

US EPA ARCHIVE DOCUMENT

	B	C
1	Source Description	
2		
3	Phase II ID No.	811
4	EPA ID No.	TXD086981172
5	Facility Name	Fina Oil & Chemical Co.
6	Facility Location	
7	City	La Porte
8	State	TX
9	Unit ID Name/No.	Train A Waste Heat Boiler
10	Other Sister Facilities	Train B Waste Heat Boiler
11	Number of Sister Facilities	1
12	Combustor Class	Liquid-fired boiler
13	Combustor Type	Liquid-fired
14	Combustor Characteristics	Watertube boiler made by John Zink
15	Capacity (MMBtu/hr)	70
16	Soot Blowing	30 minutes/day
17	APCS Detailed Acronym	VS
18	APCS General Class	HEWS
19	APCS Characteristics	Venturi scrubber, variable pressure drop
20	Hazardous Wastes	Liq
21	Haz Waste Description	2 liquid ignitable wastes: atactic, meeting Tier IA for metals, ash, Cl; and catalyst residue for Tier III; also process vent gases
22	Supplemental Fuel	Natural gas
23		
24	Stack Characteristics	
25	Diameter (ft)	4.93
26	Height (ft)	100
27	Gas Velocity (ft/sec)	26.1
28	Gas Temperature (°F)	128
29		
30	Permitting Status	Adjusted Tier I for atactic waste, Tier III for catalyst residue waste; comp fuels for main waste; LRWE for other waste
31	HWC Burn Status (Date if Terminated)	

	B	C
1	Cond Description	
2		
3	811C10	
4		
5	Report Name/Date	Source Emission Survey, Fina Oil, Laporte, TX, File No. 98-203, December 1998
6	Report Prepar	METCO
7	Testing Firm	METCO
8	Testing Dates	December 15, 1998
9	Cond Dates	Dec-98
10	Cond Description	CoC; max feedrate
11	Content	PM, HCl/Cl ₂ , CO; metals, chlorine, and ash in feeds
12		
13	811C11	
14		
15	Report Name/Date	Source Emission Survey, Fina Oil, Laporte, TX, File No. 98-203, December 1998
16	Report Prepar	METCO
17	Testing Firm	METCO
18	Testing Dates	December 16, 1998
19	Cond Dates	Dec-98
20	Cond Description	CoC; min venturi dP
21	Content	PM, HCl/Cl ₂ , CO; metals, chlorine, and ash in feeds

	B	C	D	E	F	G	H	I	J	K	L	M
1	Stack Gas Emissions											
2												
3		Comments	Units	7% O2								
4										soot blow		
5												
6	811C10	max feedrates				R1		R2		R3		Cond Avg
7												
8	PM	E1	gr/dscf	y		0.0146		0.0129		0.0139		0.0138
9	CO (MHRA)	E1	ppmv	y		0.1		0.1		0.1		0.1
10	CO (RA)	E1	ppmv	y		0.1		0.1		0.1		0.1
11	HCl		ppmv	n		1.69		1.64		2.07		1.80
12	Cl2		ppmv	n		0.17		0.2		0.06		0.14
13	Total Chlorine		ppmv	n		2.03		2.04		2.19		2.09
14												
15	Sampling Train	PM, HCl/Cl2	E1									
16	Stack Gas Flowrate		dscfm			22386		21879		22499		22255
17	O2		%			11.2		11.5		11.6		11.4
18	Moisture		%			16.97		17.13		17.65		17.3
19	Temperature		°F			135		135		137		136
20												
21	HCl	E1	ppmv	y		2.41		2.42		3.08		2.64
22	Cl2	E1	ppmv	y		0.59		0.72		0.25		0.52
23	Total Chlorine	E1	ppmv	y		3.60		3.86		3.58		3.68
24												
25										soot blow		
26	811C11	min venturi dP				R1		R2		R3		Cond Avg
27												
28	PM	E1	gr/dscf	y		0.0268		0.0294		0.0494		0.0325
29	CO (MHRA)	E1	ppmv	y		0.2		0.2		0.2		0.2
30	CO (RA)	E1	ppmv	y		0.2		0.2		0.2		0.2
31	HCl		ppmv	n		1.78		1.86		2.17		1.94
32	Cl2		ppmv	n		0.08		0.06		0.07		0.07
33	Total Chlorine		ppmv	n		1.94		1.98		2.31		2.08
34												
35	Sampling Train	PM, HCl/Cl2	E1									
36	Stack Gas Flowrate		dscfm			14027		13822		14258		14036
37	O2		%			14.1		13.6		14		13.9
38	Moisture		%			7.83		8.16		8.26		8.1
39	Temperature		°F			107		109		108		108.0
40												
41	HCl	E1	ppmv	y		3.61		3.52		4.34		3.82
42	Cl2	E1	ppmv	y		0.09		0.07		0.08		0.08
43	Total Chlorine	E1	ppmv	y		3.78		3.65		4.49		3.98

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	Feedstreams																				
2																					
3																					
4	811C10																				
5	Feedstream Number																				
6	Feed Class																				
7	Feed Class 2																				
8	Feedstream Description																				
9	Feed Rate	g/hr																			
10	Thermal Feedrate	MMBtu/hr																			
11	Heating Value	Btu/lb																			
12	Ash	g/hr																			
13	Chlorine	g/hr																			
14	Antimony	g/hr																			
15	Arsenic	g/hr																			
16	Barium	g/hr																			
17	Beryllium	g/hr																			
18	Cadmium	g/hr																			
19	Chromium	g/hr																			
20	Lead	g/hr																			
21	Mercury	g/hr																			
22	Silver	g/hr																			
23	Thallium	g/hr																			
24																					
25	Stack Gas Flowrate	dscfm																			
26	O2	%																			
27																					
28	Estimated Firing Rate	MMBtu/hr																			
29																					
30																					
31	Feedrate MTEC Calculations																				
32	Ash	mg/dscm																			
33	Chlorine	µg/dscm																			
34	Antimony	µg/dscm																			
35	Arsenic	µg/dscm																			
36	Barium	µg/dscm																			
37	Beryllium	µg/dscm																			
38	Cadmium	µg/dscm																			
39	Chromium	µg/dscm																			
40	Lead	µg/dscm																			
41	Mercury	µg/dscm																			
42	Silver	µg/dscm																			
43	Thallium	µg/dscm																			
44																					
45	SVM	µg/dscm																			
46	LVM	µg/dscm																			
47																					
48																					
49	811C11																				
50	Feedstream Number																				
51	Feed Class																				
52	Feed Class 2																				
53	Feedstream Description																				
54	Feed Rate	g/hr																			
55	Thermal Feedrate	MMBtu/hr																			
56	Heating Value	Btu/lb																			
57	Ash	g/hr																			
58																					

	B	W	X	Y	Z	AA	AB
1	Feedstreams						
2							
3							
4	811C10		R2	R3			Cond Avg
5							
6	Feedstream Number		F3	F3			F3
7	Feed Class		Total	Total			Total
8	Feed Class 2		Total	Total			Total
9	Feedstream Description		Total	Total			Total
10	Feed Rate		991780.0	967180.0			976653.3
11	Thermal Feedrate		40.7	39.6			40.0
12	Heating Value						
13	Ash						
14	Chlorine						
15	Antimony						
16	Arsenic						
17	Barium						
18	Beryllium						
19	Cadmium						
20	Chromium						
21	Lead						
22	Mercury						
23	Silver						
24	Thallium						
25							
26	Stack Gas Flowrate		21879.0	22499.0			22254.7
27	O2		11.5	11.6			11.4
28							
29	Estimated Firing Rate						67.6
30							
31	<i>Feedrate MTEC Calculations</i>						
32	Ash		1562.0	1378.2			1495.8
33	Chlorine		632465.1	620799.6			617306.4
34	Antimony		0	51.1		0	73.1
35	Arsenic	100	3.6	100		3.4	68
36	Barium	0	8.6	0		6.1	0
37	Beryllium	0	39.2	0		27.6	0
38	Cadmium	0	3.6	0		3.4	0
39	Chromium	0	9.6	0		8.5	0
40	Lead	100	3.6	100		3.4	100
41	Mercury	0	1.8	0		0.3	0
42	Silver	0	14.6	0		10.6	0
43	Thallium	0	25.3	0		18.7	0
44							
45	SVM	50	7.1	50		6.8	46
46	LVM	7	52	9		39	4
47							
48							
49	811C11		R2	R3			Cond Avg
50							
51	Feedstream Number		F3	F3			F3
52	Feed Class		Total	Total			Total
53	Feed Class 2		Total	Total			Total
54	Feedstream Description		Total	Total			Total
55	Feed Rate		602200.0	591000.0			589100.0
56	Thermal Feedrate		23.6	23.2			23.1
57	(Heating Value)						
58	Ash						

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	
59	Chlorine	g/hr		19		19		17		18.333		15903		15899		16035		15946			
60	Antimony	g/hr		1.42		1.679		1.61		1.570											
61	Arsenic	g/hr	nd	0.046 nd		0.49 nd		0.048 nd		0.195											
62	Barium	g/hr		0.102 nd		0.49		0.173		0.255											
63	Beryllium	g/hr		0.851		0.999		0.99 nd		0.947											
64	Cadmium	g/hr		0.167		0.172		0.173		0.171											
65	Chromium	g/hr		0.259		0.266		0.255		0.260											
66	Lead	g/hr	nd	0.046 nd		0.049 nd		0.048		0.048											
67	Mercury	g/hr		0.028		0.025		0.082		0.045											
68	Silver	g/hr		0.509		0.384		0.361		0.418											
69	Thallium	g/hr	nd	0.046		0.266		0.457		0.256											
70	Stack Gas Flowrate	dscfm		14027		13822		14258		14035.7		14027		13822		14258		14035.7			
71	O2	%		14.1		13.6		14		13.9		14.1		13.6		14		13.9			
72	Estimated Firing Rate	MMBtu/hr																			
73																					
74																					
75																					
76	Feedrate M/TEC Calculations																				
77	Ash	mg/dscm		304		321		365	0	330.1		3091		2925		3001		3005.7		3394.8	
78	Chlorine	µg/dscm		1619		1532		1404	0	1518.2		1354739		1281615		1324655		1320336.1		1356357.2	
79	Antimony	µg/dscm		121		135		133	0	129.8									0	121.0	
80	Arsenic	µg/dscm	100	4	100	39	100	4	100	15.8								100	3.9		
81	Barium	µg/dscm		9	100	39		14	63	20.8								0	8.7		
82	Beryllium	µg/dscm		72		81		82	0	78.3								0	72.5		
83	Cadmium	µg/dscm		14		14		14	0	14.1								0	14.2		
84	Chromium	µg/dscm		22		21		21	0	21.5								0	22.1		
85	Lead	µg/dscm	100	4	100	4	100	4	100	3.9								100	3.9		
86	Mercury	µg/dscm		2		2		7	0	3.7								0	2.4		
87	Silver	µg/dscm		43		31		30	0	34.7								0	43.4		
88	Thallium	µg/dscm	100	4		21		38	6	21.0								100	3.9		
89																					
90	SVM	µg/dscm	22	18.1	22	17.8	22	18.3	22	18.1								22	18.1		
91	LVM	µg/dscm	4	98.5	28	141.5	4	106.8	14	115.6								4	98.5		
92																					
93																					
94																					
95																					
96	BIF Tier IA Feedrate Limits																				
97	Antimony	g/hr								1895.0											
98	Arsenic	g/hr								14.5											
99	Barium	g/hr								316000.0											
100	Beryllium	g/hr								26.5											
101	Cadmium	g/hr								35.4											
102	Chromium	g/hr								5.2											
103	Lead	g/hr								568.0											
104	Mercury	g/hr								1895.0											
105	Silver	g/hr								18950.0											
106	Thallium	g/hr								3158.0											
107	Chlorine	g/hr								46736.0											
108																					

	B	W	X	Y	Z	AA	AB
59	Chlorine						
60	Antimony						
61	Arsenic						
62	Barium						
63	Beryllium						
64	Cadmium						
65	Chromium						
66	Lead						
67	Mercury						
68	Silver						
69	Thallium						
70							14035.7
71	Stack Gas Flowrate						13.9
72	O2						31.6
73							
74	Estimated Firing Rate						
75							
76	Feedrate MTEC Calculations						
77	Ash	3246.6	1283146.5	0	3366.1	0	3335.8
78	Chlorine	0	135.3	0	133.0	0	129.8
79	Antimony	100	39.5	100	4.0	100	15.8
80	Arsenic	100	39.5	0	14.3	63	20.8
81	Barium	0	80.5	0	81.8	0	78.3
82	Beryllium	0	13.9	0	14.3	0	14.1
83	Cadmium	0	21.4	0	21.1	0	21.5
84	Chromium	100	3.9	100	4.0	100	3.9
85	Lead	0	2.0	0	6.8	0	3.7
86	Mercury	0	31.0	0	29.8	0	34.7
87	Silver	0	21.4	0	37.8	6.2	21.0
88	Thallium						
89							
90	SVM	22	17.8	22	18.3	22	18.1
91	LVM	28	141.5	4	106.8	14	115.6
92							
93							
94							
95							
96	BIF Tier IA Feedrate Limits						
97							
98	Antimony						
99	Arsenic						
100	Barium						
101	Beryllium						
102	Cadmium						
103	Chromium						
104	Lead						
105	Mercury						
106	Silver						
107	Thallium						
108	Chlorine						

	A	B	C
1	Process Information		
2		Units	Cond Avg
3			
4	811C10	Max feedrates	
5			
6	Combustion Chamber Temp	°F	1996
7	Steam Production Rate	lb/hr	49424
8	Venturi scrubber		
9	Inlet temp	°F	130
10	Pressure drop	in. H2O	33.1
11	pH		5.2
12	L/G ratio	gal H2O hr/lb HW hr	10
13			
14	811C11	Min Venturi dP	Cond Avg
15			
16	Combustion Chamber Temp	°F	1531
17	Steam Production Rate	lb/hr	18673
18	Venturi Scrubber		
19	Inlet temp	°F	94
20	Pressure drop	in. H2O	15
21	pH		5
22	L/G ratio	gal H2O hr/lb HW hr	17.8