

US EPA ARCHIVE DOCUMENT

	B	C
1	<b>Source Description</b>	
2		
3	Phase II ID No.	735
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 70K
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	Watertube boiler, manufactured by Murray Iron Works Company, Model No. MCF4-64; thermal input capacity of 91.8 MMBtu/hr; steam production rate of 70000 lb/hr @ 300 psig
15	Capacity (MMBtu/hr)	91.8
16	Soot Blowing	Yes -- 4 times/day, 5 minutes/event (Run 1 in 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)	75.96
27	Gas Velocity (ft/sec)	44.70
28	Gas Temperature (°F)	615.00
29		
30	Permitting Status	Adjusted Tier I metals except Cr (+6)
	HWC Burn Status (Date if	
31	Terminated)	

	B	C
1	<b>Cond Description</b>	
2		
3	<b>735C1</b>	
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 21, 1996
9	Cond Dates	Jun-96
10	Cond. Description	CoC; max waste feed
11	Content	PM, CO, Cr (+6), HCl/Cl2
12		
13	<b>735C2</b>	
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 21-22, 1996
19	Cond Dates	Jun-96
20	Cond. Description	CoC; min comb chamber temp
21	Content	CO
22		
23	<b>735C3</b>	
24		
25	Report Name/Date	Trial Burn Report for Boiler 70K, February 3, 2000
26	Report Prepare	Compliance Strategies & Solutions, Inc.
27	Testing Firm	METCO Environmental (Stack sampling), B3 Systems, Inc (Feed spiking)
28	Testing Dates	October 21-23, 1999
29	Cond Dates	Oct-99
30	Cond Description	Trial burn; max waste feedrates
31	Content	PM, CO, HCl/Cl2, PCDD/PCDF emissions; metals/chlorine in feedstreams
32		
33	<b>735C4</b>	
34		
35	Report Name/Date	Trial Burn Report for Boiler 70K, February 3, 2000
36	Report Prepare	Compliance Strategies & Solutions, Inc.
37	Testing Firm	METCO Environmental (Stack sampling), B3 Systems, Inc (Feed spiking)
38	Testing Dates	October 19-20, 1999
39	Cond Dates	Oct-99
40	Cond Description	Trial burn; min comb temp and DRE
41	Content	DRE, CO, PCDD/PCDF, organics
42		
43	<b>735C5</b>	
44		
45	Report Name/Date	Trial Burn Report for Boiler 70K, February 3, 2000
46	Report Prepare	Compliance Strategies & Solutions, Inc.
47	Testing Firm	METCO Environmental (Stack sampling), B3 Systems, Inc (Feed spiking)
48	Testing Dates	November 4, 1999
49	Cond Dates	Nov-99
50	Cond Description	Trial burn; DRE test
51	Content	DRE, CO
52		
53	<b>735C6</b>	
54		
55	Report Name/Date	Mini Burn Test Report for Boiler 70K, July 10, 2000
56	Report Prepare	Compliance Strategies & Solutions, Inc.
57	Testing Firm	METCO Environmental (Stack sampling), B3 Systems, Inc (Feed spiking)
58	Testing Dates	May 23, 2000

	B	C
59	Cond Dates	May-00
60	Cond Description	Mini-burn, max waste feedrate
61	Content	Cr+6, CO
62		
63	<b>735C7</b>	
64		
65	Report Name/Date	Trial Burn Retest Report for Boiler 70K, July 10, 2000
66	Report Prepare	Compliance Strategies & Solutions, Inc.
	Testing Firm	METCO Environmental (Stack sampling), B3 Systems, Inc (Feed spiking)
67		
68	Testing Dates	May 23, 2000
69	Cond Dates	May-00
70	Cond Description	Trial burn retest, min comb cham temp, min prod rate
71	Content	DRE

	B	C	D	E	F	G	H	I	J	K	L	M
1	<b>Stack Gas Emissions</b>											
2												
3												
4		Comments	Units	7% O2								
5						soot blow						
6	<b>735C1</b>					R1	R2	R3		Cond Avg		
7												
8	PM	E1	gr/dscf	y		0.0804	0.0328	0.0327		0.0493		
9	CO (MHRA)	E1	ppmv	y		25.05	28.86	54.39		36.1		
10	CO (RA)	E1	ppmv	y		19.01	26.85	49.88		31.9		
11	Chromium (Hex)		g/hr			0.4536	0.4536	0.4536		0.4536		
12	HCl		g/hr			3051	3320	3437		3265.0		
13	Cl2		g/hr			0.454	0.454	0.454		0.5		
14												
15	Sampling Train	PM, HCl/Cl2	E1									
16	Stack Gas Flowrate		dscfm			12874	12874	12874		12874		
17	O2		%			2.25	2.25	2.25		2.25		
18	Moisture		%									
19	Temperature		°F									
20												
21	Chromium (Hex)	E1	µg/dscm			15.5	15.5	15.5		15.5		
22												
23	HCl	E1	ppmv	y		71.9	78.2	81.0		77.0		
24	Cl2	E1	ppmv	y		0.02	0.02	0.02		0.02		
25	Total Chlorine	E1	ppmv	y		71.9	78.3	81.0		77.1		
26												
27												
28	<b>735C2</b>					R1	R2	R3		Cond Avg		
29												
30	CO (RA)	E1	ppmv	y		2.51						
31												
32	Sampling Train	CO	E1									
33	Stack Gas Flowrate		dscfm									
34	O2		%			8.30						
35	Moisture		%									
36	Temperature		°F									
37												
38	<b>735C3</b>					R1	R2	R3		Cond Avg		
39								sootblow				
40	PM	E1	gr/dscf	y		0.0378	0.0282	0.0559		0.0375		
41	CO (MHRA)	E1	ppmv	y		9.88	21.46	20.81		17.38		
42	HCl		lb/hr		nd	0.03	0.03	0.04	nd	0.03		
43	Cl2		lb/hr		nd	0.03	0.03	0.03	nd	0.03		
44	HC (RA)	E2	ppmv		nd	0.1	0.1	0.3		0.17		
45												
46	HCl	E1	ppmv	y	nd	0.32	0.31	0.41	nd	0.35		
47	Cl2	E1	ppmv	y	nd	0.2	0.2	0.2	nd	0.2		
48	Total Chlorine	E1	ppmv	y	nd	0.65	0.63	0.72	nd	0.67		
49	HC (RA)	E1	ppmv	y	nd	0.08	0.08	0.23	nd	0.13		
50												
51												
52	Sampling Train	PM, HCl/Cl2	E1									
53	Stack Gas Flowrate		dscfm			13834	14036	14035		13968.333		
54	O2		%			3.6	3	3		3.2		
55	Moisture		%									
56	Temperature		°F			622	634	632		629.33333		
57												
58	Sampling Train	HC	E2									
59	Stack Gas Flowrate		dscfm			13383	13519	13588		13496.7		
60	O2		%									
61	Moisture		%									
62	Temperature		°F									
63												
64												
65	<b>735C4</b>					R1	R2	R3		Cond Avg		
66												
67	CO (MHRA)	E1	ppmv	y		0.0006	0.0435	0		0.01		

	B	C	D	E	F	G	H	I	J	K	L	M
68	HC (RA)		ppmv		nd	0.1		0.3		0.6		0.33
69												
70	HC (RA)	E2	ppmv	y	nd	0.1		0.31		0.6		0.35
71												
72	POHC DRE	Benzene										
73	POHC Feedrate		g/hr			3189		3476		3254		3306
74	Emissions Rate											
75	DRE		%			99.959		99.962		99.997		
76												
77	Sampling Train	DRE	E1									
78	Stack Gas Flowrate		dscfm									
79	O2		%			8.4		7.3		7.2		7.6
80	Moisture		%									
81	Temperature		°F			385		393		392		390
82												
83	Sampling Train	THC	E2									
84	Stack Gas Flowrate		dscfm			5226		5603		5358		5395.7
85	O2		%									
86	Moisture		%									
87	Temperature		°F									
88												
89												
90	<b>735C5</b>					R1		R2		R3		Cond Avg
91												
92	CO (MHRA)	E1	ppmv	y		0.264		0		0.001		0.09
93												
94	POHC DRE	Benzene										
95	Feedrate		g/hr			3943		3549		3905		
96	Emissions Rate	E1	lb/hr									
97	DRE	E1	%			99.147		99.337		99.465		
98												
99	POHC DRE	Toluene										
100	Feedrate		g/hr			29033		27327		28758		
101	Emissions Rate	E1	lb/hr									
102	DRE	E1	%			99.987		99.994		99.995		
103												
104	Sampling Train	DRE	E1									
105	Stack Gas Flowrate		dscfm			6166		6321		6304		6263.7
106	O2		%			5.7		8.2		6		6.6
107	Moisture		%									
108	Temperature		°F			420		426		430		425.3
109												
110												
111	<b>735C6</b>	mini-burn				R1		R2		soot blow R3		Cond Avg
112												
113	CO (RA)	E1	ppmv	y		22.86				13.22		18.0
114	CO (MHRA)	E1	ppmv	y		28.78				20.84		24.8
115												
116	Chromium (Hex)		ug/dscm	n		80.324				124.735		87.61
117												
118	Sampling Train	Cr+6	E1									
119	Stack Gas Flowrate		dscfm			15621		15521				15571.0
120	O2		%			2.1		2.8				2.5
121	Moisture		%			10.58		9.8				10.2
122	Temperature		°F			603		624				613.5
123												
124	Chromium (Hex)	E1	ug/dscm	y		59.50				83.16		66.12
125												
126												
127	<b>735C7</b>	trial burn retest				R1		R2		R3		Cond Avg
128												
129	CO (RA)	E1	ppmv	y		0		0		0		0
130	Benzene		g/s			1.48E-02		8.45E-03		9.74E-03		
131	Toluene		g/s		nd	1.03E-03	nd	5.67E-04	nd	6.66E-04		
132												
133	POHC DRE	1,2-dichlorobenzene										
134	Feedrate		g/hr			20412		20399		20399		

	B	C	D	E	F	G	H	I	J	K	L	M
135	Emissions Rate	E1	g/s		nd	5.06E-05	nd	5.12E-05	nd	5.00E-05		
136	DRE	E1	%		>	99.99911	>	99.9991	>	99.99912		
137												
138	Sampling Train	DRE	E1									
139	Stack Gas Flowrate		dscfm			12218		11747		11972		11979.0
140	O2		%			6.8		6.9		6.8		6.8
141	Moisture		%			12.37		11.37		12.48		12.1
142	Temperature		°F			501		513		529		514.3

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
1	<b>Feedstreams</b>																						
2																							
3																							
4	<b>735C1</b>				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		NG		NG		NG		NG		Spike		Spike
8	Feed Class 2				HW		HW		HW		HW		MF		MF		MF		MF		Spike		Spike
9	Feedstream Description				Waste Fuel		Waste Fuel		Waste Fuel		Waste Fuel		City Gas		City Gas		City Gas		City Gas		Spike Streams		Spike Strea
10	Feed Rate		lb/hr		3741		3742		3747		3743										1344		
11	Density		g/ml		0.962		0.963		0.963		0.963												
12	Heat Content		Btu/lb		14771		14788		14761		14773										21214		
13	Ash		g/hr		2002.4		2172.6		2481.5		2219											2099.9	1714.7
14	Chlorine		g/hr		729.67		1120.26		679.86		843 nd		0.61 nd		0.61 nd		0.64		0.620		5186.27	4558.2	
15	Antimony		g/hr	nd	0.4073 nd		0.4074 nd		0.4249		0.413 nd		0.0029 nd		0.0029 nd		0.0031		0.003 nd		0.194 nd	0.0178	
16	Arsenic		g/hr	nd	0.1188 nd		0.1188 nd		0.136		0.125		0.0019		0.0019		0.002		0.002 nd		0.0314 nd	0.0279	
17	Barium		g/hr	nd	0.1697 nd		0.1697 nd		0.17		0.170 nd		0.112 nd		0.1122 nd		0.1176		0.114 nd		0.0113 nd	0.0073	
18	Beryllium		g/hr	nd	0.0339 nd		0.0339 nd		0.0340		0.034 nd		0.0003 nd		0.0003 nd		0.0003		0.000 nd		0.0016 nd	0.0015	
19	Cadmium		g/hr	nd	0.0848		0.0849 nd		0.085		0.085 nd		0.0016 nd		0.0016 nd		0.0017		0.002 nd		0.0373 nd	0.0327	
20	Chromium		g/hr		0.50908		0.54316		0.52689		0.526 nd		0.00259 nd		0.0026 nd		0.00272		0.003		2.62989	2.31415	
21	Lead		g/hr	nd	0.1188 nd		0.1188 nd		0.119		0.119 nd		0.0005 nd		0.0005 nd		0.0006		0.001 nd		0.015 nd	0.0124	
22	Mercury		g/hr	nd	0.0407 nd		0.0407		0.051		0.044 nd		0.0006 nd		0.0006 nd		0.0006		0.001 nd		0.0016 nd	0.0017	
23	Silver		g/hr	nd	0.4751		0.6280 nd		0.4589		0.521 nd		0.0016 nd		0.0016 nd		0.0016		0.002 nd		0.0224 nd	0.0207	
24	Thallium		g/hr	nd	0.4073 nd		0.4074 nd		0.4249		0.413 nd		0.0005 nd		0.0005 nd		0.0005		0.001 nd		0.0194 nd	0.0178	
25																							
26	Stack Gas Flowrate		dscfm		12874		12874		12874		12874		12874		12874		12874		12874		12874		12874
27	O2		%		2.25		2.25		2.25		2.25		2.25		2.25		2.25		2.25		2.25		2.25
28																							
29	Thermal Feedrate		MMBtu/hr		55.3		55.3		55.3		55.3										28.5		
30	Estimated Firing Rate		MMBtu/hr																				
31																							
32	<i>Feedrate MTEC Calculations</i>																						
33	Ash		mg/dscm		68.4		74.2		84.8 0		75.8										71.7		58.6
34	Chlorine		ug/dscm		24923.1		38264.4		23221.8 0		28803.1 100		20.8 100		20.8 100		21.9 100		21.2		177145.7		155693.0
35	Antimony		ug/dscm	100	13.9 100		13.9 100		14.5 100		14.1 100		0.1 100		0.1 100		0.1 100		0.1 100		6.6 100		0.6
36	Arsenic		ug/dscm	100	4.1 100		4.1 100		4.6 100		4.3		0.1		0.1		0.1 0		0.1 100		1.1 100		1.0
37	Barium		ug/dscm	100	5.8 100		5.8 100		5.8 100		5.8 100		3.8 100		3.8 100		4.0 100		3.9 100		0.4 100		0.2
38	Beryllium		ug/dscm	100	1.2 100		1.2 100		1.2 100		1.2 100		0.0 100		0.0 100		0.0 100		0.0 100		0.1 100		0.1
39	Cadmium		ug/dscm	100	2.9		2.9 100		2.9 67		2.9 100		0.1 100		0.1 100		0.1 100		0.1 100		1.3 100		1.1
40	Chromium		ug/dscm		17.4		18.6		18.0 0		18.0 100		0.1 100		0.1 100		0.1 100		0.1		89.8		79.0
41	Lead		ug/dscm	100	4.1 100		4.1 100		4.1 100		4.1 100		0.0 100		0.0 100		0.0 100		0.0 100		0.5 100		0.4
42	Mercury		ug/dscm	100	1.4 100		1.4		1.7 61		1.5 100		0.0 100		0.0 100		0.0 100		0.0 100		0.1 100		0.1
43	Silver		ug/dscm	100	16.2		21.5 100		15.7 60		17.8 100		0.1 100		0.1 100		0.1 100		0.1 100		0.8 100		0.7
44	Thallium		ug/dscm	100	13.9 100		13.9 100		14.5 100		14.1 100		0.0 100		0.0 100		0.0 100		0.0 100		0.7 100		0.6
45																							
46	SVM		ug/dscm	100	7.0 58		7.0 100		7.0 86		7.0 100		0.1 100		0.1 100		0.1 100		0.07 100		1.8 100		1.5
47	LVM		ug/dscm	23	22.6 22		23.8 24		23.8 23		23.4 60		0.2 60		0.2 60		0.2 60		0.17 1		91.0 1		80.0
48																							
49																							
50																							
51	<b>735C2</b>																						
52																							
53	nothing available																						
54																							
55																							
56																							
57	<b>735C3</b>				R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2
58																							

	B	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ
1	<b>Feedstreams</b>												
2													
3													
4	<b>735C1</b>		R3		Cond Avg		R1		R2		R3		Cond Avg
5													
6	Feedstream Number		F3		F3		F4		F4		F4		F4
7	Feed Class		Spike		Spike		Total		Total		Total		Total
8	Feed Class 2		Spike		Spike		Total		Total		Total		Total
9	Feedstream Description	ms	Spike Streams		Spike Streams		Total		Total		Total		Total
10	Feed Rate												
11	Density												
12	Heat Content												
13	Ash		2102.2		1972.3								
14	Chlorine		4555.56		4766.7								
15	Antimony	nd	0.0174		0.076								
16	Arsenic	nd	0.0181		0.026								
17	Barium	nd	0.0074		0.009								
18	Beryllium	nd	0.0015		0.002								
19	Cadmium	nd	0.0147		0.028								
20	Chromium		2.33242		2.425								
21	Lead	nd	0.0254		0.018								
22	Mercury	nd	0.0015		0.002								
23	Silver	nd	0.0219		0.022								
24	Thallium	nd	0.0179		0.018								
25													
26	Stack Gas Flowrate		12874		12874								
27	O2		2.25		2.25								
28													
29	Thermal Feedrate						83.8		83.8		83.8		83.8
30	Estimated Firing Rate												76.6
31													
32	<i>Feedrate MTEC Calculations</i>												
33	Ash		71.8 0		67.4 0		140.1 0		132.8 0		156.6 0		143.2
34	Chlorine		155602.8 0		162813.8 0		202089.7 0		193978.1 0		178846.4 0		191638.1
35	Antimony	100	0.6 100		2.6 100		20.6 100		14.6 100		15.2 100		16.8
36	Arsenic	100	0.6 100		0.9 99		5.2 99		5.1 99		5.3 99		5.2
37	Barium	100	0.3 100		0.3 100		10.0 100		9.9 100		10.1 100		10.0
38	Beryllium	100	0.1 100		0.1 100		1.2 100		1.2 100		1.2 100		1.2
39	Cadmium	100	0.5 100		1.0 100		4.2 29		4.1 100		3.5 75		3.9
40	Chromium		79.7 0		82.8 0		107.3 0		97.7 0		97.8 0		100.9
41	Lead	100	0.9 100		0.6 100		4.6 100		4.5 100		5.0 100		4.7
42	Mercury	100	0.1 100		0.1 100		1.5 100		1.5 4		1.8 63		1.58
43	Silver	100	0.7 100		0.7 100		17.0 3		22.2 100		16.5 62		18.6
44	Thallium	100	0.6 100		0.6 100		14.6 100		14.5 100		15.1 100		14.8
45													
46	SVM	100	1.4 100		1.6 100		8.8 66		8.6 100		8.4 89		8.6
47	LVM	1	80.3 1		83.8 6		113.7 6		104.0 6		104.3 6		107.3
48													
49													
50													
51	<b>735C2</b>												
52													
53	nothing available												
54													
55													
56													
57	<b>735C3</b>		R3		Cond Avg		R1		R2		R3		Cond Avg
58													

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	
59	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2		F3		F3	
60	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		NG		NG		NG		NG		Spike		Spike	
61	Feed Class 2				HW		HW		HW		HW		MF		MF		MF		MF		Spike		Spike	
62	Feedstream Description				Waste Fuel		Waste Fuel		Waste Fuel		Waste Fuel		City Gas		City Gas		City Gas		City Gas		Spike		Spike	
63	Feed Rate		lb/hr		3694.8		3716.7		3689.2		3700		1043		1043		1043		1043					
64	Density		g/ml		0.990		0.990		0.990		0.990													
65	Heat Content		Btu/lb		15381		15381		15381		15381		23350		21214		21214		21214					
66	Ash		g/hr	nd	1681.04	nd	1699.14	nd	1680.86		1686.7										3319.95		3203.25	
67	Chlorine		g/hr	nd	156.34	nd	141.03	nd	156.32		151.0									nd	1.53	nd	1.53	
68	Antimony		g/hr	nd	0.34	nd	0.34	nd	0.34		0.34									nd	0.001	nd	0.001	
69	Arsenic		g/hr	nd	0.34	nd	0.34	nd	0.34		0.34									nd	0.002	nd	0.002	
70	Barium		g/hr	nd	0.1	nd	0.11	nd	0.1		0.10										0.006		0.007	
71	Beryllium		g/hr	nd	0.17	nd	0.17	nd	0.17		0.17									nd	0.002	nd	0.002	
72	Cadmium		g/hr	nd	0.17	nd	0.17	nd	0.17		0.17										0.003		0.003	
73	Chromium		g/hr		2.02		1.39		1.51		1.64										0.005		0.005	
74	Lead		g/hr	nd	0.05	nd	0.04	nd	0.05		0.05										0.003		0.003	
75	Mercury		g/hr		0.08	nd	0.07	nd	0.07		0.06									nd	0.0007	nd	0.0001	
76	Silver		g/hr	nd	0.17	nd	0.17	nd	0.17		0.17									nd	0.002	nd	0.002	
77	Thallium		g/hr	nd	0.17	nd	0.17	nd	0.17		0.17									nd	0.002	nd	0.002	
78																								
79	Stack Gas Flowrate		dscfm		13834.0		14036.0		14035.0		13968.3		13834.0		14036.0		14035.0		13968.3		13834.0		14036.0	
80	O2		%		3.60		3.00		3.00		3.20		3.60		3.00		3.00		3.20		3.60		3.00	
81																								
82	Thermal Feedrate		MMBtu/hr		56.8		57.2		56.7		56.9								22.1					
83	Estimated Firing Rate		MMBtu/hr																					
84																								
85																								
86	<i>Feedrate MTEC Calculations</i>																							
87	Ash		mg/dscm	100	57.6	100	55.5	100	54.9	100	56.0										113.7		104.5	
88	Chlorine		ug/dscm	100	5355.0	100	4602.4	100	5101.8	100	5019.7									100	52.4	100	49.9	
89	Antimony		ug/dscm	100	11.6	100	11.1	100	11.1	100	11.3									100	0.03	100	0.03	
90	Arsenic		ug/dscm	100	11.6	100	11.1	100	11.1	100	11.3									100	0.07	100	0.07	
91	Barium		ug/dscm	100	3.4	100	3.6	100	3.3	100	3.4										0.21		0.23	
92	Beryllium		ug/dscm	100	5.8	100	5.5	100	5.5	100	5.6									100	0.07	100	0.07	
93	Cadmium		ug/dscm	100	5.8	100	5.5	100	5.5	100	5.6										0.10		0.10	
94	Chromium		ug/dscm		69.2		45.4		49.3	0	54.6										0.17		0.16	
95	Lead		ug/dscm	100	1.7	100	1.3	100	1.6	100	1.5										0.10		0.10	
96	Mercury		ug/dscm		2.7	100	2.3	100	2.3	63	2.4									100	0.02	100	0.00	
97	Silver		ug/dscm	100	5.8	100	5.5	100	5.5	100	5.6									100	0.07	100	0.07	
98	Thallium		ug/dscm	100	5.8	100	5.5	100	5.5	100	5.6									100	0.07	100	0.07	
99																								
100	SVM		ug/dscm	100	7.5	100	6.9	100	7.2	100	7.2										0	0.2	0	0.2
101	LVM		ug/dscm	20	86.7	27	62.0	25	65.9	24	71.5										44	0.3	44	0.3
102																								
103																								
104																								
105	<b>735C4</b>				R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2	
106																								
107	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2		F3		F3	
108	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		NG		NG		NG		NG		Spike		Spike	
109	Feed Class 2				HW		HW		HW		HW		MF		MF		MF		MF		Spike		Spike	
110	Feedstream Description				Waste Fuel		Waste Fuel		Waste Fuel		Waste Fuel		Natural Gas		Natural Gas		Natural Gas		Natural Gas		Spike		Spike	
111	Feed Rate		lb/hr		580.5		578.7		594.8		584.7		672.7		672.7		672.7		672.7					
112	Density		g/ml		0.962		0.963		0.963		0.963													
113	Heat Content		Btu/lb		14771		14788		14761		14773.3		21214		21214		21214		21214					
114																								
115	O2		%								7.04													
116																								

	B	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ
59	Feedstream Number		F3		F3		F4		F4		F4		F4
60	Feed Class		Spike		Spike		Total		Total		Total		Total
61	Feed Class 2		Spike		Spike		Total		Total		Total		Total
62	Feedstream Description		Spike		Spike		Total		Total		Total		Total
63	Feed Rate						37.1						
64	Density												
65	Heat Content												
66	Ash		3192.55		3238.7								
67	Chlorine	nd	1.52		1.56								
68	Antimony	nd	0.004		0.001								
69	Arsenic	nd	0.002		0.002								
70	Barium		0.007		0.006								
71	Beryllium	nd	0.0002		0.002								
72	Cadmium		0.002		0.003								
73	Chromium		0.006		0.005								
74	Lead		0.002		0.003								
75	Mercury	nd	0.0001		0.0007								
76	Silver	nd	0.002		0.002								
77	Thallium	nd	0.002		0.002								
78													
79	Stack Gas Flowrate		14035.0		13968.3								
80	O2		3.00		3.20								
81													
82	Thermal Feedrate						79.0		79.3		78.9		79.0
83	Estimated Firing Rate												78.9
84													
85													
86	<i>Feedrate MTEC Calculations</i>												
87	Ash		104.2	0	107.5	34	171.3	35	160.0	34	159.1	34	163.4
88	Chlorine	100	49.6	100	50.65	100	5407.5	100	4652.3	100	5151.4	100	5070.4
89	Antimony	100	0.13	100	0.07	100	11.7	100	11.1	100	11.2	100	11.3
90	Arsenic	100	0.07	100	0.07	100	11.7	100	11.2	100	11.2	100	11.3
91	Barium		0.23	0	0.22	94	3.6	94	3.8	93	3.5	94	3.6
92	Beryllium	100	0.01	100	0.05	100	5.9	100	5.6	100	5.6	100	5.7
93	Cadmium		0.07	0	0.09	98	5.9	98	5.6	99	5.6	98	5.7
94	Chromium		0.20	0	0.18	0	69.4	0	45.5	0	49.5	0	54.8
95	Lead		0.07	0	0.09	94	1.8	93	1.4	96	1.7	95	1.6
96	Mercury	100	0.00	100	0.01	1	2.8	100	2.3	100	2.3	63	2.4
97	Silver	100	0.07	100	0.07	100	5.9	100	5.6	100	5.6	100	5.7
98	Thallium	100	0.07	100	0.07	100	5.9	100	5.6	100	5.6	100	5.7
99													
100	SVM	0	0.1	0	0.2	97	7.7	97	7.0	98	7.3	98	7.4
101	LVM	27	0.3	39	0.3	20	87.0	27	62.3	25	66.2	24	71.8
102													
103													
104													
105	<b>735C4</b>		R3		Cond Avg		R1		R2		R3		Cond Avg
106													
107	Feedstream Number		F3		F3		F4		F4		F4		F4
108	Feed Class		Spike		Spike		Total		Total		Total		Total
109	Feed Class 2		Spike		Spike		Total		Total		Total		Total
110	Feedstream Description		Spike		Spike		Total		Total		Total		Total
111	Feed Rate												
112	Density												
113	Heat Content												
114													
115	O2												
116													

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
17	Thermal Feedrate		MMBtu/hr		8.6		8.6		8.8		8.6		14.3		14.3		14.3		14.3				
18																							
19																							
20																							
21	<b>735C5</b>				R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2
22																							
23	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2		F3		F3
24	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		NG		NG		NG		NG		Spike		Spike
25	Feed Class 2				HW		HW		HW		HW		MF		MF		MF		MF		Spike		Spike
26	Feedstream Description				Waste Fuel		Waste Fuel		Waste Fuel		Waste Fuel		Natural Gas		Natural Gas		Natural Gas		Natural Gas		Spike		Spike
27	Feed Rate		lb/hr		790.2		782.4		782.7		785.1		882.6		882.6		882.6		882.6				
28	Density		g/ml		0.990		0.990		0.990		0.990												
29	Heat Content		Btu/lb		15000		15000		15000		15000		21214		21214		21214		21214				
30																							
31	O2		%		5.70		8.20		6.00		6.63												
32	Stack Gas Flowrate		dscfm		6166.00		6321.00		6304.00		6263.67												
33																							
34	Thermal Feedrate		MMBtu/hr		11.9		11.7		11.7		11.8		18.7		18.7		18.7		18.7				
35	Estimated Firing Rate		MMBtu/hr																				
36																							
37																							
38	<b>735C6</b>				R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2
39																							
40	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2		F3		F3
41	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		NG		NG		NG		NG		Spike		Spike
42	Feed Class 2				HW		HW		HW		HW		MF		MF		MF		MF		Spike		Spike
43	Feedstream Description				Waste		Waste		Waste		Waste		City gas		City gas		City gas		City gas		Spike		Spike
44	Feed Rate		lb/hr		3522.8		3522.8		3522.8		3522.8		1103.3		1103.3		1103.3		1103.3				
45	Chromium		g/hr		1.7		1.7		1.7		1.7										7.72		7.72
46																							
47																							
48	Stack Gas Flowrate		dscfm		15621		15521				15571		0		0		15621		15521		15621		15521
49	O2		%		2.1		2.8				2.45		0		0		2.1		2.8		2.1		2.8
50																							
51																							
52	Chromium		ug/dscm		47.5		49.6				48.5										215.6		225.3
53																							
54																							
55																							
56	<b>735C7</b>				R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg				
57																							
58	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2				
59	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		NG		NG		NG		NG				
60	Feed Class 2				HW		HW		HW		HW		MF		MF		MF		MF				
61	Feedstream Description				Waste		Waste		Waste		Waste		City gas		City gas		City gas		City gas				
62	Feedrate		lb/hr		1538.8		1538.8		1538.8		1538.8		1114.4		1114.4		1114.4		1114.4				
63																							
64	<b>BIF Feedrate Limits</b>																						
65																							
66	Antimony		g/hr								1620												
67	Arsenic		g/hr								12.42												
68	Barium		g/hr								270037												
69	Beryllium		g/hr								22.68												
70	Cadmium		g/hr								30.24												
71	Chromium		g/hr								4.48												
72	Lead		g/hr								486												
73	Mercury		g/hr								1620												
74	Silver		g/hr								16202												

	B	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ
117	Thermal Feedrate						17.2		22.8		23.1		22.9
118													
119													
120													
121	<b>735C5</b>		R3		Cond Avg		R1		R2		R3		Cond Avg
122													
123	Feedstream Number		F3		F3		F4		F4		F4		F4
124	Feed Class		Spike		Spike		Total		Total		Total		Total
125	Feed Class 2		Spike		Spike		Total		Total		Total		Total
126	Feedstream Description		Spike		Spike								Total
127	Feed Rate												
128	Density												
129	Heat Content												
130													
131	O2												
132	Stack Gas Flowrate												
133													
134	Thermal Feedrate												30.5
135	Estimated Firing Rate												28.6
136													
137													
138	<b>735C6</b>		R3		Cond Avg		R1		R2		R3		Cond Avg
139													
140	Feedstream Number		F3		F3		F4		F4		F4		F4
141	Feed Class		Spike		Spike		Total		Total		Total		Total
142	Feed Class 2		Spike		Spike		Total		Total		Total		Total
143	Feedstream Description		Spike		Spike		Total		Total		Total		Total
144	Feed Rate												
145	Chromium		7.72		7.72								
146													
147													
148	Stack Gas Flowrate						15571						
149	O2						2.45						
150													
151													
152	Chromium						220.4	263.1	274.9		0.0		269.0
153													
154													
155													
156	<b>735C7</b>												
157													
158	Feedstream Number												
159	Feed Class												
160	Feed Class 2												
161	Feedstream Description												
162	Feedrate												
163													
164	<b>BIF Feedrate Limits</b>												
165													
166	Antimony												
167	Arsenic												
168	Barium												
169	Beryllium												
170	Cadmium												
171	Chromium												
172	Lead												
173	Mercury												
174	Silver												

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
75	Thallium		g/hr								2700												
76	Chlorine		g/hr								40000												

	B	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ
175	Thallium												
176	Chlorine												

	A	B	C
1	<b>Process Information</b>		
2			
3		Units	CondAvg
4			
5	<b>735C1</b>		
6			
7	Chamber Temp	°F	1680.77
8	Steam Production Rate	klb/hr	68.12
9			
10	<b>735C2</b>		
11			
12	Chamber Temp	°F	1065.8
13	Steam Production Rate	klb/hr	15.90
14			
15	<b>735C3</b>		
16			
17	Chamber Temp	°F	1794.4
18	Steam Production Rate	klb/hr	64.8
19			
20	<b>735C4</b>		
21			
22	Chamber Temp	°F	1272.5
23	Steam Production Rate	klb/hr	20.48
24			
25	<b>735C5</b>		
26			
27	Chamber Temp	°F	1427
28	Steam Production Rate	klb/hr	26.99
29			
30	<b>735C6</b>		
31			
32	Chamber Temp	°F	1736
33	Steam Production Rate	klb/hr	65.86
34			
35	<b>735C7</b>		
36			
37	Chamber Temp	°F	1537.1
38	Steam Production Rate	klb/hr	32.43

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:	Reilly Industries, Inc.															
4	Condition ID:	735C3															
5	Condition/Test Date:	October 21-23, 1999															
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	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	Full ND	Full ND
10	Stack Gas Concentration (ng/dscm @ 7% O2)																
11	2,3,7,8-TCDD	1	nd	1.71E-03	1.71E-03	8.55E-04	8.55E-04	nd	2.10E-03	2.10E-03	1.05E-03	1.05E-03	nd	2.27E-03	2.27E-03	1.14E-03	1.14E-03
12	TCDD Total	0															
13	1,2,3,7,8-PCDD	0.5	nd	2.48E-03	1.24E-03	1.24E-03	6.20E-04	nd	2.02E-03	1.01E-03	1.01E-03	5.05E-04	nd	1.48E-03	7.42E-04	7.42E-04	3.71E-04
14	PCDD Total	0															
15	1,2,3,4,7,8-HxCDD	0.1	nd	2.95E-03	2.95E-04	1.48E-03	1.48E-04	nd	3.07E-03	3.07E-04	1.54E-03	1.54E-04	nd	2.25E-03	2.25E-04	1.13E-03	1.13E-04
16	1,2,3,6,7,8-HxCDD	0.1	nd	2.84E-03	2.84E-04	1.42E-03	1.42E-04	nd	2.97E-03	2.97E-04	1.49E-03	1.49E-04	nd	2.16E-03	2.16E-04	1.08E-03	1.08E-04
17	1,2,3,7,8,9-HxCDD	0.1	nd	2.70E-03	2.70E-04	1.35E-03	1.35E-04	nd	2.78E-03	2.78E-04	1.39E-03	1.39E-04	nd	2.05E-03	2.05E-04	1.03E-03	1.03E-04
18	HxCDD Total	0															
19	1,2,3,4,6,7,8-HpCDD	0.01	nd	3.01E-03	3.01E-05	1.51E-03	1.51E-05	nd	3.42E-03	3.42E-05	1.71E-03	1.71E-05	nd	2.93E-03	2.93E-05	1.47E-03	1.47E-05
20	HpCDD Total	0															
21	OCDD	0.001	nd	8.15E-03	8.15E-06	4.08E-03	4.08E-06	nd	1.22E-02	1.22E-05	6.10E-03	6.10E-06	nd	1.05E-02	1.05E-05	5.25E-03	5.25E-06
22	2,3,7,8-TCDF	0.1	nd	2.72E-03	2.72E-04	1.36E-03	1.36E-04	nd	2.58E-03	2.58E-04	1.29E-03	1.29E-04	nd	1.45E-03	1.45E-04	7.25E-04	7.25E-05
23	TCDF Total	0															
24	1,2,3,7,8-PCDF	0.05	nd	3.18E-03	1.59E-04	1.59E-03	7.95E-05	nd	2.66E-03	1.33E-04	1.33E-03	6.65E-05	nd	2.36E-03	1.18E-04	1.18E-03	5.90E-05
25	2,3,4,7,8-PCDF	0.5	nd	3.28E-03	1.64E-03	1.64E-03	8.20E-04	nd	2.72E-03	1.36E-03	1.36E-03	6.80E-04	nd	2.44E-03	1.22E-03	1.22E-03	6.10E-04
26	PCDF Total	0															
27	1,2,3,4,7,8-HxCDF	0.1	nd	1.21E-03	1.21E-04	6.05E-04	6.05E-05	nd	1.85E-03	1.85E-04	9.25E-04	9.25E-05	nd	1.50E-03	1.50E-04	7.50E-04	7.50E-05
28	1,2,3,6,7,8-HxCDF	0.1	nd	9.62E-04	9.62E-05	4.81E-04	4.81E-05	nd	1.46E-03	1.46E-04	7.30E-04	7.30E-05	nd	1.18E-03	1.18E-04	5.90E-04	5.90E-05
29	2,3,4,6,7,8-HxCDF	0.1	nd	9.62E-04	9.62E-05	4.81E-04	4.81E-05	nd	1.42E-03	1.42E-04	7.10E-04	7.10E-05	nd	1.16E-03	1.16E-04	5.80E-04	5.80E-05
30	1,2,3,7,8,9-HxCDF	0.1	nd	1.44E-03	1.44E-04	7.20E-04	7.20E-05	nd	2.16E-03	2.16E-04	1.08E-03	1.08E-04	nd	1.77E-03	1.77E-04	8.85E-04	8.85E-05
31	HxCDF Total	0															
32	1,2,3,4,6,7,8-HpCDF	0.01	nd	1.59E-03	1.59E-05	7.95E-04	7.95E-06	nd	3.38E-03	3.38E-05	1.69E-03	1.69E-05	nd	1.73E-03	1.73E-05	8.65E-04	8.65E-06
33	1,2,3,4,7,8,9-HpCDF	0.01	nd	1.74E-03	1.74E-05	8.70E-04	8.70E-06	nd	1.57E-03	1.57E-05	7.85E-04	7.85E-06	nd	1.92E-03	1.92E-05	9.60E-04	9.60E-06
34	HpCDF Total	0															
35	OCDF	0.001	nd	8.36E-03	8.36E-06	4.18E-03	4.18E-06	nd	1.20E-02	1.20E-05	6.00E-03	6.00E-06	nd	9.95E-03	9.95E-06	4.98E-03	4.98E-06
36																	
37	PCDD/PCDF (ng/dscm @ 7% O2)		100.0		0.0064		0.0032	100.0		0.0065		0.0033	100.0		0.0058		0.0029
38																	
39	TEQ Cond Avg		0.0031														

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: Reilly Ind.																	
4	Condition ID: 735C4																	
5	Condition/Test Date: October 19-20, 1999																	
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	Stack Gas Concentration (ng/dscm @ 7% O2)																	
11	2,3,7,8-TCDD	1	nd	2.21E-03	2.21E-03	1.11E-03	1.11E-03	nd	1.51E-03	1.51E-03	7.55E-04	7.55E-04	nd	2.87E-03	2.87E-03	1.44E-03	1.44E-03	
12	TCDD Total	0																
13	1,2,3,7,8-PCDD	0.5	nd	3.74E-03	1.87E-03	1.87E-03	9.35E-04	nd	2.60E-03	1.30E-03	1.30E-03	6.50E-04	nd	3.16E-03	1.58E-03	1.58E-03	7.90E-04	
14	PCDD Total	0																
15	1,2,3,4,7,8-HxCDD	0.1	nd	3.71E-03	3.71E-04	1.86E-03	1.86E-04	nd	2.09E-03	2.09E-04	1.05E-03	1.05E-04	nd	3.25E-03	3.25E-04	1.63E-03	1.63E-04	
16	1,2,3,6,7,8-HxCDD	0.1	nd	3.62E-03	3.62E-04	1.81E-03	1.81E-04	nd	2.04E-03	2.04E-04	1.02E-03	1.02E-04	nd	3.13E-03	3.13E-04	1.57E-03	1.57E-04	
17	1,2,3,7,8,9-HxCDD	0.1	nd	3.39E-03	3.39E-04	1.70E-03	1.70E-04	nd	1.93E-03	1.93E-04	9.65E-04	9.65E-05	nd	2.93E-03	2.93E-04	1.47E-03	1.47E-04	
18	HxCDD Total	0																
19	1,2,3,4,6,7,8-HpCDD	0.01	nd	9.12E-03	9.12E-05	4.56E-03	4.56E-05	nd	2.88E-03	2.88E-05	1.44E-03	1.44E-05	nd	4.39E-03	4.39E-05	2.20E-03	2.20E-05	
20	HpCDD Total	0																
21	OCDD	0.001		4.01E-02	4.01E-05	4.01E-02	4.01E-05		2.43E-02	2.43E-05	2.43E-02	2.43E-05		2.99E-02	2.99E-05	2.99E-02	2.99E-05	
22	2,3,7,8-TCDF	0.1	nd	2.18E-03	2.18E-04	1.09E-03	1.09E-04	nd	1.34E-03	1.34E-04	6.70E-04	6.70E-05	nd	2.72E-03	2.72E-04	1.36E-03	1.36E-04	
23	TCDF Total	0																
24	1,2,3,7,8-PCDF	0.05	nd	3.42E-03	1.71E-04	1.71E-03	8.55E-05	nd	2.10E-03	1.05E-04	1.05E-03	5.25E-05	nd	2.46E-03	1.23E-04	1.23E-03	6.15E-05	
25	2,3,4,7,8-PCDF	0.5	nd	3.52E-03	1.76E-03	1.76E-03	8.80E-04	nd	2.18E-03	1.09E-03	1.09E-03	5.45E-04	nd	2.54E-03	1.27E-03	1.27E-03	6.35E-04	
26	PCDF Total	0																
27	1,2,3,4,7,8-HxCDF	0.1	nd	2.77E-03	2.77E-04	1.39E-03	1.39E-04	nd	1.34E-03	1.34E-04	6.70E-04	6.70E-05	nd	1.79E-03	1.79E-04	8.95E-04	8.95E-05	
28	1,2,3,6,7,8-HxCDF	0.1	nd	2.21E-03	2.21E-04	1.11E-03	1.11E-04	nd	1.09E-03	1.09E-04	5.45E-04	5.45E-05	nd	1.44E-03	1.44E-04	7.20E-04	7.20E-05	
29	2,3,4,6,7,8-HxCDF	0.1	nd	2.15E-03	2.15E-04	1.08E-03	1.08E-04	nd	1.03E-03	1.03E-04	5.15E-04	5.15E-05	nd	1.41E-03	1.41E-04	7.05E-04	7.05E-05	
30	1,2,3,7,8,9-HxCDF	0.1	nd	3.26E-03	3.26E-04	1.63E-03	1.63E-04	nd	1.56E-03	1.56E-04	7.80E-04	7.80E-05	nd	2.11E-03	2.11E-04	1.06E-03	1.06E-04	
31	HxCDF Total	0																
32	1,2,3,4,6,7,8-HpCDF	0.01	nd	3.13E-03	3.13E-05	1.57E-03	1.57E-05	nd	2.15E-03	2.15E-05	1.08E-03	1.08E-05	nd	1.96E-03	1.96E-05	9.80E-04	9.80E-06	
33	1,2,3,4,7,8,9-HpCDF	0.01	nd	3.49E-03	3.49E-05	1.75E-03	1.75E-05	nd	2.37E-03	2.37E-05	1.19E-03	1.19E-05	nd	2.17E-03	2.17E-05	1.09E-03	1.09E-05	
34	HpCDF Total	0																
35	OCDF	0.001	nd	8.79E-03	8.79E-06	4.40E-03	4.40E-06	nd	6.25E-03	6.25E-06	3.13E-03	3.13E-06	nd	1.23E-02	1.23E-05	6.15E-03	6.15E-06	
36																		
37	PCDD/PCDF (ng/dscm @ 7%	99.5			0.0085			0.0043	99.5			0.0054		0.0027	99.6		0.0078	0.0039
38																		
39	TEQ Cond Avg	0.0036																