

US EPA ARCHIVE DOCUMENT

	B	C
1	Source Description	
2		
3	Phase I ID No.	915
4	EPA ID No.	NYD980592497
5	Facility Name	Eastman Kodak Company
6	Facility Location	
7	City	Rochester
8	State	New York
9	Unit ID Name/No.	B-218 Chemical Waste Incinerator
10	Other Sister Facilities	
11	Number of Sister Facilities	0
12	Combustor Class	Onsite incinerator
13	Combustor Type	Rotary kiln
14	Combustor Characteristics	Rotary Kiln Incinerator with afterburner, F.L. Smidth, 12' x 35' long, 120 MMBtu/hr
15	Capacity (MMBtu/hr)	
16	Soot Blowing	
17	APCS Detailed Acronym	Q/VS
18	APCS General Class	WQ, HEWS
19	APCS Characteristics	Quench, venturi scrubber (Air Pollution Industries, variable throat, up to 80" water drop), variable cyclonic liquid gas separator
20	Hazardous Wastes	Liq, solid
21	Haz Waste Description	Synthetic packs, wide range of liquids and solids
22	Supplemental Fuel	oil
23		Fuel oil
24	Stack Characteristics	
25	Diameter (ft)	5.0
26	Height (ft)	90.0
27	Gas Velocity (ft/sec)	25.3
28	Gas Temperature (°F)	162.3
29		
30	Permitting Status	Tier I for all metals except Cr and Pb (Tier III)
31	HWC Burn Status (Date if Terminated)	

	B	C
1	Condition Description	
2		
3	915C1	
4		
5	Report Name/Date	Trial Burn Report. September 1992
6	Report Prepare	Environmental Analytical Services
7	Testing Firm	Eastman Kodak Company
8	Testing Dates	June 23-24, 1992
9	Cond Dates	Jun-92
10	Condition Descr	Trial burn, high temp, max feedrate
11	Content	PM, HCl/Cl ₂ , DRE, metals
12		
13	915C2	
14		
15	Report Name/Date	Trial Burn Report. September 1992
16	Report Prepare	Environmental Analytical Services
17	Testing Firm	Eastman Kodak Company
18	Testing Dates	May 20-22, 1992
19	Cond Dates	Jun-92
20	Condition Descr	Trial burn, low temp
21	Content	PM, HCl/Cl ₂ , DRE, PCDD/F
22		
23	915C3	
24		
25	Report Name/Date	Trial Burn Report. September 1992
26	Report Prepare	Environmental Analytical Services
27	Testing Firm	Eastman Kodak Company
28	Testing Dates	June 2-4, 1992
29	Cond Dates	Jun-92
30	Condition Descr	Trial burn, low temp, kiln only
31	Content	PM, HCl/Cl ₂ , DRE, PCDD/F
32		
33	915C4	
34		
35	Report Name/Date	Trial Burn Report. September 1992
36	Report Prepare	Environmental Analytical Services
37	Testing Firm	Eastman Kodak Company
38	Testing Dates	August 11-12, 1992
39	Cond Dates	Aug-92
40	Condition Descr	Trial burn, high temp
41	Content	PM, metals

	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Stack Gas Emissions 1												
2													
3		Commer Units		7% O2									
4													
5													
6	915C1					R1		R2		R3		Cond Avg	
7													
8	PM	E1	gr/dscf	y		0.074		0.077		0.078		0.076	
9	CO (RA)	E1	ppmv	y		1		1		1		1.0	
10	CO (MHRA)	E1	ppmv	y		10.5		13.6		18.4		14.2	
11	HC (RA)	E1	ppmv	y		0.33		0.33		0.42		0.36	
12	HC (MHRA)	E1	ppmv	y		33.3		4.5		26.4		21.4	
13													
14	HCl		lb/hr	n		3.6		4.8		3.4			
15	Cl2		lb/hr	n		0.2		0.2		0.3			
16													
17	POHC	Carbon Tetrachloride											
18	POHC Feedrate		lb/hr			644		694		670			
19	Emission Rate	E1	lb/hr			5.00E-04		4.00E-04		2.00E-04			
20	DRE	E1	%			99.9999		99.9999		99.9999			
21													
22	POHC	Chlorobenzene											
23	POHC Feedrate		lb/hr			1309		1374		1108			
24	Emission Rate	E1	lb/hr			7.00E-04		3.00E-04		2.00E-04			
25	DRE	E1	%			99.9999		99.9999		99.9999			
26													
27	POHC	Toluene											
28	POHC Feedrate		lb/hr			693		729		591			
29	Emission Rate	E1	lb/hr			1.39E-02		2.20E-03		6.70E-03			
30	DRE	E1	%			99.998		99.9997		99.9989			
31													
32	Metals												
33	Arsenic		ug/dscm	n		36.4		36.5		23.8			
34	Cadmium		ug/dscm	n		135		46.7		46.8			
35	Chromium		ug/dscm	n		200		138		163			
36	Chromium (Hex)		ug/dscm	n		36.8		67.1		20.9			
37	Lead		ug/dscm	n		636		970		631			
38	Nickel		ug/dscm	n		201		153		188			
39													
40	Sampling Train	PM, HCl, E1											
41	Stack Gas Flowrate		dscfm			44645.8		45252.5		43951.3		44616.6	
42	O2		%			12.2		12		11.9		12.0	
43	Moisture		%										
44	Temperature		°F										
45													
46	Sampling Train	Metals E2											
47	Stack Gas Flowrate		dscfm			47010.7		45918.5		42648.5		45192.6	
48	O2		%			12.2		12		11.9		12.0	
49	Moisture		%										
50	Temperature		°F										
51													
52	HCl	E1	ppmv	y		22.91		29.46		21.25		24.5	
53	Cl2	E1	ppmv	y		0.65		0.63		0.96		0.7	
54	Total Chlorine	E1	ppmv	y		24.21		30.72		23.18		26.0	
55													
56	Arsenic	E2	ug/dscm	y		57.9		56.8		36.6		50.4	
57	Cadmium	E2	ug/dscm	y		214.8		72.6		72.0		119.8	
58	Chromium	E2	ug/dscm	y		318.2		214.7		250.8		261.2	
59	Chromium (Hex)	E2	ug/dscm	y		58.5		104.4		32.2		65.0	
60	Lead	E2	ug/dscm	y		1011.8		1508.9		970.8		1163.8	
61	Nickel	E2	ug/dscm	y		319.8		238.0		289.2		282.3	
62													
63	SVM	E2	ug/dscm	y		1226.6		1581.5		1042.8		1283.6	
64	LVM	E2	ug/dscm	y		376.1		271.4		287.4		311.6 No Be	
65													
66	915C2					R1		R2		R3		Cond Avg	
67													
68	PM	E1	gr/dscf	y		0.062		0.06		0.052		0.058	
69	CO (RA)	E1	ppmv	y		110		122		68.5		100.2	
70	CO (MHRA)	E1	ppmv	y		1625		2628		680		1644.3	
71	HC (RA)	E1	ppmv	y		0.09		0.45		0.27		0.27	

	B	C	D	E	F	G	H	I	J	K	L	M	N
72	HC (MHRA)	E1	ppmv	y		19.5		23.4		6		16.3	
73													
74	HCl		lb/hr	n		3		2.3		2.5			
75	Cl2		lb/hr	n		0.7		0.3		0.5			
76													
77	POHC		Carbon Tetrachloride										
78	POHC Feedrate		lb/hr			382		428		431			
79	Emission Rate	E1	lb/hr			1.30E-03		7.00E-04		4.00E-04			
80	DRE	E1	%			99.9997		99.9998		99.9999			
81													
82	POHC		Chlorobenzene										
83	POHC Feedrate		lb/hr			1300		759		1449			
84	Emission Rate	E1	lb/hr			2.20E-03		1.60E-03		2.00E-04			
85	DRE	E1	%			99.9998		99.9998		99.9999			
86													
87	POHC		Toluene										
88	POHC Feedrate		lb/hr			816		530		921			
89	Emission Rate	E1	lb/hr			2.50E-03		1.60E-03		5.00E-04			
90	DRE	E1	%			99.9997		99.9997		99.9999			
91													
92													
93	Sampling Train		PM, HCl, E1										
94	Stack Gas Flowrate		dscfm			50712.4		52077.3		46916.6		49902.1	
95	O2		%			13		14.1		13.1		13.4	
96	Moisture		%										
97	Temperature		°F										
98													
99	Sampling Train		PCDD/F E2										
100	Stack Gas Flowrate		dscfm			47662.2		48249.7		47113.4		47675.1	
101	O2		%			13		14.1		13.1		13.4	
102	Moisture		%										
103	Temperature		°F										
104													
105	HCl	E1	ppmv	y		19.67		17.27		16.79		17.9	
106	Cl2	E1	ppmv	y		2.36		1.16		1.73		1.7	
107	Total Chlorine	E1	ppmv	y		24.39		19.59		20.24		21.4	
108													
109	915C3					R1		R2		R3		Cond Avg	
110													
111	PM	E1	gr/dscf	y		0.015		0.019		0.037		0.024	
112	CO (RA)	E1	ppmv	y		125		96.8		104		108.6	
113	CO (MHRA)	E1	ppmv	y		2159		540		929		1209.3	
114	HC (RA)	E1	ppmv	y		1.05		1.71		0.96		1.24	
115	HC (MHRA)	E1	ppmv	y		27.6		4.2		18.6		16.8	
116													
117	HCl		lb/hr	n		1.3		1.1		0.3			
118	Cl2		lb/hr	n		0.5		0.2		0.2			
119													
120	POHC		Carbon Tetrachloride										
121	POHC Feedrate		lb/hr			452		418		365			
122	Emission Rate	E1	lb/hr			1.00E-03		5.00E-04		6.00E-04			
123	DRE	E1	%			99.9998		99.9999		99.9998			
124													
125	POHC		Chlorobenzene										
126	POHC Feedrate		lb/hr			1000		840		937			
127	Emission Rate	E1	lb/hr			1.20E-03		2.00E-04		2.00E-04			
128	DRE	E1	%			99.9999		99.9999		99.9999			
129													
130	POHC		Toluene										
131	POHC Feedrate		lb/hr			711		562		606			
132	Emission Rate	E1	lb/hr			8.00E-04		3.00E-04		4.00E-04			
133	DRE	E1	%			99.9999		99.9999		99.9999			
134													
135													
136	Sampling Train		PM, HCl, E1										
137	Stack Gas Flowrate		dscfm			54785		55739		54276		54932.9	
138	O2		%			14.6		14.8		14.9		14.8	
139	Moisture		%										
140	Temperature		°F										
141													
142	Sampling Train		PCDD/F E2										

	B	C	D	E	F	G	H	I	J	K	L	M	N
143	Stack Gas Flowrate		dscfm			52112		50472		51760		51448	
144	O2		%			14.6		14.8		14.9		14.8	
145	Moisture		%										
146	Temperature		°F										
147													
148	HCl	E1	ppmv	y		9.27		7.96		2.27		6.5	
149	Cl2	E1	ppmv	y		1.83		0.74		0.78		1.1	
150	Total Chlorine	E1	ppmv	y		12.93		9.44		3.82		8.7	
151													
152	915C4					R1		R2		R3		Cond Avg	
153													
154	PM	E1	gr/dscf	y		0.066		0.07		0.076		0.071	
155	CO (RA)	E1	ppmv	y		13.5		6		9.2		9.6	
156	CO (MHRA)	E1	ppmv	y		735		6		11		250.7	
157													
158	Antimony		ug/dscm	n		427		172		196			
159	Chromium		ug/dscm	n		112		82.8		76.7			
160	Chromium (Hex)		ug/dscm	n		10.9		76.2		9.27			
161	Silver		ug/dscm	n		658		842		786			
162													
163	Sampling Train	PM, HCl, E1											
164	Stack Gas Flowrate		dscfm			44922		44831		42733		44162.0	
165	O2		%			11.8		12.1		12.4		12.1	
166	Moisture		%										
167	Temperature		°F										
168													
169	Sampling Train	Metals E2											
170	Stack Gas Flowrate		dscfm			45597		45531		43226		44785	
171	O2		%			11.8		12.1		12.4		12.1	
172	Moisture		%										
173	Temperature		°F										
174													
175	Antimony	E2	ug/dscm	y		649.8		270.6		319.1		413.1	
176	Chromium	E2	ug/dscm	y		170.4		130.2		124.9		141.8	
177	Chromium (Hex)	E2	ug/dscm	y		16.6		119.9		15.1		50.5	
178	Silver	E2	ug/dscm	y		1001.3		1324.5		1279.5		1201.8	
179													
180	LVM	E2	ug/dscm	y		170.4		130.2		124.9		141.8 Cr Only	

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	Feedstream 1																			
2																				
3	915C1	Trial burn	Cond Avg	F1	Cond Avg	F2	Cond Avg	HW	Cond Avg	F3	Cond Avg	F4	Cond Avg	F5	Cond Avg					
4			Liq HW	Liq HW	Non-Fuel Grade Liq	Liq HW			Misc. fuel	Misc. fuel	Total Pack	Misc. fuel	Misc. fuel	Misc. fuel	MIF					
5	Feedstream Number		4247	89400000	2301				17.00	45										
6	Feed Class																			F6
7	Feed Class 2																			Total
8	Feedstream Description																			Total
9	Feed Rate	lb/hr																		
10	Feed Rate	pack/hr																		
11	Heating Value	Btu/lb																		
12	Ash	lb/hr																		
13	Chlorine	lb/hr																		1649.00
14	Arsenic	lb/hr																		1194.00
15	Cadmium	lb/hr																		0.22
16	Chromium	lb/hr																		0.16
17	Lead	lb/hr																		1.72
18	Nickel	lb/hr																		2.69
19																				1.77
20	Stack Gas Flowrate	dscfm	45193																	
21	Oxygen	%	12.0																	
22																				
23	Thermal Feedrate	MMBtu/hr																		
24	Estimated Firing Rate	MMBtu/hr																		
25																				
26	<i>Feedrate MTEC Calculations</i>																			
27	Ash	mg/dscm	y																	15232.4
28	Chlorine	ug/dscm																		11029416.2
29	Arsenic	ug/dscm																		2032.2
30	Cadmium	ug/dscm																		1478.0
31	Chromium	ug/dscm																		15888.3
32	Lead	ug/dscm																		24848.5
33	Nickel	ug/dscm																		16350.1
34																				
35	SVM	ug/dscm																		26326.5
36	LVM	ug/dscm																		17920.5
37																				
38	915C2	Trial burn	Cond Avg	F1	Cond Avg	F2	Cond Avg	HW	Cond Avg	F3	Cond Avg	F4	Cond Avg	F5	Cond Avg					
39			Liq HW	Liq HW	Non-Fuel Grade Liq	Liq HW			Misc. fuel	Misc. fuel	Total Pack	Misc. fuel	Misc. fuel	Misc. fuel	MIF					
40	Feedstream Number		4012	89400000	5089				15.00	37										
41	Feed Class																			F6
42	Feed Class 2																			Total
43	Feedstream Description																			Total
44	Feed Rate	lb/hr																		
45	Feed Rate	pack/hr																		
46	Heating Value	Btu/lb																		
47	Ash	lb/hr																		1585.00
48	Chlorine	lb/hr																		905.00
49																				
50	Stack Gas Flowrate	dscfm	49902.1																	
51	Oxygen	%	13.4																	
52																				
53	Thermal Feedrate	MMBtu/hr																		
54	Estimated Firing Rate	MMBtu/hr																		
55																				
56	<i>Feedrate MTEC Calculations</i>																			
57	Ash	mg/dscm	y																	15643.8
58	Chlorine	ug/dscm																		8932284.0
59																				
60	915C3	Trial burn	Cond Avg		Cond Avg		Cond Avg		Cond Avg		Cond Avg		Cond Avg		Cond Avg					

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
61	Feedstream Number			F1		F2				F3		F4		F5				F6		
62	Feed Class			Liq HW		Liq HW				Misc. fuel		Misc. fuel		Misc. fuel				Total		
63	Feed Class 2																	Total		
64	Feed Class 2																	Total		
65	Feedstream Description			Fuel Grade Liq		Non-Fuel Grade Liq				Synthetic Pack		Total Pack		Fuel Grade SCC						
66	Feed Rate	lb/hr		4472		4971				14.00		34								
67	Feed Rate	pack/hr																		
68	Heating Value	BTU/lb		67700000																
69	Ash	lb/hr																		
70	Chlorine	lb/hr																		1373
71																				731
72	Stack Gas Flowrate	dscfm		54933																
73	Oxygen	%		14.8																
74																				
75	Thermal Feedrate	MMBtu/hr																		
76	Estimated Firing Rate	MMBtu/hr																		
77																				
78	Feedrate MTEC Calculations																			
79	Ash	mg/dscm	y																	15009.4
80	Chlorine	ug/dscm																		7991168.9
81																				
82	915C4	Trial burn																		
83																				
84	Feedstream Number			F1		F2				F3		F4		F5				F6		
85	Feed Class			Liq HW		Liq HW				Misc. fuel		Misc. fuel		Misc. fuel				Misc. fuel		
86	Feed Class 2																			
87	Feedstream Description			Fuel Grade Liq		Non-Haz Chemical Fuel				Non-Fuel Grade Liq		Synthetic Pack		Total Pack				Fuel Grade SCC		
88	Feed Rate	lb/hr		1153		2389				2020		18.00		43				3206		
89	Feed Rate	pack/hr																		
90	Heating Value	BTU/lb		69100000																
91	Ash	lb/hr																		
92	Chlorine	lb/hr																		
93	Antimony	lb/hr																		
94	Chromium	lb/hr																		
95	Silver	lb/hr																		
96																				
97	Stack Gas Flowrate	dscfm		44785																
98	Oxygen	%		12.1																
99																				
100	Thermal Feedrate	MMBtu/hr																		
101	Estimated Firing Rate	MMBtu/hr																		
102																				
103	Feedrate MTEC Calculations																			
104	Ash	mg/dscm	y																	15702.3
105	Chlorine	ug/dscm																		10508921.2
106	Antimony	ug/dscm																		105183.1
107	Chromium	ug/dscm																		26108.0
108	Silver	ug/dscm																		97670.0
109																				
110	LVM	ug/dscm																		26108.0

	B	C	D	E
1	Process Information			
2				
3	915C1			Cond Avg
4				
5	Kiln Exit Temperature	F		1821
6	SCC Permit Temperature	F		1915
7	SCC Exit Temperature	F		1735
8	ID Fan	Amps		212
9	Kiln Pressure	in. W.C		-0.6
10	Venturi Pressure Diff.	in. W.C		78
11	Venturi pH	pH		4.7
12	Venturi Throat Water Flow	gpm		310
13	Venturi Approach Water Flow	gpm		300
14	Quench Recycle Water Flow	gpm		605
15	Recycle Tank Blowdown	gpm		293
16				
17	915C2			
18				
19	Kiln Exit Temperature	F		1476
20	SCC Permit Temperature	F		1658
21	SCC Exit Temperature	F		1617
22	ID Fan	Amps		215
23	Kiln Pressure	in. W.C		-0.75
24	Venturi Pressure Diff.	in. W.C		77
25	Venturi pH	pH		5
26	Venturi Throat Water Flow	gpm		291
27	Venturi Approach Water Flow	gpm		304
28	Quench Recycle Water Flow	gpm		617
29	Recycle Tank Blowdown	gpm		480
30				
31	915C3			
32				
33	Kiln Exit Temperature	F		1621
34	SCC Permit Temperature	F		
35	SCC Exit Temperature	F		
36	ID Fan	Amps		207
37	Kiln Pressure	in. W.C		-0.8
38	Venturi Pressure Diff.	in. W.C		78
39	Venturi pH	pH		5.1
40	Venturi Throat Water Flow	gpm		293
41	Venturi Approach Water Flow	gpm		300
42	Quench Recycle Water Flow	gpm		602
43	Recycle Tank Blowdown	gpm		221
44				
45	915C4			
46				
47	Kiln Exit Temperature	F		1855
48	SCC Permit Temperature	F		1918
49	SCC Exit Temperature	F		1600
50	ID Fan	Amps		212
51	Kiln Pressure	in. W.C		-0.68
52	Venturi Pressure Diff.	in. W.C		78
53	Venturi pH	pH		5.2
54	Venturi Throat Water Flow	gpm		293
55	Venturi Approach Water Flow	gpm		301
56	Quench Recycle Water Flow	gpm		603
57	Recycle Tank Blowdown	gpm		184

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	PCDD/PCDF																
2	Facility Name and ID: Eastman Kodak Company																
3	Condition ID: 915C2																
4	Condition/Test Date: Trial burn, low temp																
5																	
6																	
7	I-TEF																
8	Wght Fact																
9	Total																
10	Full ND																
11	Run 1																
12	TEQ																
13	Full ND																
14	Run 2																
15	TEQ																
16	Full ND																
17	Run 3																
18	TEQ																
19	Full ND																
20	Total																
21	Full ND																
22	Total																
23	Full ND																
24	Total																
25	Full ND																
26	Total																
27	Full ND																
28	Total																
29	Full ND																
30	Total																
31	Full ND																
32	Total																
33	Full ND																
34	Total																
35	Full ND																
36	Total																
37	Gas sample volume (dsf)																
38	O2 (%)																
39																	
40	PCDD/PCDF (ng in sample)																
41	PCDD/PCDF (ng/dscm @ 7% O2)																
42																	
43	TEQ Cond Avg																
44	Total Cond Avg																

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	PCDD/PCDF																
2	Facility Name and ID: Eastman Kodak Company																
3	915C3																
4	Condition ID: Trial burn, low temp, kiln only																
5	Condition/Test Date:																
6																	
7	I-TEF																
8	Wght Fact																
9	Run 1																
10	Total Full ND																
11	TEQ 1/2 ND																
12	Total 1/2 ND																
13	Run 2																
14	TEQ 1/2 ND																
15	Total 1/2 ND																
16	Run 3																
17	TEQ 1/2 ND																
18	Total 1/2 ND																
19	TEQ 1/2 ND																
20	Total 1/2 ND																
21	OCDF																
22	0.001																
23	Total OCDF																
24	0.05																
25	Total OCDF																
26	0.5																
27	Total OCDF																
28	0.1																
29	Total OCDF																
30	0.1																
31	Total OCDF																
32	0.01																
33	Total OCDF																
34	0.01																
35	Total OCDF																
36	0.001																
37	Gas sample volume (dscl)																
38	02 (%)																
39	0.633																
40	PCDD/PCDF (ng in sample)																
41	0.57																
42	PCDD/PCDF (ng/dscm @ 7% O2)																
43	0.837																
44	TEQ Cond Avg																
45	0.679																
46	Total Cond Avg																