

US EPA ARCHIVE DOCUMENT

	B	C
1	Source Description	
2		
3	Phase I ID No.	349
4	EPA ID No.	VA1210020730
5	Facility Name	Alliant Ammunition and Powder Company LLC
6	Facility Location	
7	City	Radford
8	State	Virginia
9	Unit ID Name/No.	Incinerator 441
10	Other Sister Facilities	Incinerator 440
11	Number of Sister Facilities	0
12	Combustor Class	Onsite incinerator
13	Combustor Type	Rotary kiln
14	Combustor Characteristics	Barlett Snow Model 7A is designed to incinerate water based slurries of bulk explosives and propellant The kiln shell is a carbon steel cylinder. The shell is refractory lined with 6 inc of firebrick, which runs the entire length of the kiln. The inside refractory diameter is 5 ft across. The kiln also consists of a barrel which rotates between two fixed breeching equipped with a North American Burner, Series 6514. 6.5' OD, 12' long
15	Capacity (MMBtu/hr)	4.9
16	Soot Blowing	
17	APCS Detailed Acronym	AB/EC/FF/PBS
18	APCS General Class	WQ, FF, LEWS
19	APCS Characteristics	Gas pre-cooler, fabric filter (Gore-tex bags, Zurn pulsed jet, 2300 ft2 fabric area, A/C = 3), evaporative cooler, packed bed scrubber (3" Interlox PP saddle packing, 3' packing), afterburner
20	Hazardous Wastes	Liq, solid
21	Haz Waste Description	Propellant mixtures.
22	Supplemental Fuel	Natural gas
23		
24	Stack Characteristics	
25	Diameter (ft)	2
26	Height (ft)	35
27	Gas Velocity (ft/sec)	55.0
28	Gas Temperature (°F)	182
29		
30	Permitting Status	Tier I for all metal except Pb and Cr (Tier III)
31	HWC Burn Status (Date if Terminated)	

	B	C
1	Condition Description	
2		
3	349C10	
4		
5	Report Name/Date	Trial Burn Report, September 2000
6	Report Prepare	Franklin Engineering Group, Inc
7	Testing Firm	Fuller Air Compliance
8	Testing Dates	June 13-15, 2000
9	Cond Dates	Jun-00
10	Condition Descr	Trial burn, low comb temp, max feedrate
11	Content	CO, DRE
12		
13	349C11	
14		
15	Report Name/Date	Trial Burn Report, September 2000
16	Report Prepare	Franklin Engineering Group, Inc
17	Testing Firm	Fuller Air Compliance
18	Testing Dates	June 18-20, 2000
19	Cond Dates	Jun-00
20	Condition Descr	Trial burn, max comb temp, max feedrate
21	Content	PM, CO, HCl/Cl2, metals
22		
23	349C1	
24		
25	Report Name/Date	Trial Burn Report for Emission Source Test of Waste Propellant Incinerator 6A at Radford Army Ammunition Plant, Radford, Virginia, Prepared by DRE Environmental Services, June 1993
26	Report Prepare	DRE Environmental Services
27	Testing Firm	DRE Environmental Services
28	Cond Descr	LOW TEMPERATURE
29	Testing Dates	
30	Cond Dates	Jun-93
31		
32	349C2	
33		
34	Report Name/Date	Trial Burn Report for Emission Source Test of Waste Propellant Incinerator 6A at Radford Army Ammunition Plant, Radford, Virginia, Prepared by DRE Environmental Services, June 1993
35	Report Prepare	DRE Environmental Services
36	Testing Firm	DRE Environmental Services
37	Cond Descr	LOW TEMPERATURE
38	Testing Dates	
39	Cond Dates	Jun-93
40		
41	349C3	
42		
43	Report Name/Date	Trial Burn Report for Emission Source Test of Waste Propellant Incinerator 6A at Radford Army Ammunition Plant, Radford, Virginia, Prepared by DRE Environmental Services, June 1993
44	Report Prepare	DRE Environmental Services
45	Testing Firm	DRE Environmental Services
46	Cond Descr	HIGH TEMPERATURE
47	Testing Dates	
48	Cond Dates	Jun-93
49		
50	349C4	
51		
52	Report Name/Date	Trial Burn Report for Emission Source Test of Waste Propellant Incinerator 6A at Radford Army Ammunition Plant, Radford, Virginia, Prepared by DRE Environmental Services, June 1993
53	Report Prepare	DRE Environmental Services
54	Testing Firm	DRE Environmental Services
55	Cond Descr	BASELINE,LOW TEMPERATURE
56	Testing Dates	
57	Cond Dates	Jun-93

	B	C	D	E	F	G	H	I	J	K	L	M
1	Stack Gas Emissions 1											
2												
3		Comnr Units		7% O2								
4												
5												
6	349C10	Trial Burn				R1		R2		R3		Cond Avg
7												
8	CO (RA)	E1	ppmv	y		59.31		77.84		67.87		68.34
9	CO (MHRA)	E1	ppmv	y		67.85		83.56		75.82		75.7
10												
11	POHC DRE	2,4-Dinitrotoluene										
12	POHC Feedrate		lb/hr			15.6		15.5		16.5		
13	Emission Rate	E1	lb/hr		nd	5.13E-06	nd	5.32E-06	nd	5.26E-06		
14	DRE	E1	%			99.99997		99.99997		99.99997		
15												
16	POHC DRE	Nitroglycerine										
17	POHC Feedrate		lb/hr			67.8		52		49.1		
18	Emission Rate	E1	lb/hr		nd	9.74E-04	nd	7.44E-04	nd	1.03E-03		
19	DRE	E1	%			99.9986		99.9986		99.9979		
20												
21												
22	Sampling Train	CO, D E1										
23	Stack Gas Flowrate		dscfm			2558		3066		2914		2846
24	O2		%			9.8		10.7		10		10.2
25	Moisture		%			53		50.8		51.1		51.6
26	Temperature		°F			188		184		180		184.0
27												
28	349C11	Trial Burn				R1		R2		R3		Cond Avg
29												
30	PM	E1	gr/dscf	y		0.0023		0.0031		0.0053		0.003567
31	CO (RA)	E1	ppmv	y		6.78		1.68		1.6		3.35
32	CO (MHRA)	E1	ppmv	y		16.21		1.94		2.15		6.77
33												
34	HCl	E1	ppmv	y		0.06	nd	0.042	nd	0.048		0.05
35	Cl2	E1	ppmv	y	nd	0.026	nd	0.026	nd	0.03		0.03
36	Total Chlorine	E1	ppmv	y	47	0.112	100	0.094	100	0.108	81	0.10
37												
38	Antimony	E2	ug/dscm	y		1.42		2.51		0.65		1.53
39	Arsenic	E2	ug/dscm	y	nd	0.15	nd	0.59	nd	0.17	100	0.30
40	Barium	E2	ug/dscm	y		10.29		10.17		10.84		10.43
41	Beryllium	E2	ug/dscm	y	nd	0.036	nd	0.037	nd	0.043	100	0.04
42	Cadmium	E2	ug/dscm	y		0.36		0.13		0.64		0.38
43	Chromium	E2	ug/dscm	y		2.08		3.59		6.28		3.98
44	Lead	E2	ug/dscm	y		364.8		635.8		731.1		577.25
45	Mercury	E2	ug/dscm	y		0.21		0.18		0.1		0.16
46	Nickel	E2	ug/dscm	y		4.93		5.05		6.67		5.55
47	Selenium	E2	ug/dscm	y	nd	0.36	nd	1.76	nd	0.43	100	0.85
48	Silver	E2	ug/dscm	y		1.40E-01		7.50E-02		1.40E-01		0.12
49	Thallium	E2	ug/dscm	y	nd	0.18	nd	0.19	nd	0.22	100	0.20
50												
51	SVM	E2	ug/dscm	y		365.18		635.95		731.76		577.63
52	LVM	E2	ug/dscm	y	8	2.266	15	4.217	3.3	6.493	7.9	4.33
53												
54	Sampling Train	PM, H E1										
55	Stack Gas Flowrate		dscfm			2699		2650		2562		2637
56	O2		%			7.4		7.5		8.2		7.70
57	Moisture		%			53.4		54.1		53.2		53.57
58	Temperature		°F			181		181		180		180.67
59												
60	Sampling Train	Metals E2										
61	Stack Gas Flowrate		dscfm			2723		2663		2503		2629.7
62	O2		%			7.4		7.5		8.2		7.7
63	Moisture		%			53.1		53.9		54.1		53.7
64	Temperature		°F			181		182		180		181.0

	B	C	D	E	F	G	H	I	J	K	L	M
1	Stack Gas Emissions 2											
2												
3												
4	349C1					R1		R2		R3		Cond Avg
5												
6	PM	E1	gr/dscf	y		0.0032		0.0064		0.0048		0.0048
7	CO (RA)	E1	ppmv	y		1.0						1.0
8												
9	Sampling Train	Particulate	E1									
10	Stack Gas Flowrate		dscfm			2789.0		2486.0		2493.0		
11	O2		%			13.1		14.3		14.9		
12	Moisture		%			44.2		45.0		44.7		
13	Temperature		°F			189.0		189.0		196.0		
14												
15	Dinitrotoluene (DNT)	E1	%			99.9956		99.9937		99.9918		
16												
17	349C2					R1		R2		R3		Cond Avg
18												
19	PM	E1	gr/dscf	y		0.0017		0.0010		0.0008		0.0012
20	CO (RA)	E1	ppmv	y		21.0		29.0		1.0		17.0
21												
22	Sampling Train	Particulate	E1									
23	Stack Gas Flowrate		dscfm			2349.0		2460.0		2246.0		
24	O2		%			12.1		12.1		12.0		
25	Moisture		%			46.7		46.2		47.5		
26	Temperature		°F			198.0		199.0		191.0		
27												
28	Nitroglycerine (NG)	E1	%			99.99991		99.99998		99.9998		
29												
30	349C3					R1		R2		R3		Cond Avg
31												
32	PM	E1	gr/dscf	y		0.0015		0.0008		0.0008		0.0010
33	CO (RA)	E1	ug/dscm	y		1.0		7.0				4.0
34	Lead	E1	ug/dscm	y		32.3		33.1		39.7		35.1
35	SVM	E1	ug/dscm	y		32.3		33.1		39.7		35.1
36												
37	Sampling Train	Particulate	E1									
38	Stack Gas Flowrate		dscfm			2180.0		2278.0		2081.0		
39	O2		%			10.4		10.6		10.6		
40	Moisture		%			53.5		50.6		52.7		
41	Temperature		°F			199.0		195.0		195.0		
42												
43	349C4					R1		R2		R3		Cond Avg
44												
45	PM	E1	gr/dscf	y		0.0010		0.0005		0.0022		0.0012
46	Lead	E1	ug/dscm	y		92.7		30.4		43.0		55.4
47	SVM	E1	ug/dscm	y		92.7		30.4		43.0		55.4
48												
49	Sampling Train	Particulate	E1									
50	Stack Gas Flowrate		dscfm			3156.0		2603.0		2684.0		
51	O2		%			14.1		12.5		12.9		
52	Moisture		%			37.8		40.6		40.6		
53	Temperature		°F			177.0		188.0		189.0		

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Feedstream 1																			
2																				
3																				
4	349C10	Trial burn			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg	
5																				
6	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2	
7	Feed Class				Slurry HW		Slurry HW		Slurry HW		Slurry HW		Slurry HW		Slurry HW		Slurry HW		Slurry HW	
8	Feedstream Description				Waste Slurry		Waste Slurry		Waste Slurry		Waste Slurry		Waste Slurry		Waste Slurry		Waste Slurry		Waste Slurry	
9					Tank A		Tank A		Tank A				Tank B		Tank B		Tank B		Tank B	
10	Feed Rate	lb/hr			2239		2197		2107				2329		2214		2170			
11	Heating Value	Btu/lb																		
12	Density	g/cc			1.02		1.03		1				1.04		1.03		1.04		1.04	
13	Viscosity	Cps			1		1		0.7				1.43		1.23		0.7		0.7	
14																				
15	349C11	Trial burn			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg	
16																				
17	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2	
18	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		Spike		Spike		Spike		Spike	
19	Feed Class 2				HW		HW		HW		HW									
20	Feedstream Description				Waste Feed		Waste Feed		Waste Feed				Sodium Bichomate		Sodium Bichomate		Sodium Bichomate		Sodium Bichomate	
21	Feed Rate	lb/hr			1062		1404		1200.5		1222		20.01		20.09		19.9		20	
22	Heating Value	Btu/lb					6232		6232		6232									
23	Density	g/cc			1.04		1.03		1.05		1.04									
24	Viscosity	Cps			0.7		0.63		0.83		0.72									
25	Ash	lb/hr			3.84		3.37		2.88		3.36		0.13		0.11		0.11		0.117	
26	Chlorine	lb/hr			0.443		0.3		0.396		0.391									
27	Antimony	lb/hr	nd		0.00013	nd	0.0001	nd	0.00012		0.00012									
28	Arsenic	lb/hr	nd		0.00013	nd	0.0001	nd	0.00012		0.00012									
29	Barium	lb/hr	nd		0.00013	nd	0.0001	nd	0.00012		0.00012									
30	Beryllium	lb/hr	nd		0.000023	nd	0.000017	nd	0.000095		0.000045									
31	Cadmium	lb/hr	nd		0.000068	nd	0.000083	nd	0.000041		0.000064									
32	Chromium	lb/hr			0.00039		0.00028		0.00037		0.000346667		0.039		0.0		0.035		0.037	
33	Lead	lb/hr	nd		2.97	nd	2.33	nd	2.14		2.48									
34	Mercury	lb/hr	nd		0.0000045	nd	0.0000034	nd	0.000004		0.000004									
35	Nickel	lb/hr	nd		0.00045	nd	0.00028	nd	0.00025		0.00033									
36	Selenium	lb/hr	nd		0.00013	nd	0.0001	nd	0.00012		0.00012									
37	Silver	lb/hr	nd		0.00013	nd	0.0001	nd	0.00012		0.00012									
38	Thallium	lb/hr	nd		0.00013	nd	0.0001	nd	0.00012		0.00012									
39																				
40	Stack Gas Flowrate	dscfm			2699		2650		2562		2637		2699		2650		2562		2637	
41	Oxygen	%			7.4		7.5		8.2		7.70		7.4		7.5		8.2		7.70	
42																				
43	Thermal Feedrate	MMBtu/hr					8.7				7.6									
44	Estimated Firing Rate	MMBtu/hr																		
45																				
46	<i>Feedrate MTEC Calculations</i>																			
47	Ash	mg/dscm			391.6		352.6		328.7		357.6									
48	Chlorine	ug/dscm			45176.0		34947.3		45201.4		41774.9									
49	Antimony	ug/dscm	100		13.3	100	10.5	100	13.7	100	12.5									
50	Arsenic	ug/dscm	100		13.3	100	10.5	100	13.7	100	12.5									
51	Barium	ug/dscm	100		13.3	100	10.5	100	13.7	100	12.5									
52	Beryllium	ug/dscm	100		2.3	100	1.8	100	10.8	100	5.0									
53	Cadmium	ug/dscm	100		6.9	100	8.7	100	4.7	100	6.8									
54	Chromium	ug/dscm			39.8		29.3		42.2		37.1		3977.1		3766.8		3995.1		3913.0	
55	Lead	ug/dscm			302873.2		243793.7		244270.4		263645.8									
56	Mercury	ug/dscm	100		0.5	100	0.4	100	0.5	100	0.4									
57	Nickel	ug/dscm	100		45.9	100	29.3	100	28.5	100	34.6									
58	Selenium	ug/dscm	100		13.3	100	10.5	100	13.7	100	12.5									
59	Silver	ug/dscm	100		13.3	100	10.5	100	13.7	100	12.5									
60	Thallium	ug/dscm	100		13.3	100	10.5	100	13.7	100	12.5									

	B	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ
1	Feedstream 1																						
2																							
3																							
4	349C10																						
5																							
6	Feedstream Number																						
7	Feed Class																						
8	Feedstream Description																						
9																							
10	Feed Rate																						
11	Heating Value																						
12	Density																						
13	Viscosity																						
14																							
15	349C11	R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2		R3	
16																							
17	Feedstream Number	F3		F3		F3		F3		F4		F4		F4		F4		F4		F4		F4	
18	Feed Class	Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike		Spike	
19	Feed Class 2																	Spike		Spike		Spike	
20	Feedstream Description	Spike (Potassium Chloride)		Spike (Potassium Chloride)		Spike (Potassium Chloride)		Spike (Potassium Average)		Lead Acetate		Lead Acetate		Lead Acetate		Average		Spike		Spike		Spike	
21	Feed Rate		249.98		249.98		250		250		50		50.05		49.9		50.0						
22	Heating Value																						
23	Density																						
24	Viscosity																						
25	Ash		48.5		48.5		49		49		2.11		2.09		2.1		2.1						
26	Chlorine		20.2		20.15		18.03		19.46														
27	Antimony																						
28	Arsenic																						
29	Barium																						
30	Beryllium																						
31	Cadmium																						
32	Chromium										1.93		1.932		1.926		1.93						
33	Lead																						
34	Mercury																						
35	Nickel																						
36	Selenium																						
37	Silver																						
38	Thallium																						
39																							
40	Stack Gas Flowrate		2699		2650		2562		2637		2699		2650		2562		2637						
41	Oxygen		7.4		7.5		8.2		7.70		7.4		7.5		8.2		7.70						
42																							
43	Thermal Feedrate																						
44	Estimated Firing Rate																						
45																							
46	Feedrate MTEC Calculat																						
47	Ash		4945.9		5074.7		5593.1		5204.6		215.2		218.7		239.7		224.5		5161.1		5293.4		5832.8
48	Chlorine		2059945.7		2108344.7		2058035.4		2075441.9										2059945.7		2108344.7		2058035.4
49	Antimony																						
50	Arsenic																						
51	Barium																						
52	Beryllium																						
53	Cadmium																						
54	Chromium																		3977.1		3766.8		3995.1
55	Lead																						
56	Mercury																						
57	Nickel																						
58	Selenium																						
59	Silver																						
60	Thallium																						

	B	AR	AS	AT	AU	AV	AW	AX	AY	AZ
1	Feedstream 1									
2										
3										
4	349C10									
5										
6	Feedstream Number									
7	Feed Class									
8	Feedstream Description									
9										
10	Feed Rate									
11	Heating Value									
12	Density									
13	Viscosity									
14										
15	349C11	Cond Avg		R1		R2		R3		Cond Avg
16										
17	Feedstream Number									
18	Feed Class									
19	Feed Class 2									
20	Feedstream Description									
21	Feed Rate									
22	Heating Value									
23	Density									
24	Viscosity									
25	Ash									
26	Chlorine									
27	Antimony									
28	Arsenic									
29	Barium									
30	Beryllium									
31	Cadmium									
32	Chromium									
33	Lead									
34	Mercury									
35	Nickel									
36	Selenium									
37	Silver									
38	Thallium									
39										
40	Stack Gas Flowrate									
41	Oxygen									
42										
43	Thermal Feedrate									
44	Estimated Firing Rate									
45										
46	<i>Feedrate MTEC Calculat</i>									
47	Ash	5429.1		5552.7		5646.0		6161.6		5786.7
48	Chlorine	2075441.9		2105121.8		2143291.9		2103236.8		2117216.8
49	Antimony		100	13.3	100	10.5	100	13.7	100	12.5
50	Arsenic		100	13.3	100	10.5	100	13.7	100	12.5
51	Barium		100	13.3	100	10.5	100	13.7	100	12.5
52	Beryllium		100	2.3	100	1.8	100	10.8	100	5.0
53	Cadmium		100	6.9	100	8.7	100	4.7	100	6.8
54	Chromium	3913.0		4016.9		3796.1		4037.3		3950.1
55	Lead		0	302873.2	0	243793.7	0	244270.4	0	263645.8
56	Mercury		100	0.5	100	0.4	100	0.5	100	0.4
57	Nickel		100	45.9	100	29.3	100	28.5	100	34.6
58	Selenium		100	13.3	100	10.5	100	13.7	100	12.5
59	Silver		100	13.3	100	10.5	100	13.7	100	12.5
60	Thallium		100	13.3	100	10.5	100	13.7	100	12.5

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
61																				
62	SVM		ug/dscm		302880.1		243802.4		244275.1		263652.5									
63	LVM		ug/dscm	28	55.4 29		41.5 36.8		66.8 32		54.6		3977.1		3766.8		3995.1		3913.0	

	B	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ
61																							
62	SVM																		0.0		0.0		0.0
63	LVM																		3977.1		3766.8		3995.1

	B	AR	AS	AT	AU	AV	AW	AX	AY	AZ
61										
62	SVM	0.0		302880.1		243802.4		244275.1		263652.5
63	LVM	3913.0	0.4	4032.5	0.3	3808.3	0.6	4061.9	0.4	3967.6

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	Feedstream 2																		
2																			
3																			
4	349C1				R1		R2		R3		Cond Avg								
5																			
6	Feedstream Number				F1		F1		F1		F1								
7	Feed Class				Sludge HW		Sludge HW		Sludge HW		Sludge HW								
8	Feedstream Description				Sludge														
9	Feedrate						129.3		98.1										
10	Heating value		lb/hr																
11	Ash		Btu/lb																
12																			
13	349C2				R1		R2		R3		Cond Avg	R1	R2	R3	Cond Avg				
14																			
15	Feedstream Number				F1		F1		F1		F1	F2	F2	F2	F2				
16	Feed Class				Sludge HW		Sludge HW		Sludge HW		Sludge HW	Total	Total	Total	Total				
17	Feed Class 2				HW		HW		HW		HW	Total	Total	Total	Total				
18	Feedstream Description				Sludge		Sludge		Sludge		Sludge	Total	Total	Total	Total				
19	Feed Rate		lb/hr		148.4		162.2		129.1										
20	Heating Value		Btu/lb																
21	Ash		wt %																
22	Lead		ppmw		17520		15413		19365										
23																			
24	Stack Gas Flowrate		dscfm		2349		2460		2246										
25	Oxygen		%		12.1		12.1		12										
26																			
27	<i>Feedrate MTEC Calculations</i>																		
28	Lead		ug/dscm		465529		427426		462950	451968	465529	427426	462950	451968					
29	SVM		ug/dscm		465529		427426		462950	451968	465529	427426	462950	451968					
30																			
31	349C3				R1		R2		R3		Cond Avg	R1	R2	R3	Cond Avg				
32																			
33	Feedstream Number				F1		F1		F1		F1	F2	F2	F2	F2				
34	Feed Class				Sludge HW		Sludge HW		Sludge HW		Sludge HW	Total	Total	Total	Total				
35	Feed Class 2				HW		HW		HW		HW	Total	Total	Total	Total				
36	Feedstream Description				Sludge		Sludge		Sludge		Sludge	Total	Total	Total	Total				
37	Feed Rate		lb/hr		127.7		249.5		260.6										
38	Heating Value		Btu/lb																
39	Ash		wt %																
40	Lead		ppmw		15772		15750		15777										
41																			
42	Stack Gas Flowrate		dscfm		2180		2278		2081										
43	Oxygen		%		10.4		10.6		10.6										
44																			
45	<i>Feedrate MTEC Calculations</i>																		
46	Lead		ug/dscm		326266		620884		711110	552753	326266	620884	711110	552753					
47	SVM		ug/dscm		326266		620884		711110	552753	326266	620884	711110	552753					

	B	C	D	E	F	G	H	I
1	Process Information							
2								
3	349C10							
4								
5	Kiln Exit Temp	°F		1249.3	1249	1252		
6	Afterburner Exit Temp	°F		1500.2	1500.4	1501.5		
7	Kiln Pressure	in. w.c		-0.11	-0.12	-0.12		
8	Scrubber Water Flowrate	gpm		87	86.7	86.5		
9	Fabric Filter Pressure Drop	in. w.c		5.76	5.82	5.96		
10	Fabric Filter Inlet Temperature	°F		335	335.1	335.8		
11	Comb Gas Velocity	ft/sec		62.5	62.5	64		
12								
13	349C11							
14								
15	Kiln Exit Temp	°F		1524.6	1525	1524.8		
16	Afterburner Exit Temp	°F		1800.6	1800.7	1800.3		
17	Kiln Pressure	in. w.c		-0.03	-0.02	-0.01		
18	Scrubber Water Flowrate	gpm		86.3	87.1	86.7		
19	Fabric Filter Pressure Drop	in. w.c		7.54	9.38	9.61		
20	Fabric Filter Inlet Temperature	°F		353.2	360.7	354.6		
21	Comb Gas Velocity	ft/sec		57.2	52.9	49.9		

	C	D	E	F	G
1	Process Information 2				
2					
3	349C1		R1	R2	R3
4					
5	Kiln Temperature	F	1301	1300	1299
6	Afterburner Temperature	F	1551	1550	1550
7	WS Temperature	F	185	186	186
8	FF Temperature	F	349	350	349
9	FF Pressure Drop	in H2O	4	3.8	3.2
10					
11	349C2				
12					
13	Kiln Temperature	F	1299	1299	1300
14	Afterburner Temperature	F	1550	1549	1551
15	WS Temperature	F	189	189	184
16	FF Temperature	F	350	350	351
17	FF Pressure Drop	in H2O	3.5	3.6	3.8
18					
19	349C3				
20					
21	Kiln Temperature	F	1523	1524	1524
22	Afterburner Temperature	F	1700	1702	1699
23	WS Temperature	F	189	188	188
24	FF Temperature	F	351	353	352
25	FF Pressure Drop	in H2O	4.2	4	4
26					
27	349C4				
28					
29	Combustion Temperature	F	1301	1525	1525
30	Combustion Temperature	F	1551	1700	1699
31	APCD Temperature	F	172	178	177
32	APCD Temperature	F	350	350	350
33	Pressure Drop	in H2O	3.1	3.6	3.4