

US EPA ARCHIVE DOCUMENT

	B	C
1	Source Description	
2		
3	Phase I ID No.	341
4	EPA ID No.	NCD065655599
5	Facility Name	GlaxoSmithKline
6	Facility Location	
7	City	Research Triangle Park
8	State	NC
9	Unit ID Name/No.	Environmental Safety Facility (ESF)
10	Other Sister Facilities	
11	Number of Sister Facilities	None
12	Combustor Class	Onsite incinerator
13	Combustor Type	Fixed hearth
14	Combustor Characteristics	Designed by Kennedy Van Saun of Danville, PA. Model no. HR-75. Solid waste ram feeder and a dual fuel liquid injection burner. Primary chamber is 6.5' x 16.5'. Secondary combustor is 6.5' x 14'3.5". 900 lb/hr capacity
15	Capacity (MMBtu/hr)	6.43
16	Soot Blowing	NA
17	APCS Detailed Acronym	DS/HE/FF
18	APCS General Class	DS, HE, FF
19	APCS Characteristics	Fabric filter, heat exchanger, dry lime injection/absorption. Interell scrubber. Pulse jet FF with felted polyacryl bag material, 3875 ft2 bag are, A/C = 3.6. HEPA and carbon adsorption also used at one time
20	Hazardous Wastes	Liq, solid
21	Haz Waste Description	Animal bedding, reject pharmaceuticals, labpacks of off-spec or reject chemicals, chemically contaminated lab supplies, HPLC and scintillation vials that contain solvents and products or lab packed waste.
22	Supplemental Fuel	Natural gas
23		
24	Stack Characteristics	
25	Diameter (ft)	1.5
26	Height (ft)	99
27	Gas Velocity (ft/sec)	40.0
28	Gas Temperature (°F)	270
29		
30	Permitting Status	Tier I for all metals except arsenic, cadmium, hexavalent chromium (tier III)
31	HWC Burn Status (Date if Terminated)	

	B	C
1	Condition Description	
2		
3	341C10	
4		
5	Report Name/Date	Trial Burn Report, August 1999
6	Report Prepare	Franklin Engineering Group, Inc.
7	Testing Firm	DEECO, Inc
8	Testing Dates	April 20-21, 1999
9	Cond Dates	Apr-99
10	Condition Descr	Trial burn, high temp for liq mode oper.
11	Content	PM, HCl/Cl ₂ , metals
12		
13	341C11	
14		
15	Report Name/Date	Trial Burn Report, August 1999
16	Report Prepare	Franklin Engineering Group, Inc.
17	Testing Firm	DEECO, Inc
18	Testing Dates	April 21-22, 1999
19	Cond Dates	Apr-99
20	Condition Descr	Trial burn, low temp for liq mode oper. Max feedrate
21	Content	DRE, CO
22		
23	341C12	
24		
25	Report Name/Date	Trial Burn Report, August 1999
26	Report Prepare	Franklin Engineering Group, Inc.
27	Testing Firm	DEECO, Inc
28	Testing Dates	April 23 and 27, 1999
29	Cond Dates	Apr-99
30	Condition Descr	Trial burn, high temp for solid mode oper. Max batch size
31	Content	PM, HCl/Cl ₂ , metals
32		
33	341C13	
34		
35	Report Name/Date	Trial Burn Report, August 1999
36	Report Prepare	Franklin Engineering Group, Inc.
37	Testing Firm	DEECO, Inc
38	Testing Dates	April 27-28, 1999
39	Cond Dates	Apr-99
40	Condition Descr	Trial burn, low temp for solid mode oper. Max feedrate
41	Content	DRE, CO
42		
43	341C1	
44		
	Report Name/Date	Incinerator Trial Burn Report, Glaxo Inc., RTP NC, October 1993; Entropy Stationary Source Sampling Report, Reference No. 10983, August 1993
45		
46	Report Prepare	Entropy
47	Testing Firm	Entropy
48	Cond Descr	MAX LIQUID WASTE FEED/MAX HEAT RELEASE
49	Testing Dates	August 10, 1993
50	Cond Dates	Aug-93
51		
52	341C2	
53		
	Report Name/Date	Incinerator Trial Burn Report, Glaxo Inc., RTP NC, October 1993; Entropy Stationary Source Sampling Report, Reference No. 10983, August 1993
54		
55	Report Prepare	Entropy
56	Testing Firm	Entropy
57	Cond Descr	REDUCED LIQUID WASTE FEED
58	Testing Dates	August 11, 1993
59	Cond Dates	Aug-93

	B	C	D	E	F	G	H	I	J	K	L	M
1	Stack Gas Emissions 1											
2												
3		Com Units		7% O2								
4												
5												
6	341C10	Trial Burn				R1		R2		R3		Cond Avg
7												
8	PM	E1	gr/dscf	y		0.001		0.0003		0.0006		0.0006
9	CO (RA)	E1	ppmv	y		7.5		6.7		8.4		7.53
10	CO (MHRA)	E1	ppmv	y		7.8		7		8.5		7.8
11												
12	HCl		lb/hr	n		0.0304		2.5		0.983		
13	Cl2		lb/hr	n		0.000904		0.00831		0.00103		
14												
15	Chromium (Hex)		g/hr		nd	0.0016		0.0032		0.0025		
16	Antimony		lb/hr		nd	9.48E-06		1.54E-05		9.92E-06		
17	Arsenic		lb/hr		nd	9.48E-06	nd	9.70E-06	nd	9.92E-06		
18	Barium		lb/hr			8.82E-07		1.63E-05		2.65E-06		
19	Beryllium		lb/hr		nd	2.20E-07	nd	4.41E-07		6.61E-07		
20	Cadmium		lb/hr			0.00E+00		4.85E-06		1.32E-06		
21	Chromium		lb/hr		nd	1.92E-05		2.38E-05		9.92E-06		
22	Lead		lb/hr			3.09E-06		3.53E-06		3.09E-06		
23	Mercury		lb/hr		nd	1.79E-05		7.94E-05		6.39E-05		
24	Nickel		lb/hr			1.76E-06		2.65E-06		0.00E+00		
25	Selenium		lb/hr			4.85E-06		5.73E-06	nd	3.09E-06		
26	Silver		lb/hr		nd	9.48E-06	nd	9.26E-06	nd	9.92E-06		
27	Thallium		lb/hr		nd	3.09E-06	nd	3.09E-06	nd	3.09E-06		
28												
29	Sampling Train	PM, E1										
30	Stack Gas Flowrate		dscfm			3377		3279		3314		3323
31	O2		%			12.5		13.4		12.7		12.9
32	Moisture		%			15.4		15.2		14.4		15.0
33	Temperature		°F			269.3		273.3		272.3		272
34												
35	Sampling Train	Meta E2										
36	Stack Gas Flowrate		dscfm			3343		3280		3309		3311
37	O2		%			12.3		13.2		12.4		12.6
38	Moisture		%			14.3		16.1		14.6		15.0
39	Temperature		°F			270.3		273.2		271.8		272
40												
41	Sampling Train	Cr+6 E3										
42	Stack Gas Flowrate		dscfm			3359		3266		3343		3323
43	O2		%			12.3		13.2		12.4		12.6
44	Moisture		%			11.8		15.3		13.4		13.5
45	Temperature		°F			271.3		274.6		274.8		274
46												
47	HCl	E1	ppmv	y		2.65		250.77		89.33		114.3
48	Cl2	E1	ppmv	y		0.040		0.429		0.048		0.2
49	Total Chlorine	E1	ppmv	y		2.73		251.63		89.43		114.6
50												
51	Chromium (Hex)	E3	ug/dscm	y	nd	0.45		1.04		0.72		0.7
52	Antimony	E2	ug/dscm	y	nd	1.24		2.31		1.35		1.6
53	Arsenic	E2	ug/dscm	y	nd	1.24	nd	1.46	nd	1.35	100	1.3
54	Barium	E2	ug/dscm	y		0.12		2.45		0.36		1.0
55	Beryllium	E2	ug/dscm	y	nd	0.03	nd	0.07		0.09		0.1
56	Cadmium	E2	ug/dscm	y		0.00		0.73		0.18		0.3
57	Chromium	E2	ug/dscm	y	nd	2.50		3.57		1.35		2.5
58	Lead	E2	ug/dscm	y		0.40		0.53		0.42		0.5
59	Mercury	E2	ug/dscm	y	nd	2.33		11.93		8.70		7.3
60	Nickel	E2	ug/dscm	y		0.23		0.40		0.00		0.2
61	Selenium	E2	ug/dscm	y		0.63		0.86	nd	0.42		0.6
62	Silver	E2	ug/dscm	y	nd	1.24	nd	1.39	nd	1.35	100	1.3
63	Thallium	E2	ug/dscm	y	nd	0.40	nd	0.46	nd	0.42	100	0.4
64	SVM	E2	ug/dscm	y		0.40		1.26		0.60		0.8
65	LVM	E2	ug/dscm	y		3.77		5.10		2.79		3.9
66												
67												
68	341C11	Trial Burn				R1		R2		R3		Cond Avg
69												
70	CO (RA)	E1	ppmv	y		6.4		6.6		4.7		5.90
71	CO (MHRA)	E1	ppmv	y		6.5		7.1		5.4		6.33

	B	C	D	E	F	G	H	I	J	K	L	M
72												
73	POHC DRE	Carbon Tetrachloride										
74	POHC Feedrate	lb/hr				10.22		10.23		10.29		
75	Emission Rate	E1 lb/hr			nd	7.94E-05	nd	2.16E-04	nd	1.08E-04		
76	DRE	E1 %				99.99922		99.99789		99.99895		
77												
78	POHC DRE	1,2-Dichlorobenzene										
79	POHC Feedrate	lb/hr				20.13		19.95		20.1		
80	Emission Rate	E1 lb/hr				1.57E-05		2.51E-05		2.27E-05		
81	DRE	E1 %				99.99992		99.99987		99.99989		
82												
83	Sampling Train	DRE E1										
84	Stack Gas Flowrate	dscfm				2992		2946		3129		3022.3
85	O2	%				14		13.9		14.2		14.0
86	Moisture	%				14.3		14.3		14.6		14.4
87	Temperature	°F				265.3		264.4		271.8		267
88												
89	341C12	Trial Burn				R1		R2		R3		Cond Avg
90												
91	PM	E1 gr/dscf	y			0.0005		0.0005		0.0006		0.0005
92	CO (RA)	E1 ppmv	y			8.15		9.13		13		10.09
93	CO (MHRA)	E1 ppmv	y			12		20.6		25.6		19.4
94												
95	HCl	lb/hr	n			1.23		2.57		0.27		
96	Cl2	lb/hr	n			0.00454		0.00165		0.00121		
97												
98	Chromium (Hex)	g/hr				0.0035		0.0035	nd	0.0014		
99	Antimony	lb/hr			nd	1.04E-05		1.81E-05	nd	1.04E-05		
100	Arsenic	lb/hr			nd	1.04E-05	nd	1.04E-05	nd	1.04E-05		
101	Barium	lb/hr				2.20E-06		2.65E-06		0.00E+00		
102	Beryllium	lb/hr				6.61E-06		2.20E-07	nd	2.20E-07		
103	Cadmium	lb/hr				8.82E-07		0.00E+00		1.32E-06		
104	Chromium	lb/hr				1.12E-05	nd	2.03E-05	nd	2.03E-05		
105	Lead	lb/hr			nd	5.07E-06		3.09E-06	nd	4.85E-06		
106	Mercury	lb/hr				4.12E-05		2.98E-05		8.60E-06		
107	Nickel	lb/hr				1.76E-06		1.32E-06		0.00E+00		
108	Selenium	lb/hr				1.32E-06		1.76E-06	nd	3.09E-06		
109	Silver	lb/hr			nd	1.04E-05	nd	1.04E-05	nd	1.04E-05		
110	Thallium	lb/hr			nd	3.09E-06	nd	3.09E-06	nd	3.09E-06		
111												
112	Sampling Train	PM, E1										
113	Stack Gas Flowrate	dscfm				3020		3021		2608		2883
114	O2	%				13.4		13.6		14.2		13.7
115	Moisture	%				10.6		11.2		11		10.9
116	Temperature	°F				275.2		273.6		266		271.6
117												
118	Sampling Train	Meta E2										
119	Stack Gas Flowrate	dscfm				2917		2947		2605		2823
120	O2	%				13.6		13.5		13.7		13.6
121	Moisture	%				10.6		10.9		10.4		10.6
122	Temperature	°F				277.8		275.1		265.5		272.8
123												
124	Sampling Train	Cr+6 E3										
125	Stack Gas Flowrate	dscfm				3107		3140		2588		2945
126	O2	%				13.6		13.5		13.7		13.6
127	Moisture	%				9.8		9.1		11.8		10.2
128	Temperature	°F				277.8		276.9		266.9		273.9
129												
130	HCl	E1 ppmv	y			133.96		287.37		38.06		153.1
131	Cl2	E1 ppmv	y			0.254		0.095		0.088		0.1
132	Total Chlorine	E1 ppmv	y			134.47		287.56		38.23		153.4
133												
134	Chromium (Hex)	E3 ug/dscm	y			1.26		1.23	nd	0.61		1.0
135	Antimony	E2 ug/dscm	y		nd	1.80		3.07	nd	2.05		2.3
136	Arsenic	E2 ug/dscm	y		nd	1.80	nd	1.76	nd	2.05	100	1.9
137	Barium	E2 ug/dscm	y			0.38		0.45		0.00		0.3
138	Beryllium	E2 ug/dscm	y			1.15		0.04	nd	0.04		0.4
139	Cadmium	E2 ug/dscm	y			0.15		0.00		0.26		0.1
140	Chromium	E2 ug/dscm	y			1.94	nd	3.44	nd	4.00		3.1
141	Lead	E2 ug/dscm	y		nd	0.88		0.52	nd	0.95		0.8
142	Mercury	E2 ug/dscm	y			7.14		5.05		1.69		4.6

	B	C	D	E	F	G	H	I	J	K	L	M
143	Nickel	E2	ug/dscm	y		0.31		0.22		0.00		0.2
144	Selenium	E2	ug/dscm	y		0.23		0.30	nd	0.61		0.4
145	Silver	E2	ug/dscm	y	nd	1.80	nd	1.76	nd	2.05	100	1.9
146	Thallium	E2	ug/dscm	y	nd	0.54	nd	0.52	nd	0.61	100	0.6
147	SVM	E2	ug/dscm	y		1.03		0.52		1.21		0.9
148	LVM	E2	ug/dscm	y		4.89		5.24		6.09		5.4
149												
150	341C13	Trial Burn				R1		R2		R3		Cond Avg
151												
152	CO (RA)	E1	ppmv	y		5.5		5.4		7.4		6.10
153	CO (MHRA)	E1	ppmv	y		6		6		16.8		9.60
154												
155	POHC DRE		Carbon Tetrachloride									
156	POHC Feedrate		lb/hr			7.85		9.41		8.06		
157	Emission Rate	E1	lb/hr		nd	5.95E-05	nd	5.51E-05	nd	1.61E-04		
158	DRE	E1	%			99.99924		99.99941		99.998		
159												
160	POHC DRE		Napthalene									
161	POHC Feedrate		lb/hr			7.85		9.41		8.06		
162	Emission Rate	E1	lb/hr			2.65E-06		5.29E-06		5.07E-06		
163	DRE	E1	%			99.99997		99.99994		99.99994		
164												
165	Sampling Train		DRE E1									
166	Stack Gas Flowrate		dscfm			2555		2492		2347		2465
167	O2		%			14		13.9		14.2		14.0
168	Moisture		%			9.9		10.3		9.9		10.0
169	Temperature		°F			266		263.5		260		263

	B	C	D	E	F	G	H	I	J	K	L	M
1	Stack Gas Emissions 2											
2												
3												
4	341C1					R1		R2		R3		Cond Avg
5												
6	PM	E1	gr/dscf	y		0.0018		0.0050		0.0010		0.0026
7	CO (RA)	E1	ppmv	y		2.6		6.8		5.7		5.0
8	CO (MHRA)	E1	ug/dscm	y		100.0		100.0		97.0		99.0
9	HCl	E1	ppmv	y		1.5		42.0		2.3		15.3
10	Total Cl	E1	ppmv	y		1.5		42.0		2.3		15.3
11	Antimony	E2	ug/dscm	y	nd	1.0	nd	1.0	nd	0.9	100	1.0
12	Arsenic	E2	ug/dscm	y	nd	1.0	nd	1.0	nd	0.9	100	1.0
13	Barium	E2	ug/dscm	y	nd	41.2	nd	38.3	nd	37.2	100	38.9
14	Beryllium	E2	ug/dscm	y	nd	0.1	nd	0.1	nd	0.1	100	0.1
15	Cadmium	E2	ug/dscm	y	nd	10.3	nd	9.6	nd	9.3	100	9.7
16	Chromium	E2	ug/dscm	y	nd	20.6	nd	19.3	nd	18.6	100	19.5
17	Lead	E2	ug/dscm	y	nd	20.6		38.3	nd	18.6	100	25.9
18	Mercury	E2	ug/dscm	y	nd	2.8	nd	2.6	nd	2.5	100	2.6
19	Silver	E2	ug/dscm	y	nd	10.3	nd	9.6	nd	9.3	100	9.7
20	Thallium	E2	ug/dscm	y	nd	20.6	nd	19.3	nd	18.6	100	19.5
21	SVM	E2	ug/dscm	y	100	30.9	100	47.9	100	27.9	100	35.6
22	LVM	E2	ug/dscm	y	100	21.8	100	20.3	100	19.6	100	20.6
23												
24	Sampling Train	Halogenes	E1									
25	Stack Gas Flowrate		dscfm			3674.0		3965.0		3944.0		
26	O2		%			14.9		14.8		15.0		
27	Moisture		%			10.0		8.8		7.9		
28	Temperature		°F			216.0		225.0		234.0		
29												
30	Sampling Train	Metals	E2									
31	Stack Gas Flowrate		dscfm			3358.0		3538.0		3781.0		
32	O2		%			14.9		14.8		15.0		
33	Moisture		%			10.2		8.8		7.8		
34	Temperature		°F			212.0		229.0		230.0		
35												
36	Sampling Train	SVOC	E3									
37	Stack Gas Flowrate		dscfm			3522.0		3763.0		3887.0		
38	O2		%			14.9		14.8		15.0		
39	Moisture		%			10.4		8.9		7.8		
40	Temperature		°F			212.0		220.0		222.0		
41												
42	1,2-dichlorobenzer	E3	%			99.9996		99.9997		99.9997		
43	Carbon Tetrachlori	E3	%			99.9971		99.9983		99.998		
44	Hexachloroethane	E3	%			99.9994		99.9994		99.9995		
45												
46	341C2					R1		R2		R3		Cond Avg
47												
48	PM	E1	gr/dscf	y		0.0021		0.0012		0.0006		0.0013
49	CO (RA)	E1	ppmv	y		2.7		1.2		1.2		1.7
50	CO (MHRA)	E1	ug/dscm	y		4.0		16.3		15.3		11.9
51	HCl	E1	ppmv	y		3.6		4.3		4.8		4.2
52	Antimony	E2	ug/dscm	y	nd	0.9	nd	1.0	nd	0.9	100	0.9
53	Arsenic	E2	ug/dscm	y	nd	0.9	nd	1.0	nd	0.9	100	0.9
54	Barium	E2	ug/dscm	y	nd	37.1	nd	38.8	nd	36.7	100	37.5
55	Beryllium	E2	ug/dscm	y	nd	0.1	nd	0.1	nd	0.1	100	0.1
56	Cadmium	E2	ug/dscm	y	nd	9.3	nd	9.7	nd	9.2	100	9.4
57	Chromium	E2	ug/dscm	y	nd	18.6	nd	19.5	nd	18.3	100	18.8
58	Lead	E2	ug/dscm	y	nd	18.6	nd	19.5	nd	18.3	100	18.8
59	Mercury	E2	ug/dscm	y	nd	2.5	nd	2.6	nd	2.5	100	2.5
60	Silver	E2	ug/dscm	y	nd	9.3	nd	9.7	nd	9.2	100	9.4
61	Thallium	E2	ug/dscm	y	nd	18.6	nd	19.5	nd	18.3	100	18.8
62	SVM	E2	ug/dscm	y	100	27.9	100	29.2	100	27.5	100	28.2
63	LVM	E2	ug/dscm	y	100	19.7	100	20.5	100	19.4	100	19.9
64												
65	Sampling Train	Halogenes	E1									
66	Stack Gas Flowrate		dscfm			4048.0		3930.0		3730.0		
67	O2		%			15.3		15.0		15.0		
68	Moisture		%			8.7		8.3		8.1		
69	Temperature		°F			234.0		233.0		237.0		
70												
71	Sampling Train	Metals	E2									

	B	C	D	E	F	G	H	I	J	K	L	M
72	Stack Gas Flowrate		dscfm			3973.0		3712.0		3906.0		
73	O2		%			15.3		15.0		15.0		
74	Moisture		%			8.5		8.5		6.9		
75	Temperature		°F			230.0		227.0		232.0		
76												
77	Sampling Train	SVOC	E3									
78	Stack Gas Flowrate		dscfm			4106.0		3905.0		3992.0		
79	O2		%			15.3		15.0		15.0		
80	Moisture		%			8.0		8.2		8.1		
81	Temperature		°F			223.0		217.0		220.0		
82												
83	Carbon Tetrachlori	E3	%			99.9983		99.9992		99.9991		
84	Dichlorobenzene	E3	%			99.9997		99.9994		99.9994		
85	Hexachloroethane	E3	%			99.9995		99.9976		99.9975		

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X				
1	Feedstream 1																										
2																											
3																											
4	341C10	Trial burn			R1		R2		R3		Cond Avg		Na3AsO4				R1		R2		R3		Cond Avg		R1		R2
5																											
6	Feedstream Number				F1		F1		F1		F2		F2		F2		F2		F2		F2		F2		F3		F3
7	Feed Class				Solid HW		Solid HW		Solid HW		Solid HW		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike
8	Feed Class 2				HW		HW		HW		HW																
9	Feedstream Description				Waste Feed		Waste Feed		Waste Feed		Waste Feed		n Arsenate Spike		Sodium Arsenate Spike		Sodium Arsenate Spike		Sodium Arsenate Spike		Sodium Arsenate Spike		Sodium Arsenate Spike		TiO2 Spike		TiO2 Spike
10	Feed Rate	lb/hr			795		614		796		735		17		19.3		14.5		17		50		51.8				
11	Heating Value	Btu/lb			2307		4124		5241		3891								3891								
12	Density	g/cc			0.96		0.96		0.94																		
13	Viscosity	Cps			1.54		1.54		2.32																		
14	Ash	lb/hr			3.7		3.7		2		3.1										20.3		21.07				
15	Chlorine	lb/hr			3.4		14.1		13.5		10.3																
16	Antimony	lb/hr	nd		0.0004	nd	0.00037	nd	0.0004																		
17	Arsenic	lb/hr			0.00048	nd	0.00037	nd	0.0004				0.024		0.027		0.02		0.024								
18	Barium	lb/hr	nd		0.0004	nd	0.00037		0.00064																		
19	Beryllium	lb/hr	nd		0.000008	nd	0.0000061	nd	0.000008																		
20	Cadmium	lb/hr			0.0045		0.0023		0.0015																		
21	Chromium	lb/hr			0.00095		0.00086	nd	0.00088																		
22	Lead	lb/hr			0.00032	nd	0.00018		0.00048																		
23	Mercury	lb/hr	nd		0.00008		0.0000610		0.000080																		
24	Nickel	lb/hr	nd		0.0008	nd	0.00061	nd	0.0008																		
25	Selenium	lb/hr			0.00024	nd	0.0001	nd	0.00016																		
26	Silver	lb/hr	nd		0.0004		0.0004		0.0008																		
27	Thallium	lb/hr	nd		0.00016	nd	0.0001	nd	0.00016																		
28																											
29	Stack Gas Flowrate	dscfm			3310.667																						
30	Oxygen	%			12.63333																						
31																											
32	Thermal Feedrate	MMBtu/hr			1.8		2.5		4.2		2.86		0.0												0.1		
33	Estimated Firing Rate	MMBtu/hr									8.79																
34																											
35	<i>Feedrate MTEC Calculations</i>																										
36	Ash	mg/dscm			500.0		500.0		270.3		423.4													2743.3		2847.4	
37	Chlorine	ug/dscm			459470.0		1905449.3		1824366.3		1396428.5																
38	Antimony	ug/dscm	nd		54.1	nd	50.0	nd	54.1																		
39	Arsenic	ug/dscm			64.9	nd	50.0	nd	54.1				3243.3		3648.7		2702.8		3198.3								
40	Barium	ug/dscm	nd		54.1	nd	50.0		86.5																		
41	Beryllium	ug/dscm	nd		1.1	nd	0.8	nd	1.1																		
42	Cadmium	ug/dscm			608.1		310.8		202.7																		
43	Chromium	ug/dscm			128.4		116.2	nd	118.9																		
44	Lead	ug/dscm			43.2	nd	24.3		64.9																		
45	Mercury	ug/dscm	nd		10.8		8.2		10.8		8.15																
46	Nickel	ug/dscm	nd		108.1	nd	82.4	nd	108.1																		
47	Selenium	ug/dscm			32.4	nd	16.2	nd	21.6																		
48	Silver	ug/dscm	nd		54.1		50.0		108.1																		
49	Thallium	ug/dscm	nd		21.6	nd	16.2	nd	21.6																		
50																											
51	SVM	ug/dscm			651.4		323.0		267.6		414.0																
52	LVM	ug/dscm			193.7882		141.6		87.0		140.8		3243.3		3648.7		2702.8		3198.3								
53																											
54																											
55																											
56	341C11	Trial burn			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2				
57																											
58	Feedstream Number				F1		F1		F1		F1																
59	Feed Class				Solid HW		Solid HW		Solid HW		Solid HW																
60	Feedstream Description				Waste Feed		Waste Feed		Waste Feed		Waste Feed																

	B	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW		
1	Feedstream 1																											
2																												
3																												
4	341C10		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		Cd(C2H3O2)2										Na2Cr2O7	
5																	R2	R3	Cond Avg		R1					R2		
6	Feedstream Number		F3		F3		F4		F4		F4		F4		F5		F5		F5		F5		F6		F6		F6	
7	Feed Class		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike	
8	Feed Class 2																											
9	Feedstream Description		TiO2 Spike		TiO2 Spike		CCl4 Spike		CCl4 Spike		CCl4 Spike		CCl4 Spike		Cadmium Acetate		Cadmium Acet		Cadmium Ace		Cadmium Ace		Sodium Bichron		Sodium Bichron			
10	Feed Rate		54.5		52.100		29		32.3		31.2		30.833		19		18.7		18.7		18.800		86		85.9			
11	Heating Value																											
12	Density																											
13	Viscosity																											
14	Ash		22.18		21.183																							
15	Chlorine						27		30		29		28.667															
16	Antimony																											
17	Arsenic																											
18	Barium																											
19	Beryllium																											
20	Cadmium														0.14		0.138		0.139		0.139							
21	Chromium																						0.168		0.168			
22	Lead																											
23	Mercury																											
24	Nickel																											
25	Selenium																											
26	Silver																											
27	Thallium																											
28																												
29	Stack Gas Flowrate																											
30	Oxygen																											
31																												
32	Thermal Feedrate																											
33	Estimated Firing Rate																											
34																												
35	<i>Feedrate MTEC Calculations</i>																											
36	Ash		2997.4		2862.7																							
37	Chlorine						3648732.7		4054147.4		3919009.2		3873963.1															
38	Antimony																											
39	Arsenic																											
40	Barium																											
41	Beryllium																											
42	Cadmium														18919.4		18649.1		18784.2		18784.2							
43	Chromium																						22703.2		22703.2			
44	Lead																											
45	Mercury																											
46	Nickel																											
47	Selenium																											
48	Silver																											
49	Thallium																											
50																												
51	SVM														18919.4		18649.1		18784.2		18784.2							
52	LVM																						22703.2		22703.2			
53																												
54																												
55																												
56	341C11		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2			
57																												
58	Feedstream Number																											
59	Feed Class																											
60	Feedstream Description																											

	B	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	
1	Feedstream 1																										
2																											
3																											
4	341C10	R3	Cond Avg	R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg																
5																											
6	Feedstream Number	F6	F6											F7	F7	F7	F7										
7	Feed Class	Spike	Spike											Total	Total	Total	Total										
8	Feed Class 2			Spike	Spike	Spike	Spike							Total	Total	Total	Total										
9	Feedstream Description	Sodium Bichromate		Sodium Bichromate	Spike									Total	Total	Total	Total										
10	Feed Rate	86.1	86.000											996.000	822.000	1001.000	939.667										
11	Heating Value																										
12	Density																										
13	Viscosity																										
14	Ash													24.000	24.770	24.180	24.317										
15	Chlorine													30.400	44.100	42.500	39.000										
16	Antimony																										
17	Arsenic													0.024	0.027	0.020	0.024										
18	Barium																										
19	Beryllium																										
20	Cadmium													0.145	0.140	0.141	0.139										
21	Chromium	0.168	0.168											0.169	0.169	0.169	0.168										
22	Lead																										
23	Mercury																										
24	Nickel																										
25	Selenium																										
26	Silver																										
27	Thallium																										
28																											
29	Stack Gas Flowrate													3377	3279	3314	3323										
30	Oxygen													13	13	13	13										
31																											
32	Thermal Feedrate																										
33	Estimated Firing Rate																									8.793	
34																											
35	<i>Feedrate MTEC Calculations</i>																										
36	Ash				2743.3	2847.4	2997.4	2862.7	3243.3	3347.4	3267.6	3286.1															
37	Chlorine				3648732.7	4054147.4	3919009.2	3873963.1	4108202.7	5959596.7	5743375.5	5270391.6															
38	Antimony								54.1	50.0	54.1	52.7															
39	Arsenic				3243.3	3648.7	2702.8	3198.3	3308.2	3698.7	2756.8	3198.3															
40	Barium								54.1	50.0	86.5	63.5															
41	Beryllium								1.1	0.8	1.1	1.0															
42	Cadmium				18919.4	18649.1	18784.2	18784.2	19527.5	18959.9	18986.9	18784.2															
43	Chromium	22703.2	22703.2	22703.2	22703.2	22703.2	22703.2	22703.2	22831.6	22819.4	22822.1	22703.2															
44	Lead								43.2	24.3	64.9	44.1															
45	Mercury								5.406	8.243	10.811	8.2															
46	Nickel								54.055	82.434	108.111	81.5															
47	Selenium								16.217	16.217	21.622	18.0															
48	Silver								27.028	50.001	108.111	61.7															
49	Thallium								10.811	16.217	21.622	16.2															
50																											
51	SVM				18919.4	18649.1	18784.2	18784.2	19570.7	18972.1	19051.8	19198.2															
52	LVM	22703.2	22703.2	25946.5	26352.0	25406.0	25901.5	26140.3	26493.6	25493.0	26042.3																
53																											
54																											
55																											
56	341C11	R3	Cond Avg											R1	R2	R3	Cond Avg										
57																											
58	Feedstream Number																										
59	Feed Class																										
60	Feedstream Description																										

	B	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN
1	Feedstream 1																	
2																		
3																		
4	341C10																	
5																		
6	Feedstream Number																	
7	Feed Class																	
8	Feed Class 2																	
9	Feedstream Description																	
10	Feed Rate																	
11	Heating Value																	
12	Density																	
13	Viscosity																	
14	Ash																	
15	Chlorine																	
16	Antimony																	
17	Arsenic																	
18	Barium																	
19	Beryllium																	
20	Cadmium																	
21	Chromium																	
22	Lead																	
23	Mercury																	
24	Nickel																	
25	Selenium																	
26	Silver																	
27	Thallium																	
28																		
29	Stack Gas Flowrate																	
30	Oxygen																	
31																		
32	Thermal Feedrate																	
33	Estimated Firing Rate																	
34																		
35	<i>Feedrate MTEC Calculations</i>																	
36	Ash																	
37	Chlorine																	
38	Antimony																	
39	Arsenic																	
40	Barium																	
41	Beryllium																	
42	Cadmium																	
43	Chromium																	
44	Lead																	
45	Mercury																	
46	Nickel																	
47	Selenium																	
48	Silver																	
49	Thallium																	
50																		
51	SVM																	
52	LVM																	
53																		
54																		
55																		
56	341C11																	
57																		
58	Feedstream Number																	
59	Feed Class																	
60	Feedstream Description																	

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
61	Feed Rate	lb/hr			744		722		721		729												
62	Heating Value	Btu/lb			2445		2413		2371		2410												
63	Density	g/cc			0.97		0.98		0.97														
64	Viscosity	Cps			1.44		1.57		1.58														
65																							
66	Stack Gas Flowrate	dscfm			3022.3																		
67	Oxygen	%			14.0																		
68																							
69	Thermal Feedrate	MMBtu/hr									1.76												
70	Estimated Firing Rate	MMBtu/hr									6.68												
71																							
72	341C12	Trial burn			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2
73																							
74	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2		F3		F3
75	Feed Class				Solid HW		Solid HW		Solid HW		Solid HW		Liq HW		Liq HW		Liq HW		Liq HW		Spike		Spike
76	Feed Class 2																						
77	Feedstream Description				Bedding Mater		Bedding Materials		Bedding Materials		Bedding Materials		Scint/hplc vials		Scint/hplc vials		Scint/hplc vials		Scint/hplc vials		Arsenate Spike		Arsenate Spike
78	Feed Rate	lb/hr			151		167		157		158		174		133		130		146		0.265		0.265
79	Heating Value	Btu/lb																					
80	Density	g/cc																					
81	Viscosity	Cps																					
82	Ash	lb/hr			2.8		3.1		2.9		2.9		98		75		73		82				
83	Chlorine	lb/hr			0.36		0.4		0.38		0.4		0.035		0.027		0.026		0.029				
84	Antimony	lb/hr			8.29E-05		9.19E-05		8.65E-05		8.00E-05		6.11E-05		5.97E-05		5.97E-05						
85	Arsenic	lb/hr			2.74E-04		3.04E-04		2.86E-04		1.97E-04		1.50E-04		1.47E-04						0.029		0.029
86	Barium	lb/hr			4.35E-04		4.83E-04		4.54E-04		3.10E-03		2.37E-03		2.31E-03								
87	Beryllium	lb/hr			6.78E-05		7.52E-05		7.07E-05		7.31E-05		5.58E-05		5.46E-05								
88	Cadmium	lb/hr			4.97E-05		5.51E-05		5.19E-05		3.27E-04		2.50E-04		2.44E-04								
89	Chromium	lb/hr			6.63E-05		0.00007		6.92E-05		1.34E-04		1.02E-04		1.00E-04								
90	Lead	lb/hr			2.48E-04		2.74E-04		2.57E-04		2.85E-03		2.18E-03		2.13E-03								
91	Mercury	lb/hr			1.66E-05		0.0000184		1.73E-05		2.78E-05		2.13E-05		2.08E-05								
92	Silver	lb/hr			4.67E-05		0.0001		0.000049		4.00E-05		3.06E-05		2.99E-05								
93	Thallium	lb/hr			3.31E-04		0.0004		3.46E-04		2.68E-04		2.05E-04		2.00E-04								
94																							
95	Stack Gas Flowrate	dscfm			3074																		
96	Oxygen	%			13																		
97																							
98	Thermal Feedrate	MMBtu/hr									0.00												
99	Estimated Firing Rate	MMBtu/hr									7.35												
00																							
01	<i>Feedrate MTEC Calculations</i>																						
02	Ash	mg/dscm			452.6		501.1		468.8		474.2		15842.7		12124.5		11801.2		13256.1				
03	Chlorine	ug/dscm			58197.6		64664.0		61430.8		61430.8		5658.1		4364.8		4203.2		4742.0				
04	Antimony	ug/dscm			13.4		14.9		14.0		14.1		12.9		9.9		9.7		10.8				
05	Arsenic	ug/dscm			44.3		49.1		46.2		46.6		31.8		24.2		23.8		26.6		4688.1		4688.1
06	Barium	ug/dscm			70.3		78.1		73.4		73.9		501.1		383.1		373.4		419.2				
07	Beryllium	ug/dscm			11.0		12.2		11.4		11.5		11.8		9.0		8.8		9.9				
08	Cadmium	ug/dscm			8.0		8.9		8.4		8.4		52.9		40.4		39.4		44.2				
09	Chromium	ug/dscm			10.7		11.9		11.2		11.3		21.7		16.5		16.2		18.1				
10	Lead	ug/dscm			40.1		44.3		41.5		42.0		460.7		352.4		344.3		385.8				
11	Mercury	ug/dscm			2.7		3.0		2.8		2.8		4.5		3.4		3.4		3.8				
12	Silver	ug/dscm			7.5		8.4		7.9		7.9		6.5		4.9		4.8		5.4				
13	Thallium	ug/dscm			53.5		59.5		55.9		56.3		43.3		33.1		32.3		36.3				
14																							
15	SVM	ug/dscm			48.1		53.2		49.9		50.4		513.6		392.8		383.8		430.1				
16	LVM	ug/dscm			66.0		73.2		68.9		69.3		65.3		49.8		48.8		54.6		4688		4688
17																							
18																							
19	341C13	Trial burn			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2
20																							

	B	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW
61	Feed Rate																									
62	Heating Value																									
63	Density																									
64	Viscosity																									
65																										
66	Stack Gas Flowrate																									
67	Oxygen																									
68																										
69	Thermal Feedrate																									
70	Estimated Firing Rate																									
71																										
72	341C12		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2	
73																										
74	Feedstream Number		F3		F3		F4		F4		F4		F4		F5		F5		F5		F5		F6		F6	
75	Feed Class		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike	
76	Feed Class 2																									
77	Feedstream Description		µm Arsenate Spike		µm Arsenate Spike		Cadmium Acetat		Cadmium Acetat		Cadmium Acetat		Cadmium Acetat		TiO2 Spike		TiO2 Spike		TiO2 Spike		TiO2 Spike		CCl4 Spike		CCl4 Spike	
78	Feed Rate		0.227		0.252		19.6		19.6		16.8		18.667		196		196		168		186.7		49.1		49.1	
79	Heating Value																									
80	Density																									
81	Viscosity																									
82	Ash													80		80		68		76.0						
83	Chlorine																						41.02		41.02	
84	Antimony																									
85	Arsenic		0.025		0.028																					
86	Barium																									
87	Beryllium																									
88	Cadmium						0.14		0.14		0.12		0.133													
89	Chromium																									
90	Lead																									
91	Mercury																									
92	Silver																									
93	Thallium																									
94																										
95	Stack Gas Flowrate																									
96	Oxygen																									
97																										
98	Thermal Feedrate																									
99	Estimated Firing Rate																									
100																										
101	<i>Feedrate MTEC Calculations</i>																									
102	Ash													12932.8		12932.8		10992.9		12286.2				6631288.3	6631288.3	
103	Chlorine																									
104	Antimony																									
105	Arsenic		4041.5		4472.6																					
106	Barium																									
107	Beryllium																									
108	Cadmium						22632.4		22632.4		19399.2		21554.7													
109	Chromium																									
110	Lead																									
111	Mercury																									
112	Silver																									
113	Thallium																									
114																										
115	SVM						22632.4		22632.4		19399.2		21554.7											0.0		
116	LVM		4041		4473																					
117																										
118																										
119	341C13		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2	
120																										

	B	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	
1	Feed Rate																										
2	Heating Value																										
3	Density																										
4	Viscosity																										
5																											
6	Stack Gas Flowrate																										
7	Oxygen																										
8																											
9	Thermal Feedrate																										
0	Estimated Firing Rate																										
1																											
2	341C12	R3	Cond Avg	R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg	R1	R2	R3													
3																											
4	Feedstream Number	F6	F6																			F7	F7	F7			
5	Feed Class	Spike	Spike																			Spike	Spike	Spike			
6	Feed Class 2			HW	HW	HW	HW	Spike	Spike	Spike	Spike																
7	Feedstream Description	CCl4 Spike	CCl4 Spike																			Dies. Oil Spik	Dies. Oil Spik	Dies. Oil Spik			
8	Feed Rate	42.1	46.8																			24.200	24.2	20.7			
9	Heating Value																										
0	Density																										
1	Viscosity																										
2	Ash																										
3	Chlorine	35.15	39.063																								
4	Antimony																										
5	Arsenic																										
6	Barium																										
7	Beryllium																										
8	Cadmium																										
9	Chromium																										
0	Lead																										
1	Mercury																										
2	Silver																										
3	Thallium																										
4																											
5	Stack Gas Flowrate																										
6	Oxygen																										
7																											
8	Thermal Feedrate																										
9	Estimated Firing Rate																										
0																											
01	<i>Feedrate MTEC Calculations</i>																										
02	Ash			16295.3	12625.6	12270.0	13730.3	12932.8	12932.8	10992.9	12286.2																
03	Chlorine	5682344.8	6314973.8	63855.7	69028.8	65633.9	66172.8	6631288.3	6631288.3	5682344.8	6314973.8																
04	Antimony			26.3	24.7	23.6	24.9	0.0	0.0	0.0	0.0																
05	Arsenic			76.1	73.4	70.0	73.2	4688.1	4688.1	4041.5	4472.6																
06	Barium			571.5	461.2	446.8	493.2	0.0	0.0	0.0	0.0																
07	Beryllium			22.8	21.2	20.3	21.4	0.0	0.0	0.0	0.0																
08	Cadmium			60.9	49.3	47.8	52.7	22632.4	22632.4	19399.2	21554.7																
09	Chromium			32.4	28.4	27.4	29.4	26188.9	26188.9	26512.2	26296.7																
10	Lead			500.8	396.7	385.9	427.8	0.0	0.0	0.0	0.0																
11	Mercury			7.2	6.4	6.2	6.6	0.0	0.0	0.0	0.0																
12	Silver			14.0	13.3	12.7	13.3	0.0	0.0	0.0	0.0																
13	Thallium			96.8	92.6	88.3	92.6	0.0	0.0	0.0	0.0																
14				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																
15	SVM			561.7	446.0	433.7	480.5	22632.4	22632.4	19399.2	21554.7																
16	LVM			131.3	122.9	117.6	124.0	30877.0	30877.0	30553.7	30769.3																
17																											
18																											
19	341C13	R3	Cond Avg																								
20																											

	B	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN
61	Feed Rate																	
62	Heating Value																	
63	Density																	
64	Viscosity																	
65																		
66	Stack Gas Flowrate																	
67	Oxygen																	
68																		
69	Thermal Feedrate																	
70	Estimated Firing Rate																	
71																		
72	341C12	Cond Avg	R1	R2	R3	Cond Avg	R1	R2	R3	Cond Avg								
73																		
74	Feedstream Number	F7	F8	F8	F8	F8	F9	F9	F9	F9								
75	Feed Class	Spike	Spike	Spike	Spike	Spike	Total	Total	Total	Total								
76	Feed Class 2						Total	Total	Total	Total								
77	Feedstream Description	Dies. Oil	Spik Sodium	Bichr Sodium	Bichr Sodium	Bichr Sodium	Bichroi Total											
78	Feed Rate	23.0	20.5	20.5	17.6	19.5	619.0	650.7	555.4	583.3								
79	Heating Value																	
80	Density																	
81	Viscosity																	
82	Ash							180.8	158.1	143.9	160.9							
83	Chlorine							41.4	41.4	35.6	39.5							
84	Antimony																	
85	Arsenic																	
86	Barium																	
87	Beryllium																	
88	Cadmium																	
89	Chromium		0.162	0.162	0.164	0.163												
90	Lead																	
91	Mercury																	
92	Silver																	
93	Thallium																	
94																		
95	Stack Gas Flowrate							3020	3021	2608	2883							
96	Oxygen							13	14	14	14							
97																		
98	Thermal Feedrate																	
99	Estimated Firing Rate																	7.4
100																		
101	<i>Feedrate MTEC Calculations</i>																	
102	Ash							29228.1	25558.4	23262.9	26016.5							
103	Chlorine							6695143.9	6700317.0	5747978.7	6381146.5							
104	Antimony							26.3	24.7	23.6	24.9							
105	Arsenic							4764.3	4761.5	4111.5	4545.8							
106	Barium							571.5	461.2	446.8	493.2							
107	Beryllium							22.8	21.2	20.3	21.4							
108	Cadmium							22693.3	22681.7	19447.0	21607.3							
109	Chromium		26188.9	26188.9	26512.2	26296.7	26221.3	26217.3	26539.6	26326.0								
110	Lead							500.8	396.7	385.9	427.8							
111	Mercury							7.2	6.4	6.2	6.6							
112	Silver							14.0	13.3	12.7	13.3							
113	Thallium							96.8	92.6	88.3	92.6							
114																		
115	SVM							23194.1	23078.4	19832.9	22035.1							
116	LVM		26188.9	26188.9	26512.2	26296.7	31008.3	31000.0	30671.3	30893.2								
117																		
118																		
119	341C13																	
120																		

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
21	Feedstream Number				F1	F1	F1	F1	F1	F1	F2	F2	F2	F2	F2	F2	F2	F2	F2	F3	F3	F3	F3
22	Feed Class				Solid HW	Solid HW	Solid HW	Solid HW	Solid HW	Solid HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Liq HW	Solid HW	Solid HW	Solid HW	Solid HW
23	Feed Class 2																						
24	Feedstream Description				Bedding Mater	Bedding Materials	Bedding Materials	Bedding Materials	Bedding Materials	Scint/HPLC Vials	Scint/HPLC Vials	Scint/HPLC Vials	Scint/HPLC Vials	Scint/HPLC Vials	Scint/HPLC Vials	Scint/HPLC Vials	Scint/HPLC Vials	Scint/HPLC Vials	Scint/HPLC Vials	Carcassess	Carcassess	Carcassess	Carcassess
25	Feed Rate				406	510	411	442	44	68	73	61.7											
26	Heating Value																						
27	Density																						
28	Viscosity																						
29	Ash				7.6	9.5	7.6	8.2	24	38	41	34.3											
30	Chlorine				0.6	1.2	1	0.9	0.0089	0.0138	0.015	0.0											
31																							
32	Stack Gas Flowrate				dscfm	2359.0																	
33	Oxygen				%	14.6																	
34																							
35	Thermal Feedrate				MMBtu/hr																		
36	Estimated Firing Rate				MMBtu/hr																		
37																							
38	<i>Feedrate MTEC Calculations</i>																						
39	Ash				mg/dscm	1894.2	2367.7	1894.2	2052.0	5981.6	9470.9	10218.6	8557.0										
40	Chlorine				ug/dscm	149540.0	299080.0	249233.3	232617.8	2218.2	3439.4	3738.5	3132.0										

	B	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	
121	Feedstream Number		F3		F3		F4		F4		F4		F4		F5		F5		F5		F5						
122	Feed Class		Solid HW		Solid HW		Spike		Spike		Spike		Spike		Total		Total		Total		Total						
123	Feed Class 2						Spike		Spike		Spike		Spike		Total		Total		Total		Total		HW		HW		
124	Feedstream Description		Carcassess		Carcassess		CCl4 Spike		CCl4 Spike		CCl4 Spike		CCl4 Spike		Total		Total		Total		Total						
125	Feed Rate		35		35.0		7.9		9.4		8.1		8.5		547.5												
126	Heating Value																										
127	Density																										
128	Viscosity																										
129	Ash		1.1		1.1										43.7		67.7		105.7		147.8						
130	Chlorine		0.057		0.1		7.2		8.7		7.4		7.8		8.8		16.0		24.7		32.2						
131																											
132	Stack Gas Flowrate																										
133	Oxygen																										
134																											
135	Thermal Feedrate																										
136	Estimated Firing Rate																									4.77	
137																											
138	<i>Feedrate MTEC Calculations</i>																										
139	Ash		274.2		274.2		10883.2		18759.0		30597.5		42984.4		53867.6		18759.0		30597.5		42984.4		7875.8		11838.6		
140	Chlorine		14206.3		14206.3		1794480.1		2168330.1		1844326.8		1935712.3		2185668.4												

	B	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW
21	Feedstream Number																										
22	Feed Class																										
23	Feed Class 2	HW		HW																							
24	Feedstream Description																										
25	Feed Rate																										
26	Heating Value																										
27	Density																										
28	Viscosity																										
29	Ash																										
30	Chlorine																										
31																											
32	Stack Gas Flowrate																										
33	Oxygen																										
34																											
35	Thermal Feedrate																										
36	Estimated Firing Rate																										
37																											
38	<i>Feedrate MTEC Calculations</i>																										
39	Ash		12386.9																								
40	Chlorine																										

	B	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN
121	Feedstream Number																	
122	Feed Class																	
123	Feed Class 2																	
124	Feedstream Description																	
125	Feed Rate																	
126	Heating Value																	
127	Density																	
128	Viscosity																	
129	Ash																	
130	Chlorine																	
131																		
132	Stack Gas Flowrate																	
133	Oxygen																	
134																		
135	Thermal Feedrate																	
136	Estimated Firing Rate																	
137																		
138	<i>Feedrate MTEC Calculations</i>																	
139	Ash																	
140	Chlorine																	

	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
1	Feedstream 2																									
2																										
3																										
4	341C1		R1		R2		R3		R1		R2		R3		R1		R2		R3		R1		R2			
5																										
6	Feedstream Number		F1		F1		F1		F1		F2		F2									F2		F3		
7	Feed Class		Liq HW		Liq HW		Liq HW		Solid HW		Solid HW		Solid HW									Total		Total		
8	Feed Class 2																					Total		Total		
9	Feedstream Description		Liquid waste		Liquid waste		Liquid waste		Solid waste		Solid waste		Solid waste				HW		HW		HW		Total		Total	
10	Feedrate	lb/hr	375		375		375		525		525		525										Total		Total	
11	Heating value	Btu/lb	10200		10090		10325		13925		16760		15065													
12	Ash	wt %	0.196		0.266		0.215		1.07		1.2		0													
13	Chlorine	ppmw	30600		30700		32600		253		345		490													
14	Antimony	ppmw	1	2	1	2	1	2	1	2	1	2	1	2												
15	Arsenic	ppmw	1	2	1	2	1	2	1	2	1	2	1	2												
16	Barium	ppmw	1	2	1	2	1	2	1	2	1	2	1	2												
17	Beryllium	ppmw	1	1	1	1	1	1	1	1	1	1	1	1												
18	Cadmium	ppmw	1	2	1	2	1	2	1	2	1	2	1	2												
19	Chromium	ppmw	1	2.84	1	2	1	2	1	2	1	2	1	2												
20	Lead	ppmw	1	2	1	2	1	2	1	2	1	2	1	2												
21	Mercury	ppmw	1	0.0759	1	0.077	1	0.0948	1	0.0875	1	0.0893	1	0.0691												
22	Silver	ppmw	1	2	1	2	1	2	1	2	1	2	1	2												
23	Thallium	ppmw	1	2	1	2	1	2	1	2	1	2	1	2												
24																										
25	Stack Gas Flowrate	dscfm	3674		3965		3944		3674		3965		3944										3674		3965	
26	Oxygen	%	14.9		14.8		15		14.9		14.8		15										14.9		14.8	
27																										
28	Thermal Feedrate	MMBtu/hr	3.83		3.78		3.87		7.31		8.80		7.91										11.14		12.58	
29	Estimated Firing Rate	MMBtu/hr																								
30																										
31	<i>Feedrate MTEC Calculations</i>																									
32	Ash	mg/dscm	122.8		151.9		127.5		938.3		959.3		0.0		1061.0		1111.2		127.5		1061.0		1111.2			
33	Chlorine	ug/dscm	1916593.1		1752996.2		1933779.3		22184.9		27579.7		40692.4		1938777.9		1780575.9		1974471.7		1938777.9		1780575.9			
34	Antimony	ug/dscm	100	125.3	100	114.2	100	118.6	100	175.4	100	159.9	100	166.1	100	300.6	100	274.1	100	284.7	100	300.6	100	274.1	100	
35	Arsenic	ug/dscm	100	125.3	100	114.2	100	118.6	100	175.4	100	159.9	100	166.1	100	300.6	100	274.1	100	284.7	100	300.6	100	274.1	100	
36	Barium	ug/dscm	100	125.3	100	114.2	100	118.6	100	175.4	100	159.9	100	166.1	100	300.6	100	274.1	100	284.7	100	300.6	100	274.1	100	
37	Beryllium	ug/dscm	100	62.6	100	57.1	100	59.3	100	87.7	100	79.9	100	83.0	100	150.3	100	137.0	100	142.4	100	150.3	100	137.0	100	
38	Cadmium	ug/dscm	100	125.3	100	114.2	100	118.6	100	175.4	100	159.9	100	166.1	100	300.6	100	274.1	100	284.7	100	300.6	100	274.1	100	
39	Chromium	ug/dscm	100	177.9	100	114.2	100	118.6	100	175.4	100	159.9	100	166.1	100	353.3	100	274.1	100	284.7	100	353.3	100	274.1	100	
40	Lead	ug/dscm	100	125.3	100	114.2	100	118.6	100	175.4	100	159.9	100	166.1	100	300.6	100	274.1	100	284.7	100	300.6	100	274.1	100	
41	Mercury	ug/dscm	100	4.8	100	4.4	100	5.6	100	7.7	100	7.1	100	5.7	100	12.4	100	11.5	100	11.4	100	12.4	100	11.5	100	
42	Silver	ug/dscm	100	125.3	100	114.2	100	118.6	100	175.4	100	159.9	100	166.1	100	300.6	100	274.1	100	284.7	100	300.6	100	274.1	100	
43	Thallium	ug/dscm	100	125.3	100	114.2	100	118.6	100	175.4	100	159.9	100	166.1	100	300.6	100	274.1	100	284.7	100	300.6	100	274.1	100	
44	SVM	ug/dscm	100	250.5	100	228.4	100	237.3	100	350.7	100	319.8	100	332.2	100	601.3	100	548.2	100	569.5	100	601.3	100	548.2	100	
45	LVM	ug/dscm	100	365.8	100	285.5	100	296.6	100	438.4	100	399.7	100	415.2	100	804.2	100	685.2	100	711.8	100	804.2	100	685.2	100	
46																										
47																										
48	341C2		R1		R2		R3		R1		R2		R3		R1		R2		R3		R1		R2			
49																										
50	Feedstream Number		F1		F1		F1		F1		F2		F2									F2		F3		
51	Feed Class		Liq HW		Liq HW		Liq HW		Solid HW		Solid HW		Solid HW									Total		Total		
52	Feed Class 2																					Total		Total		
53	Feedstream Description		Liquid waste		Liquid waste		Liquid waste		Solid waste		Solid waste		Solid waste				HW		HW		HW		Total		Total	
54	Feedrate		232.6		232.4		232		686.7		665.8		607.4													
55	Heating value		9580		9900		10125		16065		17275		17110													
56	Ash		0.0188		0.192		0.21		2.8		1.85		1.53													
57	Chlorine		72300		76100		90200		285		365		470													
58	Antimony		1	2	1	2	1	2	1	2	1	2	1	2												
59	Arsenic		1	2	1	2	1	2	1	2	1	2	1	2												
60	Barium		1	2	1	2	1	2	1	2	1	2	4.11													

	B	AB	AC	AD
1	Feedstream 2			
2				
3				
4	341C1	R3		Cond Avg
5				
6	Feedstream Number	F3		F3
7	Feed Class	Total		Total
8	Feed Class 2	Total		Total
9	Feedstream Descriptor	Total		Total
10	Feedrate			
11	Heating value			
12	Ash			
13	Chlorine			
14	Antimony			
15	Arsenic			
16	Barium			
17	Beryllium			
18	Cadmium			
19	Chromium			
20	Lead			
21	Mercury			
22	Silver			
23	Thallium			
24				
25	Stack Gas Flowrate	3944		3861
26	Oxygen	15		14.90
27				
28	Thermal Feedrate	11.78		11.83
29	Estimated Firing Rate			7.5
30				
31	<i>Feedrate MTEC Calcul:</i>			
32	Ash	127.5		766.6
33	Chlorine	1974471.7		1897941.8
34	Antimony	284.7	100	286.5
35	Arsenic	284.7	100	286.5
36	Barium	284.7	100	286.5
37	Beryllium	142.4	100	143.2
38	Cadmium	284.7	100	286.5
39	Chromium	284.7	100	304.0
40	Lead	284.7	100	286.5
41	Mercury	11.4	100	11.8
42	Silver	284.7	100	286.5
43	Thallium	284.7	100	286.5
44	SVM	569.5	100	573.0
45	LVM	711.8	100	733.7
46				
47				
48	341C2	R3		Cond Avg
49				
50	Feedstream Number	F3		F3
51	Feed Class	Total		Total
52	Feed Class 2	Total		Total
53	Feedstream Descriptor	Total		Total
54	Feedrate			
55	Heating value			
56	Ash			
57	Chlorine			
58	Antimony			
59	Arsenic			
60	Barium			

	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		
61	Beryllium			1	1	1	1	1	1	1	1	1	1	1	1													
62	Cadmium			1	2	1	2	1	2	1	2	1	2	1	2													
63	Chromium			1	2	1	2	1	2	1	2	1	2	1	2													
64	Lead			1	2	1	2	1	2	1	2	1	2	1	2													
65	Mercury				0.464		0.363		0.162	1	0.0875	1	0.0893	1	0.0799													
66	Silver			1	2	1	2	1	2	1	2	1	2	1	2													
67	Thallium			1	2	1	2	1	2	1	2	1	2	1	2													
68																												
69	Stack Gas Flowrate	dscfm			4048		3930		3730		4048		3930		3730								4048		3930			
70	Oxygen	%			15.3		15		15		15.3		15		15								15.3		15			
71																												
72	Thermal Feedrate	MMBtu/hr			2.23		2.30		2.35		11.03		11.50		10.39								13.26		13.80			
73	Estimated Firing Rate	MMBtu/hr																										
74																												
75	<i>Feedrate MTEC Calculations</i>																											
76	Ash	mg/dscm			7.1		70.8		81.5		3119.3		1955.3		1554.4		3126.4		2026.2		1635.9		3126.4		2026.2			
77	Chlorine	ug/dscm			2728216.6		2807522.1		3500101.5		31749.9		38577.9		47748.4		2759966.6		2846100.0		3547849.9		2759966.6		2846100.0			
78	Antimony	ug/dscm	100		75.5	100	73.8	100	77.6	100	222.8	100	211.4	100	203.2	100	298.3	100	285.2	100	280.8	100	298.3	100	285.2	100		
79	Arsenic	ug/dscm	100		75.5	100	73.8	100	77.6	100	222.8	100	211.4	100	203.2	100	298.3	100	285.2	100	280.8	100	298.3	100	285.2	100		
80	Barium	ug/dscm	100		75.5	100	73.8	100	77.6	100	222.8	100	211.4	100	417.5	100	298.3	100	285.2	16	495.2	100	298.3	100	285.2	16		
81	Beryllium	ug/dscm	100		37.7	100	36.9	100	38.8	100	111.4	100	105.7	100	101.6	100	149.1	100	142.6	100	140.4	100	149.1	100	142.6	100		
82	Cadmium	ug/dscm	100		75.5	100	73.8	100	77.6	100	222.8	100	211.4	100	203.2	100	298.3	100	285.2	100	280.8	100	298.3	100	285.2	100		
83	Chromium	ug/dscm	100		75.5	100	73.8	100	77.6	100	222.8	100	211.4	100	1442.6	100	298.3	100	285.2	5	1520.2	100	298.3	100	285.2	5.1		
84	Lead	ug/dscm	100		75.5	100	73.8	100	77.6	100	222.8	100	211.4	100	203.2	100	298.3	100	285.2	100	280.8	100	298.3	100	285.2	100		
85	Mercury	ug/dscm			17.5		13.4		6.3	100	9.7	100	9.4	100	8.1	36	27.3	41	22.8	56	14.4	44	27.3	52	22.8	78		
86	Silver	ug/dscm	100		75.5	100	73.8	100	77.6	100	222.8	100	211.4	100	203.2	100	298.3	100	285.2	100	280.8	100	298.3	100	285.2	100		
87	Thallium	ug/dscm	100		75.5	100	73.8	100	77.6	100	222.8	100	211.4	100	203.2	100	298.3	100	285.2	100	280.8	100	298.3	100	285.2	100		
88	SVM	ug/dscm	100		150.9	100	147.6	100	155.2	100	445.6	100	422.8	100	406.4	100	596.6	100	570.3	100	561.6	100	596.6	100	570.3	100		
89	LVM	ug/dscm	100		94.3	100	92.2	100	97.0	100	278.5	100	264.2	17	1747.4	100	372.8	100	356.5	22	1844.4	100	372.8	100	356.5	22		

	B	AB	AC	AD
61	Beryllium			
62	Cadmium			
63	Chromium			
64	Lead			
65	Mercury			
66	Silver			
67	Thallium			
68				
69	Stack Gas Flowrate	3730		3902.67
70	Oxygen	15		15.10
71				
72	Thermal Feedrate	12.74		13.3
73	Estimated Firing Rate			7.3
74				
75	<i>Feedrate MTEC Calcul</i>			
76	Ash	1635.9		2262.8
77	Chlorine	3547849.9		3051305.5
78	Antimony	280.8	100	288.1
79	Arsenic	280.8	100	288.1
80	Barium	495.2	61	359.5
81	Beryllium	140.4	100	144.0
82	Cadmium	280.8	100	288.1
83	Chromium	1520.2	31	701.2
84	Lead	280.8	100	288.1
85	Mercury	14.4	54	21.5
86	Silver	280.8	100	288.1
87	Thallium	280.8	100	288.1
88	SVM	561.6	100	576.2
89	LVM	1844.4	44	857.9

	B	C	D	E	F	G	H	I
1	Process Information 1							
2								
3	341C10							
4								
5	PCC Temperature	°F		1837.2	1848.4	1856.7		
6	SCC Temperature	°F		2028.5	2023.1	2025.2		
7	PCC Pressure	in. w.c		-0.04	-0.06	-0.05		
8	SCC Pressure	in. w.c		-0.31	-0.32	-0.25		
9	Fabric Filter Pressure Drop	in. w.c		6.61	6.62	6.67		
10	Lime Injection	lb/hr		77.5	80.2	79.1		
11	Comb Gas Velocity	ft/sec		40.52	39.93	42.02		
12								
13	341C11							
14								
15	PCC Temperature	°F		1642.6	1622.6	1612		
16	SCC Temperature	°F		1804.7	1804.9	1804.9		
17	PCC Pressure	in. w.c		-0.12	-0.11	-0.07		
18	SCC Pressure	in. w.c		-0.31	-0.32	-0.31		
19	Fabric Filter Pressure Drop	in. w.c		6.67	6.66	6.72		
20	Lime Injection	lb/hr		36.9	38	41.2		
21	Comb Gas Velocity	ft/sec		34.85	35.54	37.93		
22								
23	341C12							
24								
25	PCC Temperature	°F		1797.5	1802.3	1834.3		
26	SCC Temperature	°F		1997.7	2005.2	1989.2		
27	PCC Pressure	in. w.c		-0.19	-0.21	-0.19		
28	SCC Pressure	in. w.c		-0.21	-0.21	-0.2		
29	Fabric Filter Pressure Drop	in. w.c		6.66	6.65	6.64		
30	Lime Injection	lb/hr		43	46	53.6		
31	Comb Gas Velocity	ft/sec		36.97	34.53	34.64		
32								
33	341C13							
34								
35	PCC Temperature	°F		1672.4	1584.7	1646.2		
36	SCC Temperature	°F		1808.2	1804.9	1804.9		
37	PCC Pressure	in. w.c		-0.21	-0.24	-0.27		
38	SCC Pressure	in. w.c		-0.21	-0.2	-0.23		
39	Fabric Filter Pressure Drop	in. w.c		6.58	6.63	6.62		
40	Lime Injection	lb/hr		40.4	42.7	40.6		
41	Comb Gas Velocity	ft/sec		28.65	24.43	24.7		

	C	D	E	F	G
1	Process Information 2				
2					
3	341C1				
4					
5	Hearth Temperature	F	1910	1810	1780
6	Afterburner Temperature	F	1970	2090	2140
7					
8	341C2				
9					
10	Hearth Temperature	F	1875	1825	1815
11	Afterburner Temperature	F	1985	2040	2100