

US EPA ARCHIVE DOCUMENT

	B	C
1	<b>Source Description</b>	
2		
3	Phase II ID No.	1018
4	EPA ID No.	TXD008113441
5	Facility Name	Celanese Ltd
6	Facility Location	
7	City	Bishop
8	State	TX
9	Unit ID Name/No.	Boiler No.16
10	Other Sister Facilities	None
11	Number of Sister Facilities	0
12	Combustor Class	Liquid-fired boiler
13	Combustor Type	Liquid-fired
14	Combustor Characteristics	John Zink co-fired boiler; "D" shape w/ superheater; Rated: 60,000 lb/hr steam. Watertube boiler.
15	Capacity (MMBtu/hr)	
16	Soot Blowing	Yes, typically 6 times/day w/ a duration of 0.0486 hrs per event
17	APCS Detailed Acronym	None
18	APCS General Class	
19	APCS Characteristics	NA
20	Hazardous Wastes	Liq
21	Haz Waste Description	Liquid waste w/ FuelSolv FS850 (ash modifier)
22	Supplemental Fuel	Natural gas
23		
24	Stack Characteristics	
25	Diameter (ft)	2.1
26	Height (ft)	45.0
27	Gas Velocity (ft/sec)	25.8
28	Gas Temperature (°F)	576.1
29		
30	Permitting Status	All metals (exception of Cr) Adjusted Tier I; Cr is managed under Tier III.
	HWC Burn Status (Date if	
31	Terminated)	

	B	C
1	<b>Cond Description</b>	
2		
3	<b>1018C10</b>	
4		
5	Report Name/Date	Boiler 16 Recertificatioin of Compliance, Oct 1996
6	Report Prepare	IT Corporation
7	Testing Firm	IT Corporation
8	Testing Dates	September 20, 1996
9	Cond Dates	Sep-96
10	Condition Descr	Compliance Test. Maximum combustion temperature condition
11	Content	Feed analysis: 10 BIF metals (not chromium only), chlorides, and ash. PM, CO, and hexavalent and total Cr emissions.
12		
13	<b>1018C11</b>	
14		
15	Report Name/Date	Trial Burn/Risk Burn Report; Sept 1998
16	Report Prepare	TRC Environmental Corporation
17	Testing Firm	TRC Environmental Corporation
18	Testing Dates	June 25, 1998
19	Cond Dates	Jun-98
20	Testing Firm	TRC Environmental Corporation
21	Condition Descr	Trial burn; min combustion temp, DRE
22	Content	CO, DRE
23		
24	<b>1018C12</b>	
25		
26	Report Name/Date	Trial Burn/Risk Burn Report; Sept 1998
27	Report Prepare	TRC Environmental Corporation
28	Testing Firm	TRC Environmental Corporation
29	Testing Dates	June 23-24, 1998
30	Cond Dates	Jun-98
31	Condition Descr	Risk burn at max. liquid waste feedrates + min. natural gas flowrate
32	Content	VOC, Total Organics, SVOCs, PCDDs/PCDFs, Particle Size Distribution, aldehydes, and ketones.
33		
34	<b>1018C13</b>	
35		
36	Report Name/Date	Ticona, Boiler 16 baseline test for Chrome, May 2002
37	Report Prepare	TRC Environmental Corporation
38	Testing Firm	TRC Environmental Corporation
39	Testing Dates	May 26, 2002
40	Cond Dates	May-02
41	Condition Descr	Baseline test, normal condition
42	Content	Chromium, hexavalent chromium

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		<b>Stack Gas Emissions</b>											
2													
3			Comments	Units	7% O2								
4													
5									Sootblowing				
6	10	<b>1018C10</b>					R1		R2		R3		Cond Avg
7													
8		PM	E1	gr/dscf	y		0.0397		0.0982		0.0421		0.0529
9		CO (MHRA)	E1	ppmv	y		0.6		31.9		0.1		10.9
10		Chromium (Hex)		lb/hr			0.00051		0.004233		0.0008378		0.001859
11													
12		Sampling Train	PM	E1									
13		Stack Gas Flowrate		dscfm			14050		12444		12828		13107.3
14		O2		%			4.55		5.1		4.75		4.8
15		Moisture		%			15.7		19.1		18.7		17.8
16		Temperature		°F			791.9		802.1		806.9		800.3
17													
18		Sampling Train	Cr+6	E2									
19		Stack Gas Flowrate		dscfm			14069		14221		13722		14004.0
20		O2		%			4.55		5.1		4.75		4.8
21		Moisture		%			16.3		15		18.7		16.7
22		Temperature		°F			793.5		803.8		807.4		801.6
23													
24													
25		Chromium (Hex)	E2	µg/dscm	y		8.12		69.92		14.13		30.7
26													
27	11	<b>1018C11</b>					R1		R2		R3		Cond Avg
28													
29		CO (MHRA)	E1	ppmv	y		26.37		27.47		21.86		25.2
30													
31		Sampling Train	DRE	E1									
32		Stack Gas Flowrate		dscfm			7962		8472		8167		8200.3
33		O2		%			10.1		10.2		10		10.1
34		Moisture		%			7.2		7.3		7.2		7.2
35		Temperature		°F			571.5		573.5		583.4		576.1
36													
37		POHC DRE	Chlorobenzene										
38		Feedrate	liquid waste	lb/hr			1500.0		1520.0		1501.0		
39			liquid spike	lb/hr			8.1		8.1		8.0		
40		Emission Rate	E1	lb/hr		nd	0.00014	nd	0.000128	nd	0.0001389		
41		DRE	E1	%			99.9983		99.9984		99.9983		
42													
43		POHC DRE	Toluene										
44		Feedrate	liquid waste	lb/hr			1500.0		1520.0		1501.0		
45			liquid spike	lb/hr			12.5		12.5		12.5		
46		Emission Rate	E1	lb/hr		nd	6.00E-05	nd	4.63E-05	nd	5.07E-05		
47		DRE	E1	%			99.9995		99.9996		99.9996		
48													
49	12	<b>1018C12</b>					R1		R2		R3		Cond Avg
50													
51		CO (MHRA)	E1	ppmv	y		0		0		0		0.0
52													
53		Sampling Train	PCDD/PCDF	E1									
54		Stack Gas Flowrate		dscfm			14125		14482		14490		14365.7
55		O2		%			6.6		7.5		7.4		7.2
56		Moisture		%			16		15.3		15.2		15.5
57		Temperature		°F			729.2		726.4		720.4		725.3
58													
59		Particle Size Distribution	in microns						Cond Avg				
60		>10		% wt					100				
61		8.8-10							75.3				
62		5.9-8.8							74.8				
63		4.0-5.9							74.1				
64		2.5-4.0							72.9				
65		1.0-2.5							69.6				
66		0.8-1.2							58.5				
67		0.5-0.8							48.9				
68		0-0.5							44				
69													
70	12	<b>1018C13</b>					R1		R2		R3		Cond Avg
71													

	A	B	C	D	E	F	G	H	I	J	K	L	M
72		CO (MHRA)	E1	ppmv	y		3		2.8		17		7.6
73		Chromium		g/hr			0.14		0.3		3.1		0.6
74		Chromium (Hex)		g/hr			0.046		0.22		2.46		0.4
75													
76		Sampling Train	PCDD/PCDF	E1									
77		Stack Gas Flowrate		dscfm			16236.1		16329		17022.6		16529.2
78		O2		%			4.9		4.9		4.8		4.9
79		Moisture		%									
80		Temperature		°F			790		745		750		761.7
81													
82		Chromium	E1	ug/dscm	y		4.42		9.41		92.69		17.31
83		Chromium (Hex)	E1	ug/dscm	y		1.45		6.90		73.55		12.68

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB		
1	<b>Feedstreams</b>																											
2																												
3																												
4	<b>1018C10</b>																											
5	6	Feedstream Number																										
6	7	Feed Class	F1	Cond Avg	Cond Avg	Cond Avg	F2	Raw Material	F3	Cond Avg	F4	Cond Avg	R1	F5	Total	R2	F5	Total	R3	F5	Total	Cond Avg	F5	Total				
7	8	Feed Class 2	Liq HW	2368000	2695	3449	0.3	0.001	42.81	2369000	3819	24	2368000	3910	24	2368000	3804	24	2368000	3804	24	2368000	3804	24	2368000			
8	9	Feedstream Description	HW	134	261	3449	0.3	0.001	42.81	2369000	3819	24	2368000	3910	24	2368000	3804	24	2368000	3804	24	2368000	3804	24	2368000			
9	10	Feed Rate	Liq Waste	134	261	3449	0.3	0.001	42.81	2369000	3819	24	2368000	3910	24	2368000	3804	24	2368000	3804	24	2368000	3804	24	2368000			
10	11	Feed Rate		134	261	3449	0.3	0.001	42.81	2369000	3819	24	2368000	3910	24	2368000	3804	24	2368000	3804	24	2368000	3804	24	2368000			
11	12	Ash		134	261	3449	0.3	0.001	42.81	2369000	3819	24	2368000	3910	24	2368000	3804	24	2368000	3804	24	2368000	3804	24	2368000			
12	13	Chlorine		134	261	3449	0.3	0.001	42.81	2369000	3819	24	2368000	3910	24	2368000	3804	24	2368000	3804	24	2368000	3804	24	2368000			
13	14	Antimony		134	261	3449	0.3	0.001	42.81	2369000	3819	24	2368000	3910	24	2368000	3804	24	2368000	3804	24	2368000	3804	24	2368000			
14	15	Arsenic		134	261	3449	0.3	0.001	42.81	2369000	3819	24	2368000	3910	24	2368000	3804	24	2368000	3804	24	2368000	3804	24	2368000			
15	16	Barium		134	261	3449	0.3	0.001	42.81	2369000	3819	24	2368000	3910	24	2368000	3804	24	2368000	3804	24	2368000	3804	24	2368000			
16	17	Beryllium		134	261	3449	0.3	0.001	42.81	2369000	3819	24	2368000	3910	24	2368000	3804	24	2368000	3804	24	2368000	3804	24	2368000			
17	18	Cadmium		134	261	3449	0.3	0.001	42.81	2369000	3819	24	2368000	3910	24	2368000	3804	24	2368000	3804	24	2368000	3804	24	2368000			
18	19	Chromium		134	261	3449	0.3	0.001	42.81	2369000	3819	24	2368000	3910	24	2368000	3804	24	2368000	3804	24	2368000	3804	24	2368000			
19	20	Lead		134	261	3449	0.3	0.001	42.81	2369000	3819	24	2368000	3910	24	2368000	3804	24	2368000	3804	24	2368000	3804	24	2368000			
20	21	Mercury		134	261	3449	0.3	0.001	42.81	2369000	3819	24	2368000	3910	24	2368000	3804	24	2368000	3804	24	2368000	3804	24	2368000			
21	22	Silver		134	261	3449	0.3	0.001	42.81	2369000	3819	24	2368000	3910	24	2368000	3804	24	2368000	3804	24	2368000	3804	24	2368000			
22	23	Thallium		134	261	3449	0.3	0.001	42.81	2369000	3819	24	2368000	3910	24	2368000	3804	24	2368000	3804	24	2368000	3804	24	2368000			
23	24																											
24	25	Stack Gas Flowrate		13107									14050			12444									12828			
25	26	Oxygen		5									4.55			5.1									4.75			
26	27																											
27	28	Heating Value																										
28	29	Thermal Feedrate		47.5	0.1	67.4	0.1	44.5224	1040																	92.0		
29	30	Estimated Firing Rate																										
30	31																											
31	32	Feedrate /MTEC Calculations																										
32	33	Ash		5.2	10.1	133.9	10.1																			150.5	149.9	
33	34	Chlorine		931.9	11.6	0.0	11.6																			949.3	935.2	
34	35	Antimony		45.8	0.0	0.0	0.0																			46.7	46.0	
35	36	Arsenic		9.3	0.0	0.0	0.0																			9.5	9.4	
36	37	Barium		48.1	64.5	0.0	64.5																			98.9	113.3	
37	38	Beryllium		9.3	0.0	0.0	0.0																			9.5	9.4	
38	39	Cadmium		9.3	0.0	0.0	0.0																			9.5	9.4	
39	40	Chromium		92.0	0.1	438.4	0.1	476.6																		565.2	532.6	
40	41	Lead		59.0	0.0	0.0	0.0																			58.1	59.6	
41	42	Mercury		8.2	0.0	0.0	0.0																			8.3	8.2	
42	43	Silver		45.8	0.0	0.0	0.0																			46.7	46.0	
43	44	Thallium		45.8	0.0	0.0	0.0																			46.7	46.0	
44	45																											
45	46	SVM		63.7	0.0	0.0	0.0																			67.6	69.0	
46	47	LVM		101.3	0.1	438.4	0.1	493.7																		584.2	551.3	
47	48																											
48	49	<b>1018C11</b>																										
49	50	Feedstream Number																										
50	51	Feed Class	F1	Cond Avg	Cond Avg	Cond Avg	F2	Raw Material	F3	Cond Avg	F4	Cond Avg	R1	F5	Total	R2	F5	Total	R3	F5	Total	Cond Avg	F5	Total				
51	52	Feed Class 2	Liq HW																									
52	53	Feedstream Description	HW																									
53	54	Feed Rate	Liq Waste																									
54	55	Feed Rate																										
55	56	Feed Rate																										
56	57	Heating Value																										
57	58	Thermal Feedrate																										
58	59																											
59	60	Stack Gas Flowrate		8200.3																								

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB
61	Oxygen																									
62																										
63	<b>1018C12</b>																									
64																										
65	Feedstream Number																									
66	Feed Class																									
67	Feed Class 2																									
68	Feedstream Description																									
69	Feed Rate	mscfh																								
70	Feed Rate	g/hr																								
71	Heating Value	Btu/scf																								
72	Heating Value	Btu/lb																								
73	Viscosity	cp																								
74	Density	g/ml																								
75	Ash	g/hr																								
76	Chlorine	g/hr																								
77	Antimony	g/hr																								
78	Arsenic	g/hr																								
79	Barium	g/hr																								
80	Beryllium	g/hr																								
81	Cadmium	g/hr																								
82	Chromium	g/hr																								
83	Lead	g/hr																								
84	Mercury	g/hr																								
85	Silver	g/hr																								
86	Thallium	g/hr																								
87																										
88	Stack Gas Flowrate	dscfm																								
89	Oxygen	%																								
90																										
91	Thermal Feedrate	MMBtu/hr																								
92	Estimated Firing Rate	MMBtu/hr																								
93																										
94	Feedrate MTEC Calculations																									
95	Ash	mg/dscm																								
96	Chlorine	ug/dscm																								
97	Antimony	ug/dscm																								
98	Arsenic	ug/dscm																								
99	Barium	ug/dscm																								
100	Beryllium	ug/dscm																								
101	Cadmium	ug/dscm																								
102	Chromium	ug/dscm																								
103	Lead	ug/dscm																								
104	Mercury	ug/dscm																								
105	Silver	ug/dscm																								
106	Thallium	ug/dscm																								
107																										
108	SVM	ug/dscm																								
109	LVM	ug/dscm																								
110																										
111	BIF Tier I Feedrate																									
112	Constituent																									
113	Chlorine																									
114	Antimony																									
115	Barium																									
116	Lead																									
117	Mercury																									
118	Silver																									
119	Thallium																									
120	Arsenic																									





	A	B	C
1	<b>Process Information</b>		
2			
3	<b>1018C10</b>		Cond Avg
4			
5	Steam Production Rate	Mlb/hr	59
6	Firebox Temp Indicator	°F	2022
7			
8	<b>1018C11</b>		
9			
10	Steam Production Rate	Mlb/hr	18.7
11	Firebox Temp Indicator	°F	1355
12			
13	<b>1018C12</b>		
14			
15	Steam Production Rate	Mlb/hr	45.83
16	Firebox Temp Indicator	°F	1736

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<b>PCDD/PCDF</b>																
2	N																
3	Facility Name and ID:	Celanese Ltd															
4	Condition ID:	1018C12															
5	Condition/Test Date:	Risk burn; June 23-24, 1998															
6																	
7																	
8																	
9																	
10	Detected in sample volume (ng)																
11	2,3,7,8-TCDD	1	nd	0.0100	0.0100	0.0050	0.0050	nd	0.0079	0.0079	0.0079	0.0040	0.0040	0.011	0.0110	0.0055	0.0055
12	TCDD Total	0	nd	0.0100	0.0000	0.0050	0.0050	nd	0.0079	0.0000	0.0079	0.0040	0.0000	0.011	0.0000	0.0055	0.0000
13	1,2,3,7,8-PCDD	0.5	nd	0.0100	0.0050	0.0050	0.0050	nd	0.0084	0.0042	0.0084	0.0042	0.0021	0.022	0.0110	0.0110	0.0055
14	PCDD Total	0	nd	0.0100	0.0000	0.0050	0.0050	nd	0.0084	0.0000	0.0084	0.0042	0.0000	0.022	0.0000	0.0110	0.0000
15	1,2,3,4,7,8-HxCDD	0.1	nd	0.0130	0.0013	0.0065	0.0007	nd	0.006	0.0006	0.006	0.0030	0.0003	0.019	0.0019	0.0095	0.0010
16	1,2,3,6,7,8-HxCDD	0.1	nd	0.0120	0.0012	0.0060	0.0006	nd	0.0055	0.0006	0.0055	0.0028	0.0003	0.017	0.0017	0.0085	0.0009
17	1,2,3,7,8,9-HxCDD	0.1	nd	0.0120	0.0012	0.0060	0.0006	nd	0.0054	0.0005	0.0054	0.0027	0.0003	0.017	0.0017	0.0085	0.0009
18	HxCDD Total	0	nd	0.0370	0.0000	0.0185	0.0000	nd	0.0169	0.0000	0.0169	0.0085	0.0000	0.053	0.0000	0.0265	0.0000
19	1,2,3,4,6,7,8-HpCDD	0.01	nd	0.0170	0.0002	0.0085	0.0001	nd	0.0073	0.0001	0.0073	0.0037	0.0000	0.039	0.0004	0.0195	0.0002
20	HpCDD Total	0	nd	0.0170	0.0000	0.0085	0.0000	nd	0.0073	0.0000	0.0073	0.0037	0.0000	0.039	0.0000	0.0195	0.0000
21	OCDD	0.001	nd	0.0430	0.0000	0.0215	0.0000	nd	0.052	0.0001	0.052	0.0260	0.0000	0.17	0.0002	0.0850	0.0001
22	2,3,7,8-TCDF	0.1	nd	0.0140	0.0014	0.0070	0.0007	nd	0.014	0.0014	0.014	0.0070	0.0007	0.014	0.0014	0.0070	0.0000
23	TCDF Total	0	nd	0.0140	0.0000	0.0070	0.0000	nd	0.014	0.0000	0.014	0.0070	0.0000	0.014	0.0000	0.0070	0.0000
24	1,2,3,7,8-PCDF	0.05	nd	0.0130	0.0007	0.0065	0.0003	nd	0.0054	0.0003	0.0054	0.0027	0.0001	0.03	0.0015	0.0150	0.0008
25	2,3,4,7,8-PCDF	0.5	nd	0.0130	0.0065	0.0065	0.0033	nd	0.0054	0.0027	0.0054	0.0027	0.0014	0.03	0.0150	0.0150	0.0075
26	PCDF Total	0	nd	0.0260	0.0000	0.0130	0.0000	nd	0.0108	0.0000	0.0108	0.0054	0.0000	0.06	0.0000	0.0300	0.0000
27	1,2,3,4,7,8-HxCDF	0.1	nd	0.0047	0.0005	0.0024	0.0002	nd	0.0036	0.0004	0.0036	0.0018	0.0002	0.02	0.0020	0.0100	0.0010
28	1,2,3,6,7,8-HxCDF	0.1	nd	0.0046	0.0005	0.0023	0.0002	nd	0.0035	0.0004	0.0035	0.0018	0.0002	0.011	0.0011	0.0055	0.0006
29	2,3,4,6,7,8-HxCDF	0.1	nd	0.0049	0.0005	0.0025	0.0002	nd	0.0037	0.0004	0.0037	0.0019	0.0002	0.014	0.0014	0.0070	0.0007
30	1,2,3,7,8,9-HxCDF	0.1	nd	0.0053	0.0005	0.0027	0.0003	nd	0.004	0.0004	0.004	0.0020	0.0002	0.0073	0.0007	0.0037	0.0004
31	HxCDF Total	0	nd	0.0195	0.0000	0.0098	0.0000	nd	0.0148	0.0000	0.0148	0.0074	0.0000	0.0523	0.0000	0.0262	0.0000
32	1,2,3,4,6,7,8-HpCDF	0.01	nd	0.0120	0.0001	0.0060	0.0001	nd	0.012	0.0001	0.012	0.0060	0.0001	0.04	0.0004	0.0200	0.0002
33	1,2,3,4,7,8,9-HpCDF	0.01	nd	0.0044	0.0000	0.0022	0.0000	nd	0.003	0.0000	0.003	0.0015	0.0000	0.0073	0.0001	0.0037	0.0000
34	HpCDF Total	0	nd	0.0164	0.0000	0.0082	0.0000	nd	0.015	0.0000	0.015	0.0075	0.0000	0.0473	0.0000	0.0237	0.0000
35	OCDF	0.001	nd	0.0092	0.0000	0.0046	0.0000	nd	0.0093	0.0000	0.0093	0.0047	0.0000	0.031	0.0000	0.0155	0.0000
36																	
37	Gas sample volume (dsct)			175.31	175.31	175.31	175.31		182.23	182.23	182.23	182.23		185.97	185.97	185.97	185.97
38	O2 (%)			6.60	6.60	6.60	6.60		7.50	7.50	7.50	7.50		7.40	7.40	7.40	7.40
39																	
40	PCDD/PCDF (ng in sample)			0.2021	0.0296	0.1011	0.0148		0.1564	0.0199	0.0782	0.0100		0.4996	0.0515	0.2498	0.0257
41	PCDD/PCDF (ng/dscm @ 7% O2)		100.0	0.0396	0.0058	0.0198	0.0029	100.0	0.0315	0.0040	0.0157	0.0020	100.0	0.0977	0.0101	0.0489	0.0050
42																	
43	TEQ Cond Avg																
44	Total Cond Avg																