
14	Chlorine		ug/dscm		70,012		52,889		62,619		62,336		70,530		0 nd		192,974 nd		164,750 nd		186,993 nd		166,229 nd		113,484		0	
15	Antimony		ug/dscm	nd	429 nd		264 nd		418 nd		292 nd		331 nd		747 nd		9,649 nd		8,224 nd		9,350 nd		8,311 nd		8,591		94	
16	Arsenic		ug/dscm		1,183		981		1,004		916		827 nd		7,470 nd		965 nd		825 nd		935 nd		831 nd		859 nd		4,709	
17	Barium		ug/dscm		2,259		1,473		1,798		1,796		1,946 nd		3,750 nd		19,297 nd		16,475 nd		18,699 nd		16,623 nd		17,182 nd		19,503	
18	Beryllium		ug/dscm		150		109		121		103		125 nd		747 nd		482 nd		413 nd		467 nd		416 nd		430 nd		564	
19	Cadmium		ug/dscm		129		57		80		52		62		1,535 nd		482 nd		413 nd		467 nd		416 nd		430		3,197	
20	Chromium		ug/dscm		862		566		669		91		663 nd		1,497		4,824		4,125		4,675		4,977		4,295		6,976	
21	Chromium (Hex)		ug/dscm		0		0		0		0		0		0		0		0		0		0		0		0	
22	Lead		ug/dscm		1,130		756		710		549		663 nd		7,470		4,824		3,306		4,675		2,493		3,447 nd		6,017	
23	Mercury		ug/dscm		27		19		25		22		20		8 nd		96 nd		82 nd		93 nd		83 nd		86 nd		94	
24	Nickel		ug/dscm		806		643		710		587		703 nd		3,750		4,824		4,125		7,474		5,823		5,144 nd		2,450	
25	Silver		ug/dscm	nd	43 nd		26 nd		42 nd		30 nd		33 nd		1,497 nd		965		825 nd		935 nd		831 nd		859 nd		94	
26	Thallium		ug/dscm	nd	38 nd		30 nd		38 nd		30 nd		29 nd		19 nd		965 nd		825 nd		935 nd		831 nd		859 nd		283	
27	SVM		ug/dscm		1,259		813		790		601		725		9,005		2,895		2,065		2,805		1,662		2,153		6,206	
28	LVM		ug/dscm		2,195		1,656		1,795		1,109		1,615		9,714		5,548		4,744		5,376		5,600		4,940		9,612	

	B	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ
61	Cadmium	0.01								0.01				0.02		0.04		0.05		0.02		0.02		0.02
62	Chromium	0.02								0.09				2.86		2.10		2.47		2.31		2.33		2.09
63	Chromium (Hex)													2.16		1.63		2.05		1.85		1.85		1.63
64	Lead	0.26								0.39				0.05		0.06		0.08		0.04		0.05		0.09
65	Mercury	0.00												0.00		0.00		0.00		0.00		0.00		0.00
66	Nickel													0.02		0.01		0.01		0.01		0.01		0.01
67	Silver	0.01																						
68	Thallium																							
69																								
70	Stack Gas Flowrate	144,600	149,000	149,100	149,100	149,100	152,000	151,800	144,700	144,600	149,000	149,100	152,000	151,800	144,700	144,600	149,000	149,100	152,000	151,800	144,700	144,600	149,000	149,100
71	O2	12.2	11.5	12.3	12.3	12.3	11.4	11.7	12.1	12.2	11.5	12.3	11.4	11.7	12.1	12.2	11.5	12.3	11.4	11.7	12.1	12.2	11.5	12.3
72																								
73	<i>Feedrate MTEC Calculations</i>																							
74	Chlorine	305,935	0	0	0	0	0	0	0	79,545	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	Antimony	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	Arsenic	0	0	0	0	0	0	0	0	0	0	0	0	4	10	15	5	5	5	5	5	5	5	6
77	Barium	0	0	0	0	0	0	0	0	530	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78	Beryllium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
79	Cadmium	24	0	0	0	0	0	0	0	22	0	0	0	67	102	147	52	52	52	52	56	56	60	60
80	Chromium	63	0	0	0	0	0	0	0	241	0	0	0	8,413	5,553	7,128	5,926	5,926	5,926	6,178	6,178	6,075	6,075	6,075
81	Chromium (Hex)	0	0	0	0	0	0	0	0	0	0	0	0	6,354	4,310	5,916	4,746	4,746	4,746	4,905	4,905	4,738	4,738	4,738
82	Lead	756	0	0	0	0	0	0	0	1,037	0	0	0	139	160	228	93	93	93	145	145	255	255	255
83	Mercury	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
84	Nickel	0	0	0	0	0	0	0	0	0	0	0	0	44	29	40	30	30	30	32	32	31	31	31
85	Silver	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86	Thallium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87	SVM	780	0	0	0	0	0	0	0	1,058	0	0	0	207	262	375	145	145	145	200	200	315	315	315
88	LVM	63	0	0	0	0	0	0	0	241	0	0	0	8,417	5,564	7,143	5,931	5,931	6,183	6,183	6,081	6,081	6,081	6,081

	B	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV
1	Cadmium		0.01		0.01		0.01		0.02		0.02		0.02		2.46		2.54		2.76		2.50		2.47
2	Chromium				0.00		0.00		0.01		0.01		0.01		0.04		0.04		0.04		0.04		0.04
3	Chromium (Hex)														0.00		0.00		0.00		0.00		0.00
4	Lead		2.55		1.31		1.64		3.61		3.76		3.57		0.07		0.07		0.08		0.07		0.07
5	Mercury														0.00		0.00		0.00		0.00		0.00
6	Nickel														0.00		0.00		0.00		0.00		0.00
7	Silver																						
8	Thallium																						
9																							
0	Stack Gas Flowrate		144,600		149,000		149,100		152,000		151,800		144,700		144,600		149,000		149,100		152,000		151,800
1	O2		12.2		11.5		12.3		11.4		11.7		12.1		12.2		11.5		12.3		11.4		11.7
2																							
3	<i>Feedrate MTEC Calculations</i>																						
4	Chlorine		0		0		0		0		0		0		0		0		0		0		0
5	Antimony		0		0		0		0		0		0		1		0		1		0		0
6	Arsenic		3		4		4		9		10		10		506		468		554		449		456
7	Barium		0		0		0		0		0		0		0		0		0		0		0
8	Beryllium		0		0		0		0		0		0		0		0		0		0		0
9	Cadmium		17		37		38		43		46		48		7,237		6,717		7,964		6,413		6,549
0	Chromium		0		11		11		18		20		20		106		98		117		94		96
1	Chromium (Hex)		0		0		0		0		0		0		1		1		1		1		1
2	Lead		7,501		3,464		4,733		9,261		9,970		10,377		210		194		231		186		190
3	Mercury		0		0		0		0		0		0		0		0		0		0		0
4	Nickel		0		0		0		0		0		0		12		11		14		11		11
5	Silver		0		0		0		0		0		0		0		0		0		0		0
6	Thallium		0		0		0		0		0		0		0		0		0		0		0
7	SVM		7,518		3,501		4,771		9,304		10,016		10,425		7,446		6,911		8,195		6,599		6,739
8	LVM		3		15		15		27		29		31		612		566		671		543		552

	B	BV	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	
61	Cadmium		2.69																							
62	Chromium		0.04																							
63	Chromium (Hex)		0.00																							
64	Lead		0.08																							
65	Mercury		0.00																							
66	Nickel		0.00																							
67	Silver																									
68	Thallium																									
70	Stack Gas Flowrate		144,700		144,600		149,000		149,100		152,000		151,800		144,700		144,600		149,000		149,100		152,000		151,800	
71	O2		12.1		12.2		11.5		12.3		11.4		11.7		12.1		12.2		11.5		12.3		11.4		11.7	
72																										
73	<i>Feedrate MTEC Calculations</i>																									
74	Chlorine		0				0		0		0		0		0		0		0		0		0		0	
75	Antimony		1				0		0		0		0		0		0		0		0		0		0	
76	Arsenic		549				0		0		0		0		0		0		0		0		0		0	
77	Barium		0				0		0		0		0		0		0		0		0		0		0	
78	Beryllium		0				12		13		11		12		13		0		0		0		0		0	
79	Cadmium		7,819				0		0		0		0		0		0		0		0		0		0	
80	Chromium		115				0		0		0		0		0		0		0		0		0		0	
81	Chromium (Hex)		1				0		0		0		0		0		0		0		0		0		0	
82	Lead		226				0		0		0		0		0		0		0		0		0		0	
83	Mercury		0				0		0		0		0		0		0		0		0		0		0	
84	Nickel		13				0		0		0		0		0		0		0		0		0		0	
85	Silver		0				0		0		0		0		0		0		0		0		0		0	
86	Thallium		0				0		0		0		0		0		0		0		0		0		0	
87	SVM		8,045				0		0		0		0		0		0		0		0		0		0	
88	LVM		664				12		13		11		12		13		0		0		0		0		0	

	B	CU	CV	C	CX	C	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	D	DR	D	DT	D
61	Cadmium																											
62	Chromium																											
63	Chromium (Hex)																											
64	Lead																											
65	Mercury																											
66	Nickel																											
67	Silver																											
68	Thallium																											
69																												
70	Stack Gas Flowrate		144,700																									
71	O2		12.1																									
72																												
73	<i>Feedrate MTEC Calculations</i>																											
74	Chlorine		0		0		0		0		0						305,935		0		0							
75	Antimony		0		1		1		1		1						0		0		0							
76	Arsenic		0		513		482		573		463						0		0		0							
77	Barium		0		0		0		0		0						0		0		0							
78	Beryllium		0		0		12		13		11						0		0		0							
79	Cadmium		0		7,321		6,856		8,150		6,508						24		0		0							
80	Chromium		0		8,519		5,663		7,255		6,038						63		0		0							
81	Chromium (Hex)		0		6,355		4,311		5,916		4,746						0		0		0							
82	Lead		0		7,850		3,818		5,191		9,540						756		0		0							
83	Mercury		0		0		0		0		0						3		0		0							
84	Nickel		0		57		40		53		41						0		0		0							
85	Silver		0		0		0		0		0						16		0		0							
86	Thallium		0		0		0		0		0						0		0		0							
87	SVM		0		15,171		10,674		13,341		16,048		16,955		18,785		780		0		0					1,058		0
88	LVM		0		9,032		6,157		7,841		6,512		6,777		6,788		63		0		0					241		0

	B	DV	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH
61	Cadmium												
62	Chromium												
63	Chromium (Hex)												
64	Lead												
65	Mercury												
66	Nickel												
67	Silver												
68	Thallium												
69													
70	Stack Gas Flowrate												
71	O2												
72													
73	<i>Feedrate MTEC Calculations</i>												
74	Chlorine	568,921	217,639	249,612	228,565	263,559	0	254,716					
75	Antimony	10,079	8,489	9,769	8,605	8,923	842	7,785					
76	Arsenic	2,660	2,289	2,513	2,210	2,158	12,744	4,095					
77	Barium	21,557	17,948	20,497	18,419	19,659	23,253	20,222					
78	Beryllium	633	534	602	530	566	1,324	698					
79	Cadmium	7,956	7,325	8,697	6,975	7,165	12,659	8,463					
80	Chromium	14,269	10,354	12,599	11,105	11,493	14,683	12,417					
81	Chromium (Hex)	6,355	4,311	5,916	4,746	4,906	4,739	5,162					
82	Lead	14,560	7,880	10,575	12,582	15,451	24,345	14,232					
83	Mercury	78	60	72	64	64	55	65					
84	Nickel	5,687	4,808	8,237	6,452	5,889	6,245	6,220					
85	Silver	1,024	851	977	861	892	1,591	1,033					
86	Thallium	1,003	855	972	861	888	301	813					
87	SVM	20,104	13,553	16,935	18,311	20,892	33,995	20,632					
88	LVM	16,838	12,558	15,012	13,221	13,572	26,114	16,219					

	B	C	D	E	F	G
1	Process Information 1					
2						
3	208C10		max op cond	R1	R2	R3
4						
5	ESP Power	kVA	min HRA	87	79	76
6	ESP Inlet Temp	F	max HRA	400	404.5	401
7	Flame Temperature	F	max HRA	2750	2791	2850
8						
9	208C11		D/F, DRE tes	R1	R2	R3
10						
11	ESP Inlet Temp	F	RA	not available		
12	Combustion Temp	F	RA	2332	2308	2380
13	ESP Power	kVA		122.4	112	91.3

	C	D	E	F	G	H	I	J
1	Process Information 2							
2								
3	208C1		R1	R2	R3	R4		
4								
5	Combustion Temperature	F	1791	1787	1791	1707		
6	ESP Temperature	F	417	416	419	386		
7	ESP Power	kVA	58	52	71	81		
8								
9	208C2		R1	R2	R3	R4	R5	R6
10								
11	Combustion Temperature	F	1787	1775	1757	1736	1734	1775
12	ESP Temperature	F	407	410	401	401	407	412
13	ESP Power	kVA	68	90	81	83	89	85

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	PCDD/PCDF																	
2	N																	
3	Facility Name and ID:		208, Keystone Cement, Bath, PA, Kiln No. 2															
4	Condition ID:		208C10															
5	Condition/Test Date:		9/23/1999, CoC															
6																		
7			I-TEF				Run 1				Run 2				Run 3			
8	Wght Fact		Total		TEQ		Total		TEQ		Total		TEQ		Total		TEQ	
9			Full ND		Full ND		1/2 ND		1/2 ND		Full ND		Full ND		1/2 ND		1/2 ND	
10	Stack Gas Catch (pg)																	
11	2,3,7,8-TCDD		1	nd	5	5.0000	2.500	2.5000	30	30.0000	30.000	30.0000	5	5.0000	5.000	5.0000		
12	TCDD Total		0		50	0.0000	50.000	0.0000	880	0.0000	880.000	0.0000	80	0.0000	80.000	0.0000		
13	1,2,3,7,8-PCDD		0.5	nd	6	3.0000	3.000	1.5000	70	35.0000	70.000	35.0000	nd	6	3.0000	3.000	1.5000	
14	PCDD Total		0		50	0.0000	50.000	0.0000	850	0.0000	850.000	0.0000	30	0.0000	30.000	0.0000		
15	1,2,3,4,7,8-HxCDD		0.1	nd	10	1.0000	5.000	0.5000	30	3.0000	30.000	3.0000	nd	10	1.0000	5.000	0.5000	
16	1,2,3,6,7,8-HxCDD		0.1	nd	8	0.8000	4.000	0.4000	30	3.0000	30.000	3.0000	nd	10	1.0000	5.000	0.5000	
17	1,2,3,7,8,9-HxCDD		0.1	nd	8	0.8000	4.000	0.4000	60	6.0000	60.000	6.0000	nd	10	1.0000	5.000	0.5000	
18	HxCDD Total		0	nd	90	0.0000	45.000	0.0000	760	0.0000	760.000	0.0000	130	0.0000	130.000	0.0000		
19	1,2,3,4,6,7,8-HpCDD		0.01	nd	10	0.1000	5.000	0.0500	70	0.7000	70.000	0.7000	20	0.2000	20.000	0.2000		
20	HpCDD Total		0	nd	10	0.0000	5.000	0.0000	170	0.0000	170.000	0.0000	20	0.0000	20.000	0.0000		
21	OCDD		0.001		30	0.0300	30.000	0.0300	100	0.1000	100.000	0.1000	40	0.0400	40.000	0.0400		
22	2,3,7,8-TCDF		0.1	nd	4	0.4000	2.000	0.2000	nd	8	0.8000	4.000	0.4000	nd	4	0.4000	2.000	0.2000
23	TCDF Total		0	nd	4	0.0000	2.000	0.0000	70	0.0000	70.000	0.0000	8	0.0000	8.000	0.0000		
24	1,2,3,7,8-PCDF		0.05	nd	4	0.2000	2.000	0.1000	nd	5	0.2500	2.500	0.1250	nd	4	0.2000	2.000	0.1000
25	2,3,4,7,8-PCDF		0.5	nd	4	2.0000	2.000	1.0000	10	5.0000	10.000	5.0000	nd	4	2.0000	2.000	1.0000	
26	PCDF Total		0	nd	4	0.0000	2.000	0.0000	60	0.0000	60.000	0.0000	nd	4	0.0000	2.000	0.0000	
27	1,2,3,4,7,8-HxCDF		0.1	nd	6	0.6000	3.000	0.3000	30	3.0000	30.000	3.0000	nd	8	0.8000	4.000	0.4000	
28	1,2,3,6,7,8-HxCDF		0.1	nd	5	0.5000	2.500	0.2500	nd	6	0.6000	3.000	0.3000	nd	7	0.7000	3.500	0.3500
29	2,3,4,6,7,8-HxCDF		0.1	nd	6	0.6000	3.000	0.3000	10	1.0000	10.000	1.0000	nd	8	0.8000	4.000	0.4000	
30	1,2,3,7,8,9-HxCDF		0.1	nd	7	0.7000	3.500	0.3500	nd	9	0.9000	4.500	0.4500	nd	10	1.0000	5.000	0.5000
31	HxCDF Total		0	nd	6	0.0000	3.000	0.0000	60	0.0000	60.000	0.0000	nd	8	0.0000	4.000	0.0000	
32	1,2,3,4,6,7,8-HpCDF		0.01	nd	7	0.0700	3.500	0.0350	30	0.3000	30.000	0.3000	nd	10	0.1000	5.000	0.0500	
33	1,2,3,4,7,8,9-HpCDF		0.01	nd	10	0.1000	5.000	0.0500	nd	10	0.1000	5.000	0.0500	nd	10	0.1000	5.000	0.0500
34	HpCDF Total		0	nd	9	0.0000	4.500	0.0000	50	0.0000	50.000	0.0000	nd	10	0.0000	5.000	0.0000	
35	OCDF		0.001	nd	10	0.0100	5.000	0.0050	nd	10	0.0100	5.000	0.0050	nd	20	0.0200	10.000	0.0100
36																		
37	Gas sample volume (dscf)				110.651	110.651	110.651		113.138	113.138	113.138		111.934	111.934	111.934			
38	O2 (%)				8.1	8.1	8.1		8.1	8.1	8.1		8.1	8.1	8.1			
39																		
40	PCDD/PCDF (ng sample)				0.016	0.197	0.008		0.090	3.005	0.088		0.017	0.329	0.011			
41	PCDD/PCDF (ng/dscm @ 7% O2)		99.8		0.006	0.068	0.003	3.0	0.030	1.019	0.030	69.8	0.006	0.113	0.004			
42																		
43	TEQ Cond Avg		0.012															
44	Total Cond Avg		0.400															

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	PCDD/PCDF																	
2	N																	
3	Facility Name and ID:		208, Keystone Cement, Bath, PA, Kiln No. 2															
4	Condition ID:		208C11															
5	Condition/Test Date:		Dec 7-8, 1999															
6																		
7	I-TEF		Run 2				Run 3				Run 4							
8	Wght Fact		Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ
9			Full ND	Full ND	1/2 ND	1/2 ND	Full ND	Full ND	1/2 ND	1/2 ND	Full ND	Full ND	1/2 ND	1/2 ND	Full ND	Full ND	1/2 ND	1/2 ND
10	Stack Gas Catch (pg)																	
11	2,3,7,8-TCDD		1	nd	110	110.0000	55.0000	55.0000	500	500.0000	500.0000	500.0000	nd	250	250.0000	125.0000	125.0000	
12	TCDD Total		0		680	0.0000	680.0000	0.0000	12000	0.0000	12000.0000	0.0000	nd	170	0.0000	170.0000	0.0000	
13	1,2,3,7,8-PCDD		0.5		81	40.5000	81.0000	40.5000	1900	950.0000	1900.0000	950.0000	nd	210	105.0000	105.0000	52.5000	
14	PCDD Total		0		670	0.0000	670.0000	0.0000	22000	0.0000	22000.0000	0.0000	nd	260	0.0000	130.0000	0.0000	
15	1,2,3,4,7,8-HxCDD		0.1		19	1.9000	19.0000	1.9000	720	72.0000	720.0000	72.0000	nd	92	9.2000	46.0000	4.6000	
16	1,2,3,6,7,8-HxCDD		0.1		27	2.7000	27.0000	2.7000	1000	100.0000	1000.0000	100.0000	nd	100	10.0000	50.0000	5.0000	
17	1,2,3,7,8,9-HxCDD		0.1		44	4.4000	44.0000	4.4000	1900	190.0000	1900.0000	190.0000	nd	87	8.7000	43.5000	4.3500	
18	HxCDD Total		0		330	0.0000	330.0000	0.0000	15000	0.0000	15000.0000	0.0000	nd	61	0.0000	61.0000	0.0000	
19	1,2,3,4,6,7,8-HpCDD		0.01		81	0.8100	81.0000	0.8100	3500	35.0000	3500.0000	35.0000	nd	200	2.0000	100.0000	1.0000	
20	HpCDD Total		0		160	0.0000	160.0000	0.0000	8700	0.0000	8700.0000	0.0000	nd	200	0.0000	100.0000	0.0000	
21	OCDD		0.001		110	0.1100	110.0000	0.1100	2200	2.2000	2200.0000	2.2000	nd	52	0.0520	52.0000	0.0520	
22	2,3,7,8-TCDF		0.1	nd	130	13.0000	65.0000	6.5000	180	18.0000	180.0000	18.0000	nd	82	8.2000	82.0000	8.2000	
23	TCDF Total		0		580	0.0000	580.0000	0.0000	1400	0.0000	1400.0000	0.0000	nd	82	0.0000	82.0000	0.0000	
24	1,2,3,7,8-PCDF		0.05		47	2.3500	47.0000	2.3500	61	3.0500	61.0000	3.0500	nd	140	7.0000	70.0000	3.5000	
25	2,3,4,7,8-PCDF		0.5		88	44.0000	88.0000	44.0000	74	37.0000	74.0000	37.0000	nd	140	70.0000	70.0000	35.0000	
26	PCDF Total		0		720	0.0000	720.0000	0.0000	1900	0.0000	1900.0000	0.0000	nd	180	0.0000	90.0000	0.0000	
27	1,2,3,4,7,8-HxCDF		0.1		110	11.0000	110.0000	11.0000	140	14.0000	140.0000	14.0000	nd	44	4.4000	44.0000	4.4000	
28	1,2,3,6,7,8-HxCDF		0.1		59	5.9000	59.0000	5.9000	120	12.0000	120.0000	12.0000	nd	86	8.6000	43.0000	4.3000	
29	2,3,4,6,7,8-HxCDF		0.1		47	4.7000	47.0000	4.7000	32	3.2000	32.0000	3.2000	nd	110	11.0000	55.0000	5.5000	
30	1,2,3,7,8,9-HxCDF		0.1	nd	22	2.2000	11.0000	1.1000	nd	23	2.3000	11.5000	1.1500	nd	120	12.0000	60.0000	6.0000
31	HxCDF Total		0		480	0.0000	480.0000	0.0000	1600	0.0000	1600.0000	0.0000	nd	110	0.0000	110.0000	0.0000	
32	1,2,3,4,6,7,8-HpCDF		0.01		120	1.2000	120.0000	1.2000	180	1.8000	180.0000	1.8000	nd	54	0.5400	54.0000	0.5400	
33	1,2,3,4,7,8,9-HpCDF		0.01	nd	28	0.2800	14.0000	0.1400	nd	85	0.8500	42.5000	0.4250	nd	78	0.7800	39.0000	0.3900
34	HpCDF Total		0		180	0.0000	180.0000	0.0000	360	0.0000	360.0000	0.0000	nd	54	0.0000	54.0000	0.0000	
35	OCDF		0.001		70	0.0700	70.0000	0.0700	160	0.1600	160.0000	0.1600	nd	180	0.1800	90.0000	0.0900	
36																		
37	Gas sample volume (dscf)				141.004	141.004	141.004		122.855	122.855	122.855			123.014	123.014	123.014		
38	O2 (%)				9.6	9.6	9.6		10	10	10			10	10	10		
39																		
40	PCDD/PCDF (ng sample)				0.245	3.980	0.182		1.942	65.320	1.940			0.508	0.939	0.260		
41	PCDD/PCDF (ng/dscm @ 7% O2)		51.2		0.075	1.225	0.056	0.2	0.711	23.911	0.710	97.4		0.186	0.343	0.095		
42																		
43	TEQ Cond Avg		0.215															
44	Total Cond Avg		6.308															
45																		
46	Note: Run 1 removed (Not representative of process conditions)																	

	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	208C1	I-TEF			R1				R2				R3	
2		Wght Fact		Total	Total	TEQ		Total	Total	TEQ		Total	Total	TEQ
3	ng/dscm			Full ND	1/2 ND	1/2 ND		Full ND	1/2 ND	1/2 ND		Full ND	1/2 ND	1/2 ND
4														
5	4D 2378	1	1	0.0003	0.0002	0.0002	1	0.0004	0.0002	0.0002	1	0.0002	0.0001	0.0001
6	4D Other	0		0.0907	0.0907	0.0000		0.1413	0.1413	0.0000		0.1135	0.1135	0.0000
7	4D Total	0		0.0910	0.0910	0.0000		0.1416	0.1416	0.0000		0.1136	0.1136	0.0000
8	5D 12378	0.5		0.0012	0.0012	0.0006	1	0.0005	0.0003	0.0001	1	0.0001	0.0001	0.0000
9	5D Other	0		0.0558	0.0558	0.0000		0.0715	0.0715	0.0000		0.0501	0.0501	0.0000
10	5D Total	0		0.0570	0.0570	0.0000		0.0721	0.0721	0.0000		0.0502	0.0502	0.0000
11	6D 123478	0.1		0.0014	0.0014	0.0001		0.0008	0.0008	0.0001	1	0.0003	0.0002	0.0000
12	6D 123678	0.1		0.0035	0.0035	0.0003		0.0026	0.0026	0.0003		0.0017	0.0017	0.0002
13	6D 123789	0.1		0.0024	0.0024	0.0002		0.0009	0.0009	0.0001	1	0.0002	0.0001	0.0000
14	6D Other	0		0.0611	0.0611	0.0000		0.0591	0.0591	0.0000		0.0431	0.0431	0.0000
15	6D Total	0		0.0683	0.0683	0.0000		0.0635	0.0635	0.0000		0.0454	0.0454	0.0000
16	7D 1234678	0.01		0.0529	0.0529	0.0005		0.0417	0.0417	0.0004		0.0374	0.0374	0.0004
17	7D Other	0		0.0366	0.0366	0.0000		0.0417	0.0417	0.0000		0.0282	0.0282	0.0000
18	7D Total	0		0.0895	0.0895	0.0000		0.0834	0.0834	0.0000		0.0656	0.0656	0.0000
19	8D	0.001		0.3095	0.3095	0.0003		0.3535	0.3535	0.0004		0.2823	0.2823	0.0003
20	4F 2378	0.1		0.0013	0.0013	0.0001		0.0030	0.0030	0.0003	1	0.0007	0.0003	0.0000
21	4F Other	0		0.0105	0.0105	0.0000		0.0206	0.0206	0.0000		0.0051	0.0051	0.0000
22	4F Total	0		0.0118	0.0118	0.0000		0.0236	0.0236	0.0000		0.0058	0.0058	0.0000
23	5F 12378	0.05		0.0030	0.0030	0.0001		0.0021	0.0021	0.0001	1	0.0003	0.0001	0.0000
24	5F 23478	0.5		0.0038	0.0038	0.0019		0.0035	0.0035	0.0018		0.0029	0.0029	0.0015
25	5F Other	0		0.0221	0.0221	0.0000		0.0170	0.0170	0.0000		0.0072	0.0072	0.0000
26	5F Total	0		0.0289	0.0289	0.0000		0.0227	0.0227	0.0000		0.0104	0.0104	0.0000
27	6F 123478	0.1		0.0037	0.0037	0.0004	1	0.0014	0.0007	0.0001		0.0021	0.0021	0.0002
28	6F 123678	0.1	1	0.0032	0.0016	0.0002	1	0.0016	0.0008	0.0001	1	0.0012	0.0006	0.0001
29	6F 123789	0.1		0.0011	0.0011	0.0001	1	0.0007	0.0004	0.0000	1	0.0003	0.0001	0.0000
30	6F 234678	0.1	1	0.0003	0.0001	0.0000	1	0.0002	0.0001	0.0000	1	0.0004	0.0002	0.0000
31	6F Other	0		0.0101	0.0101	0.0000		0.0037	0.0037	0.0000		0.0022	0.0022	0.0000
32	6F Total	0		0.0183	0.0183	0.0000		0.0076	0.0076	0.0000		0.0062	0.0062	0.0000
33	7F 1234678	0.01		0.0110	0.0110	0.0001		0.0036	0.0036	0.0000		0.0032	0.0032	0.0000
34	7F 1234789	0.01	1	0.0007	0.0004	0.0000	1	0.0024	0.0012	0.0000	1	0.0027	0.0014	0.0000
35	7F Other	0		-0.0007	-0.0007	0.0000		0.0002	0.0002	0.0000		-0.0027	-0.0027	0.0000
36	7F Total	0		0.0110	0.0110	0.0000		0.0061	0.0061	0.0000		0.0032	0.0032	0.0000
37	8F	0.001		0.0032	0.0032	0.0000		0.0024	0.0024	0.0000		0.0024	0.0024	0.0000
38	Total PCDD/PCDF			0.6886	0.6886			0.7764	0.7764			0.5850	0.5850	
39	TEQ		12.1	0.0056		0.0053	23.6	0.0045		0.0039	18.3	0.0031		0.0028

	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	208C3	I-TEF			R1				R2				R3	
2		Wght Fact		Total	Total	TEQ		Total	Total	TEQ		Total	Total	TEQ
3	ng/dscm			Full ND	1/2 ND	1/2 ND		Full ND	1/2 ND	1/2 ND		Full ND	1/2 ND	1/2 ND
4														
5	4D 2378	1		0.0075	0.0075	0.0075	1	0.0072	0.0036	0.0036		0.0184	0.0184	0.0184
6	4D Other	0		0.0000				0.0072	0.0072	0.0000		0.4965	0.4965	0.0000
7	4D Total	0		0.0075	0.0075	0.0000		0.0144	0.0144	0.0000		0.5149	0.5149	0.0000
8	5D 12378	0.5		0.0112	0.0112	0.0056	1	0.0072	0.0036	0.0018		0.0331	0.0331	0.0166
9	5D Other	0		0.0112	0.0112	0.0000		0.0072	0.0072	0.0000		0.2280	0.2280	0.0000
10	5D Total	0		0.0224	0.0224	0.0000		0.0144	0.0144	0.0000		0.2611	0.2611	0.0000
11	6D 123478	0.1	1	0.0112	0.0056	0.0006	1	0.0108	0.0054	0.0005		0.0147	0.0147	0.0015
12	6D 123678	0.1		0.0075	0.0075	0.0007		0.0072	0.0072	0.0007		0.0147	0.0147	0.0015
13	6D 123789	0.1		0.0186	0.0186	0.0019		0.0108	0.0108	0.0011		0.0294	0.0294	0.0029
14	6D Other	0		0.0522	0.0522	0.0000		0.0359	0.0359	0.0000		0.2538	0.2538	0.0000
15	6D Total	0		0.0894	0.0894	0.0000		0.0646	0.0646	0.0000		0.3126	0.3126	0.0000
16	7D 1234678	0.01		0.0484	0.0484	0.0005		0.0359	0.0359	0.0004		0.0294	0.0294	0.0003
17	7D Other	0		0.0671	0.0671	0.0000		0.0000				0.0147	0.0147	0.0000
18	7D Total	0		0.1155	0.1155	0.0000		0.0359	0.0359	0.0000		0.0441	0.0441	0.0000
19	8D	0.001		0.1304	0.1304	0.0001		0.0754	0.0754	0.0001		0.0515	0.0515	0.0001
20	4F 2378	0.1		0.0015	0.0015	0.0001		0.0022	0.0022	0.0002		0.0662	0.0662	0.0066
21	4F Other	0		0.0022	0.0022	0.0000		0.0014	0.0014	0.0000		1.5889	1.5889	0.0000
22	4F Total	0		0.0037	0.0037	0.0000		0.0036	0.0036	0.0000		1.6551	1.6551	0.0000
23	5F 12378	0.05	1	0.0075	0.0037	0.0002	1	0.0072	0.0036	0.0002		0.0294	0.0294	0.0015
24	5F 23478	0.5	1	0.0075	0.0037	0.0019	1	0.0072	0.0036	0.0018		0.0588	0.0588	0.0294
25	5F Other	0		-0.0075	-0.0075	0.0000		-0.0072	-0.0072	0.0000		0.6105	0.6105	0.0000
26	5F Total	0	1	0.0075	0.0037	0.0000	1	0.0072	0.0036	0.0000		0.6988	0.6988	0.0000
27	6F 123478	0.1	1	0.0075	0.0037	0.0004		0.0072	0.0072	0.0007		0.0515	0.0515	0.0051
28	6F 123678	0.1	1	0.0075	0.0037	0.0004		0.0029	0.0029	0.0003		0.0184	0.0184	0.0018
29	6F 123789	0.1	1	0.0075	0.0037	0.0004	1	0.0072	0.0036	0.0004	1	0.0074	0.0037	0.0004
30	6F 234678	0.1		0.0037	0.0037	0.0004		0.0036	0.0036	0.0004		0.0221	0.0221	0.0022
31	6F Other	0		-0.0224	-0.0224	0.0000		-0.0065	-0.0065	0.0000		0.0699	0.0699	0.0000
32	6F Total	0		0.0037	0.0037	0.0000		0.0144	0.0144	0.0000		0.1692	0.1692	0.0000
33	7F 1234678	0.01		0.0112	0.0112	0.0001		0.0072	0.0072	0.0001		0.0221	0.0221	0.0002
34	7F 1234789	0.01	1	0.0112	0.0056	0.0001	1	0.0108	0.0054	0.0001	1	0.0074	0.0037	0.0000
35	7F Other	0		-0.0112	-0.0112	0.0000		-0.0108	-0.0108	0.0000		-0.0221	-0.0221	0.0000
36	7F Total	0		0.0112	0.0112	0.0000		0.0072	0.0072	0.0000		0.0074	0.0074	0.0000
37	8F	0.001	1	0.0149	0.0075	0.0000	1	0.0144	0.0072	0.0000	1	0.0110	0.0055	0.0000
38	Total PCDD/PCDF			0.4061	0.3949			0.2513	0.2405			3.7258	3.7202	
39	TEQ		31.0	0.0245		0.0207	81.1	0.0205		0.0122	0.9	0.0889		0.0885