

US EPA ARCHIVE DOCUMENT

	B	C
1	Source Description	
2		
3	Phase I ID No.	503
4	EPA ID No.	MO4213820489
5	Facility Name	Lake City Army Ammunition Plant
6	Facility Location	
7	City	Independence
8	State	MO
9	Unit ID Name/No.	Explosive Waste Incinerator APE 1236
10	Other Sister Facilities	
11	Number of Sister Facilities	0
12	Combustor Class	Onsite Incinerator, government, munitions popping
13	Combustor Type	Rotary kiln
14	Combustor Characteristics	Rotary kiln (30 ft long, 30 in ID), afterburner
15	Capacity (MMBtu/hr)	
16	Soot Blowing	
17	APCS Detailed Acronym	AB/HTHE/LTHE/C/FF
18	APCS General Class	HE,C,FF
19	APCS Characteristics	High temperature heat exchanger (800F), low temperature heat exchanger (300F), cyclone, fabric filter (2 compartments, 1,414 ft ² / compartment, A/C 4.5:1, Nomex fabric, pulse jet cleaning), after burner.
20	Hazardous Wastes	Solid, liq
21	Haz Waste Description	Off-specification or obsolete ammunitions and explosive wastes
22	Supplemental Fuel	Natural gas, oil
23		fuel oil
24	Stack Characteristics	
25	Diameter (ft)	2.50
26	Height (ft)	30.0
27	Gas Velocity (ft/sec)	46.2
28	Gas Temperature (°F)	230
29		
30	Permitting Status	Tier III for Sb, As, Ba, Be, Cd, Cr, Pb, Hg, Ag, Tl
31	HWC Burn Status (Date if Terminated)	

	B	C
1	Condition Description	
2		
3	503C10	
4		
5	Report Name/Date	3rd Trial Burn Program, Lake City Army Ammunition Plant, Explosive Waste Incinerator, Olin Corporation, Independence, Missouri, TRC Projection No. 17791, January 1996
6	Report Prepare	TRC Environmental Corporation
7	Testing Firm	TRC Environmental Corporation
8	Testing Dates	Nov 28-29, 1995
9	Cond Dates	Nov-95
10	Condition Descr	Trial burn, 5.56mm M855 SAWS feed, max metal feed
11	Content	PM, metals, CO, no feedrate info
12		
13	503C11	
14		
15	Report Name/Date	3rd Trial Burn Program, Lake City Army Ammunition Plant, Explosive Waste Incinerator, Olin Corporation, Independence, Missouri, TRC Projection No. 17791, January 1996
16	Report Prepare	TRC Environmental Corporation
17	Testing Firm	TRC Environmental Corporation
18	Testing Dates	Nov. 29-30, 1995
19	Cond Dates	Nov-95
20	Condition Descr	Trial burn, 20mm M56 HEI feed, max metal feed
21	Content	PM, metals, CO, no feedrate info
22		
23	503C12	
24		
25	Report Name/Date	APE 1236 Explosive Waste Incinerator Risk Burn Report
26	Report Prepare	TRC Environmental Corporation
27	Testing Firm	
28	Testing Dates	April 19-24, 1999
29	Cond Dates	Apr-99
30	Condition Descr	Risk burn, 0.50 cal M17 feed
31	Content	PM, HCl/Cl2, CO, PCDD/F
32		
33	503C1	
34		
35	Report Name/Date	Trial Burn Report for Explosive Waste Incinerator at Lake City Army Ammunition Plant, Independence, Missouri, March 1993
36	Report Prepare	
37	Testing Firm	
38	Cond Descr	Trial burn, High Waste Feed
39	Testing Dates	
40	Cond Dates	Mar-93
41		
42	503C2	
43		
44	Report Name/Date	Trial Burn Report for Explosive Waste Incinerator at Lake City Army Ammunition Plant, Independence, Missouri, March 1993
45	Report Prepare	
46	Testing Firm	
47	Cond Descr	Trial burn, Low Waste Feed
48	Testing Dates	
49	Cond Dates	Mar-93
50		
51	503C3	
52		
53	Report Name/Date	Air Pollution Emission Assessment # 42-21-0475-91, Trial Burn for Deactivation Furnace Building 97, Lake City Army Ammunition plant, Independence, Missouri, February 19- March 6, 1991
54	Report Prepare	
55	Testing Firm	
56	Cond Descr	Trial burn, 20MM M96 Projectile Feed
57	Testing Dates	Feb 26-28, 1991
58	Cond Dates	May-91
59		
60	503C4	
61		

	B	C
62	Report Name/Date	Air Pollution Emission Assessment # 42-21-0475-91, Trial Burn for Deactivation Furnace Building 97, Lake City Army Ammunition plant, Independence, Missouri, February 19- March 6, 1991
63	Report Prepare	
64	Testing Firm	
65	Cond Descr	Trial burn, FA-965 Primer Feed
66	Testing Dates	Feb 27- March 4, 1991
67	Cond Dates	May-91
68		
69	503C5	
70		
71	Report Name/Date	Air Pollution Emission Assessment # 42-21-0475-91, Trial Burn for Deactivation Furnace Building 97, Lake City Army Ammunition plant, Independence, Missouri, February 19- March 6, 1991
72	Report Prepare	
73	Testing Firm	
74	Cond Descr	Trial burn, HI SKOR 700X Propellant Feed
75	Testing Dates	Feb 23-26, 1991
76	Cond Dates	May-91
77		
78	503C6	
79		
80	Report Name/Date	Air Pollution Emission Assessment # 42-21-0475-91, Trial Burn for Deactivation Furnace Building 97, Lake City Army Ammunition plant, Independence, Missouri, February 19- March 6, 1991
81	Report Prepare	
82	Testing Firm	
83	Cond Descr	Trial Burn, IMR 5010 Propellant Feed
84	Testing Dates	Feb 23 - March 4, 1991
85	Cond Dates	May-91

	B	C	D	E	F	G	H	I	J	K	L	M
1	Stack Gas Emissions 1											
2												
3		Comments	Units	7% O2								
4												
5	503C10					R1		R2		R3		Cond Avg
6												
7	PM	E1	gr/dscf	y		0.0008		0.0009		0.002		0.0012
8	CO (RA)	E1	ppmv	y		60.6		73.8		10.2		48.20
9												
10	Antimony		g/dscm	n		2.27E-05		1.64E-05		1.81E-05		
11	Arsenic		g/dscm	n	nd	3.25E-05	nd	3.16E-05	nd	3.02E-05		
12	Barium		g/dscm	n		3.27E-05		1.49E-05		2.12E-05		
13	Beryllium		g/dscm	n	nd	3.25E-07	nd	3.16E-07	nd	3.02E-07		
14	Cadmium		g/dscm	n	nd	8.12E-07	nd	7.89E-07	nd	1.04E-06		
15	Chromium		g/dscm	n		3.12E-06		2.90E-06		3.26E-06		
16	Lead		g/dscm	n		2.67E-04		2.09E-04		1.78E-04		
17	Mercury		g/dscm	n		2.06E-05		1.37E-05		1.69E-05		
18	Silver		g/dscm	n	nd	1.62E-06	nd	1.58E-06	nd	1.51E-06		
19	Thallium		g/dscm	n	nd	6.49E-05	nd	6.31E-05	nd	6.04E-05		
20	Chromium(Hex)		g/dscm	n		4.41E-07		1.10E-06		7.76E-07		
21												
22	Sampling Train	PM/Metals	E1									
23	Stack Gas Flowrate		dscfm			4359		4503		4594		4485.3
24	O2		%			15.15		15.56		15.24		15.3
25	Moisture		%			5.3		4.4		6		5.2
26	Temperature		°F			214		213		220		215.7
27												
28	Sampling Train	Cr+6	E2									
29	Stack Gas Flowrate		dscfm			4805		4878		5004		4896
30	O2		%									
31	Moisture		%			5.7		6.8		7.3		7
32	Temperature		°F			208		209		217		211
33												
34	Antimony	E1	ug/dscm	y		54.3		42.2		44.0		46.8
35	Arsenic	E1	ug/dscm	y	nd	77.8	nd	81.3	nd	73.4		77.5
36	Barium	E1	ug/dscm	y		78.3		38.3		51.5		56.0
37	Beryllium	E1	ug/dscm	y	nd	0.8	nd	0.8	nd	0.7		0.8
38	Cadmium	E1	ug/dscm	y	nd	1.9	nd	2.0	nd	2.5		2.2
39	Chromium	E1	ug/dscm	y		7.5		7.5		7.9		7.6
40	Lead	E1	ug/dscm	y		639.0		537.9		432.6		536.5
41	Mercury	E1	ug/dscm	y		49.3		35.3		41.1		41.9
42	Silver	E1	ug/dscm	y	nd	3.9	nd	4.1	nd	3.7		3.9
43	Thallium	E1	ug/dscm	y	nd	155.3	nd	162.4	nd	146.8		154.8
44	Chromium (Hex)	E2	ug/dscm	y		1.1		2.8		1.9		1.9
45												
46	SVM	E1	ug/dscm	y		640.9		539.9		435.2		538.7
47	LVM	E1	ug/dscm	y		86.0		89.6		82.1		85.9
48												
49	503C11					R1		R2		R3		Cond Avg
50												
51	PM	E1	gr/dscf	y		0.0022		0.0045		0.0024		0.0030
52	CO (RA)	E1	ppmv	y		6.9		45.9		59.4		37.40
53												
54	Antimony		g/dscm	n		2.41E-05		5.09E-05		2.44E-05		
55	Arsenic		g/dscm	n	nd	3.02E-05	nd	2.92E-05	nd	2.85E-05		
56	Barium		g/dscm	n		3.59E-05		9.00E-05		4.04E-05		
57	Beryllium		g/dscm	n	nd	3.02E-07	nd	2.92E-07	nd	2.85E-07		
58	Cadmium		g/dscm	n		2.54E-06		2.17E-05		1.43E-05		
59	Chromium		g/dscm	n		4.40E-06		4.61E-06		5.00E-06		
60	Lead		g/dscm	n		2.65E-04		6.43E-04		2.59E-04		
61	Mercury		g/dscm	n		1.11E-04		1.32E-04		1.09E-04		
62	Silver		g/dscm	n	nd	1.51E-06	nd	1.46E-06	nd	1.43E-06		
63	Thallium		g/dscm	n	nd	6.03E-05	nd	5.84E-05	nd	5.70E-05		
64	Chromium(Hex)		g/dscm	n		6.32E-07		1.04E-07		6.44E-07		
65												
66	Sampling Train	PM/Metals	E1									
67	Stack Gas Flowrate		dscfm			4607		4721		4838		4722.0
68	O2		%			14.17		13.86		14.14		14.1
69	Moisture		%			7.1		6.7		7.2		7.0
70	Temperature		°F			233		235		234		234.0
71												

	B	C	D	E	F	G	H	I	J	K	L	M
72	Sampling Train	Cr+6	E2									
73	Stack Gas Flowrate		dscfm			4907		5033		5175		5038
74	O2		%									
75	Moisture		%			8.6		8.1		8.1		8
76	Temperature		°F			230		219		229		226
77												
78	Antimony	E1	ug/dscm	y		49.4		99.8		49.8		66.3
79	Arsenic	E1	ug/dscm	y	nd	61.9	nd	57.3	nd	58.2		59.1
80	Barium	E1	ug/dscm	y		73.6		176.5		82.4		110.8
81	Beryllium	E1	ug/dscm	y	nd	0.6	nd	0.6	nd	0.6		0.6
82	Cadmium	E1	ug/dscm	y		5.2		42.5		29.2		25.6
83	Chromium	E1	ug/dscm	y		9.0		9.0		10.2		9.4
84	Lead	E1	ug/dscm	y		543.2		1260.8		528.6		777.5
85	Mercury	E1	ug/dscm	y		227.5		258.8		222.4		236.3
86	Silver	E1	ug/dscm	y	nd	3.1	nd	2.9	nd	2.9		3.0
87	Thallium	E1	ug/dscm	y	nd	123.6	nd	114.5	nd	116.3		118.1
88	Chromium (Hex)	E2	ug/dscm	y		1.3		0.2		1.3		0.9
89												
90	SVM	E1	ug/dscm	y		548.4		1303.3		557.8		803.2
91	LVM	E1	ug/dscm	y		71.5		66.9		68.9		69.1
92												
93	503C12	Trial Burn				R1		R2		R3		Cond Avg
94												
95	PM	E1	gr/dscf	y		0.0032		0.0044		0.0021		0.0032
96	CO (RA)	E1	ppmv	y		16		38		14		22.7
97	CO (MHRA)	E1	ppmv	y		19.3		54.4		19.3		31.0
98												
99	HCl		g/hr	n		3.62		3.99		3.87		
100	Cl2		g/hr	n		12.91		13.86		14.08		
101												
102	Sampling Train	PM, HCl/Cl2	E1									
103	Stack Gas Flowrate		dscfm			3545		3491.66667		3676.66667		3571.1
104	O2		%			15.4		15.6		16.3		15.8
105	Moisture		%			7.3		7.2		6.7		7.1
106	Temperature		°F			256		268		250		258.0
107												
108	Sampling Train	PCDD/F	E2									
109	Stack Gas Flowrate		dscfm			3536.7		3498.3		3593.3		3542.8
110	O2		%			15.4		15.6		16.3		15.8
111	Moisture		%			7.1		7		6.7		6.9
112	Temperature		°F			256		268		249		257.7
113												
114	HCl	E1	ppmv	y		1.00		1.16		1.23		1.13
115	Cl2	E1	ppmv	y		1.84		2.08		2.31		2.08
116	Total Chlorine	E1	ppmv	y		4.69		5.33		5.85		5.29

	B	C	D	E	F	G	H	I	J	K	L	M
1	Stack Gas Emissions 2											
2												
3												
4	503C1					R1		R2		R3		Cond Avg
5												
6	PM	E2	gr/dscf	y		0.0320		0.0250		0.0260		0.0277
7	Antimony	E1	ug/dscm	y		773.7		491.3		491.4		585.5
8	Arsenic	E1	ug/dscm	y	nd	0.5	nd	0.5	nd	0.5	100	0.5
9	Barium	E1	ug/dscm	y		390.5		385.3		388.4		388.1
10	Beryllium	E1	ug/dscm	y	nd	0.2	nd	0.2	nd	0.2	100	0.2
11	Cadmium	E1	ug/dscm	y		11.7		10.8		9.0		10.5
12	Chromium	E1	ug/dscm	y		47.4		176.1		112.5		112.0
13	Lead	E1	ug/dscm	y		776.2		788.7		784.6		783.2
14	Mercury	E1	ug/dscm	y		1.7		0.9		1.2		1.3
15	Silver	E1	ug/dscm	y		0.1	nd	0.1	nd	0.1		0.1
16	Thallium	E1	ug/dscm	y	nd	0.5	nd	0.5	nd	0.5	100	0.5
17	SVM	E1	ug/dscm	y		787.9		799.5		793.6		793.7
18	LVM	E1	ug/dscm	y		48.1		176.9		113.3		112.8
19												
20	Sampling Train	Metals	E1									
21	Stack Gas Flowrate		dscfm			3258.3		3233.3		3165.0		
22	O2		%			16.3		16.5		16.5		
23	Moisture		%			5.1		5.2		5.0		
24	Temperature		°F			229.0		231.0		239.0		
25												
26	Sampling Train	Particulate	E2									
27	Stack Gas Flowrate		dscfm			3315.0		3355.0		3265.0		
28	O2		%			16.3		16.5		16.5		
29	Moisture		%			5.4		5.2		4.8		
30	Temperature		°F			240.0		235.0		242.0		
31												
32	503C2					R1		R2		R3		Cond Avg
33												
34	PM	E2	gr/dscf	y		0.0240		0.0350		0.0270		0.0287
35	Antimony	E1	ug/dscm	y		324.8		114.6		216.0		218.5
36	Arsenic	E1	ug/dscm	y	nd	0.5	nd	0.5	nd	0.5	100	0.5
37	Barium	E1	ug/dscm	y		348.5		124.8		211.2		228.2
38	Beryllium	E1	ug/dscm	y	nd	0.2	nd	0.2	nd	0.2	100	0.2
39	Cadmium	E1	ug/dscm	y		2.3	nd	0.2	nd	0.2		0.9
40	Chromium	E1	ug/dscm	y		1.2		72.9		50.6		41.6
41	Lead	E1	ug/dscm	y		732.5		878.9		1283.9		965.1
42	Mercury	E1	ug/dscm	y		4.9		32.1		98.9		45.3
43	Silver	E1	ug/dscm	y	nd	0.1	nd	0.1	nd	0.1	100	0.1
44	Thallium	E1	ug/dscm	y	nd	0.5	nd	0.5	nd	0.5	100	0.5
45	SVM	E1	ug/dscm	y		734.8		879.1		1284.1		966.0
46	LVM	E1	ug/dscm	y		1.9		73.6		51.4		42.3
47												
48	Sampling Train	Metals	E1									
49	Stack Gas Flowrate		dscfm			3153.3		3056.7		3115.0		
50	O2		%			16.0		16.2		16.0		
51	Moisture		%			5.3		5.7		5.4		
52	Temperature		°F			228.0		231.0		235.0		
53												
54	Sampling Train	Particulate	E2									
55	Stack Gas Flowrate		dscfm			3151.7		3111.7		3113.3		
56	O2		%			16.0		16.2		16.0		
57	Moisture		%			5.3		5.3		5.2		
58	Temperature		°F			232.0		235.0		238.0		
59												
60	503C3					R1		R2		R3		Cond Avg
61												
62	PM	E2	gr/dscf	y		0.0423		0.0496		0.0392		0.0437
63	CO (RA)	E2	ppmv	y		63.3		68.6		53.7		61.9
64	HC (RA)	E2	ppmv	y		16.8		16.5		20.0		17.8
65	Antimony		lb/hr			7.40E-04		6.82E-04		6.91E-04		
66	Arsenic		lb/hr			2.87E-05		2.81E-05		2.78E-05		
67	Barium		lb/hr			1.31E-03		8.89E-04		2.73E-03		
68	Beryllium		lb/hr			5.56E-06		5.62E-06		5.57E-06		
69	Cadmium		lb/hr			1.25E-04		1.57E-04		9.13E-05		
70	Chromium		lb/hr			4.17E-05		8.87E-05		6.04E-04		
71	Lead		lb/hr			6.07E-03		1.07E-02		3.99E-03		

	B	C	D	E	F	G	H	I	J	K	L	M
72	Mercury		lb/hr			4.04E-05		3.53E-05		3.34E-04		
73	Silver		lb/hr			5.73E-05		9.75E-05		5.57E-05		
74	Thallium		lb/hr			5.56E-06		5.62E-06		5.57E-06		
75												
76	Sampling Train	Metals	E1									
77	Stack Gas Flowrate		dscfm			5176.0		5280.0		5056.0		
78	O2		%			16.0		16.0		15.5		
79	Moisture		%			4.0		4.0		4.5		
80	Temperature		°F									
81												
82	Sampling Train	Particulate	E2									
83	Stack Gas Flowrate		dscfm			5140.0		5152.0		4940.0		
84	O2		%			16.0		16.0		15.5		
85	Moisture		%			3.9		3.9		4.6		
86	Temperature		°F									
87												
88	Antimony	E1	ug/dscm	y		107.0		96.7		93.5		99.1
89	Arsenic	E1	ug/dscm	y		4.2		4.0		3.8		4.0
90	Barium	E1	ug/dscm	y		189.5		126.1		369.5		228.3
91	Beryllium	E1	ug/dscm	y		0.8		0.8		0.8		0.8
92	Cadmium	E1	ug/dscm	y		18.1		22.3		12.4		17.6
93	Chromium	E1	ug/dscm	y		6.0		12.6		81.8		33.5
94	Lead	E1	ug/dscm	y		878.0		1517.1		540.0		978.4
95	Mercury	E1	ug/dscm	y		5.8		5.0		45.2		18.7
96	Silver	E1	ug/dscm	y		8.3		13.8		7.5		9.9
97	Thallium	E1	ug/dscm	y		0.8		0.8		0.8		0.8
98	SVM	E1	ug/dscm	y		896.0		1539.4		552.4		995.9
99	LVM	E1	ug/dscm	y		11.0		17.4		86.3		38.2
100												
101	503C4					R1		R2		R3		Cond Avg
102												
103	PM	E2	gr/dscf	y		0.0532		0.0613		0.0525		0.0557
104	CO (RA)	E2	ppmv	y		51.1		35.6		31.2		39.3
105	HC (RA)	E2	ppmv	y		18.5		18.1		15.2		17.2
106	Antimony		lb/hr	y		6.9E-04		8.8E-04		6.7E-04		
107	Arsenic		lb/hr	y		2.8E-05		2.8E-05		2.8E-05		
108	Barium		lb/hr	y		7.6E-04		1.0E-03		1.3E-03		
109	Beryllium		lb/hr	y		5.5E-06		5.6E-06		5.6E-06		
110	Cadmium		lb/hr	y		1.1E-04		1.0E-04		1.6E-04		
111	Chromium		lb/hr	y		4.0E-05		5.8E-05		9.4E-05		
112	Lead		lb/hr	y		6.9E-03		6.9E-03		4.7E-03		
113	Mercury		lb/hr	y		3.1E-05		7.4E-05		3.6E-05		
114	Silver		lb/hr	y		6.1E-05		4.9E-05		6.0E-05		
115	Thallium		lb/hr	y		5.5E-06		5.6E-06		5.7E-06		
116												
117	Sampling Train	Metals	E1									
118	Stack Gas Flowrate		dscfm			5115.0		5127.0		5128.0		
119	O2		%			16.5		16.2		16.2		
120	Moisture		%			3.5		3.8		3.7		
121	Temperature		°F									
122												
123	Sampling Train	Particulate	E2									
124	Stack Gas Flowrate		dscfm			5091.0		5163.0		5138.0		
125	O2		%			16.5		16.2		16.2		
126	Moisture		%			3.4		3.6		3.6		
127	Temperature		°F									
128												
129	Antimony	E1	ug/dscm	y		113.0		133.4		101.1		115.8
130	Arsenic	E1	ug/dscm	y		4.5		4.2		4.2		4.3
131	Barium	E1	ug/dscm	y		124.4		153.6		202.3		160.1
132	Beryllium	E1	ug/dscm	y		0.9		0.8		0.8		0.9
133	Cadmium	E1	ug/dscm	y		17.4		15.8		24.3		19.2
134	Chromium	E1	ug/dscm	y		6.5		8.7		14.3		9.9
135	Lead	E1	ug/dscm	y		1124.7		1043.4		707.1		958.4
136	Mercury	E1	ug/dscm	y		5.0		11.2		5.5		7.2
137	Silver	E1	ug/dscm	y		9.9		7.4		9.2		8.8
138	Thallium	E1	ug/dscm	y		0.9		0.8		0.9		0.9
139	SVM	E1	ug/dscm	y		1142.1		1059.3		731.5		977.6
140	LVM	E1	ug/dscm	y		12.0		13.8		19.4		15.1
141												
142	503C5					R1		R2		R3		Cond Avg

	B	C	D	E	F	G	H	I	J	K	L	M
143												
144	PM	E1	gr/dscf	y		0.0194		0.0700		0.0846		0.0580
145	CO (RA)	E1	ppmv	y		5.4		25.4		61.3		30.7
146	HC (RA)	E1	ppmv	y		33.6		14.6		9.0		19.1
147												
148	Sampling Train	Particulate	E1									
149	Stack Gas Flowrate		dscfm			5168.0		5092.0		5139.0		
150	O2		%			16.0		16.0		16.2		
151	Moisture		%			4.0		3.8		3.9		
152	Temperature		°F									
153												
154	Sampling Train	SVOC	E2									
155	Stack Gas Flowrate		dscfm			5355.0		5187.0		5260.0		
156	O2		%			16.0		16.0		16.2		
157	Moisture		%			4.0		3.7		3.8		
158	Temperature		°F									
159												
160	Nitroglycerine	E2	%			99.9987		99.9979		99.9975		
161												
162	503C6					R1		R2		R3		Cond Avg
163												
164	PM	E1	gr/dscf	y		0.1120		0.0552		0.0729		0.0800
165	CO (RA)	E1	ppmv	y		112.0		47.8		181.7		113.8
166	HC (RA)	E1	ppmv	y		23.0		9.1		23.6		18.6
167												
168	Sampling Train	Particulate	E1									
169	Stack Gas Flowrate		dscfm			5316.0		5203.0		5082.0		
170	O2		%			16.0		15.9		16.2		
171	Moisture		%			4.3		4.0		4.3		
172	Temperature		°F									
173												
174	Sampling Train	SVOC	E2									
175	Stack Gas Flowrate		dscfm			5294.0		5147.0		5107.0		
176	O2		%			16.0		15.9		16.2		
177	Moisture		%			4.2		3.9		4.0		
178	Temperature		°F									
179												
180	2,4-Dinitrotoluene	DRE	%			99.9982		99.9986		99.9986		
181	Diphenylamine	DRE	%			99.9924		99.9943		99.9944		

	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	503C10				R1		R2		R3		Cond Avg								
5	Feedstream Number				F1		F1		F1		F1								
6	Feed Class				Solid HW		Solid HW		Solid HW		Solid HW								
7	Feed Class 2				HW		HW		HW		HW								
8	Feedstream Description				5.56mm M855 SAWs 3mm M855 SAWs mm M855 SAWs 6mm M855 SAWs														
9	Feed Rate				lb/hr		lb/hr		lb/hr		lb/hr								
10	Heating Value				Btu/lb		Btu/lb		Btu/lb		Btu/lb								
11	Thermal Feedrate				MMBtu/hr		MMBtu/hr		MMBtu/hr		MMBtu/hr								
12																			
13																			
14	503C11				R1		R2		R3		Cond Avg								
15	Feedstream Number				F1		F1		F1		F1								
16	Feed Class				Solid HW		Solid HW		Solid HW		Solid HW								
17	Feed Class 2				HW		HW		HW		HW								
18	Feedstream Description				20mm M56 HEI		20mm M56 HEI		20mm M56 HEI		20mm M56 HEI								
19	Feed Rate				lb/hr		lb/hr		lb/hr		lb/hr								
20	Heating Value				Btu/lb		Btu/lb		Btu/lb		Btu/lb								
21	Thermal Feedrate				MMBtu/hr		MMBtu/hr		MMBtu/hr		MMBtu/hr								
22																			
23																			
24	503C12				R1		R2		R3		Cond Avg								
25	Feedstream Number				F1		F1		F1		F1								
26	Feed Class				Solid HW		Solid HW		Solid HW		Solid HW								
27	Feed Class 2				HW		HW		HW		HW								
28	Feedstream Description				0.5 cal M17		0.5 cal M17		0.5 cal M17		0.5 cal M17								
29	Feed Rate				lb/hr		lb/hr		lb/hr		lb/hr								
30	Heating Value				Btu/lb		Btu/lb		Btu/lb		Btu/lb								
31	Ash				lb/hr		lb/hr		lb/hr		lb/hr								
32	Chlorine				lb/hr		lb/hr		lb/hr		lb/hr								
33																			
34																			
35	Stack Gas Flowrate				dscfm		dscfm		dscfm		dscfm								
36	Oxygen				%		%		%		%								
37																			
38	Thermal Feedrate				MMBtu/hr		MMBtu/hr		MMBtu/hr		MMBtu/hr								
39	Estimated Firing Rate				MMBtu/hr		MMBtu/hr		MMBtu/hr		MMBtu/hr								
40																			
41	Feedrate MTEC Calculations																		
42	Ash				mg/dscm		mg/dscm		mg/dscm		mg/dscm								
43	Chlorine				ug/dscm		ug/dscm		ug/dscm		ug/dscm								

	B	AE	AH	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AI	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	
61	Antimony																											
62	Lead																											
63																												
64	Gas flowrate											5176	5280			5056		5170.7										
65	Oxygen										16	16				15.53		15.8										
66																												
67	Estimated Firing Rate										8.22	8.38				8.78		8.46										
68																												
69	Feerate MTECs																											
70	Antimony										3833	3687				2991		3504										
71	Lead										6856	6593				5360		6270										
72	SVM										6856	6593				5360		6270										
73																												
74																												
75	503C4																											
76																												
77	Feedstream Number																											
78	Feed Class																											
79	Feed Class 2																											
80	Feedstream Description																											
81	Feedrate																											
82	Heating value																											
83	Ash																											
84	Antimony																											
85	Barium																											
86	Lead																											
87																												
88	Gas flowrate											5115.0	5127.0			5128.0		5123.3										
89	Oxygen										16.5	16.2				16.2		16.3										
90																												
91	Estimated Firing Rate										7.26	7.81				7.81		7.63										
92																												
93	Feerate MTECs																											
94	Antimony											201372	275309			302629		259770										
95	Barium										314336	431976				472952		406422										
96	Lead										314336	430455				472952		405915										
97	SVM										314336	430455				472952		405915										
98																												
99	503C5																											
100	Feedstream Number																											
101	Feed Class																											
102	Feed Class 2																											
103	Feedstream Description																											
104	Feedrate																											
105	Heating value																											
106	Ash																											
107																												
108	503C6																											
109	Feedstream Number																											
110	Feed Class																											
111	Feedstream Description																											
112	Feedrate																											
113	Heating value																											
114	Ash																											

	B	C	D	E	F	G
1	Process Information					
2						
3	503C10			R1	R2	R3
4						
5	Retort Inlet Temperature	°F		456	452.4	433.1
6	Retort Outlet Temperature	°F		767	837.9	758.5
7	AF Temperature	°F		1369.2	1357.9	1369.3
8	HTHE Temperature	°F		776	747.9	73.4
9	LTHE Temperature	°F		282.6	281.4	281.8
10	Baghouse Temperature	°F		242.5	246.1	246.9
11						
12	503C11			R1	R2	R3
13						
14	Retort Inlet Temperature	°F		443.7	431.8	475.2
15	Retort Outlet Temperature	°F		1077.4	958.4	973.4
16	AF Temperature	°F		1355.7	1366.8	1370.2
17	HTHE Temperature	°F		769.8	800.9	805.9
18	LTHE Temperature	°F		316.7	297.8	299.1
19	Baghouse Temperature	°F		270	247.3	253.2
20						
21	503C12			R1	R2	R3
22						
23	Kiln FE Temp	°F		460	461	460
24	Kiln PE Temp	°F		848	758	767
25	Kiln Rotation	rpm		2.2	2	1.9
26	AB Outlet Temp	°F		1366	1366	1366
27	HTHE Outlet Temp	°F		750	746	747
28	LTHE Outlet Temp	°F		337	339	338
29	Baghouse Outlet Temp	°F		295	303	294
30	Baghouse Pressure Diff.	in. H2O		3	3	3
31	FE Draft Pressure	in. H2O		-0.24	-0.24	-0.25

	C	D	E	F	G
1	Process Information 2				
2					
3	503C1		R1	R2	R3
4					
5	Kiln Temperature	F	1005	1005	893
6	Afterburner Temperature	F	1350	1351	1350
7	FF Temperature	F	287	285	286
8	LTHE Temperature	F	321	321	320
9	HTHE Temperature	F	773	772	770
10					
11	503C2		R1	R2	R3
12					
13	Kiln Temperature	F	926	924	985
14	Afterburner Temperature	F	1406	1415	1401
15	FF Temperature	F	282	285	282
16	LTHE Temperature	F	321	323	317
17	HTHE Temperature	F	784	788	770
18					
19	503C3		R1	R2	R3
20					
21	Kiln Temperature	F	917	846	1053
22	Afterburner Temperature	F	1399	1400	1400
23	FF Temperature	F	264	264	264
24	LTHE Temperature	F	294	294	293
25	HTHE Temperature	F	805	846	801
26					
27	503C4		R1	R2	R3
28					
29	Kiln Temperature	F	694	853	684
30	Afterburner Temperature	F	1350	1350	1350
31	FF Temperature	F	263	264	265
32	LTHE Temperature	F	294	295	295
33	HTHE Temperature	F	801	853	800
34					
35	503C5		R1	R2	R3
36					
37	Kiln Temperature	F	712	652	724
38	Afterburner Temperature	F	1448	1449	1450
39	FF Temperature	F	267	264	262
40	LTHE Temperature	F	295	295	294
41	HTHE Temperature	F	832	828	806
42					
43	503C6		R1	R2	R3
44					
45	Kiln Temperature	F	732	667	722
46	Afterburner Temperature	F	1400	1400	1401
47	FF Temperature	F	265	256	267
48	LTHE Temperature	F	293	294	295
49	HTHE Temperature	F	803	804	804

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	
1	PCDD/PCDF																	
2	N																	
3	Facility Name and ID:	Lake City Army Ammunition Plant																
4	Condition ID:	503C12																
5	Condition/Test Date:	Risk burn, 0.50 cal M17 feed																
6																		
7		I-TEF																
8		Wght Fact																
9			Total	TEQ	Full ND	1/2 ND	Total	TEQ	Full ND	1/2 ND	Total	TEQ	Full ND	1/2 ND	Total	TEQ	Full ND	1/2 ND
10		Detected in sample volume (pg)																
11		2,3,7,8-TCDD	1															
12		Total TCDD	0															
13		1,2,3,7,8-PCDD	0.5															
14		Total PCDD	0															
15		1,2,3,4,7,8-HxCDD	0.1															
16		1,2,3,6,7,8-HxCDD	0.1															
17		1,2,3,7,8,9-HxCDD	0.1															
18		Total HxCDD	0															
19		1,2,3,4,6,7,8-HpCDD	0.01	12.589	0.13	12.59	0.13											
20		Total HpCDD	0															
21		OCDD	0.001	85.246	0.09	85.25	0.09	79.23	0.08	79	0.08	79	0.08	69.721	0	70	0	
22		2,3,7,8-TCDF	0.1															
23		Total TCDF	0															
24		1,2,3,7,8-PCDF	0.05															
25		2,3,4,7,8-PCDF	0.5															
26		Total PCDF	0															
27		1,2,3,4,7,8-HxCDF	0.1															
28		1,2,3,6,7,8-HxCDF	0.1															
29		2,3,4,6,7,8-HxCDF	0.1															
30		1,2,3,7,8,9-HxCDF	0.1															
31		Total HxCDF	0															
32		1,2,3,4,6,7,8-HpCDF	0.01															
33		1,2,3,4,7,8,9-HpCDF	0.01															
34		Total HpCDF	0															
35		OCDF	0.001	11.54	0.012	12	0.012											
36																		
37		Gas sample volume (dscf)		107.595	107.595	107.595	107.595	111.863	111.863	111.863	111.863	111.863	111.863	105.134	105.134	105.134	105.134	
38		O2 (%)		15.4	15.4	15.4	15.4	15.6	15.6	15.6	15.6	15.6	15.6	16.3	16.3	16.3	16.3	
39																		
40		PCDD/PCDF (ng in sample)		0.0002	0.0002	0.0002	0.0002	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00007	0.00007	0.00007	0.00007	
41		PCDD/PCDF (ng/dscm @ 7% O2)	0	0.0002	0.0002	0.0002	0.0002	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0	0	0	0	
42																		
43		TEQ Cond Avg	0.0001															
44		Total Cond Avg																