	B	C
1	**Source Description**	
2		
3	Phase II ID No.	1009
4	EPA ID No.	ARD089234884
5	Facility Name	Eastman Chemicals Co. - Arkansas Eastman Div
6	Facility Location	
7	City	Batesville
8	State	AR
9	Unit ID Name/No.	Boiler No. 3
10	Other Sister Facilities	Boiler No. 2
11	Number of Sister Facilities	1
12	Combustor Class	Coal-fired boiler
13	Combustor Type	Stoker
14	Combustor Characteristics	Watertube boiler (stoker), stoker setup,
15	Capacity (MMBtu/hr)	100
16	Soot Blowing	
17	APCS Detailed Acronym	ESP
18	APCS General Class	ESP
19	APCS Characteristics	
20	Hazardous Wastes	Liq
21	Haz Waste Description	Mixed and unmixed solvents
22	Supplemental Fuel	Coal
23		
24	Stack Characteristics	
25	Diameter (ft)	
26	Height (ft)	
27	Gas Velocity (ft/sec)	
28	Gas Temperature (°F)	480
29		
30	Permitting Status	BIF Interim Status Tier III for 4 metals (As, Be, Cr, Pb)/HCl/Cl2 and Tier 1A for remaining metals (failed to meet 99.99% DRE, but will retest by end of 1999)
31	HWC Burn Status (Date if Terminated)	

	B	C
1	**Cond Description**	
2		
3	**1009C1**	
4		
5	Report Name/Date	Boiler Trial Burn Report - Eastman Chemicals Company, Arkansas Eastman Div.; dated October 6, 1999
6	Report Prepar	Eastman Chemical Co
7	Testing Firm	METCO
8	Testing Dates	April 19-24, 1999
9	Cond Dates	Apr-99
10	Cond Description	Trial burn; min combustion temperature
11	Content	CO/HC, DRE
12		
13	**1009C2**	
14		
15	Report Name/Date	Boiler Trial Burn Report - Eastman Chemicals Company, Arkansas Eastman Div.; dated October 6, 1999
16	Report Prepar	Eastman Chemical Co
17	Testing Firm	METCO
18	Testing Dates	April 19-24, 1999
19	Cond Dates	Apr-99
20	Cond Description	Trial burn, risk burn; max conditions for feedrates and other parameters
21	Content	PM, CO/HC, HCl/Cl2, metals, PCDD/PCDF, SVOCs/PAHs, DRE; POHCs, ash, metals, Cl feed analysis

	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**Stack Gas Emissions**												
2													
3		Comments	Units	7% O2									
4													
5	**1009C1**					R1		R2		R3		Cond Avg	
6													
7	Sampling Train	DRE POHC	E1										
8	Stack Gas Flowrate		dscfm			21961		19962		20171		20698	
9	O2		%			13.6		13.4		13.4		13.5	
10	Moisture		%			5.99		7.12		6.92		6.7	
11	Temperature		°F			384		377		380		380.3	
12													
13	CO (MHRA)	E1	ppmv	y								649.0	
14		Assume that CO level has been corrected to 7% (although test report is not clear either way)											
15		Same with condition 2											
16													
17	HC (MHRA)		ppmv	y								5.0	
18		Assume that HC level has been corrected to 7% (although test report is not clear either way)											
19													
20	POHC DRE	Chlorobenzene											
21	POHC Feedrate		lb/hr			16.2		18.16		17.87			
22	Emission Rate	E1	lb/hr			1.47E-02		8.64E-03		1.30E-02			
23	DRE	E1	%			99.9093		99.9524		99.9273			
24													
25	**1009C2**					R1		R2		R3		Cond Avg	
26													
27	Sampling Train	PM	E1										
28	Stack Gas Flowrate		dscfm			22698		22566		22485		22583.0	
29	O2		%			8.2		8.6		8.1		8.3	
30	Moisture		%			10.9		12.9		13.1		12.30	
31	Temperature		°F			475		470		481		475	
32													
33	PM	E1	gr/dscf	y		0.0397		0.0357		0.0307		0.0352	
34													
35	CO (MHRA)	E1	ppmv	y								631	
36		assume has been corrected to 7% oxygen, although not clear in test report											
37													
38	HC (MHRA)	E1	ppmv	y								0	
39													
40	HCl		ppmv	n		531.2		676.8		687.4			
41	Cl2		ppmv	n		0.3		0.4		0.8			
42	HCl	E1	ppmv	y		581.00		764.13		746.02		697.05	
43	Cl2	E1	ppmv	y		0.33		0.45		0.87		0.549	
44	Total Chlorine	E1	ppmv	y		581.66		765.03		747.75		698.15	
45													
46	POHC DRE	Chlorobenzene											
47	POHC Feedrate	E1	lb/hr			64.94		70.29		72.38		69	
48	Emission Rate	E1											
49	DRE	E1	%			99.9997		99.9998		99.9996		99.9997	
50													
51	Sampling Train	Metals	E2										
52	Stack Gas Flowrate		dscfm			23146		22821		22382		22783	
53	O2		%			7.9		7.9		8		7.93	
54	Moisture		%			10.2		12.5		12.7		11.8	
55	Temperature		°F			485		477		484		482	
56													
57	Mercury		µg/dscm	n	nd	0.28	nd	0.29	nd	0.28			
58	Lead		µg/dscm	n		151		157	nd	169			
59	Cadmium		µg/dscm	n		1.2	nd	0.6	nd	0.8			
60	Arsenic		µg/dscm	n		88.7	nd	81.4	nd	89.8			
61	Beryllium		µg/dscm	n	nd	0.83	nd	1.1	nd	1.1			
62	Chromium		µg/dscm	n		114.00		125.40		151.00			
63	Antimony		µg/dscm	n		21.7		20.7		20.7			
64	Nickel		µg/dscm	n	nd	5.4		9.4		7.9			
65													
66	Mercury	E2	µg/dscm	y	nd	0.3	nd	0.3	nd	0.3	100	0.3	
67	Lead	E2	µg/dscm	y		161.4		167.8	nd	182.0	36	170.4	high nd?

	B	C	D	E	F	G	H	I	J	K	L	M	N
68	Cadmium	E2	µg/dscm	y		1.3	nd	0.6	nd	0.9	54	0.9	
69	Arsenic	E2	µg/dscm	y		94.8	nd	87.0	nd	96.7	66	92.8	high nd?
70	Beryllium	E2	µg/dscm	y	nd	0.9	nd	1.2	nd	1.2	100	1.1	
71	Chromium	E2	µg/dscm	y		121.8		134.0		162.6		139.5	
72	Antimony	E2	µg/dscm	y		23.2		22.1		22.3		22.5	
73	Nickel	E2	µg/dscm	y	nd	5.8		10.0		8.5	24	8.1	
74													
75	SVM	E2	µg/dscm	y		162.7	0.4	168.4		182.9	0.1	171.3	
76	LVM	E2	µg/dscm	y	0.41	217.5	40	222.2	38	260.5	27	233.4	
77													
78	Particle Size Distribution	in microns											
79	Median Particle Size		um			4.7		4.9		3.95		4.51	
80	< 2		%			24.5		23		24		23.8	
81	< 10		%			78.5		85		80		81.2	

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
1	**Feedstreams**																							
2																								
3																								
4	**1009C1**				R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2	
5																								
6	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2		F3		F3	
7	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		Spike		Spike		Spike		Spike		Coal		Coal	
8	Feedstream Description				Liq POHC		Liq POHC		Liq POHC		Liq POHC		Spike		Spike		Spike		Spike		Coal		Coal	
9	Total HW Feedrate		lb/hr		867		951		961		926.3										4247		4228	
10	Heating Value		Btu/lb		9150		8870		8410		8810.0										11000		12000	
11	Thermal Feedrate		MMBtu/hr		8.8		2.123		7.93		6.3										51		47	
12																								
13	Stack Gas Flowrate		dscfm								20698													
14	O2		%								13.5													
15																								
16	Estimated Firing Rate		MMBtu/hr																					
17																								
18	**1009C2**				R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2	
19																								
20	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2		F3		F3	
21	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		Spike		Spike		Spike		Spike		Coal		Coal	
22	Feed Class 2				HW		HW		HW		HW		Spike		Spike		Spike		Spike		Coal		Coal	
23	Feedstream Description				Liq POHC		Liq POHC		Liq POHC		Liq POHC		Spike		Spike		Spike		Spike		Coal		Coal	
24	Feed Rate		lb/hr		3510		3661		3601		3591		60		60		62.2		60.7		7399		7295	
25	Heating Value		Btu/lb		8540		8780		8700		8673										8300		8700	
26	Thermal Feedrate		MMBtu/hr		29.98		32.14		31.33		31.2										61.4		63.5	
27	Ash		lb/hr																		1480		1678	
28	Chlorine		lb/hr		70.2		73.2		72		71.8										0.74		0.95	
29	Antimony		lb/hr																		0.148		0.1459	
30	Arsenic		lb/hr		0.0015		0.0066		0.0014		0.0032		0.22		0.2200		0.2280		0.22		0.037		0.0365	
31	Barium		lb/hr																		0.9619		0.8025	
32	Beryllium		lb/hr		0.0001		0.0003		0.0005		0.0003		0.015		0.01500		0.01500		0.015		0.0012		0.001	
33	Cadmium		lb/hr																		0.003		0.0029	
34	Chromium		lb/hr		0.0001		0.0001		0.0001		0.0001		0.895		0.895		0.928		0.906		0.0281		0.0233	
35	Lead		lb/hr		0.0005		0.0005		0.0005		0.0005		0.725		0.725		0.751		0.734		0.0296		0.0292	
36	Mercury		lb/hr																		0.0007		0.0007	
37	Nickel		lb/hr																		0.0252		0.0219	
38	Silver		lb/hr																		0.0052		0.0051	
39	Thallium		lb/hr																		0.148		0.1459	
40																								
41	Stack Gas Flowrate		dscfm		22698		22566		22485		22583		22698		22566		22485		22583		22698		22566	
42	O2		%		8.2		8.6		8.1		8.3		8.2		8.6		8.1		8.3		8.2		8.6	
43																								
44	Estimated Firing Rate		MMBtu/hr																					
45																								
46	*Feedrate MTEC Calculations*																							
47	Ash		mg/dscm		0		0		0		0		0		0		0		0		19068		22447	
48	Chlorine		µg/dscm		904452		979222		929172		937099		0		0		0		0		9534		12708	
49	Antimony		µg/dscm		0.0		0.0		0.0		0.0		0		0		0		0		1907		1952	
50	Arsenic		µg/dscm		19.3		88.3		18.1		41.3		2834		2943		2942		2906		477		488	
51	Barium		µg/dscm		0.0		0.0		0.0		0.0		0		0		0		0		12393		10735	
52	Beryllium		µg/dscm		1.3		4.0		6.2		3.9		193		201		194		196		15		13	
53	Cadmium		µg/dscm		0.0		0.0		0.0		0.0		0		0		0		0		39		39	
54	Chromium		µg/dscm		1.3		1.3		1.3		1.3		11531		11973		11976		11825		362		312	
55	Lead		µg/dscm		6.4		6.7		6.5		6.5		9341		9699		9692		9575		381		391	
56	Mercury		µg/dscm		0.0		0.0		0.0		0.0		0		0		0		0		9		9	
57	Nickel		µg/dscm		0.0		0.0		0.0		0.0		0		0		0		0		325		293	
58	Silver		µg/dscm		0.0		0.0		0.0		0.0		0		0		0		0		67		68	

	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ
1											
2											
3											
4	R3		Cond Avg		R1		R2		R3		Cond Avg
5											
6	F3		F3		F4		F4		F4		F4
7	Coal		Coal		Total		Total		Total		Total
8	Coal		Coal		Total		Total		Total		Total
9	4229		4234.7		5114		5179		5190		5161
10	11000		11333.3		20150		20870		19410		20143
11	47		48.0		60		49		55		54
12											
13											
14											
15											
16											49.5
17											
18	R3		Cond Avg		R1		R2		R3		Cond Avg
19											
20	F3		F3		F4		F4		F4		F4
21	Coal		Coal		Total		Total		Total		Total
22	Coal		Coal		Total		Total		Total		Total
23	Coal		Coal		Total		Total		Total		Total
24	7547		7414		10969		11016		11210		11065
25	8200		8400.0		16840		17480		16900		17073
26	61.9		62.3		91		96		93		93
27	1472		1543.3								
28	1.43		1.0								
29	0.1509		0.148								
30	0.0377		0.037								
31	0.7547		0.840								
32	0.0011		0.001								
33	0.003		0.003								
34	0.0204		0.024								
35	0.0302		0.030								
36	0.0007		0.001								
37	0.0219		0.023								
38	0.0053		0.005								
39	0.1509		0.148								
40											
41	22485		22583		22698		22566		22485		22583
42	8.1		8.3		8.2		8.6		8.1		8.3
43											
44											91.0
45											
46											
47	18996		20143		19068		22447		18996		20143
48	18454		13574		913987		991930		947626		950672
49	1947		1935		1907		1952		1947		1935
50	487		484		3330		3520		3447		3431
51	9740		10959		12393		10735		9740		10959
52	14		14		210		218		214		214
53	39		39		39		39		39		39
54	263		312		11894		12286		12241		12138
55	390		387		9729		10096		10088		9969
56	9		9		9		9		9		9
57	283		300		325		293		283		300
58	68		68		67		68		68		68

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
59	Thallium		µg/dscm		0.0		0.0		0.0		0.0		0		0		0		0		1907		1952	
60																								
61	SVM		µg/dscm		6.4		6.7		6.5		6.5		9341		9699		9692		9575		420.0		429.4	
62	LVM		µg/dscm		21.9		93.6		25.6		46.5		14559		15116		15112		14927		854.2		813.3	
63																								
64	**BIF Feedrate Limits**																							
65																								
66	Antimony		g/hr								4037													
67	Arsenic		g/hr								Tier III													
68	Barium		g/hr								670,421													
69	Beryllium		g/hr								Tier III													
70	Cadmium		g/hr								31.3													
71	Chromium		g/hr								Tier III													
72	Lead		g/hr								1225													
73	Mercury		g/hr								4037													
74	Silver		g/hr								40234													
75	Thallium		g/hr								6713													

	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ
59	1947		1935		1907		1952		1947		1935
60											
61	428.5		425.9		9767		10135		10127		10008
62	764.0		810.5		15435		16023		15901		15784
63											
64											
65											
66											
67											
68											
69											
70											
71											
72											
73											
74											
75											

	A	B	C
1	**Process Information**		
2			
3		Units	Liq waste
4			
5	**1009C1**		Cond Avg
6			
7	Comb Chamber Temperature	°F	989
8	ESP Inlet Temperature	°F	396
9	ESP Power	kW	19
10			
11	**1009C2**		
12			
13	Comb Chamber Temperature	°F	1426
14	ESP Inlet Temperature	°F	502
15	ESP Power	kW	9

	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:		Eastman Chemicals Co. - Arkansas Eastman Div															
4	Condition ID:		1009C2															
5	Condition/Test Date:		April 1999, trial burn risk burn under worst case conditions															
6																		
7			I-TEF			Run 1						Run 2					Run 3	
8			Wght Fact		Total	TEQ	Total	TEQ		Total	TEQ	Total	TEQ		Total	TEQ	Total	TEQ
9					Full ND	Full ND	1/2 ND	1/2 ND		Full ND	Full ND	1/2 ND	1/2 ND		Full ND	Full ND	1/2 ND	1/2 ND
10	Detected in sample volume (ng)																	
11		2,3,7,8-TCDD	1	nd	0.0279	0.0279	0.0140	0.0140	nd	0.0147	0.0147	0.0074	0.0074	nd	0.0302	0.0302	0.0151	0.0151
12		Total TCDD	0		1.1000	0.0000	1.1000	0.0000	nd	0.6850	0.0000	0.3425	0.0000		1.0620	0.0000	1.0620	0.0000
13		1,2,3,7,8-PCDD	0.5	nd	0.0600	0.0300	0.0300	0.0150	nd	0.0299	0.0150	0.0150	0.0075	nd	0.0717	0.0359	0.0359	0.0179
14		Total PCDD	0	nd	0.9160	0.0000	0.4580	0.0000	nd	0.4679	0.0000	0.2340	0.0000	nd	0.9210	0.0000	0.4605	0.0000
15		1,2,3,4,7,8-HxCDD	0.1	nd	0.0420	0.0042	0.0210	0.0021	nd	0.0279	0.0028	0.0140	0.0014	nd	0.0545	0.0055	0.0273	0.0027
16		1,2,3,6,7,8-HxCDD	0.1	nd	0.0724	0.0072	0.0362	0.0036	nd	0.0474	0.0047	0.0237	0.0024	nd	0.1166	0.0117	0.0583	0.0058
17		1,2,3,7,8,9-HxCDD	0.1	nd	0.0658	0.0066	0.0329	0.0033	nd	0.0374	0.0037	0.0187	0.0019	nd	0.0925	0.0093	0.0463	0.0046
18		Total HxCDD	0	nd	0.8070	0.0000	0.4035	0.0000	nd	0.4139	0.0000	0.2070	0.0000	nd	1.0120	0.0000	0.5060	0.0000
19		1,2,3,4,6,7,8-HpCDD	0.01	nd	0.3720	0.0037	0.1860	0.0019	nd	0.1691	0.0017	0.0846	0.0008	nd	0.5540	0.0055	0.2770	0.0028
20		Total HpCDD	0	nd	0.6820	0.0000	0.3410	0.0000	nd	0.3291	0.0000	0.1646	0.0000	nd	1.0240	0.0000	0.5120	0.0000
21		OCDD	0.001	nd	0.5970	0.0006	0.2985	0.0003	nd	0.2910	0.0003	0.1455	0.0001	nd	0.9800	0.0010	0.4900	0.0005
22		2,3,7,8-TCDF	0.1		0.1270	0.0127	0.1270	0.0127	nd	0.0757	0.0076	0.0379	0.0038	nd	0.1230	0.0123	0.0615	0.0062
23		Total TCDF	0		4.1000	0.0000	4.1000	0.0000		2.2920	0.0000	2.2920	0.0000		5.0800	0.0000	5.0800	0.0000
24		1,2,3,7,8-PCDF	0.05	nd	0.1300	0.0065	0.0650	0.0033	nd	0.0530	0.0027	0.0265	0.0013	nd	0.1700	0.0085	0.0850	0.0043
25		2,3,4,7,8-PCDF	0.5	nd	0.1800	0.0900	0.0900	0.0450	nd	0.0735	0.0368	0.0368	0.0184	nd	0.2260	0.1130	0.1130	0.0565
26		Total PCDF	0		1.4000	0.0000	1.4000	0.0000	nd	0.6660	0.0000	0.3330	0.0000		2.4200	0.0000	2.4200	0.0000
27		1,2,3,4,7,8-HxCDF	0.1	nd	0.1520	0.0152	0.0760	0.0076	nd	0.0666	0.0067	0.0333	0.0033	nd	0.2430	0.0243	0.1215	0.0122
28		1,2,3,6,7,8-HxCDF	0.1	nd	0.1190	0.0119	0.0595	0.0060	nd	0.0497	0.0050	0.0249	0.0025	nd	0.1590	0.0159	0.0795	0.0080
29		2,3,4,6,7,8-HxCDF	0.1	nd	0.0980	0.0098	0.0490	0.0049	nd	0.0423	0.0042	0.0212	0.0021	nd	0.1200	0.0120	0.0600	0.0060
30		1,2,3,7,8,9-HxCDF	0.1	nd	0.0160	0.0016	0.0080	0.0008	nd	0.0078	0.0008	0.0039	0.0004	nd	0.0165	0.0017	0.0083	0.0008
31		Total HxCDF	0	nd	0.5860	0.0000	0.2930	0.0000	nd	0.1266	0.0000	0.0633	0.0000	nd	0.8520	0.0000	0.4260	0.0000
32		1,2,3,4,6,7,8-HpCDF	0.01	nd	0.3160	0.0032	0.1580	0.0016	nd	0.1330	0.0013	0.0665	0.0007	nd	0.4020	0.0040	0.2010	0.0020
33		1,2,3,4,7,8,9-HpCDF	0.01	nd	0.0810	0.0008	0.0405	0.0004	nd	0.0358	0.0004	0.0179	0.0002	nd	0.0980	0.0010	0.0490	0.0005
34		Total HpCDF	0	nd	0.4760	0.0000	0.2380	0.0000	nd	0.1330	0.0000	0.0665	0.0000	nd	0.7020	0.0000	0.3510	0.0000
35		OCDF	0.001	nd	0.2270	0.0002	0.1135	0.0001	nd	0.1110	0.0001	0.0555	0.0001	nd	0.2630	0.0003	0.1315	0.0001
36																		
37		Gas sample volume (dscf)			122.17	122.17	122.17	122.17		124.56	124.56	124.56	124.56		126.51	126.51	126.51	126.51
38		O2 (%)			8.50	8.50	8.50	8.50		8.10	8.10	8.10	8.10		9.40	9.40	9.40	9.40
39																		
40		PCDD/PCDF (ng in sample)			10.8910	0.2321	8.7455	0.1224		5.5155	0.1083	3.9038	0.0542		14.3160	0.2918	11.4390	0.1459
41		PCDD/PCDF (ng/dscm @ 7% O2)		94.5	3.5280	0.0752	2.8330	0.0397	100.0	1.6981	0.0333	1.2019	0.0167	100.0	4.8258	0.0984	3.8560	0.0492
42																		
43		Total Cond Avg	8.03															
44		TEQ Cond Avg	0.0352															