

US EPA ARCHIVE DOCUMENT

	B	C
1	Source Description	
2		
3	Phase II ID No.	737
4	EPA ID No.	IND000807107
5	Facility Name	Reilly Industries, Inc.
6	Facility Location	
7	City	Indianapolis
8	State	IN
9	Unit ID Name/No.	Boiler 30K
10	Other Sister Facilities	Boiler 28K(Unit 738)
11	Number of Sister Facilities	0
12	Combustor Class	Liquid-fired boiler
13	Combustor Type	Liquid-fired
14	Combustor Characteristics	Watertube boiler. Babcock and Wilcox Company; a type FM; max thermal input of 39.3 MMBtu/hr; max operating pressure of 250 psig, a nameplate steam production rate of 30000 lbs/hr.
15	Capacity (MMBtu/hr)	39.3
16	Soot Blowing	Yes, 4 times/day, 5 min/event (run 3, cond 3) (run 2, 4, cond 1)
17	APCS Detailed Acronym	None
18	APCS General Class	
19	APCS Characteristics	NA
20	Hazardous Wastes	Liq
21	Haz Waste Description	Pyridine and pyridine-derived organic chemical production waste
22	Supplemental Fuel	Natural gas
23		
24	Stack Characteristics	
25	Diameter (ft)	4.0
26	Height (ft)	43.0
27	Gas Velocity (ft/sec)	24.3
28	Gas Temperature (°F)	664.0
29		
30	Permitting Status	Tier I metals except Cr(+6)
	HWC Burn Status (Date if	
31	Terminated)	

	B	C
1	Cond Description	
2		
3	737C1	
4		
5	Report Name/Date	Revised Certification of Compliance Test Report for Boilers 70K, 30K, and 28K, August 21, 1996
6	Report Prepare	Spectrum Compliance Resources, Inc.
7	Testing Firm	Spectrum Compliance Resources, Inc., METCO Environmental, B3 Systems, Inc
8	Testing Dates	June 20, 1996
9	Cond Dates	Jun-96
10	Cond. Description	CoC, high feed rate
11	Content	PM, CO, Cr(+6), HCl/Cl2
12		
13	737C2	
14		
15	Report Name/Date	Revised Certification of Compliance Test Report for Boilers 70K, 30K, and 28K, August 21, 1996
16	Report Prepare	Spectrum Compliance Resources, Inc.
17	Testing Firm	Spectrum Compliance Resources, Inc., METCO Environmental, B3 Systems, Inc
18	Testing Dates	June 20-21, 1996
19	Cond Dates	Jun-96
20	Cond. Description	CoC, low comb temp
21	Content	CO
22		
23	737C3	
24		
25	Report Name/Date	Trial Burn Report for Boiler 30K, February 3, 2000
26	Report Prepare	Compliance Strategies & Solutions, Inc.
27	Testing Dates	October 26-28, 1999
28	Cond Dates	Nov-99
29	Cond. Description	Trial burn, high feed rate, max steam prod
30	Content	PM, HCl/Cl2, PCDD/F
31		
32	737C4	
33		
34	Report Name/Date	Trial Burn Report for Boiler 30K, February 3, 2000
35	Report Prepare	Compliance Strategies & Solutions, Inc.
36	Testing Dates	November 2-3 and 5, 1999
37	Cond Dates	Nov-99
38	Cond. Description	Trial burn, min comb temp, min steam prod rate
39	Content	DRE, PCDD/F
40		
41	737C5	
42		
43	Report Name/Date	Trial Burn Retest Report for Boiler 30K, July 10, 2000
44	Testing Dates	May 24-25, 2000
45	Cond Dates	May-00
46	Cond. Description	Trial burn retest, min comb temp, min steam prod rate
47	Content	DRE

	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Stack Gas Emissions													
2														
3		Comments	Units	7% O2										
4														
5								soot blow			soot blow			
6	737C1	Coc				R1		R2		R3		R4		Cond Avg
7														
8	PM	E1	gr/dscf	y		0.024		0.11		0.022				0.0486
9	CO (MHRA)	E1	ppmv	y		15.8		8.6		2.7		2.51		7.40
10	CO (RA)	E1	ppmv	y		9.9		4.2		2.51		2.23		4.72
11	Chromium (Hex)		g/hr			0.0649		NA		0.1842		0.1306		0.13
12	HCl		g/hr			34.9		100.7		0.45				43.4
13	Cl2		g/hr			0.45	nd	0.45	nd	0.45				0.45
14														
15	Chromium (Hex)	E1	µg/dscm	y		3.9		NA		8.6		6.1		5.9
16	HCl	E1	ppmv	y		1.4		4.1		0.02				1.75
17	Cl2	E1	ppmv	y		0.01		0.01		0.01				0.01
18	Total Chlorine	E1	ppmv	y		1.43		4.09		0.04				1.77
19														
20	Sampling Train	PM, HCl/Cl2	E1											
21	Stack Gas Flowrate		dscfm			8413		8413		8413		8413		8413
22	O2		%			4.8		4.8		4.8		4.8		4.80
23	Moisture		%											
24	Temperature		°F											
25														
26	737C2	Coc				R1		R2		R3		R4		Cond Avg
27														
28	CO (RA)	E1	ppmv	y		23.87								
29														
30	Sampling Train	CO	E1											
31	Stack Gas Flowrate		dscfm											
32	O2		%			9.39								
33	Moisture		%											
34	Temperature		°F											
35														
36	737C3	Trial Burn				R1		R2		sootblow R3		R4		Cond Avg
37														
38	PM	E1	gr/dscf	y		0.0494		0.0501		0.072				0.056
39	CO (MHRA)	E1	ppmv	y		2.25		0.73		0.90				1.29
40	CO (RA)	E1	ppmv	y		1.54		0.26		0.64				0.81
41	HCl		lb/hr		nd	0.02	nd	0.03	nd	0.03	nd			0.027
42	Cl2		lb/hr		nd	0.02	nd	0.03	nd	0.02	nd			0.023
43	HC (RA)		ppmv			0.4		0.3	nd	0.1				0.267
44														
45	HCl	E1	ppmv	y		0.4		0.6		0.6				0.54
46	Cl2	E1	ppmv	y		0.20		0.31		0.21				0.24
47	Total Chlorine	E1	ppmv	y		0.80		1.22		1.03				1.02
48	HC (RA)	E1	ppmv	y		0.33		0.26		0.09				0.23
49														
50	Sampling Train	PM, HCl/Cl2	E1											
51	Stack Gas Flowrate		dscfm			7509		7711		7578				7599
52	O2		%			4.2		4.8		4.8				4.6
53	Moisture		%											
54	Temperature		°F			649		666		674				676
55														
56	737C4	Trial Burn				R1		R2		R3		R4		Cond Avg
57														
58	CO (MHRA)	E1	ppmv	y		0.15		0.036		0.012				0.066
59	CO (RA)	E1	ppmv	y		0.09		0.008		0.005				0.034
60	HC (RA)		ppmv			0.1		1.6		1.7				1.133
61														
62	HC (RA)	E1	ppmv	y		0.05		0.05		0.07				0.06
63														
64	POHC DRE	Benzene												
65	POHC Feedrate		g/s			0.377		0.532		0.513				
66	Emission Rate	E1	g/s			5.55E-04		1.53E-03		9.09E-04				

	B	C	D	E	F	G	H	I	J	K	L	M	N	O
67	DRE	E1	%			99.853		99.712		99.823				
68														
69	POHC DRE	Toluene												
70	POHC Feedrate		g/s			2.713		3.821		3.687				
71	Emission Rate	E1	g/s		nd	3.67E-05	nd	1.68E-04	nd	3.24E-05				
72	DRE	E1	%		>	99.99865	>	99.9956	>	99.99912				
73														
74	Sampling Train	POHC	E1											
75	Stack Gas Flowrate		dscfm			2454		3641		3426				3174
76	O2		%			7.8		6.6		6.2				6.87
77	Moisture		%											
78	Temperature		°F			387		440		440				422
79														
80	737C5	Trial Burn Retest				R1		R2		R3		R4		Cond Avg
81														
82	CO (RA)	E1	ppmv	y		0.04		0.02		0.28				0.11
83	Benzene		g/s		nd	1.78E-03	nd	1.44E-03	nd	1.43E-03				
84	Toluene		g/s		nd	3.32E-05	nd	2.32E-05	nd	2.79E-05				
85														
86	POHC DRE	1,2-dichlorobenzene												
87	POHC Feedrate		g/hr			9523		9496		9519				
88	Emission Rate	E1	g/s		nd	1.51E-05	nd	1.56E-05	nd	1.52E-05				
89	DRE	E1	%		>	99.99943	>	99.99941	>	99.99942				
90														
91	Sampling Train	POHC	E1											
92	Stack Gas Flowrate		dscfm			3800		3617		3638				3685.0
93	O2		%			5.5		5.2		6				5.6
94	Moisture		%			15.01		11.35		12.46				12.9
95	Temperature		°F			467		469		464				466.7

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
1	Feedstreams																						
2																							
3																							
4	737C1	CoC			R1		R2		R3		R4		Cond Avg		R1		R2		R3		R4		Cond Avg
5																							
6	Feedstream Number				F1		F1		F1		F1		F1		F2		F2		F2		F2		F2
7	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		Liq HW		NG		NG		NG		NG		NG
8	Feed Class 2				HW		HW		HW		HW		HW		MF		MF		MF		MF		MF
9	Feedstream Description				Waste Fuel		Waste Fuel		Waste Fuel		Waste Fuel		Waste Fuel		City Gas		City Gas		City Gas		City Gas		City Gas
10	Feed Rate	lb/hr			2191		2235		2236		2192		2214		350		294		302		333		320
11	Density	g/ml			0.963		0.963		0.963		0.964		0.963										
12	Heat Content	Btu/lb			14694		14756		14719		14684		14713		6.7		6.7		6.7		6.7		6.7
13	Chromium (Hex)	g/hr																					
14	Ash	g/hr			1073.3		689.4		1207		1063.9		1008.4										
15	Chlorine	g/hr			327.97		924.41		446.27		457.37		389.0	nd	0.27	nd	0.1	nd	0.09	nd	0.15	nd	0.15
16	Antimony	g/hr	nd		0.2385		0.2534	nd	0.2536	nd	0.2287		0.2436	nd	0.0013	nd	0.0005	nd	0.0004	nd	0.0007	nd	0.0007
17	Arsenic	g/hr	nd		0.0696		0.071	nd	0.071	nd	0.0696		0.0703		0.0009		0.0003		0.0003		0.0005		0.0005
18	Barium	g/hr	nd		0.0994		0.1014	nd	0.1014	nd	0.0994		0.1004	nd	0.0847	nd	0.0019	nd	0.0017	nd	0.0282		0.0291
19	Beryllium	g/hr	nd		0.0119		0.0203	nd	0.0203	nd	0.0199		0.0201	nd	0.0001	nd	0.00005	nd	0.00004	nd	0.0001		0.0001
20	Cadmium	g/hr			0.0497		0.0507	nd	0.0507	nd	0.0497		0.0502	nd	0.0008		0.00005		0.0003		0.0004		0.0004
21	Chromium	g/hr			0.29815		0.30414		0.30427		0.29829		0.3012	nd	0.00146		0.00045	nd	0.00005	nd	0.00065		0.0007
22	Lead	g/hr	nd		0.0696		0.071	nd	0.07	nd	0.0696		0.0703	nd	0.0002	nd	0.0001	nd	0.0001	nd	0.0001		0.0001
23	Mercury	g/hr	nd		0.0199		0.0253	nd	0.0619	nd	0.0199		0.0318		0.0004	nd	0.00002	nd	0.00002	nd	0.0002		0.0002
24	Silver	g/hr	nd		0.2683		0.2737	nd	0.284	nd	0.2883		0.2786	nd	0.0007	nd	0.0002	nd	0.0002	nd	0.0004		0.0004
25	Thallium	g/hr	nd		0.2385		0.2534	nd	0.2536	nd	0.2287		0.2436	nd	0.0002	nd	0.0001	nd	0.0001	nd	0.0001		0.0001
26																							
27	Stack Gas Flowrate	dscfm			8413		8413		8413		8413		8413		8413		8413		8413		8413		8413
28	O2	%			4.8		4.8		4.8		4.8		4.80		4.8		4.8		4.8		4.8		4.80
29																							
30	Thermal Feedrate	MMBtu/hr			32.2		33.0		32.9		32.2		32.6		6.7		6.7		6.7		6.7		6.7
31	Estimated Firing Rate	MMBtu/hr																					
32																							
33	<i>Feedrate MTEC Calculations</i>																						
34	Chromium (Hex)	ug/dscm																					
35	Ash	mg/dscm			64.9		41.7		73.0		64.4		61.0										
36	Chlorine	ug/dscm			19840.8		55922.8		26997.4		27668.9		32607.5	100	16.3	100	6.05	100	5.44	100	9.07	100	9.23
37	Antimony	ug/dscm	100		14.4	100	15.3	100	15.3	100	13.8	100	14.7	100	0.1	100	0.03	100	0.02	100	0.04	100	0.04
38	Arsenic	ug/dscm	100		4.2	100	4.3	100	4.3	100	4.2	100	4.3		0.1		0.02		0.02		0.03		0.03
39	Barium	ug/dscm	100		6.0	100	6.1	100	6.1	100	6.0	100	6.1	100	5.1	100	0.11	100	0.10	100	1.71	100	1.76
40	Beryllium	ug/dscm	100		0.7	100	1.2	100	1.2	100	1.2	100	1.1	100	0.0	100	0.00	100	0.00	100	0.01	100	0.00
41	Cadmium	ug/dscm			3.0	100	3.1	100	3.1	100	3.0	100	3.0	100	0.0	100	0.00	100	0.02	100	0.02	100	0.02
42	Chromium	ug/dscm			18.0		18.4		18.4		18.0		18.2	100	0.1	100	0.03	100	0.00	100	0.04	100	0.04
43	Lead	ug/dscm	100		4.2	100	4.3	100	4.2	100	4.2	100	4.2		0.0	100	0.01	100	0.01	100	0.01	100	0.01
44	Mercury	ug/dscm	100		1.2	100	1.5	100	3.7	100	1.2	100	1.9	100	0.0	100	0.00	100	0.00	100	0.01	100	0.01
45	Silver	ug/dscm	100		16.2	100	16.6	100	17.2	100	17.4	100	16.9	100	0.0	100	0.01	100	0.01	100	0.02	100	0.02
46	Thallium	ug/dscm	100		14.4	100	15.3	100	15.3	100	13.8	100	14.7	100	0.0	100	0.01	100	0.01	100	0.01	100	0.01
47																							
48	SVM	ug/dscm	58		7.2	100	7.4	100	7.3	100	7.2	100	7.3	80	0.1	100	0.01	100	0.02	100	0.03	100	0.03
49	LVM	ug/dscm	21		23.0	23	23.9	23	23.9	23	23.5	23	23.6	63	0.1	63	0.05	23	0.02	60	0.08	59	0.07
50																							
51																							
52	737C3	Trial burn			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2
53																							
54	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2		F3		F3
55	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		NG		NG		NG		NG		Spike		Spike
56	Feed Class 2				HW		HW		HW		HW		MF		MF		MF		MF		Spike		Spike
57	Feedstream Description				Waste		Waste		Waste		Waste		City Gas		City Gas		City Gas		City Gas		Spike		Spike
58	Feed Rate	lb/hr			2255.7		2201.6		2249.7		2235		213.6		224		225.5		221				

	B	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS
1	Feedstreams																					
2																						
3																						
4	737C1		R1		R2		R3		R4		Cond Avg		R1		R2		R3		R4		Cond Avg	
5																						
6	Feedstream Number		F3		F3		F3		F3		F3		F4		F4		F4		F4		F4	
7	Feed Class		Spike		Spike		Spike		Spike		Spike		Total		Total		Total		Total		Total	
8	Feed Class 2		Spike		Spike		Spike		Spike		Spike		Total		Total		Total		Total		Total	
9	Feedstream Description		Spike		Spike		Spike		Spike		Spike		Total		Total		Total		Total		Total	
10	Feed Rate																					
11	Density																					
12	Heat Content																					
13	Chromium (Hex)		0.25		0.25		0.25		0.25		0.25		0.25		0.25		0.25		0.25		0.25	
14	Ash	nd	1432.4	nd	1398.8	nd	1433.2	nd	1459.3		1429		1429		1429		1429		1429		1429	
15	Chlorine		473.39		330.17		465.03		420.26		416		416		416		416		416		416	
16	Antimony	nd	0.005	nd	0.0049	nd	0.0049	nd	0.0048		0.0049		0.0049		0.0049		0.0049		0.0049		0.0049	
17	Arsenic	nd	0.0157	nd	0.0095	nd	0.0101	nd	0.0102		0.0114		0.0114		0.0114		0.0114		0.0114		0.0114	
18	Barium	nd	0.0081	nd	0.002	nd	0.002	nd	0.002		0.0035		0.0035		0.0035		0.0035		0.0035		0.0035	
19	Beryllium	nd	0.0004	nd	0.0004	nd	0.0004	nd	0.0004		0.0004		0.0004		0.0004		0.0004		0.0004		0.0004	
20	Cadmium	nd	0.0027	nd	0.0024	nd	0.0024	nd	0.0024		0.0025		0.0025		0.0025		0.0025		0.0025		0.0025	
21	Chromium	nd	0.2737	nd	0.23945	nd	0.2508	nd	0.24667		0.2527		0.2527		0.2527		0.2527		0.2527		0.2527	
22	Lead	nd	0.0019	nd	0.0023	nd	0.0017	nd	0.0021		0.0020		0.0020		0.0020		0.0020		0.0020		0.0020	
23	Mercury	nd	0.0004	nd	0.0005	nd	0.0006	nd	0.0004		0.0005		0.0005		0.0005		0.0005		0.0005		0.0005	
24	Silver	nd	0.0055	nd	0.0058	nd	0.0059	nd	0.0054		0.0057		0.0057		0.0057		0.0057		0.0057		0.0057	
25	Thallium	nd	0.005	nd	0.0049	nd	0.0049	nd	0.0048		0.0049		0.0049		0.0049		0.0049		0.0049		0.0049	
26																						
27	Stack Gas Flowrate		8413		8413		8413		8413		8413		8413		8413		8413		8413		8413	
28	O2		4.8		4.8		4.8		4.8		4.80		4.80		4.80		4.80		4.80		4.80	
29																						
30	Thermal Feedrate												38.9		39.7		39.6		38.9		39.3	
31	Estimated Firing Rate																					43.3
32																						
33	<i>Feedrate MTEC Calculatio</i>																					
34	Chromium (Hex)		15.1		15.1		15.1		15.1		15.12		15.12		15.12		15.12		15.12		15.12	
35	Ash	100	86.7	100	84.6	100	86.7	100	88.3	100	86.56	57	151.6	67	126.3	54	159.7	58	152.6	59	147.6	
36	Chlorine		28638.1		19973.9		28132.3		25423.9		25542.04	0	48495.2	0	75902.7	0	55135.2	0	53101.9	0	58158.7	
37	Antimony	100	0.3	100	0.3	100	0.3	100	0.3	100	0.30	100	14.8	100	15.7	100	15.7	100	14.2	100	15.1	
38	Arsenic	100	0.9	100	0.6	100	0.6	100	0.6	100	0.69	99	5.2	100	4.9	100	4.9	99	4.9	99	5.0	
39	Barium	100	0.5	100	0.1	100	0.1	100	0.1	100	0.21	100	11.6	100	6.4	100	6.4	100	7.8	100	8.0	
40	Beryllium	100	0.0	100	0.0	100	0.0	100	0.0	100	0.02	100	0.8	100	1.3	100	1.3	100	1.2	100	1.1	
41	Cadmium	100	0.2	100	0.1	100	0.1	100	0.1	100	0.15	7	3.2	100	3.2	100	3.2	100	3.2	77	3.2	
42	Chromium	100	16.6	100	14.5	100	15.2	100	14.9	100	15.28	48	34.7	44	32.9	45	33.6	45	33.0	46	33.5	
43	Lead	100	0.1	100	0.1	100	0.1	100	0.1	100	0.12	100	4.3	100	4.4	100	4.3	100	4.3	100	4.4	
44	Mercury	100	0.0	100	0.0	100	0.0	100	0.0	100	0.03	100	1.3	100	1.6	100	3.8	100	1.2	100	2.0	
45	Silver	100	0.3	100	0.4	100	0.4	100	0.3	100	0.34	100	16.6	100	16.9	100	17.5	100	17.8	100	17.2	
46	Thallium	100	0.3	100	0.3	100	0.3	100	0.3	100	0.30	100	14.7	100	15.6	100	15.6	100	14.1	100	15.0	
47																						
48	SVM	100	0.3	100	0.3	100	0.2	100	0.3	100	0.27	60	7.6	100	7.7	100	7.6	100	7.5	90	7.6	
49	LVM	100	17.5	100	15.1	100	15.8	100	15.6	100	16.00	55	40.6	53	39.1	54	39.8	54	39.1	54	39.6	
50																						
51																						
52	737C3		R3		Cond Avg		R1		R2		R3		Cond Avg									
53																						
54	Feedstream Number		F3		F3		F4		F4		F4		F4		F4		F4		F4		F4	
55	Feed Class		Spike		Spike		Total		Total		Total		Total		Total		Total		Total		Total	
56	Feed Class 2		Spike		Spike		Total		Total		Total		Total		Total		Total		Total		Total	
57	Feedstream Description		Spike		Spike		Total		Total		Total		Total		Total		Total		Total		Total	
58	Feed Rate																					

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
59	Density		g/ml		0.987		0.988		0.989		0.988												
60	Heat Content		Btu/lb		15180		15375		15288		15288		21214		21214		21214		21214				
61	Ash		g/hr		1957.2		413.5		411.1		927.3										2082.2		2147.2
62	Chlorine		g/hr	nd	20.6	nd	20.67	nd	20.56		20.61									nd	0.22	nd	0.14
63	Antimony		g/hr	nd	0.21	nd	0.21	nd	0.21		0.21									nd	0.0003	nd	0.0011
64	Arsenic		g/hr	nd	0.21	nd	0.21	nd	0.21		0.21									nd	0.0016	nd	0.0011
65	Barium		g/hr	nd	0.067	nd	0.084	nd	0.042		0.064									nd	0.004		0.0045
66	Beryllium		g/hr	nd	0.1	nd	0.1	nd	0.1		0.1									nd	0.0011	nd	0.0011
67	Cadmium		g/hr	nd	0.103	nd	0.014	nd	0.011		0.043									nd	0.0007	nd	0.0011
68	Chromium		g/hr		0.94		1.14		0.97		1.01										0.0021		0.0031
69	Lead		g/hr	nd	0.025	nd	0.042	nd	0.042		0.036									nd	0.0008	nd	0.0005
70	Mercury		g/hr		0.06		0.054		0.06		0.058									nd	0.0004	nd	0.0004
71	Silver		g/hr	nd	0.1	nd	0.1	nd	0.1		0.1									nd	0.0011	nd	0.0011
72	Thallium		g/hr	nd	0.1	nd	0.1	nd	0.1		0.1									nd	0.0011	nd	0.0011
73																							
74	Stack Gas Flowrate		dscfm		7509		7711		7578		7599.3		7509		7711		7578		7599.3		7509		7711
75	O2		%		4.2		4.8		4.8		4.6		4.2		4.8		4.8		4.6		4.2		4.8
76																							
77	Thermal Feedrate		MMBtu/hr		34.2		33.8		34.4		34.2		4.5		4.8		4.8		4.7				
78	Estimated Firing Rate		MMBtu/hr																				
79																							
80	<i>Feedrate MTEC Calculations</i>																						
81	Ash		mg/dscm		127.9		27.3		27.6		60.9										137.4		144.2
82	Chlorine		ug/dscm	100	1346.4	100	1364.3	100	1380.8	100	1363.8									100	14.4	100	9.2
83	Antimony		ug/dscm	100	13.7	100	13.9	100	14.1	100	13.9									100	0.0	100	0.1
84	Arsenic		ug/dscm	100	13.7	100	13.9	100	14.1	100	13.9									100	0.1	100	0.1
85	Barium		ug/dscm	100	4.4	100	5.5	100	2.8	100	4.2										0.3		0.3
86	Beryllium		ug/dscm	100	6.5	100	6.6	100	6.7	100	6.6									100	0.1	100	0.1
87	Cadmium		ug/dscm	100	6.7	100	0.9	100	0.7	100	2.8									100	0.0	100	0.1
88	Chromium		ug/dscm		61.4		75.2		65.1		67.3										0.1		0.2
89	Lead		ug/dscm	100	1.6	100	2.8	100	2.8	100	2.4									100	0.1	100	0.0
90	Mercury		ug/dscm		3.9		3.6		4.0		3.8									100	0.0	100	0.0
91	Silver		ug/dscm	100	6.5	100	6.6	100	6.7	100	6.6									100	0.1	100	0.1
92	Thallium		ug/dscm	100	6.5	100	6.6	100	6.7	100	6.6									100	0.1	100	0.1
93																							
94	SVM		ug/dscm	100	8.4	100	3.7	100	3.6	100	5.2									100	0.1	100	0.1
95	LVM		ug/dscm	25	81.7	21	95.7	24	86.0	23	87.8									56	0.3	42	0.4
96																							
97																							
98																							
99																							
100	737C4	Trial burn			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2
101																							
102	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2		F3		F3
103	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		NG		NG		NG		NG		Total		Total
104	Feed Class 2				HW		HW		HW		HW		MF		MF		MF		MF		Total		Total
105	Feedstream Description				Waste		Waste		Waste		Waste		City gas		City gas		City gas		City gas		Total		Total
106	Feed Rate		lb/hr		272.6		383.9		370.4		342		250.5		335.3		341.4		309				
107	Density		g/ml		0.9894		0.989		0.9895		0.9893												
108	Heat Content		Btu/lb		15250		15297		15263		15270		21214		21214		21214		21214				
109																							
110	Stack Gas Flowrate		dscfm		2454		3641		3426		3174												
111	O2		%		7.8		6.6		6.2		6.87												
112																							
113	Thermal Feedrate		MMBtu/hr		4.2		5.9		5.7		5.2		5.3		7.1		7.2		6.6		9.5		13.0
114	Estimated Firing Rate		MMBtu/hr																		10.3		16.6
115																							
116																							

	B	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS
59	Density																					
60	Heat Content				4.67																	
61	Ash		2122.7		2117.3667																	
62	Chlorine	nd	0.22		0.1933333																	
63	Antimony	nd	0.0013		0.0009																	
64	Arsenic	nd	0.0011		0.0012667																	
65	Barium		0.0044		0.0043																	
66	Beryllium	nd	0.0011		0.0011																	
67	Cadmium	nd	0.002		0.0012667																	
68	Chromium		0.003		0.0027333																	
69	Lead	nd	0.0009		0.0007333																	
70	Mercury	nd	0.0004		0.0004																	
71	Silver	nd	0.0011		0.0011																	
72	Thallium	nd	0.0011		0.0011																	
73																						
74	Stack Gas Flowrate		7578		7599.3																	
75	O2		4.8		4.6																	
76																						
77	Thermal Feedrate						38.8		38.6		39.2									38.8		
78	Estimated Firing Rate																				39.6	
79																						
80	<i>Feedrate MTEC Calculatio</i>																					
81	Ash		140.4		140.7	0	265.4	0	171.5	0	168.0	0	201.6									
82	Chlorine	100	14.8	100	12.8	100	1360.8	100	1373.5	100	1395.6	100	1376.6									
83	Antimony	100	0.1	100	0.1	100	13.7	100	13.9	100	14.2	100	14.0									
84	Arsenic	100	0.1	100	0.1	100	13.8	100	13.9	100	14.2	100	14.0									
85	Barium		0.3		0.3	94	4.6	95	5.8	91	3.1	94	4.5									
86	Beryllium	100	0.1	100	0.1	100	6.6	100	6.7	100	6.8	100	6.7									
87	Cadmium	100	0.1	100	0.1	100	6.8	100	1.0	100	0.9	100	2.9									
88	Chromium		0.2		0.2	0	61.6	0	75.5	0	65.3	0	67.5									
89	Lead	100	0.1	100	0.0	100	1.7	100	2.8	100	2.9	100	2.5									
90	Mercury	100	0.0	100	0.0	1	3.9	1	3.6	1	4.1	1	3.9									
91	Silver	100	0.1	100	0.1	100	6.6	100	6.7	100	6.8	100	6.7									
92	Thallium	100	0.1	100	0.1	100	6.6	100	6.7	100	6.8	100	6.7									
93																						
94	SVM	100	0.2	100	0.1		8.5		3.8		3.8		5.3									
95	LVM	42	0.3	46	0.3		82.0		96.1		86.3		88.1									
96																						
97																						
98																						
99																						
100	737C4		R3		Cond Avg																	
101																						
102	Feedstream Number		F3		F3																	
103	Feed Class		Total		Total																	
104	Feed Class 2		Total		Total																	
105	Feedstream Description		Total		Total																	
106	Feed Rate																					
107	Density																					
108	Heat Content																					
109																						
110	Stack Gas Flowrate																					
111	O2																					
112																						
113	Thermal Feedrate		12.9		11.8																	
114	Estimated Firing Rate		16.1		14.2																	
115																						
116																						

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
117	737C5	Trial burn			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg				
118																							
119	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2				
120	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		NG		NG		NG		NG				
121	Feed Class 2				HW		HW		HW		HW		MF		MF		MF		MF				
122	Feedstream Description				Waste		Waste		Waste		Waste		City gas		City gas		City gas		City gas				
123	Feed Rate		lb/hr		720.9		720.9		720.9		720.9		274.6		274.6		274.6		274.6				
124																							
125																							
126																							
127																							
128	BIF Tier I Feedrate Limits																						
129																							
130	Antimony		g/hr										344										
131	Arsenic		g/hr										2.63										
132	Barium		g/hr										57245										
133	Beryllium		g/hr										4.81										
134	Cadmium		g/hr										6.41										
135	Chromium		g/hr										0.95										
136	Lead		g/hr										103										
137	Mercury		g/hr										344										
138	Silver		g/hr										3435										
139	Thallium		g/hr										572										
140	Chlorine		g/hr										5000										

	B	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS
117	737C5																					
118																						
119	Feedstream Number																					
120	Feed Class																					
121	Feed Class 2																					
122	Feedstream Description																					
123	Feed Rate																					
124																						
125																						
126																						
127																						
128	BIF Tier I Feedrate Limit																					
129																						
130	Antimony																					
131	Arsenic																					
132	Barium																					
133	Beryllium																					
134	Cadmium																					
135	Chromium																					
136	Lead																					
137	Mercury																					
138	Silver																					
139	Thallium																					
140	Chlorine																					

	A	B	C
1	Process Information		
2			
3		Units	Cond
4			Avg
5			
6	737C1		
7			
8	Chamber Temp	°F	1714.4
9	Steam Production Rate	klb/hr	33.1
10			
11	737C2		
12			
13	Chamber Temp	°F	1196.8
14	Steam Production Rate	klb/hr	8.09
15			
16	737C3		
17			
18	Combustion Temp	°F	1827.3
19	Steam Production Rate	klb/hr	31.79
20			
21	737C4		
22			
23	Combustion Temp	°F	1419
24	Steam Production Rate	klb/hr	10.47
25			
26	737C5		
27			
28	Combustion Temp	°F	1535.3
29	Steam Production Rate	klb/hr	13.83

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: Reily Industries, Inc., Indianapolis, IN																
4	Condition ID: 737C3																
5	Condition/Test Date: Trial burn/CoC, high feed rate, max steam prod, October 26-28, 1999																
6																	
7																	
8		I-TEF	Run 1				Run 2				Run 3						
9		Wght Fact	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ			
10			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			
11	Detected in stack gas (ng/dscm)																
12	2,3,7,8-TCDD	1	nd	3.88E-03	3.88E-03	1.94E-03	1.94E-03	nd	4.25E-03	4.25E-03	2.13E-03	2.13E-03	nd	4.05E-03	4.05E-03	2.03E-03	2.03E-03
13	1,2,3,7,8-PCDD	0.5	nd	5.32E-03	2.66E-03	2.66E-03	1.33E-03	nd	5.14E-03	2.57E-03	2.57E-03	1.29E-03	nd	5.58E-03	2.79E-03	2.79E-03	1.40E-03
14	1,2,3,4,7,8-HxCDD	0.1	nd	9.38E-03	9.38E-04	4.69E-03	4.69E-04	nd	8.82E-03	8.82E-04	4.41E-03	4.41E-04	nd	7.83E-03	7.83E-04	3.92E-03	3.92E-04
15	1,2,3,6,7,8-HxCDD	0.1	nd	8.87E-03	8.87E-04	4.44E-03	4.44E-04	nd	8.56E-03	8.56E-04	4.28E-03	4.28E-04	nd	7.56E-03	7.56E-04	3.78E-03	3.78E-04
16	1,2,3,7,8,9-HxCDD	0.1	nd	8.37E-03	8.37E-04	4.19E-03	4.19E-04	nd	8.04E-03	8.04E-04	4.02E-03	4.02E-04	nd	7.13E-03	7.13E-04	3.57E-03	3.57E-04
17	1,2,3,4,6,7,8-HpCDD	0.01	nd	7.61E-03	7.61E-05	3.81E-03	3.81E-05	nd	1.06E-02	1.06E-04	5.30E-03	5.30E-05	nd	8.91E-03	8.91E-05	4.46E-03	4.46E-05
18	OCDD	0.001	nd	2.21E-02	2.21E-05	1.11E-02	1.11E-05	nd	2.70E-02	2.70E-05	1.35E-02	1.35E-05	nd	1.51E-02	1.51E-05	7.55E-03	7.55E-06
19	2,3,7,8-TCDF	0.1	nd	3.78E-03	3.78E-04	1.89E-03	1.89E-04	nd	4.12E-03	4.12E-04	2.06E-03	2.06E-04	nd	4.97E-03	4.97E-04	2.49E-03	2.49E-04
20	1,2,3,7,8-PCDF	0.05	nd	1.12E-02	5.58E-04	5.58E-03	2.79E-04	nd	9.60E-03	4.80E-04	4.80E-03	2.40E-04	nd	1.03E-02	5.13E-04	5.13E-03	2.57E-04
21	2,3,4,7,8-PCDF	0.5	nd	1.17E-02	5.83E-03	5.83E-03	2.92E-03	nd	9.86E-03	4.93E-03	4.93E-03	2.47E-03	nd	1.05E-02	5.27E-03	5.27E-03	2.64E-03
22	1,2,3,4,7,8-HxCDF	0.1	nd	7.05E-03	7.05E-04	3.53E-03	3.53E-04	nd	5.99E-03	5.99E-04	3.00E-03	3.00E-04	nd	5.59E-03	5.59E-04	2.80E-03	2.80E-04
23	1,2,3,6,7,8-HxCDF	0.1	nd	5.50E-03	5.50E-04	2.75E-03	2.75E-04	nd	4.77E-03	4.77E-04	2.39E-03	2.39E-04	nd	4.54E-03	4.54E-04	2.27E-03	2.27E-04
24	2,3,4,6,7,8-HxCDF	0.1	nd	5.48E-03	5.48E-04	2.74E-03	2.74E-04	nd	4.49E-03	4.49E-04	2.25E-03	2.25E-04	nd	4.46E-03	4.46E-04	2.23E-03	2.23E-04
25	1,2,3,7,8,9-HxCDF	0.1	nd	7.86E-03	7.86E-04	3.93E-03	3.93E-04	nd	6.87E-03	6.87E-04	3.44E-03	3.44E-04	nd	6.48E-03	6.48E-04	3.24E-03	3.24E-04
26	1,2,3,4,6,7,8-HpCDF	0.01	nd	9.13E-03	9.13E-05	4.57E-03	4.57E-05	nd	7.44E-03	7.44E-05	3.72E-03	3.72E-05	nd	4.70E-03	4.70E-05	2.35E-03	2.35E-05
27	1,2,3,4,7,8,9-HpCDF	0.01	nd	1.01E-02	1.01E-04	5.05E-03	5.05E-05	nd	8.19E-03	8.19E-05	4.10E-03	4.10E-05	nd	5.13E-03	5.13E-05	2.57E-03	2.57E-05
28	OCDF	0.001	nd	1.65E-02	1.65E-05	8.25E-03	8.25E-06	nd	1.50E-02	1.50E-05	7.50E-03	7.50E-06	nd	1.70E-02	1.70E-05	8.50E-03	8.50E-06
29	PCDD/PCDF (ng/dscm @ 7%	100			0.0189		0.0094	100		0.0177		0.0089	100		0.0177		0.0088
30																	
31	TEQ Cond Avg	0.0090															

PCDD/PCDF

N

Facility Name and ID: Reily Industries, Inc., Indianapolis, IN

Condition ID: 737C4

Condition/Test Date: Trial burn/CoC, min comb temp, min steam prod rate, November 2-3, 5, 1999

	I-TEF	Wght	Fact	Run 1				Run 2				Run 3					
				Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ		
				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		
Detected in sample volume (ng/dscm)																	
2,3,7,8-TCDD	1	nd		1.75E-03	1.75E-03	8.75E-04	8.75E-04	nd	1.48E-03	1.48E-03	7.40E-04	7.40E-04	nd	1.44E-03	1.44E-03	7.20E-04	7.20E-04
1,2,3,7,8-PCDD	0.5	nd		3.02E-03	1.51E-03	1.51E-03	7.55E-04	nd	1.21E-03	6.05E-04	6.05E-04	3.03E-04	nd	1.33E-03	6.63E-04	6.63E-04	3.32E-04
1,2,3,4,7,8-HxCDD	0.1	nd		1.37E-03	1.37E-04	6.85E-04	6.85E-05	nd	8.22E-04	8.22E-05	4.11E-04	4.11E-05	nd	1.75E-03	1.75E-04	8.75E-04	8.75E-05
1,2,3,6,7,8-HxCDD	0.1	nd		1.30E-03	1.30E-04	6.50E-04	6.50E-05	nd	7.99E-04	7.99E-05	4.00E-04	4.00E-05	nd	1.70E-03	1.70E-04	8.50E-04	8.50E-05
1,2,3,7,8,9-HxCDD	0.1	nd		1.27E-03	1.27E-04	6.35E-04	6.35E-05	nd	7.54E-04	7.54E-05	3.77E-04	3.77E-05	nd	1.61E-03	1.61E-04	8.05E-04	8.05E-05
1,2,3,4,6,7,8-HpCDD	0.01	nd		3.69E-03	3.69E-05	1.85E-03	1.85E-05	nd	1.80E-03	1.80E-05	9.00E-04	9.00E-06	nd	3.72E-03	3.72E-05	1.86E-03	1.86E-05
OCDD	0.001			8.58E-03	8.58E-06	8.58E-03	8.58E-06		6.85E-03	6.85E-06	6.85E-03	6.85E-06	nd	8.61E-03	8.61E-06	4.31E-03	4.31E-06
2,3,7,8-TCDF	0.1	nd		1.56E-03	1.56E-04	7.80E-04	7.80E-05	nd	6.39E-04	6.39E-05	3.20E-04	3.20E-05	nd	8.89E-04	8.89E-05	8.89E-04	8.89E-05
1,2,3,7,8-PCDF	0.05	nd		1.21E-03	6.04E-05	6.04E-04	3.02E-05	nd	9.14E-04	4.57E-05	4.57E-04	2.29E-05	nd	1.07E-03	5.35E-05	5.35E-04	2.68E-05
2,3,4,7,8-PCDF	0.5	nd		1.24E-03	6.20E-04	6.20E-04	3.10E-04	nd	9.36E-04	4.68E-04	4.68E-04	2.34E-04	nd	1.09E-03	5.47E-04	5.47E-04	2.74E-04
1,2,3,4,7,8-HxCDF	0.1	nd		1.35E-03	1.35E-04	6.75E-04	6.75E-05	nd	1.05E-03	1.05E-04	5.25E-04	5.25E-05	nd	1.23E-03	1.23E-04	6.15E-04	6.15E-05
1,2,3,6,7,8-HxCDF	0.1	nd		1.07E-03	1.07E-04	5.35E-04	5.35E-05	nd	8.50E-04	8.50E-05	4.25E-04	4.25E-05	nd	1.00E-03	1.00E-04	5.00E-04	5.00E-05
2,3,4,6,7,8-HxCDF	0.1	nd		1.03E-03	1.03E-04	5.15E-04	5.15E-05	nd	8.22E-04	8.22E-05	4.11E-04	4.11E-05	nd	9.54E-04	9.54E-05	4.77E-04	4.77E-05
1,2,3,7,8,9-HxCDF	0.1	nd		1.55E-03	1.55E-04	7.75E-04	7.75E-05	nd	1.23E-03	1.23E-04	6.15E-04	6.15E-05	nd	1.47E-03	1.47E-04	7.35E-04	7.35E-05
1,2,3,4,6,7,8-HpCDF	0.01	nd		1.46E-03	1.46E-05	7.30E-04	7.30E-06	nd	3.54E-03	3.54E-05	1.77E-03	1.77E-05	nd	1.14E-03	1.14E-05	5.70E-04	5.70E-06
1,2,3,4,7,8,9-HpCDF	0.01	nd		1.65E-03	1.65E-05	8.25E-04	8.25E-06	nd	1.14E-03	1.14E-05	5.70E-04	5.70E-06	nd	1.23E-03	1.23E-05	6.15E-04	6.15E-06
OCDF	0.001	nd		3.27E-03	3.27E-06	1.64E-03	1.64E-06	nd	4.80E-03	4.80E-06	2.40E-03	2.40E-06	nd	4.63E-03	4.63E-06	2.32E-03	2.32E-06
PCDD/PCDF (ng/dscm @ 7% O2)		99.8			0.0051		0.0025	99.8		0.0034		0.0017	97.7		0.0038		0.0020
TEQ Cond Avg		0.0021															