

US EPA ARCHIVE DOCUMENT

	B	C
1	<b>Source Description</b>	
2		
3	Phase II ID No.	724
4	EPA ID No.	TXD008106999
5	Facility Name	Merichem Company
6	Facility Location	
7	City	Houston
8	State	TX
9	Unit ID Name/No.	Boiler No. 4
10	Other Sister Facilities	None
11	Number of Sister Facilities	0
12	Combustor Class	Liquid-fired boiler
13	Combustor Type	Liquid-fired
	Combustor Characteristics	Nebraska Boiler Company (series WTS), 55,000 lb/hr of 240 psig, 68.5 MMBtu/hr; extended fire-box, single North America low NOx burner.
14		
15	Capacity (MMBtu/hr)	68
16	Soot Blowing	?
17	APCS Detailed Acronym	Q/ME
18	APCS General Class	WQ
	APCS Characteristics	Quench, wet scrubber, candlefilter-type mist eliminator (appears wet scrubber not operated during either testing. 5 tray, 2 stage scrubber/adsorber, CECO candlefilter-type mist eliminator
19		
20	Hazardous Wastes	Liq
21	Haz Waste Description	Liquid chemical wastes, residue, liquid waste, nap fuel
22	Supplemental Fuel	Natural gas
23		
24	Stack Characteristics	
25	Diameter (ft)	
26	Height (ft)	
27	Gas velocity (ft/sec)	
28	Gas temperature (°F)	
29		
30	Permitting Status	Tier III - As, Cr, Pb; Tier IA - Sb, Ba, Be, Cd, Hg, Ag, & chlorine
	HWC Burn Status (Date if Terminated)	
31		

	B	C
1	<b>Cond Description</b>	
2		
3	<b>724C1</b>	
4		
5	Report Name/Date	Recertification of Compliance (ReCOC) for Merichem; report provided begins at section 2.0 (no date)
6	Report Prepare	Merichem Company
7	Testing Firm	Focus Environmental, Inc (Ramcon Environmental Corporation)
8	Laboratory	Texas Oiltech Laboratories / Triangle Laboratories
9	Testing Dates	May 22, 1996
10	Cond Dates	May-96
11	Condition Descr	CoC; min combustion temp; Wet Scrubber not used
12	Content	PM, CO
13		
14	<b>724C2</b>	
15		
16	Report Name/Date	Recertification of Compliance (ReCOC) for Merichem; report provided begins at section 2.0 (no date)
17	Report Prepare	Merichem Company
18	Testing Firm (coordinate)	Focus Environmental, Inc (Ramcon Environmental Corporation)
19	Testing Dates	July 16-17, 1996
20	Cond Dates	Jul-96
21	Condition Descr	CoC; max waste feed (spiked ash, chlorine, metals), Wet Scrubber not used
22	Content	PM, HCl/Cl <sub>2</sub> , metals, CO; ash, metals, chlorine in feeds

	B	C	D	E	F	G	H	I	J	K	L	M	N
1	<b>Stack Gas Emissions</b>												
2													
3		Comments	Units	7% O2									
4													
5													
6	<b>724C1</b>					R1		R2		R3		Cond Avg	
7													
8	PM	E1	gr/dscf	y		0.0075		0.0019		0.0049		0.0048	
9	CO (RA)	E1	ppmv	y		36.2		37.1		42.9		38.7	
10													
11	Sampling Train	PM	E1										
12	Stack Gas Flowrate		dscfm			13701		14321		13657		13893	
13	O2		%			5.5		4.8		4.6		5.0	
14	Moisture		%			9.39		8.78		9.44		9.2	
15	Temperature		°F			151		166		184		167.0	
16													
17													
18													
19	<b>724C2</b>					R1		R2		R3		Cond Avg	
20													
21	PM	E1	gr/dscf	y		0.0051		0.0015		0.0031		0.0032	
22	CO (RA)	E1	ppmv	y		10.1		10.2		10.1		10.1	
23	HCl		ppmv	n		13.33		10.29		3.10		8.91	
24	Cl2		ppmv	n		0.03		0.03		0.03		0.03	
25	Arsenic		lb/hr			0.000265		0.000198		0.000198			
26	Chromium		lb/hr			0.002227		0.001653		0.001433			
27	Chromium (Hex)		lb/hr		nd	1.89E-05	nd	2.24E-05	nd	2.11E-05			
28	Lead		lb/hr			0.002094		0.001257		0.001213			
29													
30	Sampling Train	PM, HCl, Cl2	E1										
31	Stack Gas Flowrate		dscfm			13701		14321		13657		13893	
32	O2		%			5.5		4.8		4.6		5.0	
33	Moisture		%			20.7		20.5		19.7		20.3	
34	Temperature		°F			168		169		168		168.3	
35													
36	Sampling Train	Metals	E2										
37	Stack Gas Flowrate		dscfm			13596		13912		13681		13730	
38	O2		%			5.5		4.8		4.6		5.0	
39	Moisture		%			20.1		19.94		18.23		19.4	
40	Temperature		°F			171		170		170		170.3	
41													
42	HCl	E1	ppmv	y		12.0		8.9		2.6		7.9	
43	Cl2	E1	ppmv	y		0.03		0.03		0.03		0.03	
44	Total Chlorine	E2	ppmv	y		12.1		9.0		2.7		7.9	
45	Arsenic	E2	µg/dscm	y		4.7		3.3		3.3		3.8	
46	Chromium	E2	µg/dscm	y		39.6		27.5		23.9		30.3	
47	Chromium (Hex)	E2	µg/dscm	y		0.3		0.4		0.4		0.4	
48	Lead	E2	µg/dscm	y		37.2		20.9		20.2		26.1	
49													
50	SVM	E2	µg/dscm	y		37.2		20.9		20.2		26.1 Pb only	
51	LVM	E2	µg/dscm	y		44.3		30.8		27.2		34.1 No Be	

	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>724C1</b>				R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg									
5																												
6	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2		F2							
7	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		Total		Total		Total		Total		Total							
8	Feed Class 2				HW		HW		HW		HW		Total		Total		Total		Total		Total							
9	Feedstream Description				Waste Res		Waste Res		Waste Res		Waste Res		Total		Total		Total		Total		Total							
10	Feed Rate	lb/hr			1127		1127		1129		1127																	
11	Heating Value	Btu/lb			14975		14789		14818		14861																	
12	Ash	g/hr			220		250		67		180																	
13																												
14	Gas Flowrate	dscfm			13701		14321		13657		13893																	
15	Oxygen	%			6		5		5		5																	
16																												
17	Thermal Feedrate	MMBtu/hr			16.9		16.7		16.7		16.8		16.9		16.7		16.7		16.7		16.8							
18	Estimated Firing Rate	MMBtu/hr											67.4		73.7		71.1		70.7									
19	<i>Feedrate MTEC Calculations</i>																											
20	Ash	mg/dscm			8.5		8.9		2.5		6.7		8.5		8.9		2.5		6.7									
21																												
22																												
23																												
24	<b>724C2</b>				R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg	R1		R2		R3		Cond Avg		
25																												
26	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2		F3		F3		F3		F3	
27	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		Spike		Spike		Spike		Spike		Total		Total		Total		Total	
28	Feed Class 2				HW		HW		HW		HW		Spike		Spike		Spike		Spike		Total		Total		Total		Total	
29	Feedstream Description				Waste Res		Waste Res		Waste Res		Waste Res		Spikes		Spikes		Spikes		Spikes		Total		Total		Total		Total	
30	Feed Rate	lb/hr			3792		3836		3616		3748		80		77		77		78.0									
31	Heating Value	Btu/lb			14767		14818		14784		14790																	
32	Specific Gravity				1.126		1.127		1.127		1																	
33	Ash	g/hr			2530		2770		140		1813		8300.0		8200.0		8300.0		8266.7									
34	Chlorine	g/hr			37.2		37.4		43.4		39.3		3268.0		2855.0		2785.0		2969.3									
35	Antimony	g/hr	nd		1.7	nd	1.7	nd	1.6		1.7																	
36	Arsenic	g/hr			4.7		4.7		5.2		4.9		9.1		9.1		9.1		9.1									
37	Barium	g/hr	nd		1.7	nd	1.7	nd	1.6		1.7																	
38	Beryllium	g/hr	nd		0.1	nd	0.1	nd	0.1		0.1																	
39	Cadmium	g/hr	nd		0.1	nd	0.1	nd	0.1		0.1																	
40	Chromium	g/hr			20.8		17.0		23.7		20.5		105.9		105.4		105.6		105.6									
41	Mercury	g/hr	nd		0.9	nd	0.9	nd	0.8		0.9																	
42	Lead	g/hr	nd		1.7	nd	1.7	nd	1.6		1.7		601.9		599.1		600.0		600.3									
43	Silver	g/hr	nd		1.7	nd	1.7	nd	1.6		1.7																	
44	Thallium	g/hr	nd		1.7	nd	1.7	nd	1.6		1.7																	
45																												
46																												
47	Stack Gas Flowrate	dscfm			13701		14321		13657		13893.0		13701		14321		13657		13893.0									
48	Oxygen	%			5.5		4.8		4.6		5.0		5.5		4.8		4.6		5.0									
49																												
50	Thermal Feedrate	MMBtu/hr			17		17		17		17										16.6		16.7		16.7		16.7	
51	Estimated Firing Rate	MMBtu/hr																			61		64		61		62	
52																												
53	<i>Feedrate MTEC Calculations</i>																											
54	Ash	mg/dscm			98.2		98.4		5.2		67.3		322.2		291.4		305.5		306.4	0	420.5	0	389.9	0	310.7	0	373.7	
55	Chlorine	µg/dscm			1444.3		1329.1		1597.6		1457.0		126878.6		101463.1		102521.8		110287.9	0	128322.9	0	102792.2	0	104119.5	0	111744.9	
56	Antimony	µg/dscm	100		66.0	100	60.4	100	58.9	100	61.8									100	66.0	100	60.4	100	58.9	100	61.8	
57	Arsenic	µg/dscm			182.5		167.0		191.4		180.3		353.3		323.4		335.0		337.2	0	535.8	0	490.4	0	526.4	0	517.5	
58	Barium	µg/dscm	100		66.0	100	60.4	100	58.9	100	61.8									100	66.0	100	60.4	100	58.9	100	61.8	
59	Beryllium	µg/dscm	100		3.9	100	3.6	100	3.7	100	3.7									100	3.9	100	3.6	100	3.7	100	3.7	
60	Cadmium	µg/dscm	100		3.9	100	3.6	100	3.7	100	3.7									100	3.9	100	3.6	100	3.7	100	3.7	

	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	Chromium		µg/dscm		807.6		604.2		872.4		761.4		4111.5		3745.8		3887.4		3914.9	0	4919.1	0	4349.9	0	4759.8	0	4676.3	
62	Mercury		µg/dscm	100	34.9	100	32.0	100	29.4	100	32.1								100	34.9	100	32.0	100	29.4	100	32.1		
63	Lead		µg/dscm	100	66.0	100	60.4	100	58.9	100	61.8		23368.5		21291.3		22087.3		22249.0	0	23434.5	0	21351.7	0	22146.2	0	22310.8	
64	Silver		µg/dscm	100	66.0	100	60.4	100	58.9	100	61.8								100	66.0	100	60.4	100	58.9	100	61.8		
65	Thallium		µg/dscm	100	66.0	100	60.4	100	58.9	100	61.8								100	66.0	100	60.4	100	58.9	100	61.8		
66																												
67	SVM		µg/dscm	100	69.9	100	64.0	100	62.6	100	65.5		23368.5		21291.3		22087.3		22249	0	23438.4	0	21355.2	0	22149.9	0	22314.5	
68	LVM		µg/dscm	0	993.9	0	774.7	0	1067.6	0	945.4		4464.8		4069.2		4222.4		4252	0	5458.7	0	4843.9	0	5289.9	0	5197.5	
69																												
70																												
71	<b>BIF Feedrate Limits</b>																											
72																												
73	Antimony		g/hr		725																							
74	Arsenic		g/hr		Tier III																							
75	Barium		g/hr		121000																							
76	Beryllium		g/hr		1																							
77	Cadmium		g/hr		1.3																							
78	Chromium		g/hr		Tier III																							
79	Lead		g/hr		Tier III																							
80	Mercury		g/hr		193.3																							
81	Silver		g/hr		7248																							
82	Thallium		g/hr		1208																							
83	Chlorine		g/hr		Tier III																							

	A	B	C	D	E	F	G
1	<b>Process Information</b>						
2			Run 1	Run 2	Run 3		Cond Avg
3	<b>724C10</b>						
4							
5	Steam Flowrate	lb/hr	19857	19639	20014		19837
6	Comb Chamb Temp	°F	1591	1606	1619		1605
7	Candlefilter Mist Elim Temp	°F	153	155	167		158
8	Candlefilter Mist Elim Press Drop	in w.c.	6.9	7.2	7.9		7.3
9							
10	<b>724C11</b>						
11							
12	Steam Flowrate	lb/hr	53421	52851	50871		52381
13	Comb Chamb Temp	°F	2473	2468	2450		2464
14	Candlefilter Mist Elim Temp	°F	178	187	178		181
15	Candlefilter Mist Elim Press Drop	in w.c.	11.8	12.8	8.8		11.1