

US EPA ARCHIVE DOCUMENT

	B	C
1	Source Description	
2		
3	Phase I ID No.	470
4	EPA ID No.	TTO570090001
5	Facility Name	JACADS
6	Facility Location	
7	City	Johnston Atoll
8	State	TT
9	Unit ID Name/No.	Metal Parts Furnace (MPF)
10	Other Sister Facilities	
11	Number of Sister Facilities	0
12	Combustor Class	Onsite incinerator, DoD government, chem demil
13	Combustor Type	Moving hearth
14	Combustor Characteristics	3 chamber roller hearth unit, afterburner
15		1st chamber is air lock feed. 2nd chamber is refractory lined hearth furnace. 3rd chamber is waste discharge air lock. Waste feed and removed in tray batches.
16	Capacity (MMBtu/hr)	
17	Soot Blowing	
18	APCS Detailed Acronym	WQ/VS/PBS/DM
19	APCS General Class	WQ, HEWS, LEWS
20	APCS Characteristics	Water quench, venturi scrubber (variable throat), packed bed scrubber, demister
21	Hazardous Wastes	Solid
22	Haz Waste Description	Halogenated plastic wastes (personal protective equipment, neoprene, teflon), 4.2" HD mortar projectiles
23	Supplemental Fuel	Oil
24		JP5 fuel oil
25		
26	Stack Characteristics	Note: gas velocity to be increased to account for other 2 incinerators (LIC & DFS)
27	Diameter (ft)	4.50
28	Height (ft)	100
29	Gas Velocity (ft/sec)	11.0
30	Gas Temperature (°F)	198
31		
32	Permitting Status	RCRA
33	HWC Burn Status (Date if Terminated)	No longer burning waste; shutdown after all hazardous waste on island was treated.

	B	C
1	Condition Description	
2		
3		
4	470C10	470C10
5		
6	Report Name/Date	JACADS Metal Parts Furnace Halogenated Waste Performance Test, March 2001
7	Report Prepare	Washington Demilitarization Company
8	Testing Firm	METCO
9	Testing Dates	March 15-19, 2001
10	Cond Dates	Mar-01
11	Condition Descr	Halogenated waste trial burn, no metals spiking nor DRE
12	Content	PM, HCl/Cl ₂ /HF, metals, PCDD/PCDF, VOC/SVOC, PCB, total organics, limited feed analysis
13		
14	470C11	470C11
15		
16	Report Name/Date	JACADS Metal Parts Furnace 4.2-Inch Agent HD Mortar Projectiles Trial Burn Report, August 1999
17	Report Prepare	Raytheon Engineers and Constructors
18	Testing Firm	METCO
19	Testing Dates	March 18, 20, 21, 27 1999
20	Cond Dates	Mar-99
21	Condition Descr	Trial burn, low temp, no metals spiking
22	Content	PM, metals, HCl, Cl ₂ , HF, D/F, CO, DRE, SVOC, VOC, no metals spiking
23		
24	470C12	
25		
26	Report Name/Date	GB Trial Burn Report, Trial Burn of the MPF Incinerator, Johnston Atoll Chemical Agent Disposal System, Johnston Island, July 1998
27	Report Prepare	Raytheon Engineers and Constructors
28	Testing Firm	METCO
29	Testing Dates	February 20, 23 and March 1, 3, 1998
30	Cond Dates	Mar-98
31	Condition Descr	Trial burn burn, GB-8inch M426 feed
32	Content	PM, metals, HCl, Cl ₂ , HF, D/F, CO, DRE, SVOC, VOC, no metals spiking
33		
34	470C1	
35		
36	Report Name/Date	RCRA Trial Burn Report for HD - Mustard Ton Containers - Metals Parts Furnace at the Johnston Atoll Chemical Agent Disposal System, December 16, 1992
37	Report Prepare	United Engineers and Constructors
38	Testing Firm	Southern Research Institute
39	Cond Descr	Trial burn, steady state condition
40	Testing Dates	August 18-26, 1992
41	Cond Dates	Aug-92

	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Stack Gas Emissions 1													
2														
3	Comn Units		7% O2											
4														
5														
6	470C10	Halogenated waste trial b			R1	R2	R3	R4	Cond Avg					
7														
8	CO (RA)	E1	ppmv	y		44		43		35		46		42
9	CO (max inst)	E1	ppmv	y		69		73		69		74		71
10														
11	PM		gr/dscf	n		0.0014		0.0013		0.0014		0.0012		
12	PM		gr/dscf	y		0.0022		0.0022		0.0021		0.0019		0.0021
13														
14	HCl		mg/dscf	y		0.019		0.02		0.021		0.025		0.0213
15	Cl2		mg/dscf	y		0.013		0.008		0.015		0.005		0.0103
16	HF		mg/dscf	y	nd	0.036	nd	0.039	nd	0.036	nd	0.039		0.0375
17														
18	HCl	E1	ppmv	y		0.44		0.47		0.49		0.58		0.49
19	Cl2	E1	ppmv	y		0.16		0.10		0.18		0.06		0.12
20	Total Chlorine	E1	ppmv	y		0.75		0.66		0.85		0.70		0.7
21	HF	E1	ppmv	y		0.84		0.91		0.84		0.91		0.9
22														
23	Silver		ug/dscf	n	nd	0.038	nd	0.039	nd	0.072	nd	0.038		
24	Aluminum		ug/dscf	n		6.381		7.714		10.031		5.723		
25	Arsenic		ug/dscf	n		0.01		0.01		0.00		0.00		
26	Barium		ug/dscf	n		0.692		0.586		1.036		0.564		
27	Beryllium		ug/dscf	n	nd	0.02	nd	0.02	nd	0.04	nd	0.02		
28	Boron		ug/dscf	n		3.125		2.829		5.208		2.852		
29	Cadmium		ug/dscf	n		0.18		0.21		0.20		0.31		
30	Cobalt		ug/dscf	n	nd	0.189	nd	0.193	nd	0.36	nd	0.188		
31	Chromium		ug/dscf	n		0.08		0.11		0.09		0.08		
32	Copper		ug/dscf	n		0.527		0.21		0.437		0.502		
33	Manganese		ug/dscf	n		0.231		0.046		0.34		1.63		
34	Nickel		ug/dscf	n	nd	0.152		0.158	nd	0.288		0.203		
35	Lead		ug/dscf	n		0.10		0.12		0.14		0.14		
36	Phosphorus		ug/dscf	n		4.388		3.343		2.647		6.487		
37	Antimony		ug/dscf	n		0.015		0.033		0.017		0.02		
38	Selenium		ug/dscf	n		0.008	nd	0.009		0.004		0.003		
39	Tin		ug/dscf	n		0.656		0.45		1.634		6.688		
40	Thallium		ug/dscf	n	nd	0.003	nd	0.003	nd	0.002	nd	0.002		
41	Vanadium		ug/dscf	n	nd	0.076	nd	0.077	nd	0.144	nd	0.075		
42	Zinc		ug/dscf	n		4.338		4.237		7.616		8.68		
43	Mercury		ug/dscf	n		0.04		0.02		0.02	nd	0.03		
44														
45	Sampling Train	PM, F E1												
46	Stack Gas Flowrate		dscfm			4441		4530		4630		4444		4511
47	O2		%			12.1		12.6		11.7		12.1		12
48	Moisture		%			46.04		46.17		46.69		46.94		46
49	Temperature		°F			196		198		198		199		198
50														
51	Sampling Train	Metal: E2												
52	Stack Gas Flowrate		dscfm			4695		4621		4846		4614		4694
53	O2		%			12.1		12.6		11.7		12.1		12
54	Moisture		%			45.75		46.3		46.42		46.72		46
55	Temperature		°F			203		197		192		211		201
56														
57	Silver	E2	ug/dscm	y	nd	2.1	nd	2.3	nd	3.8	nd	2.1		2.6
58	Aluminum	E2	ug/dscm	y		354.7		454.3		533.6		318.1		415.2
59	Arsenic	E2	ug/dscm	y		0.4		0.3		0.2		0.3		0.3
60	Barium	E2	ug/dscm	y		38.5		34.5		55.1		31.3		39.9
61	Beryllium	E2	ug/dscm	y	nd	1.0	nd	1.2	nd	1.9	nd	1.0		1.3
62	Boron	E2	ug/dscm	y		173.7		166.6		277.0		158.5		194.0
63	Cadmium	E2	ug/dscm	y		10.0		12.2		10.7		17.0		12.5
64	Cobalt	E2	ug/dscm	y	nd	10.5	nd	11.4	nd	19.1	nd	10.4		12.9
65	Chromium	E2	ug/dscm	y		4.2		6.3		4.7		4.2		4.9
66	Copper	E2	ug/dscm	y		29.3		12.4		23.2		27.9		23.2
67	Manganese	E2	ug/dscm	y		12.8		2.7		18.1		90.6		31.1
68	Nickel	E2	ug/dscm	y	nd	8.4		9.3	nd	15.3		11.3		11.1
69	Lead	E2	ug/dscm	y		5.3		7.1		7.2		7.5		6.8
70	Phosphorus	E2	ug/dscm	y		243.9		196.9		140.8		360.6		235.5
71	Antimony	E2	ug/dscm	y		0.8		1.9		0.9		1.1		1.2

	B	C	D	E	F	G	H	I	J	K	L	M	N	O
72	Selenium	E2	ug/dscm	y		0.4	nd	0.5		0.2		0.2		0.3
73	Tin	E2	ug/dscm	y		36.5		26.5		86.9		371.7		130.4
74	Thallium	E2	ug/dscm	y	nd	0.2	nd	0.2	nd	0.1	nd	0.1		0.1
75	Vanadium	E2	ug/dscm	y	nd	4.2	nd	4.5	nd	7.7	nd	4.2		5.1
76	Zinc	E2	ug/dscm	y		241.1		249.5		405.1		482.5		344.6
77	Mercury	E2	ug/dscm	y		2.0		1.2		1.1	nd	1.5		1.4
78														
79	SVM	E2	ug/dscm			15.3		19.3		18.0		24.6		19.3
80	LVM	E2	ug/dscm			5.6		7.8		6.8		5.5		6.4
81														
82														
83	470C11	Trial burn, low temp, no rr				R1		R2		R3		R4		Cond Avg
84														
85	CO (RA)	E1	ppmv	y		15.5		14.3		11.7		14.9		14.1
86	CO (max inst)		ppmv											
87														
88	PM	E1	gr/dscf	y		0.0018		0.0016		0.0013		0.0020		0.0017
89														
90	HCl		mg/dscf	y	nd	0.012	nd	0.012	nd	0.012	nd	0.012		0.012
91	Cl2		mg/dscf	y	nd	0.028		0.026	nd	0.03	nd	0.025		0.027
92	HF		mg/dscf	y	nd	0.012	nd	0.012	nd	0.012	nd	0.012		0.012
93														
94	HCl	E1	ppmv	y	nd	0.28	nd	0.28	nd	0.28	nd	0.28		0.28
95	Cl2	E1	ppmv	y	nd	0.34		0.31	nd	0.36	nd	0.30		0.33
96	Total Chlorine	E1	ppmv	y	100	0.95	100	0.90	100	1.00	100	0.88	100	0.93
97	HF	E1	ppmv	y	nd	0.28	nd	0.28	nd	0.28	nd	0.28		0.14
98														
99	POHC	Agent GB												
100	POHC Feedrate		lb/hr			633.6		639.4		622.1		633.6		
101	Emission Rate	E1	lb/hr		nd	4.60E-06	nd	4.68E-06	nd	4.86E-06	nd	4.68E-06		
102	DRE	E1	%		>	99.999999	>	99.999999	>	99.999999	>	99.999999		
103														
104	Silver		ug/dscf	n	nd	0.044	nd	0.052	nd	0.043	nd	0.105		
105	Aluminum		ug/dscf	n		5.348		5.944		5.176		5.993		
106	Arsenic		ug/dscf	n		0.03		0.02		0.01		0.01		
107	Barium		ug/dscf	n	nd	0.427		0.461	nd	0.406	nd	0.486		
108	Beryllium		ug/dscf	n	nd	0.00	nd	0.01	nd	0.00	nd	0.01		
109	Boron		ug/dscf	n		3.136		3.059		2.993		3.733		
110	Cadmium		ug/dscf	n		0.47		0.44		0.36		0.88		
111	Cobalt		ug/dscf	n	nd	0.02	nd	0.02	nd	0.024		0.247		
112	Chromium		ug/dscf	n		0.01		0.01		0.01		0.02		
113	Copper		ug/dscf	n		0.035		0.059	nd	0.053		0.118		
114	Manganese		ug/dscf	n		0.159		0.21		0.703		3.913		
115	Nickel		ug/dscf	n	nd	0.121	nd	0.122	nd	0.103	nd	0.244		
116	Lead		ug/dscf	n		0.14		0.11		0.09		0.17		
117	Phosphorus		ug/dscf	n	nd	1.911	nd	1.827	nd	1.249		4.638		
118	Antimony		ug/dscf	n		0.005		0.005	nd	0.004	nd	0.011		
119	Selenium		ug/dscf	n	nd	0.004	nd	0.005	nd	0.006	nd	0.004		
120	Tin		ug/dscf	n	nd	1.79	nd	1.084	nd	1.013	nd	0.546		
121	Thallium		ug/dscf	n	nd	0.002	nd	0.002	nd	0.002	nd	0.002		
122	Vanadium		ug/dscf	n	nd	0.02	nd.0	0.02	nd	0.019	nd	0.033		
123	Zinc		ug/dscf	n		2.213		1.75		2.043		2.635		
124	Mercury		ug/dscf	n		4.99		3.44		2.91		0.10		
125														
126	Sampling Train	PM, F E1												
127	Stack Gas Flowrate		dscfm			4277		4005		4413		4171		4217
128	O2		%			10.9		11.4		10.9		10.7		11
129	Moisture		%			46.22		45.62		46.37		48.08		47
130	Temperature		°F			196		193		195		197		195
131														
132	Sampling Train	Metal: E2												
133	Stack Gas Flowrate		dscfm			4635		4602		4900		4112		4562
134	O2		%			10.9		11.4		10.9		10.7		11
135	Moisture		%			46.45		45.66		45.94		47.8		46
136	Temperature		°F			192		189		191		191		191
137														
138	Silver	E2	ug/dscm	y	nd	2.2	nd	2.7	nd	2.1	nd	5.0		3.0
139	Aluminum	E2	ug/dscm	y		261.9		306.3		253.5		287.8		277.4
140	Arsenic	E2	ug/dscm	y		1.6		1.1		0.6		0.6		1.0
141	Barium	E2	ug/dscm	y	nd	20.9		23.8	nd	19.9	nd	23.3		22.0
142	Beryllium	E2	ug/dscm	y	nd	0.2	nd	0.3	nd	0.2	nd	0.3	100	0.3

	B	C	D	E	F	G	H	I	J	K	L	M	N	O
143	Boron	E2	ug/dscm	y		153.6		157.6		146.6		179.3		159.3
144	Cadmium	E2	ug/dscm	y		23.0		22.9		17.9		42.1		26.5
145	Cobalt	E2	ug/dscm	y	nd	1.0	nd	1.0	nd	1.2		11.9	100	3.8
146	Chromium	E2	ug/dscm	y		0.2		0.5		0.5		0.9		0.5
147	Copper	E2	ug/dscm	y		1.7		3.0	nd	2.6		5.7		3.3
148	Manganese	E2	ug/dscm	y		7.8		10.8		34.4		187.9		60.2
149	Nickel	E2	ug/dscm	y	nd	5.9	nd	6.3	nd	5.0	nd	11.7	100	7.2
150	Lead	E2	ug/dscm	y		6.8		5.9		4.4		8.1		6.3
151	Phosphorus	E2	ug/dscm	y	nd	93.6	nd	94.1	nd	61.2		222.8		117.9
152	Antimony	E2	ug/dscm	y		0.2		0.3	nd	0.2	nd	0.5		0.3
153	Selenium	E2	ug/dscm	y	nd	0.2	nd	0.3	nd	0.3	nd	0.2	100	0.2
154	Tin	E2	ug/dscm	y	nd	87.7	nd	55.9	nd	49.6	nd	26.2	100	54.8
155	Thallium	E2	ug/dscm	y	nd	0.1	nd	0.1	nd	0.1	nd	0.1	100	0.1
156	Vanadium	E2	ug/dscm	y	nd	1.0	nd.0	1.0	nd	0.9	nd	1.6	100	1.1
157	Zinc	E2	ug/dscm	y		108.4		90.2		100.1		126.6		106.3
158	Mercury	E2	ug/dscm	y		244.4		177.3		142.7		4.6		142.2
159														
160	SVM	E2	ug/dscm	y		29.8		28.8		22.3		50.1		32.8
161	LVM	E2	ug/dscm	y		2.0		2.0		1.3		1.8		1.8
162														
163	470C12		Trial burn			R1		R2		R3		R4		Cond Avg
164														
165	CO (RA)	E1	ppmv	y		58.9		25.5		25.6		34.2		36.1
166														
167	PM		mg/dscm	y		2.8		3.2		3		3.2		
168	PM	E1	gr/dscf	y		0.0012		0.0014		0.0013		0.0014		0.0013
169														
170	HCl		lb/hr			0.006614		0.006614		0.006614		0.006614		
171	Cl2		lb/hr			0.006608		0.006608		0.006608		0.006608		
172	HF		mg/dscm	n		5.6503161		7.063		8.8286		7.416		
173														
174	Aluminum		ug/dscm	n		20.06		60.99		14.55		13.84		
175	Antimony		ug/dscm	n		0.85		1.02		0.21		0.21		
176	Arsenic		ug/dscm	n	nd	0.22	nd	0.22	nd	0.23	nd	0.23		
177	Barium		ug/dscm	n		1.52		2.33		1.41		1.84		
178	Beryllium		ug/dscm	n	nd	0.22	nd	0.22	nd	0.23	nd	0.23		
179	Boron		ug/dscm	n		25.18		45.66		23.66		34.54		
180	Cadmium		ug/dscm	n	nd	0.48	nd	0.50	nd	0.51	nd	0.50		
181	Chromium		ug/dscm	n		1.27		0.86	nd	1.04	nd	1.10		
182	Cobalt		ug/dscm	n		0.99		0.99		1.02		1.02		
183	Copper		ug/dscm	n		1.48		2.79		0.99		2.08		
184	Lead		ug/dscm	n		0.55		0.44		0.10		0.07		
185	Manganese		ug/dscm	n		2.44		2.72		4.87		4.38		
186	Mercury		ug/dscm	n		1.51		50.42		75.07		91.78		
187	Nickel		ug/dscm	n		3.96		3.99		4.1		4.13		
188	Phosphorous		ug/dscm	n		475.02		558.25		298.97		622.98		
189	Selenium		ug/dscm	n		0.21		0.21		0.21		0.21		
190	Silver		ug/dscm	n		1.84		1.02		2.61		1.02		
191	Thallium		ug/dscm	n		0.11		0.1		0.11		0.11		
192	Tin		ug/dscm	n		9.92		9.96		10.28		10.35		
193	Vanadium		ug/dscm	n		0.99		0.99		1.02		10.24		
194	Zinc		ug/dscm	n		16.24		16.1		12.82		7.91		
195	Chromium (Hex)		ug/dscm	n		0.88		0.92		0.88		0.88		
196														
197	Sampling Train		PM, F E1											
198	Stack Gas Flowrate		dscfm			4215.8		4103.2		4171.8		4351.5		4210.6
199	O2		%			9.8		8.9		9.3		9.1		9.3
200	Moisture		%			44.7		45.9		45.5		45.8		45.5
201	Temperature		°F			196		194		196		195		195.3
202														
203	HCl	E1	ppmv	y		0.35		0.33		0.34		0.32		0.34
204	Cl2	E1	ppmv	y		0.17		0.17		0.17		0.16		0.17
205	Total Chlorine	E1	ppmv	y		0.70		0.67		0.68		0.64		0.67
206														
207	Aluminum	E1	ug/dscm	y		25.1		70.6		17.4		16.3		32.3
208	Antimony	E1	ug/dscm	y		1.1		1.2		0.3		0.2		0.7
209	Arsenic	E1	ug/dscm	y	nd	0.3	nd	0.3	nd	0.3	nd	0.3		0.3
210	Barium	E1	ug/dscm	y		1.9		2.7		1.7		2.2		2.1
211	Beryllium	E1	ug/dscm	y	nd	0.3	nd	0.3	nd	0.3	nd	0.3		0.3
212	Boron	E1	ug/dscm	y		31.5		52.8		28.3		40.6		38.3
213	Cadmium	E1	ug/dscm	y	nd	0.6	nd	0.6	nd	0.6	nd	0.6		0.6

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
214	Chromium	E1	ug/dscm	y		1.6		1.0	nd	1.2	nd	1.3		1.3	
215	Cobalt	E1	ug/dscm	y		1.2		1.1		1.2		1.2		1.2	
216	Copper	E1	ug/dscm	y		1.9		3.2		1.2		2.4		2.2	
217	Lead	E1	ug/dscm	y		0.7		0.5		0.1		0.1		0.3	
218	Manganese	E1	ug/dscm	y		3.1		3.1		5.8		5.2		4.3	
219	Mercury	E1	ug/dscm	y		1.9		58.3		89.8		108.0		64.5	
220	Nickel	E1	ug/dscm	y		5.0		4.6		4.9		4.9		4.8	
221	Phosphorous	E1	ug/dscm	y		593.8		645.9		357.7		732.9		582.6	
222	Selenium	E1	ug/dscm	y		0.3		0.2		0.3		0.2		0.3	
223	Silver	E1	ug/dscm	y		2.3		1.2		3.1		1.2		2.0	
224	Thallium	E1	ug/dscm	y		0.1		0.1		0.1		0.1		0.1	
225	Tin	E1	ug/dscm	y		12.4		11.5		12.3		12.2		12.1	
226	Vanadium	E1	ug/dscm	y		1.2		1.1		1.2		12.0		3.9	
227	Zinc	E1	ug/dscm	y		20.3		18.6		15.3		9.3		15.9	
228	Chromium (Hex)	E1	ug/dscm	y		1.1		1.1		1.1		1.0		1.1	
229															
230	SVM	E1	ug/dscm	y		1.3		1.1		0.7		0.7		0.9	
231	LVM	E1	ug/dscm	y		2.1		1.5		1.8		1.8		1.8	
232															
233	POHC	Agent GB													
234	POHC Feedrate	E1	lb/hr			186.5		233.6		219.6		236			
235	Emission Rate	E1	lb/hr		nd	4.15E-07	nd	4.15E-07	nd	3.95E-07	nd	4.08E-07			
236	DRE	E1	%		>	99.9999998	>	99.9999998	>	99.9999998	>	99.9999998			

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
1	Stack Gas Emissions 2														
2															
3															
4	470C1					R1	R2	R3		R4				Cond Avg	
5															
6	PM	E1	gr/dscf	y		0.0096	0.0023	0.0027		0.0008				0.0039	
7	HC (RA)	E1	ppmv	y		4.7	7.2	5.2		5.8				5.7	
8	HCl	E1	ppmv	y	nd	0.2	3.2 nd	0.2 nd		0.2				1.0	
9	Arsenic	E2	ug/dscm	y	nd	17.5	44.9 nd	15.8 nd		15.2				23.4	
10	Barium	E2	ug/dscm	y	nd	17.5 nd	16.0 nd	15.9		16.6				16.5	
11	Beryllium	E2	ug/dscm	y	nd	7.0 nd	6.4 nd	6.3 nd		6.1				6.5	
12	Boron	E2	ug/dscm	y		448.4	180.0	341.5		267.8				309.4	
13	Cadmium	E2	ug/dscm	y	nd	8.7 nd	8.0 nd	7.9 nd		8.0	100			8.2	
14	Chromium	E2	ug/dscm	y	nd	10.5	7.5 nd	9.5		7.6				8.8	
15	Copper	E2	ug/dscm	y	nd	8.8	11.3	8.1 nd		7.7				9.0	
16	Lead	E2	ug/dscm	y	nd	17.5	39.2	17.4		38.8				28.2	
17	Manganese	E2	ug/dscm	y		0.4	19.1	867.6		4.3				222.8	
18	Mercury	E2	ug/dscm	y	nd	16.1	18.3	14.0		7.9	29			14.1	
19	Phosphorus	E2	ug/dscm	y		212.2	95.6	171.8		170.4				162.5	
20	Selenium	E2	ug/dscm	y		12.5	9.3 nd	7.8 nd		7.7				9.3	
21	Tin	E2	ug/dscm	y	nd	17.5 nd	16.0	25.5 nd		15.2				18.5	
22	Zinc	E2	ug/dscm	y		45.9	60.0	44.5		44.6				48.8	
23	SVM	E2	ug/dscm	y	100	26.2	17	47.1	31	25.3	17		46.8	34	36.4
24	LVM	E2	ug/dscm	y	100	35.0	11	58.8	100	31.7	74		28.9	61	38.6
25															
26	Sampling Train	PM/HCE1													
27	Stack Gas Flowrate	dscfm													
28	O2	%													
29	Moisture	%													
30	Temperature	°F													
31															
32	Sampling Train	Metals E2													
33	Stack Gas Flowrate	dscfm													
34	O2	%													
35	Moisture	%													
36	Temperature	°F													
37															
38	Sampling Train	SVOC E3													
39	Stack Gas Flowrate	dscfm													
40	O2	%													
41	Moisture	%													
42	Temperature	°F													
43															
44	HD (Mustard Agent)	E3	%												

	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Feedrate Calculations													
2														
3														
4	470C10	Trial burn		7%O2	Cond Avg		Cond Avg		Cond Avg					
5														
6	Feedstream Number				F1		F2		F3					
7	Feed Class				Solid HW		Oil		Total					
8	Feed Class 2				HW		MF		Total					
9	Feedstream Description				Halogenated plastic wastes		JP5 fuel oil		Total					
10	Feed Rate		lb/hr		379									
11	Thermal Feedrate		MMBtu/hr		3.54		9.2		12.7					
12	Chlorine		lb/hr		158									
13														
14	Stack Gas Flowrate		dscfm		4511									
15	Oxygen		%		12.1									
16														
17	Estimated Firing Rate		MMBtu/hr						12.7					
18														
19	<i>Feedrate MTEC Calculations</i>													
20	Chlorine		ug/dscm	y	14771957				14771957					
21	Note: Run-by-run feedrate data not included in main report; see App. C													
22														
23	470C11	Trial burn			R1		R2		R3		R4	Cond Avg	Cond Avg	
24														
25	Feedstream Number				F1		F1		F1		F1	F1	F2	
26	Feed Class				Solid HW		Solid HW		Solid HW		Solid HW	Solid HW	Total	
27	Feed Class 2				HW		HW		HW		HW	HW	Total	
28	Feedstream Description				Agent HD									
29	Feed Rate	HD	lb/hr		633.6		639.4		622.1		633.6	632.2		
30														
31														
32														
33	Stack Gas Flowrate		dscfm									4216.5		
34	Oxygen		%									11.0		
35														
36	Estimated Firing Rate		MMBtu/hr									13.4	13.4	

	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Feedstream 2												
2													
3													
4	470C1				R1		R2		R3		R4		
5													
6	Feedstream				HD mustard a	ç	HD mustard a	HD mustard :	HD mustard agent liquid				
7	Feedrate		lbs/hr		54		114		111		105		

	B	C	D	E
1	Process Information			
2				
3	470C10			Cond Avg
4				
5	Comb Chamb Temp	°F		1600
6	Afterburner Temp	°F		2000
7	Comb Cham Pressure	in H2O		-4.7
8	VS Pressure Drop	in H2O		15
9	VS Brine Flow	gpm		121
10	PBS Pressure Drop	in H2O		5.8
11	PBS Liquor Flow	gpm		689
12	PBS Clean Liquor pH			9.5
13	Brine pH			10.4
14				
15	470C11			Cond Avg
16				
17	Comb Chamb Temp	°F		1592
18	Afterburner Temp	°F		1598
19	Comb Cham Pressure	in H2O		-4.46
20	VS Pressure Drop	in H2O		15
21	VS Brine Flow	gpm		130
22	PBS Pressure Drop	in H2O		4.1
23	PBS Liquor Flow	gpm		599
24	PBS Clean Liquor pH			No data
25	Brine pH			No data

	C	D	E	F	G	H
1	Process Information 2					
2						
3	470C1					
4						
5	Kiln Temperature	F	1407.8	1425	1417.5	1457.4
6	Afterburner Temperature	F	2003.1	2003.1	2002.5	1998.4
7	WS Temperature	F	176	171.3	171.7	178.3
8	PBS Pressure Drop	in H2O	4.9	5.4	5.5	5.2
9	VS Pressure Drop	in H2O	30	30.1	30	30
10	WS pH		9.1	8.6	8.5	8.4

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:	JACADS, Johnston Atoll																		
4	Condition ID:	470C10 Halogenated waste trial burn, no metals spiking nor DRE																		
5	Condition/Test Date:	470C10, 3/16/01-3/19-01																		
6																				
7																				
8	I-TEF	Run 1				Run 3				Run 4										
9	Wght Fact	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ	Total	TEQ			
10	Detected in sample volume (pg)	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	1/2 ND	1/2 ND			
11	2,3,7,8-TCDD	1	nd	21.0	21.0	10.5	10.5	nd	18.0	18.0	9.0	9.0	18.2	18.2	18.2	18.2				
12	Total TCDD	0	nd	29.0	0.0	14.5	0.0	nd	48.0	0.0	24.0	0.0	29.6	0.0	29.6	0.0				
13	1,2,3,7,8-PCDD	0.5	nd	38.0	19.0	19.0	9.5	nd	33.0	16.5	16.5	8.3	30.0	15.0	30.0	15.0				
14	Total PCDD	0	nd	38.0	0.0	19.0	0.0	nd	33.0	0.0	16.5	0.0	30.0	0.0	30.0	0.0				
15	1,2,3,4,7,8-HxCDD	0.1	nd	26.0	2.6	13.0	1.3	nd	21.2	2.1	10.6	1.1	19.2	1.9	19.2	1.9				
16	1,2,3,6,7,8-HxCDD	0.1	nd	26.0	2.6	13.0	1.3	nd	21.3	2.1	10.7	1.1	19.3	1.9	19.3	1.9				
17	1,2,3,7,8,9-HxCDD	0.1	nd	24.0	2.4	12.0	1.2	nd	19.7	2.0	9.9	1.0	17.9	1.8	17.9	1.8				
18	Total HxCDD	0	nd	26.0	0.0	13.0	0.0	nd	21.3	0.0	10.7	0.0	19.3	0.0	19.3	0.0				
19	1,2,3,4,6,7,8-HpCDD	0.01	nd	28.0	0.3	14.0	0.1	nd	25.2	0.3	12.6	0.1	19.8	0.2	19.8	0.2				
20	Total HpCDD	0	nd	28.0	0.0	14.0	0.0	nd	25.2	0.0	12.6	0.0	21.8	0.0	21.8	0.0				
21	OCDD	0.001	nd	31.0	0.0	15.5	0.0	nd	29.0	0.0	14.5	0.0	201.0	0.2	201.0	0.2				
22	2,3,7,8-TCDF	0.1	nd	26.6	2.7	13.3	1.3	nd	34.3	3.4	17.2	1.7	25.3	2.5	25.3	2.5				
23	Total TCDF	0	nd	85.6	0.0	42.8	0.0	nd	186.3	0.0	93.2	0.0	176.3	0.0	176.3	0.0				
24	1,2,3,7,8-PCDF	0.05	nd	22.0	1.1	11.0	0.6	nd	26.0	1.3	13.0	0.7	27.1	1.4	27.1	1.4				
25	2,3,4,7,8-PCDF	0.5	nd	22.0	11.0	11.0	5.5	nd	19.6	9.8	9.8	4.9	18.7	9.4	18.7	9.4				
26	Total PCDF	0	nd	32.0	0.0	16.0	0.0	nd	33.0	0.0	16.5	0.0	33.0	0.0	33.0	0.0				
27	1,2,3,4,7,8-HxCDF	0.1	nd	19.0	1.9	9.5	1.0	nd	24.7	2.5	12.4	1.2	18.6	1.9	18.6	1.9				
28	1,2,3,6,7,8-HxCDF	0.1	nd	17.8	1.8	8.9	0.9	nd	15.9	1.6	8.0	0.8	13.0	1.3	13.0	1.3				
29	2,3,4,6,7,8-HxCDF	0.1	nd	18.6	1.9	9.3	0.9	nd	16.7	1.7	8.4	0.8	13.6	1.4	13.6	1.4				
30	1,2,3,7,8,9-HxCDF	0.1	nd	19.4	1.9	9.7	1.0	nd	17.4	1.7	8.7	0.9	14.2	1.4	14.2	1.4				
31	Total HxCDF	0	nd	19.4	0.0	9.7	0.0	nd	25.0	0.0	12.5	0.0	18.8	0.0	18.8	0.0				
32	1,2,3,4,6,7,8-HpCDF	0.01	nd	19.4	0.2	9.7	0.1	nd	25.0	0.3	12.5	0.1	23.4	0.2	23.4	0.2				
33	1,2,3,4,7,8,9-HpCDF	0.01	nd	23.0	0.2	11.5	0.1	nd	20.4	0.2	10.2	0.1	18.5	0.2	18.5	0.2				
34	Total HpCDF	0	nd	23.0	0.0	11.5	0.0	nd	27.0	0.0	13.5	0.0	25.0	0.0	25.0	0.0				
35	OCDF	0.001	nd	34.0	0.0	17.0	0.0	nd	32.0	0.0	16.0	0.0	25.0	0.0	25.0	0.0				
36																				
37	Gas sample volume (dscf)					130.64	130.64	130.64					139.83	139.83	139.83					
38	O2 (%)					12.10	12.10	12.10					12.6	12.6	12.6					
39																				
40	PCDD/PCDF (ng in sample)					0.071	0.2	0.035					0.063	0.2	0.032					
41	PCDD/PCDF (ng/dscm @ 7% O2)	100.0					0.030	0.074	0.015	100.0					0.03	0.10	0.01	0.0		
42																				
43	TEQ Cond Avg	0.019																		
44	Total Cond Avg	0.146																		

	A	B	S	T	U	V	W	
1		PCDD/PCDF						
2		N						
3		Facility Name and ID:						
4		Condition ID:						
5		Condition/Test Date:						
6								
7						Run 5		
8					Total	TEQ	Total	TEQ
9					Full ND	Full ND	1/2 ND	1/2 ND
10		Detected in sample volume (pg						
11		2,3,7,8-TCDD		20.0	20.0	20.0	20.0	
12		Total TCDD		55.0	0.0	55.0	0.0	
13		1,2,3,7,8-PCDD		33.0	16.5	33.0	16.5	
14		Total PCDD		33.0	0.0	33.0	0.0	
15		1,2,3,4,7,8-HxCDD		19.1	1.9	19.1	1.9	
16		1,2,3,6,7,8-HxCDD		19.3	1.9	19.3	1.9	
17		1,2,3,7,8,9-HxCDD		17.9	1.8	17.9	1.8	
18		Total HxCDD		19.3	0.0	19.3	0.0	
19		1,2,3,4,6,7,8-HpCDD		23.3	0.2	23.3	0.2	
20		Total HpCDD		23.3	0.0	23.3	0.0	
21		OCDD		32.0	0.0	32.0	0.0	
22		2,3,7,8-TCDF		26.8	2.7	26.8	2.7	
23		Total TCDF		187.5	0.0	187.5	0.0	
24		1,2,3,7,8-PCDF		25.6	1.3	25.6	1.3	
25		2,3,4,7,8-PCDF		18.6	9.3	18.6	9.3	
26		Total PCDF		33.0	0.0	33.0	0.0	
27		1,2,3,4,7,8-HxCDF		15.1	1.5	15.1	1.5	
28		1,2,3,6,7,8-HxCDF		13.4	1.3	13.4	1.3	
29		2,3,4,6,7,8-HxCDF		14.1	1.4	14.1	1.4	
30		1,2,3,7,8,9-HxCDF		14.7	1.5	14.7	1.5	
31		Total HxCDF		15.3	0.0	15.3	0.0	
32		1,2,3,4,6,7,8-HpCDF		21.2	0.2	21.2	0.2	
33		1,2,3,4,7,8,9-HpCDF		18.0	0.2	18.0	0.2	
34		Total HpCDF		23.0	0.0	23.0	0.0	
35		OCDF		30.0	0.0	30.0	0.0	
36								
37		Gas sample volume (dscf)			131.89	131.89	131.89	
38		O2 (%)			12.10	12.10	12.10	
39								
40		PCDD/PCDF (ng in sample)			0.06	0.5	0.06	
41		PCDD/PCDF (ng/dscm @ 75	0.0		0.026	0.19	0.026	
42								
43		TEQ Cond Avg						
44		Total Cond Avg						

	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:		JACADS, Johnston Atoll																							
4	Condition ID:		470C11 Trial burn, low temp, no metals spiking																							
5	Condition/Test Date:		470C11, 3/18,20,21, 27, 1999																							
6																										
7																										
8			I-TEF				Run 1				Run 2				Run 3											
9			Wght Fact		Total		TEQ		Total		TEQ		Total		TEQ		Total		TEQ							
10	Detected in sample volume (pg)		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	2,3,7,8-TCDD		1	nd	8.1	8.1	4.1	4.1	nd	7.4	7.4	3.7	3.7	nd	10.4	10.4	5.2	5.2								
12	Total TCDD		0	nd	49.1	0.0	24.6	0.0	nd	54.0	0.0	27.0	0.0	nd	66.4	0.0	33.2	0.0								
13	1,2,3,7,8-PCDD		0.5	nd	11.3	5.7	5.7	2.8	nd	11.1	5.6	5.6	2.8	nd	22.9	11.5	11.5	5.7								
14	Total PCDD		0	nd	15.9	0.0	8.0	0.0	nd	19.5	0.0	9.8	0.0	nd	26.6	0.0	13.3	0.0								
15	1,2,3,4,7,8-HxCDD		0.1	nd	12.5	1.3	6.3	0.6	nd	12.1	1.2	6.1	0.6	nd	21.6	2.2	10.8	1.1								
16	1,2,3,6,7,8-HxCDD		0.1	nd	9.7	1.0	4.9	0.5	nd	9.4	0.9	4.7	0.5	nd	18.2	1.8	9.1	0.9								
17	1,2,3,7,8,9-HxCDD		0.1	nd	10.4	1.0	5.2	0.5	nd	10.0	1.0	5.0	0.5	nd	18.6	1.9	9.3	0.9								
18	Total HxCDD		0	nd	12.5	0.0	6.3	0.0	nd	12.1	0.0	6.1	0.0	nd	39.6	0.0	19.8	0.0								
19	1,2,3,4,6,7,8-HpCDD		0.01	nd	18.6	0.2	9.3	0.1	nd	12.5	0.1	6.3	0.1	nd	32.7	0.3	16.4	0.2								
20	Total HpCDD		0	nd	18.6	0.0	9.3	0.0	nd	12.5	0.0	6.3	0.0	nd	32.7	0.0	16.4	0.0								
21	OCDD		0.001	nd	61.0	0.1	30.5	0.0	nd	40.0	0.0	20.0	0.0	nd	72.0	0.1	36.0	0.0								
22	2,3,7,8-TCDF		0.1	nd	14.1	1.4	7.1	0.7	nd	7.2	0.7	3.6	0.4	nd	7.8	0.8	3.9	0.4								
23	Total TCDF		0	nd	427.1	0.0	213.6	0.0	nd	334.8	0.0	167.4	0.0	nd	1010.0	0.0	505.0	0.0								
24	1,2,3,7,8-PCDF		0.05	nd	11.0	0.6	5.5	0.3	nd	9.0	0.5	4.5	0.2	nd	25.6	1.3	12.8	0.6								
25	2,3,4,7,8-PCDF		0.5	nd	11.5	5.8	5.8	2.9	nd	9.4	4.7	4.7	2.4	nd	26.8	13.4	13.4	6.7								
26	Total PCDF		0	nd	33.8	0.0	16.9	0.0	nd	21.1	0.0	10.6	0.0	nd	277.0	0.0	138.5	0.0								
27	1,2,3,4,7,8-HxCDF		0.1	nd	15.6	1.6	7.8	0.8	nd	6.2	0.6	3.1	0.3	nd	35.9	3.6	18.0	1.8								
28	1,2,3,6,7,8-HxCDF		0.1	nd	7.2	0.7	3.6	0.4	nd	3.9	0.4	2.0	0.2	nd	25.3	2.5	12.7	1.3								
29	2,3,4,6,7,8-HxCDF		0.1	nd	6.7	0.7	3.4	0.3	nd	3.8	0.4	1.9	0.2	nd	6.5	0.7	3.3	0.3								
30	1,2,3,7,8,9-HxCDF		0.1	nd	6.3	0.6	3.2	0.3	nd	3.3	0.3	1.7	0.2	nd	8.5	0.9	4.3	0.4								
31	Total HxCDF		0	nd	16.0	0.0	8.0	0.0	nd	6.4	0.0	3.2	0.0	nd	40.9	0.0	20.5	0.0								
32	1,2,3,4,6,7,8-HpCDF		0.01	nd	19.9	0.2	10.0	0.1	nd	7.4	0.1	3.7	0.0	nd	23.8	0.2	11.9	0.1								
33	1,2,3,4,7,8,9-HpCDF		0.01	nd	15.2	0.2	7.6	0.1	nd	4.5	0.0	2.3	0.0	nd	16.5	0.2	8.3	0.1								
34	Total HpCDF		0	nd	21.2	0.0	10.6	0.0	nd	8.2	0.0	4.1	0.0	nd	27.8	0.0	13.9	0.0								
35	OCDF		0.001	nd	124.0	0.1	62.0	0.1	nd	29.0	0.0	14.5	0.0	nd	74.0	0.1	37.0	0.0								
36																										
37	Gas sample volume (dscf)				167.03		167.03		167.03		162.09		162.09		162.09		168.32		168.32		168.32					
38	O2 (%)				10.90		10.90		10.90		11.4		11.4		11.4		10.90		10.90		10.90					
39																										
40	PCDD/PCDF (ng in sample)				0.029		0.4		0.015		0.024		0.3		0.012		0.05		0.8		0.03					
41	PCDD/PCDF (ng/dscm @ 7% O2)		100		0.009		0.114		0.004		100.0		0.01		0.09		0.00		100.0		0.015		0.24		0.008	
42																										
43	TEQ Cond Avg		0.006																							
44	Total Cond Avg		0.142																							

	A	B	S	T	U	V	W
1	PCDD/PCDF						
2	N						
3	Facility Name and ID:						
4	Condition ID:						
5	Condition/Test Date:						
6							
7							
8	Run 4						
9			Total	TEQ	Total	TEQ	
			Full ND	Full ND	1/2 ND	1/2 ND	
10	Detected in sample volume (pg)						
11	2,3,7,8-TCDD	nd	10.6	10.6	5.3	5.3	
12	Total TCDD	nd	74.3	0.0	37.2	0.0	
13	1,2,3,7,8-PCDD	nd	18.4	9.2	9.2	4.6	
14	Total PCDD	nd	42.0	0.0	21.0	0.0	
15	1,2,3,4,7,8-HxCDD	nd	23.0	2.3	11.5	1.2	
16	1,2,3,6,7,8-HxCDD	nd	16.3	1.6	8.2	0.8	
17	1,2,3,7,8,9-HxCDD	nd	18.1	1.8	9.1	0.9	
18	Total HxCDD	nd	23.0	0.0	11.5	0.0	
19	1,2,3,4,6,7,8-HpCDD	nd	15.0	0.2	7.5	0.1	
20	Total HpCDD	nd	15.0	0.0	7.5	0.0	
21	OCDD	nd	53.0	0.1	26.5	0.0	
22	2,3,7,8-TCDF	nd	17.5	1.8	8.8	0.9	
23	Total TCDF	nd	479.0	0.0	239.5	0.0	
24	1,2,3,7,8-PCDF	nd	32.0	1.6	16.0	0.8	
25	2,3,4,7,8-PCDF	nd	32.0	16.0	16.0	8.0	
26	Total PCDF	nd	54.0	0.0	27.0	0.0	
27	1,2,3,4,7,8-HxCDF	nd	12.1	1.2	6.1	0.6	
28	1,2,3,6,7,8-HxCDF	nd	7.8	0.8	3.9	0.4	
29	2,3,4,6,7,8-HxCDF	nd	9.4	0.9	4.7	0.5	
30	1,2,3,7,8,9-HxCDF	nd	11.0	1.1	5.5	0.6	
31	Total HxCDF	nd	12.5	0.0	6.3	0.0	
32	1,2,3,4,6,7,8-HpCDF	nd	21.5	0.2	10.8	0.1	
33	1,2,3,4,7,8,9-HpCDF	nd	16.0	0.2	8.0	0.1	
34	Total HpCDF	nd	21.5	0.0	10.8	0.0	
35	OCDF	nd	27.0	0.0	13.5	0.0	
36							
37	Gas sample volume (dscf)			154.90	154.90	154.90	
38	O2 (%)			10.70	10.70	10.70	
39							
40	PCDD/PCDF (ng in sample)			0.05	0.4	0.02	
41	PCDD/PCDF (ng/dscm @ 7 100			0.015	0.12	0.008	
42							
43	TEQ Cond Avg						
44	Total Cond Avg						

	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:		JACADS															
4	Condition ID:		470C12															
5	Condition/Test Date:		Trial burn burn, GB-8inch M426 feed															
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	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	1/2 ND	1/2 ND
10	Detected in concentration (ug/dscm)																	
11	2,3,7,8-TCDD	1	nd	6.0E-06	6.0E-06	3.0E-06	3.0E-06	nd	6.8E-06	6.8E-06	3.4E-06	3.4E-06	nd	4.7E-06	4.7E-06	2.4E-06	2.4E-06	
12	1,2,3,7,8-PCDD	0.5	nd	9.9E-06	5.0E-06	5.0E-06	2.5E-06	nd	1.6E-05	8.0E-06	8.0E-06	4.0E-06	nd	1.5E-05	7.5E-06	7.5E-06	3.8E-06	
13	1,2,3,4,7,8-HxCDD	0.1	nd	1.4E-05	1.4E-06	7.0E-06	7.0E-07	nd	2.0E-05	2.0E-06	1.0E-05	1.0E-06	nd	2.1E-05	2.1E-06	1.1E-05	1.1E-06	
14	1,2,3,6,7,8-HxCDD	0.1	nd	1.4E-05	1.4E-06	7.0E-06	7.0E-07	nd	1.9E-05	1.9E-06	9.5E-06	9.5E-07	nd	2.0E-05	2.0E-06	1.0E-05	1.0E-06	
15	1,2,3,7,8,9-HxCDD	0.1	nd	1.3E-05	1.3E-06	6.5E-06	6.5E-07	nd	1.8E-05	1.8E-06	9.0E-06	9.0E-07	nd	1.9E-05	1.9E-06	9.5E-06	9.5E-07	
16	1,2,3,4,6,7,8-HpCDD	0.01	nd	5.6E-06	5.6E-08	2.8E-06	2.8E-08	nd	7.0E-06	7.0E-08	3.5E-06	3.5E-08	nd	5.9E-06	5.9E-08	3.0E-06	3.0E-08	
17	OCDD	0.001	nd	1.3E-05	1.3E-08	6.5E-06	6.5E-09	nd	1.3E-05	1.3E-08	6.5E-06	6.5E-09	nd	8.1E-06	8.1E-09	4.1E-06	4.1E-09	
18	2,3,7,8-TCDF	0.1	nd	5.0E-06	5.0E-07	2.5E-06	2.5E-07	nd	6.0E-06	6.0E-07	3.0E-06	3.0E-07	nd	4.0E-06	4.0E-07	2.0E-06	2.0E-07	
19	1,2,3,7,8-PCDF	0.05	nd	9.5E-06	4.8E-07	4.8E-06	2.4E-07	nd	7.6E-06	3.8E-07	3.8E-06	1.9E-07	nd	7.8E-06	3.9E-07	3.9E-06	2.0E-07	
20	2,3,4,7,8-PCDF	0.5	nd	9.9E-06	5.0E-06	5.0E-06	2.5E-06	nd	7.8E-06	3.9E-06	3.9E-06	2.0E-06	nd	8.3E-06	4.2E-06	4.2E-06	2.1E-06	
21	1,2,3,4,7,8-HxCDF	0.1	nd	1.3E-05	1.3E-06	6.5E-06	6.5E-07	nd	1.7E-05	1.7E-06	8.5E-06	8.5E-07	nd	7.6E-06	7.6E-07	3.8E-06	3.8E-07	
22	1,2,3,6,7,8-HxCDF	0.1	nd	1.3E-05	1.3E-06	6.5E-06	6.5E-07	nd	1.7E-05	1.7E-06	8.5E-06	8.5E-07	nd	7.6E-06	7.6E-07	3.8E-06	3.8E-07	
23	2,3,4,6,7,8-HxCDF	0.1	nd	1.5E-05	1.5E-06	7.5E-06	7.5E-07	nd	1.8E-05	1.8E-06	9.0E-06	9.0E-07	nd	8.5E-06	8.5E-07	4.3E-06	4.3E-07	
24	1,2,3,7,8,9-HxCDF	0.1	nd	1.6E-05	1.6E-06	8.0E-06	8.0E-07	nd	2.1E-05	2.1E-06	1.1E-05	1.1E-06	nd	9.5E-06	9.5E-07	4.8E-06	4.8E-07	
25	1,2,3,4,6,7,8-HpCDF	0.01	nd	3.9E-06	3.9E-08	2.0E-06	2.0E-08	nd	6.8E-06	6.8E-08	3.4E-06	3.4E-08	nd	4.0E-06	4.0E-08	2.0E-06	2.0E-08	
26	1,2,3,4,7,8,9-HpCDF	0.01	nd	4.8E-06	4.8E-08	2.4E-06	2.4E-08	nd	9.1E-06	9.1E-08	4.6E-06	4.6E-08	nd	5.5E-06	5.5E-08	2.8E-06	2.8E-08	
27	OCDF	0.001	nd	7.9E-06	7.9E-09	4.0E-06	4.0E-09	nd	8.9E-06	8.9E-09	4.5E-06	4.5E-09	nd	9.5E-06	9.5E-09	4.8E-06	4.8E-09	
28	Total TCDD	0	nd	6.0E-06	0.0E+00	3.0E-06	0.0E+00	nd	6.8E-06	0.0E+00	3.4E-06	0.0E+00	nd	4.7E-06	0.0E+00	2.4E-06	0.0E+00	
29	Total PCDD	0	nd	9.9E-06	0.0E+00	5.0E-06	0.0E+00	nd	1.6E-05	0.0E+00	8.0E-06	0.0E+00	nd	1.5E-05	0.0E+00	7.5E-06	0.0E+00	
30	Total HxCDD	0	nd	1.4E-05	0.0E+00	7.0E-06	0.0E+00	nd	2.0E-05	0.0E+00	1.0E-05	0.0E+00	nd	2.1E-05	0.0E+00	1.1E-05	0.0E+00	
31	Total HpCDD	0	nd	5.6E-06	0.0E+00	2.8E-06	0.0E+00	nd	7.0E-06	0.0E+00	3.5E-06	0.0E+00	nd	5.9E-06	0.0E+00	3.0E-06	0.0E+00	
32	Total TCDF	0	nd	9.7E-06	0.0E+00	4.9E-06	0.0E+00	nd	1.1E-05	0.0E+00	5.5E-06	0.0E+00	nd	4.0E-06	0.0E+00	2.0E-06	0.0E+00	
33	Total PCDF	0	nd	9.9E-06	0.0E+00	5.0E-06	0.0E+00	nd	7.8E-06	0.0E+00	3.9E-06	0.0E+00	nd	8.3E-06	0.0E+00	4.2E-06	0.0E+00	
34	Total HxCDF	0	nd	1.6E-05	0.0E+00	8.0E-06	0.0E+00	nd	2.1E-05	0.0E+00	1.1E-05	0.0E+00	nd	9.5E-06	0.0E+00	4.8E-06	0.0E+00	
35	Total HpCDF	0	nd	4.8E-06	0.0E+00	2.4E-06	0.0E+00	nd	9.1E-06	0.0E+00	4.6E-06	0.0E+00	nd	5.5E-06	0.0E+00	2.8E-06	0.0E+00	
36																		
37	Gas sample volume (dscf)																	
38	O2 (%)				9.80	9.80	9.80		8.90	8.90	8.90			9.30	9.30	9.30		
39																		
40	PCDD/PCDF (ng/dscm in sample)			0.027	0.048	0.013		0.033	0.060	0.016		0.027	0.046	0.013				
41	PCDD/PCDF (ng/dscm @ 7% O2)		100.0	0.021	0.061	0.010	100.0	0.026	0.070	0.013	100.0	0.022	0.055	0.011				
42																		
43	TEQ Cond Avg		0.011															
44	Total Cond Avg		0.058															

A	B	S	T	U	V	W
1	PCDD/PCDF					
2	N					
3	Facility Name and ID:					
4	Condition ID:					
5	Condition/Test Date:					
6						
7						
8				Run 4		
9			Total	TEQ	Total	TEQ
10	Detected in concentration (ug		Full ND	Full ND	1/2 ND	1/2 ND
11	2,3,7,8-TCDD	nd	4.1E-06	4.1E-06	2.1E-06	2.1E-06
12	1,2,3,7,8-PCDD	nd	1.2E-05	6.0E-06	6.0E-06	3.0E-06
13	1,2,3,4,7,8-HxCDD	nd	1.5E-05	1.5E-06	7.5E-06	7.5E-07
14	1,2,3,6,7,8-HxCDD	nd	1.5E-05	1.5E-06	7.5E-06	7.5E-07
15	1,2,3,7,8,9-HxCDD	nd	1.4E-05	1.4E-06	7.0E-06	7.0E-07
16	1,2,3,4,6,7,8-HpCDD	nd	5.8E-06	5.8E-08	2.9E-06	2.9E-08
17	OCDD	nd	9.9E-06	9.9E-09	5.0E-06	5.0E-09
18	2,3,7,8-TCDF	nd	3.3E-06	3.3E-07	1.7E-06	1.7E-07
19	1,2,3,7,8-PCDF	nd	8.0E-06	4.0E-07	4.0E-06	2.0E-07
20	2,3,4,7,8-PCDF	nd	8.2E-06	4.1E-06	4.1E-06	2.1E-06
21	1,2,3,4,7,8-HxCDF	nd	5.6E-06	5.6E-07	2.8E-06	2.8E-07
22	1,2,3,6,7,8-HxCDF	nd	5.8E-06	5.8E-07	2.9E-06	2.9E-07
23	2,3,4,6,7,8-HxCDF	nd	6.2E-06	6.2E-07	3.1E-06	3.1E-07
24	1,2,3,7,8,9-HxCDF	nd	6.8E-06	6.8E-07	3.4E-06	3.4E-07
25	1,2,3,4,6,7,8-HpCDF	nd	3.1E-06	3.1E-08	1.6E-06	1.6E-08
26	1,2,3,4,7,8,9-HpCDF	nd	4.1E-06	4.1E-08	2.1E-06	2.1E-08
27	OCDF	nd	8.2E-06	8.2E-09	4.1E-06	4.1E-09
28	Total TCDD	nd	4.1E-06	0.0E+00	2.1E-06	0.0E+00
29	Total PCDD	nd	1.2E-05	0.0E+00	6.0E-06	0.0E+00
30	Total HxCDD	nd	1.5E-05	0.0E+00	7.5E-06	0.0E+00
31	Total HpCDD	nd	5.8E-06	0.0E+00	2.9E-06	0.0E+00
32	Total TCDF	nd	3.3E-06	0.0E+00	1.7E-06	0.0E+00
33	Total PCDF	nd	8.2E-06	0.0E+00	4.1E-06	0.0E+00
34	Total HxCDF	nd	6.8E-06	0.0E+00	3.4E-06	0.0E+00
35	Total HpCDF	nd	4.1E-06	0.0E+00	2.1E-06	0.0E+00
36						
37	Gas sample volume (dscf)					
38	O2 (%)			9.10	9.10	9.10
39						
40	PCDD/PCDF (ng/dscm in ε			0.022	0.039	0.011
41	PCDD/PCDF (ng/dscm @ 100.0			0.018	0.046	0.009
42						
43	TEQ Cond Avg					
44	Total Cond Avg					

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	470C1																	
2																		
3	ng/dscm	I-TEF		Total	R1			Total	R2			Total	R3			Total	R4	
4		Wt Fact		Full ND	1/2 ND	1/2 ND		Full ND	1/2 ND	1/2 ND		Full ND	1/2 ND	1/2 ND		Full ND	1/2 ND	1/2 ND
5	4D 2378	1	1	0.009	0.004	0.004	1	0.010	0.005	0.005	1	0.009	0.005	0.005	1	0.010	0.005	0.005
6	4D Total	0		0.019	0.019	0.000		0.018	0.018	0.000		0.026	0.026	0.000		0.011	0.011	0.000
7	5D 12378	0.5	1	0.043	0.021	0.011	1	0.048	0.024	0.012	1	0.046	0.023	0.011	1	0.051	0.025	0.013
8	6D 123478	0.1	1	0.043	0.021	0.002	1	0.048	0.024	0.002	1	0.046	0.023	0.002	1	0.051	0.025	0.003
9	6D 123678	0.1	1	0.043	0.021	0.002	1	0.048	0.024	0.002	1	0.046	0.023	0.002	1	0.051	0.025	0.003
10	6D 123789	0.1	1	0.043	0.021	0.002	1	0.048	0.024	0.002	1	0.046	0.023	0.002	1	0.051	0.025	0.003
11	7D 1234678	0.01	1	0.043	0.021	0.000	1	0.048	0.024	0.000		0.082	0.082	0.001	1	0.051	0.025	0.000
12	7D Total	0	1	0.043	0.021	0.000	1	0.048	0.024	0.000		0.202	0.202	0.000	1	0.051	0.026	0.000
13	8D	0.001	1	0.086	0.043	0.000	1	0.096	0.048	0.000		0.121	0.121	0.000	1	0.102	0.051	0.000
14	4F 2378	0.1	1	0.009	0.004	0.000	1	0.010	0.005	0.000	1	0.009	0.005	0.000	1	0.010	0.005	0.001
15	4F Total	0		0.274	0.274	0.000		0.146	0.146	0.000		0.241	0.241	0.000		0.092	0.092	0.000
16	5F 12378	0.05	1	0.043	0.021	0.001	1	0.048	0.024	0.001	1	0.046	0.023	0.001	1	0.051	0.025	0.001
17	5F 23478	0.5	1	0.043	0.021	0.011	1	0.048	0.024	0.012		0.152	0.152	0.076	1	0.051	0.025	0.013
18	5F Total	0		0.062	0.062	0.000		0.053	0.053	0.000		0.355	0.355	0.000	1	0.051	0.026	0.000
19	6F 123478	0.1	1	0.043	0.021	0.002	1	0.048	0.024	0.002		0.053	0.053	0.005	1	0.051	0.025	0.003
20	6F 123678	0.1	1	0.043	0.021	0.002	1	0.048	0.024	0.002		0.055	0.055	0.006	1	0.051	0.025	0.003
21	6F 123789	0.1	1	0.043	0.021	0.002	1	0.048	0.024	0.002	1	0.046	0.023	0.002	1	0.051	0.025	0.003
22	6F 234678	0.1	1	0.043	0.021	0.002	1	0.048	0.024	0.002		0.118	0.118	0.012	1	0.051	0.025	0.003
23	6F Total	0		0.006	0.006	0.000	1	0.048	0.024	0.000		0.685	0.685	0.000		0.097	0.097	0.000
24	7F 1234678	0.01	1	0.043	0.021	0.000	1	0.048	0.024	0.000		0.583	0.583	0.006		0.101	0.101	0.001
25	7F 1234789	0.01		0.087	0.087	0.001		0.072	0.072	0.001		0.188	0.188	0.002		0.103	0.103	0.001
26	7F Total	0		0.128	0.128	0.000	1	0.048	0.024	0.000		1.129	1.129	0.000		0.235	0.235	0.000
27	8F	0.001	1	0.086	0.043	0.000	1	0.096	0.048	0.000		0.422	0.422	0.000	1	0.102	0.051	0.000
28	Total PCDD/PCDF			0.703	0.596			0.553	0.384			3.181	3.181			0.741	0.587	
29	TEQ		99.0	0.086		0.044	99.3	0.097		0.049	33.1	0.161		0.134	98.0	0.103		0.053
30																		
31																		
32	TEQ cond avg		0.070															