

US EPA ARCHIVE DOCUMENT

	B	C
1	Source Description	
2		
3	Phase I ID No.	3012
4	EPA ID No.	KS0213820467
5	Facility Name	Kansas Army Ammunition Plant
6	Facility Location	
7	City	Parsons
8	State	KS
9	Unit ID Name/No.	Explosive Waste Incinerator
10	Other Sister Facilities	
11	Number of Sister Facilities	0
12	Combustor Class	Onsite Incinerator, DoD munitions popping, government
13	Combustor Type	Rotary kiln
	Combustor Characteristics	Rotary kiln. Designed to destroy small ammunition or explosive end items and bulk explosive or propelling materials. Consist of waste feed monitoring system, afterburner, dual conveyor feed system. Equipped with a variable speed drive ranging from 0.5-4.5 rpm.
14		
15	Capacity (MMBtu/hr)	
16	Soot Blowing	
17	APCS Detailed Acronym	AB/GC/C/FF
18	APCS General Class	FF, C, HE
	APCS Characteristics	Afterburner, gas coolers, cyclone, fabric filter, bypass damper. Gas coolers are designated the high and low temp heat exchange. The baghouse are silicone treated, heat set, and flameproofed. Bags are made by Tetratex Corp.
19		
20	Hazardous Wastes	Solid
21	Haz Waste Description	Propellant/explosive/pyrotechnic
22	Supplemental Fuel	Oil
23		
24	Stack Characteristics	
25	Diameter (ft)	
26	Height (ft)	
27	Gas Velocity (ft/sec)	27.0
28	Gas Temperature (°F)	285
29		
30	Permitting Status	Tier I for all metals; Tier III for Cr, Pb, Cd
31	HWC Burn Status (Date if Terminated)	

	B	C
1	Condition Description	
2		
3	3012C1	
4		
5	Report Name/Date	Trial Burn for Explosive Waste Incinerator, July 1995
6	Report Prepare	U.S. Army Center for Health Promotion and Preventive Medicine
7	Testing Firm	Kansas Army Ammunition Plant
8	Testing Dates	April 21-22, 1995
9	Cond Dates	Apr-95
10	Condition Descr	Trial burn, M223 fuze feed
11	Content	PM, CO, metals
12		
13	3012C2	
14		
15	Report Name/Date	Trial Burn for Explosive Waste Incinerator, July 1995
16	Report Prepare	U.S. Army Center for Health Promotion and Preventive Medicine
17	Testing Firm	Kansas Army Ammunition Plant
18	Testing Dates	April 24-27, 1995
19	Cond Dates	Apr-95
20	Condition Descr	Trial burn, M48A1/M1911 feed
21	Content	PM, CO, metals
22		
23	3012C3	
24		
25	Report Name/Date	Trial Burn for Explosive Waste Incinerator, July 1995
26	Report Prepare	U.S. Army Center for Health Promotion and Preventive Medicine
27	Testing Firm	Kansas Army Ammunition Plant
28	Testing Dates	April 29-30, 1995
29	Cond Dates	Apr-95
30	Condition Descr	Trial burn, M1 propellant feed
31	Content	PM, CO
32		
33	3012C4	
34		
35	Report Name/Date	Trial Burn for Explosive Waste Incinerator, July 1995
36	Report Prepare	U.S. Army Center for Health Promotion and Preventive Medicine
37	Testing Firm	Kansas Army Ammunition Plant
38	Testing Dates	April 30 - May 1, 1995
39	Cond Dates	Apr-95
40	Condition Descr	Trial burn, M30 propellant feed
41	Content	PM, CO
42		
43	3012C5	
44		
45	Report Name/Date	Trial Burn for Explosive Waste Incinerator, July 1995
46	Report Prepare	U.S. Army Center for Health Promotion and Preventive Medicine
47	Testing Firm	Kansas Army Ammunition Plant
48	Testing Dates	May 2, 1995
49	Cond Dates	May-95
50	Condition Descr	Trial burn, black powder feed
51	Content	PM, CO
52		
53	3012C6	
54		
55	Report Name/Date	Trial Burn Retest for Explosive Waste Incinerator, January 1996
56	Report Prepare	Day & Zimmermann, Inc
57	Testing Firm	Kansas Army Ammunition Plant
58	Testing Dates	November 10, 1995
59	Cond Dates	Nov-95
60	Condition Descr	Trial burn, black powder/lime feed
61	Content	PM, CO
62		
63	3012C7	
64		
65	Report Name/Date	Trial Burn Retest for Explosive Waste Incinerator, January 1996
66	Report Prepare	Day & Zimmermann, Inc
67	Testing Firm	Kansas Army Ammunition Plant
68	Testing Dates	November 11, 1995
69	Cond Dates	Nov-95
70	Condition Descr	Trial burn, M48A1/M1911 feed
71	Content	PM, CO, Pb

	B	C	D	E	F	G	H	I	J	K	L	M
1	Stack Gas Emissions 1											
2												
3		Comme	Units	7%	O2							
4												
5	3012C1	Trial Burn				R1		R2		R3		Cond Avg
6												
7	PM	E1	gr/dscf	y		0.035		0.023		0.025		0.028
8	CO (RA)	E1	ppmv	y		0				0.1		0.05
9	CO (MHRA)	E1	ppmv	y		0		1		1.4		0.8
10	HC (MHRA)	E1	ppmv	y		1.7		7.9		11		6.87
11												
12	Antimony		lb/hr			4.68E-03		4.72E-03		4.72E-03		
13	Arsenic		lb/hr			8.57E-05		5.76E-05		4.93E-05		
14	Barium		lb/hr			1.10E-03		9.33E-04		1.48E-03		
15	Beryllium		lb/hr			2.07E-06		2.09E-06		2.09E-06		
16	Cadmium		lb/hr			1.33E-02		1.18E-02		1.26E-02		
17	Chromium		lb/hr			2.90E-04		2.80E-04		3.34E-04		
18	Lead		lb/hr			1.04E-01		7.11E-02		7.54E-02		
19	Mercury		lb/hr			1.85E-05		1.84E-05		1.92E-05		
20	Silver		lb/hr			2.07E-05		9.19E-06		1.25E-05		
21	Thallium		lb/hr			2.07E-06		2.09E-06		2.09E-06		
22												
23	Sampling Train	PM, me	E1									
24	Stack Gas Flowrate		dscfm			2358.3		2653.0		2743.1		2584.8
25	O2		%			12.6		12.4		12.4		12.5
26	Moisture		%			6.2		6		6.4		6.2
27	Temperature		°F			198		188		188		191.3
28												
29	Antimony	E1	ug/dscm	y		884.35		774.38		748.94		802.56
30	Arsenic	E1	ug/dscm	y		16.19		9.45		7.82		11.16
31	Barium	E1	ug/dscm	y		207.86		153.07		234.84		198.59
32	Beryllium	E1	ug/dscm	y		0.39		0.34		0.33		0.36
33	Cadmium	E1	ug/dscm	y		2513.21		1935.94		1999.29		2149.48
34	Chromium	E1	ug/dscm	y		54.80		45.94		53.00		51.24
35	Lead	E1	ug/dscm	y		19652.17		11664.88		11964.03		14427.02
36	Mercury	E1	ug/dscm	y		3.50		3.02		3.05		3.19
37	Silver	E1	ug/dscm	y		3.91		1.51		1.98		2.47
38	Thallium	E1	ug/dscm	y		0.39		0.34		0.33		0.36
39												
40	SVM	E1	ug/dscm	y		22165.4		13600.8		13963.3		16576.5
41	LVM	E1	ug/dscm	y		71.38		55.73		61.15		62.76
42												
43	3012C2	Trial Burn				R1		R2		R3		Cond Avg
44												
45	PM	E1	gr/dscf	y		0.155		0.229		0.183		0.189
46	CO (RA)	E1	ppmv	y		3		4.9		6.1		4.67
47	CO (MHRA)	E1	ppmv	y		3.4		5.7		7.2		5.43
48	HC (MHRA)	E1	ppmv	y		0.9		4.3		0.4		1.87
49												
50	POHC DRE	DNT										
51	POHC Feedrate		lb/hr			13.184		14.001		14.001		
52	Emission Rate	E1	lb/hr			9.54E-05		9.66E-05		9.42E-05		
53	DRE	E1	%			99.9993		99.9993		99.9993		
54												
55	POHC DRE	NG										
56	POHC Feedrate		lb/hr			1.813		1.813		1.813		
57	Emission Rate	E1	lb/hr			9.54E-05		9.66E-05		9.42E-05		
58	DRE	E1	%			99.9947		99.9946		99.9948		
59												
60	Antimony		lb/hr			2.09E-02		2.50E-02		2.19E-02		
61	Arsenic		lb/hr			7.81E-05		1.15E-04		1.05E-04		
62	Barium		lb/hr			4.88E-03		7.16E-03		7.59E-03		
63	Beryllium		lb/hr			2.08E-06		2.14E-06		2.17E-06		
64	Cadmium		lb/hr			2.08E-05		6.08E-04		3.27E-04		
65	Chromium		lb/hr			7.94E-05		6.89E-05		6.86E-05		
66	Lead		lb/hr			5.41E-01		7.28E-01		5.97E-01		
67	Mercury		lb/hr			2.68E-05		3.96E-05		3.15E-05		
68	Silver		lb/hr			9.14E-06		1.80E-05		2.56E-05		
69	Thallium		lb/hr			2.08E-06		2.14E-06		2.17E-06		
70												
71	Sampling Train	PM	E1									

	B	C	D	E	F	G	H	I	J	K	L	M
72	Stack Gas Flowrate		dscfm			2311.6667		2285.95		2354.3		2317.3
73	O2		%			7		7.6		7.4		7.3
74	Moisture		%			6.8		7.1		6.4		6.8
75	Temperature		°F			192		183		188		187.7
76												
77	Antimony	E1	ug/dscm	y		2417.35		3055.02		2560.29		2677.56
78	Arsenic	E1	ug/dscm	y		9.03		14.05		12.28		11.79
79	Barium	E1	ug/dscm	y		564.43		874.96		887.33		775.58
80	Beryllium	E1	ug/dscm	y		0.24		0.26		0.25		0.25
81	Cadmium	E1	ug/dscm	y		2.41		74.30		38.23		38.31
82	Chromium	E1	ug/dscm	y		9.18		8.42		8.02		8.54
83	Lead	E1	ug/dscm	y		62573.47		88962.31		69794.28		73776.69
84	Mercury	E1	ug/dscm	y		3.10		4.84		3.68		3.87
85	Silver	E1	ug/dscm	y		1.06		2.20		2.99		2.08
86	Thallium	E1	ug/dscm	y		0.24		0.26		0.25		0.25
87												
88	SVM	E1	ug/dscm	y		62575.9		89036.6		69832.5		73815.0
89	LVM	E1	ug/dscm	y		18.46		22.73		20.55		20.58
90												
91	3012C3	Trial Burn				R1		R2		R3		Cond Avg
92												
93	PM	E1	gr/dscf	y		0.028		0.029		0.037		0.031
94	CO (RA)	E1	ppmv	y		5.7		4.5		4.3		4.83
95	CO (MHRA)	E1	ppmv	y		6.3		4.7		3.4		4.8
96	HC (MHRA)	E1	ppmv	y		1		2.5		1		1.5
97												
98	POHC DRE	DNT										
99	POHC Feedrate		lb/hr			21.144		21.144		21.144		
100	Emission Rate	E1	lb/hr			9.93E-05		9.47E-05		9.84E-05		
101	DRE	E1	%			99.9995		99.9996		99.9995		
102												
103	Sampling Train	PM	E1									
104	Stack Gas Flowrate		dscfm			2227.7		2288.9		2278.2		2264.9
105	O2		%			11.8		11.2		12.2		11.7
106	Moisture		%			7.7		7.4		7.3		7.5
107	Temperature		°F			186		189		182		185.7
108												
109	3012C4	Trial Burn				R1		R2		R3		Cond Avg
110												
111	PM	E1	gr/dscf	y		0.017		0.015		0.021		0.018
112	CO (RA)	E1	ppmv	y		1.9		2.6		2.8		2.43
113	CO (MHRA)	E1	ppmv	y		1.7		1.7		1.7		1.7
114	HC (MHRA)	E1	ppmv	y		10.9		0.6		0.6		4.03
115												
116	POHC DRE	NG										
117	POHC Feedrate		lb/hr			54.288		54.288		54.288		
118	Emission Rate	E1	lb/hr			9.54E-05		9.40E-05		9.39E-05		
119	DRE	E1	%			99.9998		99.9998		99.9998		
120												
121	Sampling Train	PM	E1									
122	Stack Gas Flowrate		dscfm			2193.4		2291.0		2268.7		2251.0
123	O2		%			6.6		6.6		6.2		6.47
124	Moisture		%			7.3		6.9		7		7.07
125	Temperature		°F			174		180		178		177.3
126												
127	3012C5	Trial Burn				R1		R2		R3		Cond Avg
128												
129	PM	E1	gr/dscf	y		0.101		0.108		0.139		0.116
130	CO (RA)	E1	ppmv	y		18.7		3.4		5		9.03
131	CO (MHRA)	E1	ppmv	y		37.4		3.4		5.1		15.3
132	HC (MHRA)	E1	ppmv	y		0.7		1		1.4		1.03
133												
134	Sampling Train	PM	E1									
135	Stack Gas Flowrate		dscfm			2512.2		2490.8		2330.8		2444.6
136	O2		%			12.8		12.8		13		12.87
137	Moisture		%			6.5		6.4		6.6		6.50
138	Temperature		°F			195		196		192		194.3
139												
140	3012C6	Trial Burn				R1		R2		R3		Cond Avg
141												
142	PM	E1	gr/dscf	y		0.01		0.014		0.012		0.012

	B	C	D	E	F	G	H	I	J	K	L	M
143	CO (RA)	E1	ppmv	y		6.5		6.4		8		6.97
144	CO (MHRA)	E1	ppmv	y		88.5		6		7.3		33.93
145												
146	Sampling Train	PM	E1									
147	Stack Gas Flowrate		dscfm			2266.7		2438.3		2711.7		2472.2
148	O2		%			14		13.5		12.7		13.4
149	Moisture		%			6.9		6.2		5.7		6.3
150	Temperature		°F			189		194		176		186.3
151												
152	3012C7	Trial Burn				R1		R2		R3		Cond Avg
153												
154	PM	E1	gr/dscf	y		0.006		0.011		0.005		0.007
155	CO (RA)	E1	ppmv	y		10		11.9		5.9		9.27
156	CO (MHRA)	E1	ppmv	y		10.5		12.4		83.7		35.53
157												
158	Lead		lb/hr			7.75E-04		5.31E-04		5.34E-04		
159												
160	Sampling Train	PM	E1									
161	Stack Gas Flowrate		dscfm			2471.7		2470.0		2395.0		2445.6
162	O2		%			12.8		12.8		12.8		12.8
163	Moisture		%			5.6		5.1		5.9		5.5
164	Temperature		°F			192		193		190		191.7
165												
166	Lead	E1	ug/dscm	y		143.13		98.14		101.78		114.351
167	SVM	E1	ug/dscm	y		143.13		98.14		101.78		114.35

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	
1	Feedstream 1																			
2																				
3																				
4	3012C1	Trial burn			Cond Avg	Cond Avg	Cond Avg	Cond Avg	Cond Avg				R1	R2	R3				Cond Avg	
5					F1	F2	F3	F4	F5				Total	Total	Total				Total	F4
6	Feedstream Number				Solid HW	Solid HW	Misc. Fuel	Total	Total				Total	Total	Total				Total	Total
7	Feed Class				M223 Fuze	PEP	Auxiliary Fuel	Total	Total				Total	Total	Total				Total	Total
8	Feed Class 2				30000															
9	Feedstream Description				items/hr															
10	Feed Rate				lb/hr		5.66													
11	Feed Rate				gal/hr				53.93											3.24
12	Feed Rate				Btu/gal				140000											0.106
13	Heating Value				lb/hr															0.104
14	Ash				lb/hr															2.775
15	Antimony				lb/hr															0.106
16	Barium				lb/hr															0.104
17	Lead				lb/hr															2.775
18																				
19																				
20	Stack Gas Flowrate				dscfm								2358.3	2653.0	2743.1					2584.8
21	Oxygen				%								12.6	12.4	12.4					12.47
22																				
23	Thermal Feedrate				MMBtu/hr															
24	Estimated Firing Rate				MMBtu/hr															
25																				
26	Feedrate MTEC Calculations																			
27																				
28	Ash				mg/dscm								612.2	531.6	514.1					552.6
29	Antimony				ug/dscm								20030	17391	16819					18080
30	Barium				ug/dscm								19652	17063	16502					17739
31	Lead				ug/dscm								524373	455275	440321					473323
32	SVM				ug/dscm								524373	455275	440321					473323
33																				
34	3012C2	Trial burn			Cond Avg	Cond Avg	Cond Avg	Cond Avg	Cond Avg				R1	R2	R3				Cond Avg	
35					F1	F2	F3	F4	F5				Total	Total	Total				Total	F5
36	Feedstream Number				Solid HW	Solid HW	Solid HW	Misc. Fuel	Total				Total	Total	Total				Total	Total
37	Feed Class				0.50 cal M48A1	0.45 cal M1911	PEP	Auxiliary Fuel	Total				Total	Total	Total				Total	Total
38	Feed Class 2				6471.7	11750														
39	Feedstream Description				items/hr															
40	Feed Rate				lb/hr															
41	Feed Rate				gal/hr															
42	Feed Rate				Btu/gal															
43	Heating Value				lb/hr															
44	Ash				lb/hr															
45	Antimony				lb/hr															
46	Barium				lb/hr															
47	Lead				lb/hr															
48																				
49	Stack Gas Flowrate				dscfm								2311.66667	2285.95	2354.3					2317.31
50	Oxygen				%								7.0	7.6	7.4					7.33
51																				
52	Thermal Feedrate				MMBtu/hr															
53	Estimated Firing Rate				MMBtu/hr															
54																				
55	Feedrate MTEC Calculations																			
56																				
57	Ash				mg/dscm								5366.7	6012.3	5751.9					5710.3
58	Antimony				ug/dscm								1465214	1593501	1524485					1527733
59	Barium				ug/dscm								1113715	1248161	1194102					1185326
60	Lead				ug/dscm								69776240	75833527	72549107					72719625

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
61	SVM																	
62		ug/dscm																
63																		
64	3012C3	Trial burn																
65		Feedstream Number																
66		Feed Class																
67		Feed Class 2																
68		Feedstream Description																
69		Feed Rate																
70		Feed Rate																
71		Heating Value																
72		Ash																
73																		
74																		
75		Stack Gas Flowrate																
76		Oxygen																
77																		
78		Thermal Feedrate																
79		Estimated Firing Rate																
80																		
81		<i>Feedrate MTEC Calculations</i>																
82																		
83		Ash																
84																		
85		3012C4	Trial burn															
86		Feedstream Number																
87		Feed Class																
88		Feed Class 2																
89		Feedstream Description																
90		Feed Rate																
91		Feed Rate																
92		Aux. Heating Value																
93																		
94		3012C5	Trial burn															
95		Feedstream Number																
96		Feed Class																
97		Feed Class 2																
98		Feedstream Description																
99		Feed Rate																
100		Feed Rate																
101		Heating Value																
102		Aux. Heating Value																
103		Ash																
104																		
105																		
106		Stack Gas Flowrate																
107		Oxygen																
108																		
109		Thermal Feedrate																
110		Estimated Firing Rate																
111																		
112		<i>Feedrate MTEC Calculations</i>																
113																		
114		Ash																
115																		
116		3012C6	Trial burn															
117		Feedstream Number																
118		Feed Class																
119		Feed Class 2																
120		Feedstream Description																

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	
121	Feedstream Description				Black Powder/Lime PEP			Auxiliary Fuel				Total	Total	Total	Total	Total	Total	Total	
122	Feed Rate	lb/hr		325.3		162.63													
123	Feed Rate	gal/hr						44.97											
124	Aux. Heating Value	Btu/gal					1400000												
125	Ash	lb/hr		147		146.7		149.4											
126																			
127	Stack Gas Flowrate	dscfm		2472.2															
128	Oxygen	%		13.4															
129	Feedrate MTEC Calculations																		
130																			
131																			
132	Ash	mg/dscm																	
133																			
134	3012C7	Trial burn			Cond Avg	Cond Avg		Cond Avg		Cond Avg		R1	R2	R3					
135												F5	F5	F5					
136	Feedstream Number				F1	F2	F3	F4	F4			Total	Total	Total	Total	Total	Total	Total	
137	Feed Class				Solid HW	Solid HW	Solid HW	Misc. Fuel	Misc. Fuel			Total	Total	Total	Total	Total	Total	Total	
138	Feed Class 2											Total	Total	Total	Total	Total	Total	Total	
139	Feedstream Description				0.50 cal M48A1	0.45 cal M1911	PEP	Auxiliary Fuel	Auxiliary Fuel			Total	Total	Total	Total	Total	Total	Total	
140	Feed Rate	items/hr		4428		8836.7						Total	Total	Total	Total	Total	Total	Total	
141	Feed Rate	lb/hr					112.9												
142	Feed Rate	gal/hr						48.37											
143	Aux. Heating Value	Btu/gal						140000											
144	Ash	lb/hr										18.9	18.9	18.9					
145	Lead	lb/hr										440.8	442.5	442.8					
146																			
147	Stack Gas Flowrate	dscfm		2317.3								2472	2470	2395					
148	Oxygen	%		7.3								12.8	12.8	12.8					
149																			
150	Thermal Feedrate	MMBtu/hr																	
151	Estimated Firing Rate	MMBtu/hr																	
152																			
153	Feedrate MTEC Calculations																		
154																			
155	Ash	mg/dscm										3491	3493	3602					
156	Lead	ug/dscm										81411	81780	84398					
157	SVM	ug/dscm										81411	81780	84398					

	B	C	D	E	F	G
1	Process Information					
2						
3	3012C1	Trial burn		Run 1	Run 2	Run 3
4						
5	Pressure Draft	W.C		-0.27	-0.27	-0.27
6	Kiln Rotation	rpm		1.8	1.8	1.7
7	Kiln Feed End Temp	°F		351	357	357
8	Kiln Burner End Temp	°F		1169	1082	1001
9	Afterburner Outlet Temp	°F		1750	1750	1750
10	HTHE Outlet Temp	°F		658	667	666
11	LTHE Outlet Temp	°F		274	275	275
12	Baghouse Outlet Temp	°F		258	244	241
13	Baghouse Pressure Drop	W.C		1.27	2.13	2.78
14	Gas Velocity	ft/sec		25.9	28.5	29.6
15	Venturi					
16						
17	3012C2	Trial burn		Run 1	Run 2	Run 3
18						
19	Pressure Draft	W.C		-0.27	-0.27	-0.27
20	Kiln Rotation	rpm		2.7	2.6	2.5
21	Kiln Feed End Temp	°F		574	553	483
22	Kiln Burner End Temp	°F		1295	1079	1263
23	Afterburner Outlet Temp	°F		1750	1750	1750
24	HTHE Outlet Temp	°F		663	619	685
25	LTHE Outlet Temp	°F		276	272	275
26	Baghouse Outlet Temp	°F		253	239	244
27	Baghouse Pressure Drop	W.C		2.23	2.62	2.72
28	Gas Velocity	ft/sec		25.5	25.5	25.4
29	Venturi					
30						
31	3012C3	Trial burn		Run 1	Run 2	Run 3
32						
33	Pressure Draft	W.C		-0.27	-0.27	-0.27
34	Kiln Rotation	rpm		2.8	2.9	2.9
35	Kiln Feed End Temp	°F		738	814	750
36	Kiln Burner End Temp	°F		965	925	958
37	Afterburner Outlet Temp	°F		1700	1701	1701
38	HTHE Outlet Temp	°F		638	668	653
39	LTHE Outlet Temp	°F		273	275	274
40	Baghouse Outlet Temp	°F		244	245	239
41	Baghouse Pressure Drop	W.C		2.66	2.77	2.93
42	Gas Velocity	ft/sec		24.7	24.4	24.7
43	Venturi					
44						
45	3012C4	Trial burn		Run 1	Run 2	Run 3
46						
47	Pressure Draft	W.C		-0.27	-0.27	-0.27
48	Kiln Rotation	rpm		3	3	2.9
49	Kiln Feed End Temp	°F		741	521	770
50	Kiln Burner End Temp	°F		979	1052	976
51	Afterburner Outlet Temp	°F		1701	1700	1700
52	HTHE Outlet Temp	°F		624	673	650
53	LTHE Outlet Temp	°F		271	273	273
54	Baghouse Outlet Temp	°F		243	232	248
55	Baghouse Pressure Drop	W.C		0.84	1.37	1.57
56	Gas Velocity	ft/sec		23.6	25.2	24.2
57	Venturi					
58						
59	3012C5	Trial burn		Run 1	Run 2	Run 3
60						
61	Pressure Draft	W.C		-0.27	-0.27	-0.27
62	Kiln Rotation	rpm		2.5	2.4	2.4
63	Kiln Feed End Temp	°F		352	385	390
64	Kiln Burner End Temp	°F		1079	1057	1033
65	Afterburner Outlet Temp	°F		1700	1700	1700
66	HTHE Outlet Temp	°F		695	693	690

	B	C	D	E	F	G
67	LTHE Outlet Temp	°F		276	276	276
68	Baghouse Outlet Temp	°F		237	243	241
69	Baghouse Pressure Drop	W.C		2.23	2.49	2.48
70	Gas Velocity	ft/sec		27.5	27.2	26.7
71						
72	3012C6	Trial burn		Run 1	Run 2	Run 3
73						
74	Pressure Draft	W.C		-0.27	-0.27	-0.27
75	Kiln Rotation	rpm		2.8	3	3
76	Kiln Feed End Temp	°F		373	358	399
77	Kiln Burner End Temp	°F		1060	1348	1211
78	Afterburner Outlet Temp	°F		1699	1700	1700
79	HTHE Outlet Temp	°F		713	746	743
80	LTHE Outlet Temp	°F		274	274	274
81	Baghouse Outlet Temp	°F		247	255	247
82	Baghouse Pressure Drop	W.C		2.69	3.94	1.42
83	Gas Velocity	ft/sec		25	26.9	28.9
84						
85	3012C7	Trial burn		Run 1	Run 2	Run 3
86						
87	Pressure Draft	W.C		-0.27	-0.27	-0.27
88	Kiln Rotation	rpm		2.5	2.6	2.6
89	Kiln Feed End Temp	°F		461	601	456
90	Kiln Burner End Temp	°F		1578	1535	1425
91	Afterburner Outlet Temp	°F		1749	1750	1749
92	HTHE Outlet Temp	°F		743	719	747
93	LTHE Outlet Temp	°F		275	275	275
94	Baghouse Outlet Temp	°F		253	256	245
95	Baghouse Pressure Drop	W.C		2.58	3.5	2.3
96	Gas Velocity	ft/sec		26.6	27	26