	B	C
1	**Source Description**	
2		
3	Phase I ID No.	463
4	EPA ID No.	MOD056389828
5	Facility Name	Miles, Inc.
6	Facility Location	
7	City	Kansas City
8	State	MO
9	Unit ID Name/No.	Miles thermal oxidizer
10	Other Sister Facilities	
11	Number of Sister Facilities	0
12	Combustor Class	Onsite incinerator
13	Combustor Type	Liquid injection
14	Combustor Characteristics	A pressurized, down-fired unit, has a single vertical combustion chamber. Designed to burn about 21 gp, of organic and aqueous liq wastes and 7800 scfm natural gas.
15		
16	Capacity (MMBtu/hr)	41
17	Soot Blowing	
18	APCS Detailed Acronym	SC/SP/Q/PB
19	APCS General Class	HEWS, LEWS, WQ
20	APCS Characteristics	Venturi scrubber, SO2 scrubber, separator, quench, packed bed
21	Hazardous Wastes	Liq
22	Haz Waste Description	Aqueous and liq organic genearated from onsite processes
23	Supplemental Fuel	Natural gas, oil
24		Fuel oil
25		
26	Stack Characteristics	
27	Diameter (ft)	2.97
28	Height (ft)	23.4
29	Gas Velocity (ft/sec)	25.2
30	Gas Temperature (°F)	185
31		
32	Permitting Status	Tier I for all metals except As, Pb, Cr, Cd (tier III)
33	HWC Burn Status (Date if Terminated)	

	B	C
1	**Condition Description**	
2		
3	**463C1**	
4		
5	Report Name/Date	Trial Burn Sampling and Analysis Results for the Mobay Incinerator, Kansas City, MO, Final Report, MRI, November 1984
6	Report Prepare	Midwest Research Institute
7	Testing Firm	Midwest Research Institute
8	Cond Descr	?
9	Testing Dates	November 13-14, 1984
10	Cond Dates	Nov-84
11		
12	**463C10**	
13		
14	Report Name/Date	Trial Burn Report, February 1985
15	Report Prepare	Midwest Research Institute (MRI)
16	Testing Firm	Mobay Chemical Corporation
17	Testing Dates	November 13-14, 1984
18	Cond Dates	Nov-84
19	Condition Descr	Trial burn, worst case, max temp, max feedrate
20	Content	PM, CO, HCl/Cl2, DRE
21		
22	**463C11**	
23		
24	Report Name/Date	Trial Burn Report, May 1986
25	Report Prepare	Midwest Research Institute (MRI)
26	Testing Firm	Mobay Chemical Corporation
27	Testing Dates	April 22, 1986
28	Cond Dates	Apr-86
29	Condition Descr	Trial burn, low temp, max feedrate
30	Content	PM, CO, HCl/Cl2, DRE
31		
32	**463C12**	
33		
34	Report Name/Date	EPA OSW Sponsored Evaluation Testing, November 1988
35	Report Prepare	Midwest Research Institute (MRI)
36	Testing Firm	Mobay Chemical Corporation
37	Testing Dates	October 1, 1988
38	Cond Dates	Oct-98
39	Condition Descr	EPA OSW Sponsored Evaluation Testing
40	Content	PM, CO, metals
41		
42	**463C13**	
43		
44	Report Name/Date	Metal Trial Burn Report, June 1994
45	Report Prepare	ENSR and B^3 System (spiking report)
46	Testing Firm	ENSR
47	Testing Dates	March 28-31, 1994
48	Cond Dates	Mar-94
49	Condition Descr	Trial burn, worst case, max temp, max feedrate
50	Content	PM, CO, metals

	B	C	D	E	F	G	H	I	J	K	L	M
1	**Stack Gas Emissions**											
2												
3		Comments	Units	7% O2								
4												
5												
6	**463C10**	**Trial Burn**				R1		R2		R3		Cond Avg
7												
8	PM	E1	gr/dscf	y		0.0740		0.1250		0.1380		0.1123
9												
10	CO (RA)		ppmv	n		5900		5500		5600		5666.7
11												
12	HCl		g/min	n		17.00		14.00		14.00		
13												
14	POHC DRE	1,2-Dichloroethane										
15	POHC Feedrate		lb/hr			211.5		171.8		198.2		
16	Emission Rate	E1	lb/hr			7.1E-05		3.4E-05		4.9E-05		
17	DRE	E1	%			99.999966		99.99998		99.999975		
18												
19	POHC DRE	Tetrachloroethylene										
20	POHC Feedrate		lb/hr			224.7		185.0		198.2		
21	Emission Rate	E1	lb/hr			2.8E-04		1.7E-03		1.9E-03		
22	DRE	E1	%			99.9998		99.99907		99.99907		
23												
24	Sampling Train	PM, HCl/Cl2,	E1									
25	Stack Gas Flowrate		dscfm			9469.964664		9151.9435		9293.28622		9305.1
26	O2		%			4.6		5.5		5.2		5.1
27	Moisture		%									
28	Temperature		°F									
29												
30	CO (RA)	E1	ppmv	y		5036.59		4967.74		4962.03		4988.8
31												
32	HCl	E1	ppmv	y		36.16		32.60		31.50		33.4
33	Total Chlorine	E1	ppmv	y		36.16		32.60		31.50		33.4
34												
35	**463C11**	**Trial Burn**				R1		R2		R3		Cond Avg
36												
37	PM	E1	gr/dscf	y		0.0648		0.0618		0.0453		0.1
38												
39	CO (RA)		ppmv	n		2800		2750		2860		
40												
41	HCl		kg/hr	n		0.86		1.00		0.86		
42	Cl2		kg/hr	n								
43												
44	POHC DRE	1,2-Dichloroethane										
45	POHC Feedrate		lb/hr			211.5		171.8		198.2		
46	Emission Rate	E1	lb/hr			7.1E-05		3.4E-05		4.9E-05		
47	DRE	E1	%			99.999966		99.99998		99.999975		
48												
49	POHC DRE	Tetrachloroethylene										
50	POHC Feedrate		lb/hr			224.7		185.0		198.2		
51	Emission Rate	E1	lb/hr			2.8E-04		1.7E-03		1.9E-03		
52	DRE	E1	%			99.9998		99.99907		99.99907		
53												
54	Sampling Train	PM, HCl/Cl2,	E1									
55	Stack Gas Flowrate		dscfm			9226		9183		9160		9189.7
56	O2		%			5.8		5		4.8		5.2
57	Moisture		%									
58	Temperature		°F									
59												
60	CO (RA)	E1	ppmv	y		2390.24		2483.87		2534.18		2469.4
61												
62	HCl	E1	ppmv	y		30.49		38.81		32.25		33.9
63	Total Chlorine	E1	ppmv	y		30.49		38.81		32.25		33.9
64												
65	**463C12**	EPA OSW Sponsored testing				R1		R2		R3		Cond Avg
66												
67	PM	E1	gr/dscf	y		0.0223		0.0199		0.0212		0.0211
68												
69	CO (RA)		ppmv	n		33		33		31		
70												
71	Arsenic		mg/min	n		0.9		0.8		0.8		

	B	C	D	E	F	G	H	I	J	K	L	M
72	Cadmium		mg/min	n		1.3		1.6		1.8		
73	Chromium		mg/min	n		2.10		4.30		3.90		
74	Lead		mg/min	n		1.30		1.20		0.70		
75												
76	Sampling Train	PM, metals	E1									
77	Stack Gas Flowrate		dscfm			6964		7127		6986		7025.7
78	O2		%			4.2		5.8		5.2		5.1
79	Moisture		%			58.7		56.5		59.6		58.3
80	Temperature		°F			185		184		186		185.0
81												
82	CO (RA)	E1	ppmv	y		27.50		30.39		27.47		28.5
83												
84	Arsenic	E1	ug/dscm	y		3.81		3.65		3.59		3.7
85	Cadmium	E1	ug/dscm	y		5.50		7.31		8.07		7.0
86	Chromium	E1	ug/dscm	y		8.88		19.64		17.48		15.3
87	Lead	E1	ug/dscm	y		5.50		5.48		3.14		4.7
88	SVM	E1	ug/dscm	y		10.99		12.79		11.20		11.7
89	LVM	E1	ug/dscm	y		12.69		23.29		21.06		19.0
90												
91												
92	**463C13**	**Trial Burn**				R1		R2		R3		Cond Avg
93												
94	CO (RA)		ppmv	n		73		83		80		
95												
96	Arsenic		ug/dscm	n		125.5		116.1		114		
97	Cadmium		ug/dscm	n		73.8		96.6		70.8		
98	Chromium		ug/dscm	n		531		750		636		
99	Lead		ug/dscm	n		8988		17843		17174		
100	Chromium (Hex)		ug/dscm	n		13		23		24		
101												
102	Sampling Train	Metals	E1									
103	Stack Gas Flowrate		dscfm			6748		6563		6773		6694.7
104	O2		%			5.67		6.93		7.3		6.6
105	Moisture		%			56.2		58.3		58.5		57.7
106	Temperature		°F			184		189		185		186.0
107												
108	Sampling Train	Cr+6	E2									
109	Stack Gas Flowrate		dscfm			7360		6788		6891		7013.0
110	O2		%			5.67		7.33		7.3		6.8
111	Moisture		%			52		57.2		57.9		55.7
112	Temperature		°F			189		192		186		189.0
113												
114	CO (RA)	E1	ppmv	y		66.67		82.59		81.75		77.0
115												
116	Arsenic	E1	ug/dscm	y		114.61		115.52		116.50		115.5
117	Cadmium	E1	ug/dscm	y		67.40		96.12		72.35		78.6
118	Chromium	E1	ug/dscm	y		484.93		746.27		649.93		627.0
119	Lead	E1	ug/dscm	y		8208		17754		17550		14504
120	Chromium (Hex)	E2	ug/dscm	y		12.05		23.86		24.73		20.2
121	SVM	E1	ug/dscm	y		8276		17850		17622		14583
122	LVM	E1	ug/dscm	y		599.5		861.8		766.4		742.6

	B	C	D	E	F	G	H	I	J	K	L	M
1	**Stack Gas Emissions 2**											
2												
3												
4	**463C1**					R1		R2		R3		Cond Avg
5												
6	PM	E1	gr/dscf	y		0.0740		0.1250		0.1380		0.1123
7	CO (RA)	E1	ppmv	y		5036.6		4967.7		4962.0		4988.8
8	HCl	E1	ppmv	y		35.8		32.3		31.2		33.1
9	Total Chlorine	E1	ppmv	y		35.8		32.3		31.2		33.1
10												
11	Sampling Train	Halogens	E1									
12	Stack Gas Flowrate		dscfm			9474.0		9148.0		9282.0		
13	O2		%			4.6		5.5		5.2		
14	Moisture		%			53.9		53.8		52.6		
15	Temperature		°F			181.0		181.0		180.0		
16												
17	1,2-dichloroethane	E1	%			99.99997		99.99998		99.99998		
18	Tetrachloroethene	E1	%			99.99988		99.99907		99.99907		

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
1	**Feedstream 2**																							
2																								
3	**463C10**	**Trial burn**			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2	
4																								
5	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2					
6	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		Liq HW		Liq HW		Liq HW		Liq HW					
7	Feed Class 2																				HW		HW	
8	Feedstream Description				Liq Organic		Liq Organic		Liq Organic		Liq Organic		Aqueous		Aqueous		Aqueous		Aqueous					
9	Feed Rate		gpm		5.8		5.6		5.6				14		14		14							
10	Thermal Feedrate		MMBtu/hr		47		39		40				10.6		8.9		9.2							
11	Heating Value		Btu/lb		10950		10270		10480				1380		1150		1190							
12	Density		g/ml		0.92		0.92		0.92				1.1		1.1		1.1							
13	Viscosity		SSU @ 100oF		30		29		30				28		29		28							
14	Ash		%	nd	0.1	nd	0.1	nd	0.1				8.3		8		8							
15	Chlorine		%		15.1		15.2		15.7				4.1		3.9		3.9							
16																								
17	Stack Gas Flowrate		dscfm		9470		9152		9293		9305		9470		9152		9293		9305					
18	Oxygen		%		4.6		5.5		5.2		5.1		4.6		5.5		5.2		5.1					
19																								
20	Estimated Firing Rate		MMBtu/hr																					
21																								
22	*Feedrate MTEC Calculations*																							
23	Ash		mg/dscm	100	64.42	100	68.09	100	65.79		33.05		15430.76		16283.45		15731.32		15815.18	0.4	15495.18	0	16351.55	0.4
24	Chlorine		ug/dscm		9727055		10350355		10328326		10135245.0		7622425		7938183		7669018		7743208.71		17349480.38		18288537.61	
25																								
26	**463C11**	**Trial burn**			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2	
27																								
28	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2					
29	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		Liq HW		Liq HW		Liq HW		Liq HW					
30	Feed Class 2																				HW		HW	
31	Feedstream Description				Liq Organic		Liq Organic		Liq Organic		Liq Organic		Aqueous		Aqueous		Aqueous		Aqueous					
32	Feed Rate		gpm																					
33	Thermal Feedrate		MMBtu/hr		36		41		41															
34	Heating Value		Btu/lb		10129		11018		10887				1159		1227		1118							
35	Density		g/ml		0.91		0.9		0.9				1.06		1.06		1.07							
36	Viscosity		SSU @ 100oF																					
37	Ash		%		0.05		0.06		0.04				3.6		3.7		3.9			nd				
38	Chlorine		%		12.1		12.3		12.2				0.1		0.1		0.1			nd				
39																								
40	Stack Gas Flowrate		dscfm		9226		9183		9160		9189.7		9226		9183		9160		9189.7					
41	Oxygen		%		5.8		5		4.8		5.2		5.8		5		4.8		5.2					
42																								
43	Estimated Firing Rate		MMBtu/hr																					
44																								
45	*Feedrate MTEC Calculations*																							
46	Ash		mg/dscm		No feedrate																			
47	Chlorine		ug/dscm																					
48																								
49	**463C12**	**EPA OSW Evaluation testi**			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2	
50																								
51	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2					
52	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		Liq HW		Liq HW		Liq HW		Liq HW					
53	Feedstream Description				Liq Organic		Liq Organic		Liq Organic		Liq Organic		Aqueous		Aqueous		Aqueous		Aqueous					
54	Feed Class 2																				HW		HW	
55	Feed Rate		kg/min		12		11		11				25		27		24							
56	Feed Rate		acfm																					
57	Thermal Feedrate		MM Btu/hr		28.8		31.9		29		29.90													
58	Heating Value		Btu/lb																					
59	Density		g/ml		0.97		0.97		0.97				1.04		1.04		1.04							
60	Viscosity		SSU @ 100oF																					

	B	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU
1	**Feedstream 2**																						
2																							
3	**463C10**	R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg			
4																							
5	Feedstream Number					F3		F3		F3		F3		F4		F4		F4		F4			
6	Feed Class					Oil		Oil		Oil		Oil		Total		Total		Total		Total			
7	Feed Class 2	HW		HW		MF		MF		MF		MF		Total		Total		Total		Total			
8	Feedstream Description					Fuel Oil		Fuel Oil		Fuel Oil		Fuel Oil		Total		Total		Total		Total			
9	Feed Rate					0.8		0.5		0.5													
10	Thermal Feedrate					6.7		4.1		4.1				64.3		52.0		53.3		56.5			
11	Heating Value					19330.0		19280.0		19240.0													
12	Density					0.9		0.9		0.9													
13	Viscosity					34.0		35.0		35.0													
14	Ash				nd	0.1	nd	0.1	nd	0.1													
15	Chlorine				nd	0.1	nd	0.1	nd	0.1													
16																							
17	Stack Gas Flowrate					9470		9152		9293		9305		9470		9152		9293		9305.1			
18	Oxygen					4.6		5.5		5.2		5.1		4.6		5.5		5.2		5.1			
19																							
20	Estimated Firing Rate													49.3		45.0		46.6		47.0			
21																							
22	*Feedrate MTEC Calculations*																						
23	Ash	15797.10		15848.23	100	8.31	100	5.68	100	5.49	100	3.25		15467.1		16320.3		15767.0		15851.5			
24	Chlorine	17997343.18		17878453.72	100	8306	100	5683	100	5491	100	2315.45		17353633.2		18291379.3		18000088.5		17880769.2			
25																							
26	**463C11**	R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg			
27																							
28	Feedstream Number					F3		F3		F3		F3		F4		F4		F4		F4			
29	Feed Class					Oil		Oil		Oil		Oil		Total		Total		Total		Total			
30	Feed Class 2	HW		HW		MF		MF		MF		MF		Total		Total		Total		Total			
31	Feedstream Description					Fuel Oil		Fuel Oil		Fuel Oil		Fuel Oil		Total		Total		Total		Total			
32	Feed Rate																						
33	Thermal Feedrate																						
34	Heating Value					19454.0		19420.0		19422.0													
35	Density					0.9		0.9		0.9													
36	Viscosity																						
37	Ash					0.1	nd	0.1	nd	0.1													
38	Chlorine					0.1	nd	0.1	nd	0.1													
39																							
40	Stack Gas Flowrate					9226		9183		9160		9189.7		9226		9183		9160		9189.7			
41	Oxygen					5.8		5		4.8		5.2		5.8		5		4.8		5.2			
42																							
43	Estimated Firing Rate													44.5		46.6		47.1		46.1			
44																							
45	*Feedrate MTEC Calculations*																						
46	Ash																						
47	Chlorine																						
48																							
49	**463C12**	R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1	
50																							
51	Feedstream Number					F3		F3		F3		F3		F4		F4		F4		F4		F5	
52	Feed Class					Liq non-HW		Liq non-HW		Liq non-HW		Liq non-HW		NG		NG		NG		NG		Spike	
53	Feedstream Description					Tempering Water		Tempering Wate		Tempering Wate		Tempering Wate		Natural gas		Natural gas		Natural gas		Natural gas		Spike	
54	Feed Class 2	HW		HW		RM		RM		RM		RM		MF		MF		MF		MF		Spike	
55	Feed Rate					7.6		7.6		7.6												0.05073	
56	Feed Rate													3270.0		5770.0		5910.0					
57	Thermal Feedrate																						
58	Heating Value																						
59	Density					1.0		1.0		1.0													
60	Viscosity																						

	B	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH
1	**Feedstream 2**													
2														
3	**463C10**													
4														
5	Feedstream Number													
6	Feed Class													
7	Feed Class 2													
8	Feedstream Description													
9	Feed Rate													
10	Thermal Feedrate													
11	Heating Value													
12	Density													
13	Viscosity													
14	Ash													
15	Chlorine													
16														
17	Stack Gas Flowrate													
18	Oxygen													
19														
20	Estimated Firing Rate													
21														
22	*Feedrate MTEC Calculations*													
23	Ash													
24	Chlorine													
25														
26	**463C11**													
27														
28	Feedstream Number													
29	Feed Class													
30	Feed Class 2													
31	Feedstream Description													
32	Feed Rate													
33	Thermal Feedrate													
34	Heating Value													
35	Density													
36	Viscosity													
37	Ash													
38	Chlorine													
39														
40	Stack Gas Flowrate													
41	Oxygen													
42														
43	Estimated Firing Rate													
44														
45	*Feedrate MTEC Calculations*													
46	Ash													
47	Chlorine													
48														
49	**463C12**	R2		R3		Cond Avg		R1		R2		R3		Cond Avg
50														
51	Feedstream Number	F5		F5		F5		F6		F6		F6		F6
52	Feed Class	Spike		Spike		Spike		Total		Total		Total		Total
53	Feedstream Description	Spike		Spike		Spike		Total		Total		Total		Total
54	Feed Class 2	Spike		Spike		Spike		Total		Total		Total		Total
55	Feed Rate	0.06155		0.06742										
56	Feed Rate													
57	Thermal Feedrate													
58	Heating Value													
59	Density													
60	Viscosity													

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
61	Ash		%		0.045		0.064		0.034				3.07		2.71		2.96							
62	Arsenic		mg/kg	nd	4.27	nd	4.11	nd	2.49				1.42		3.04		2.64			nd				
63	Cadmium		mg/kg	nd	0.0291	nd	0.0279	nd	0.0264			nd	0.00172		0.0122	nd	0.00165							
64	Chromium		mg/kg		1.64		1.65		1.02				0.265		0.131		0.29							
65	Lead		mg/kg	nd	1.04	nd	1	nd	0.945				0.446		0.167		0.293							
66																								
67	Stack Gas Flowrate		dscfm		6964		7127		6986		7026		6964		7127		6986		7026					
68	Oxygen		%		4.2		5.8		5.2		5.1		4.2		5.8		5.2		5.1					
69																								
70	Estimated Firing Rate		MMBtu/hr																					
71																								
72	*Feedrate MTEC Calculations*																							
73	Ash		mg/dscm		22.8		32.1		16.8		23.9		3245.28		3341.37		3183.90		3256.8		3268.1		3373.5	
74	Arsenic		ug/dscm	100	216.7	100	206.5	100	122.8	100	182.0		150.1		374.8		284.0		269.6	59	366.8	36	581.3	30
75	Cadmium		ug/dscm	100	1.5	100	1.4	100	1.3	100	1.4	100	0.2		1.5	100	0.2		0.6	100	1.7	48	2.9	100
76	Chromium		ug/dscm		83.2		82.9		50.3		72.1		28.0		16.2		31.2		25.1	0	111.2	0	99.0	0
77	Lead		ug/dscm	100	52.8	100	50.2	100	46.6	100	49.9		47.1		20.6		31.5		33.1	53	99.9	71	70.8	60
78	SVM		ug/dscm	100	54.2	100	51.6	100	47.9	100	51.3	0.4	47.3		22.1		31.6		33.7	54	101.6	70	73.7	60
79	LVM		ug/dscm	72	299.9	71	289.3	71	173.0	72	254.1		178.1		391.0		315.2		294.8	45	478.0	30	680.3	25
80																								
81																								
82																								
83	**463C13**	**Trial burn**			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2	
84																								
85	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2					
86	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		Liq HW		Liq HW		Liq HW		Liq HW					
87	Feed Class 2																				HW		HW	
88	Feedstream Description				Liq Organic		Liq Organic		Liq Organic		Liq Organic		Aqueous		Aqueous		Aqueous		Aqueous					
89	Feed Rate		lb/hr		1683		1683		1683		1683.0		2891		2891		2891		2891.0					
90	Feed Rate		acfm																					
91	Thermal Feedrate		MMBtu/hr		26.5		26.8		27.6		27.0		0.437		0.697		0.656		0.6					
92	Heating Value		Btu/lb		12187		12058		12435		12226.7		151		241		227		206.3					
93	Heating Value		Btu/scf																					
94	Density		g/cc @ 75oF		0.961		0.961		0.961				1.09		1.09		1.09							
95	Viscosity		SSU @ 100oF		1.44		1.39		1.48				1.82		2.17		2.14							
96	Ash		%										8.46		8.23		8.35							
97	Chlorine		%		15.42		14.46		14.99				0.04		0.05		0.03							
98	Arsenic		mg/kg																					
99	Cadmium		mg/kg																					
100	Chromium		mg/kg																					
101	Lead		mg/kg																					
102																								
103	Stack Gas Flowrate		dscfm		6748		6563		6773		6695		6748		6563		6773		6695					
104	Oxygen		%		5.67		6.93		7.3		7		5.67		6.93		7.3		6.6					
105																								
106	Estimated Firing Rate		MMBtu/hr																					
107																								
108	*Feedrate MTEC Calculations*																							
109	Ash		mg/dscm										8850.1		9644.9		9738.2		9411.06		8850.08		9644.90	
110	Chlorine		ug/dscm		9390689		9865114		10177247		9811017		41844		58596		34988		45143		9432533		9923710	
111	Arsenic		ug/dscm																		0.00		0.00	
112	Cadmium		ug/dscm																		0.00		0.00	
113	Chromium		ug/dscm																		0.00		0.00	
114	Lead		ug/dscm																		0.00		0.00	
115	SVM		ug/dscm																		0.00		0.00	
116	LVM		ug/dscm																		0.00		0.00	

	B	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU
61	Ash																						
62	Arsenic					0.000664	nd	0.000664	nd	0.000664											nd	0.339	nd
63	Cadmium					0.01		0.01		0.01												2200	
64	Chromium					0.0308		0.0308		0.0308												5700	
65	Lead					0.0884		0.0884		0.0884												759	
66																							
67	Stack Gas Flowrate					6964		7127		6986		7025.7										6964	
68	Oxygen					4.2		5.8		5.2		5.1										4.2	
69																							
70	Estimated Firing Rate																						
71																							
72	*Feedrate MTEC Calculations*																						
73	Ash	3200.7		3280.8										3268.1		3373.5		3200.7		3280.8			
74	Arsenic	406.7	40	451.6	100	0.021	100	0.023	100	0.023	100	0.01									100	0.1	100
75	Cadmium	1.5	77	2.0		0.3		0.3		0.3		0.34										471.9	
76	Chromium	81.5	0	97.2		1.0		1.1		1.0		1.04										1222.7	
77	Lead	78.1	60	82.9		2.8		3.1		3.0		2.97										162.8	
78	SVM	79.5	60	84.9		3.2		3.4		3.4		3.31										634.7	
79	LVM	488.2	33	548.8		1.0		1.1		1.1		1.06										1222.7	
80																							
81																							
82																							
83	**463C13**	R3		Cond Avg		R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg		R1	
84																							
85	Feedstream Number					F3		F3		F3		F3		F4		F4		F4		F4		F5	
86	Feed Class					NG		NG		NG		NG		Spike		Spike		Spike		Spike		Total	
87	Feed Class 2	HW		HW		MF		MF		MF		MF		Spike		Spike		Spike		Spike		Total	
88	Feedstream Description					Natural gas		Natural gas		Natural gas		Natural gas		Spike		Spike		Spike		Spike		Total	
89	Feed Rate													73.68		73.68		73.68		73.7			
90	Feed Rate					5467.0		5704.0		5933.0		5701.3											
91	Thermal Feedrate																					26.9	
92	Heating Value																						
93	Heating Value					1014.0		1014.0		1014.0		1014.0											
94	Density																						
95	Viscosity																						
96	Ash																						
97	Chlorine																						
98	Arsenic													0.03		0.03		0.03					
99	Cadmium													0.01		0.01		0.01					
100	Chromium													0.4		0.4		0.4					
101	Lead													1.85		1.85		1.85					
102																							
103	Stack Gas Flowrate													6748		6563		6773		6695		6748	
104	Oxygen													5.67		6.93		7.3		7		5.67	
105																							
106	Estimated Firing Rate																					32.8	
107																							
108	*Feedrate MTEC Calculations*																						
109	Ash	9738.21		9411.06																		8850.1	
110	Chlorine	10212234		9856159																		9432533	
111	Arsenic	0.00		0.00										799.8		896.0		891.7		862.5		799.8	
112	Cadmium	0.00		0.00										266.6		298.7		297.2		287.5		266.6	
113	Chromium	0.00		0.00										10664.5		11947.0		11889.2		11500.2		10664.5	
114	Lead	0.00		0.00										49323.1		55254.9		54987.7		53188.6		49323.1	
115	SVM	0.00		0.00										49589.7		55553.6		55285.0		53476.1		49589.7	
116	LVM	0.00		0.00										11464.3		12843.0		12780.9		12362.8		11464.3	

	B	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH
61	Ash													
62	Arsenic	0.311		0.632										
63	Cadmium	1990		1710										
64	Chromium	10500		4930										
65	Lead	735		523										
66														
67	Stack Gas Flowrate	7127		6986		7026		6964		7127		6986		7026
68	Oxygen	5.8		5.2		5.1		4.2		5.8		5.2		5.1
69														
70	Estimated Firing Rate							37.1		34.4		35.0		35.5
71														
72	*Feedrate MTEC Calculations*													
73	Ash							3268.1		3373.5		3200.7		3280.8
74	Arsenic	0.1	100	0.2	100	0.09	84	258.5	43	478.1	36	345.5	40	451.7
75	Cadmium	559.3		516.7		516.0		473.1		561.9		517.8		518.3
76	Chromium	2951.3		1489.7		1887.9		1334.9		3051.4		1572.2		1986.2
77	Lead	206.6		158.0		175.8	22	239.2	20	255.4	22	215.9	19	261.7
78	SVM	765.9		674.7		691.8	7	739.5	6	843.1	6	757.6	7	780.0
79	LVM	2951.3		1489.8		1887.9	13	1701.7	6	3632.7	6	1979.0	7	2437.8
80														
81														
82														
83	**463C13**	R2		R3		Cond Avg								
84														
85	Feedstream Number	F5		F5		F5								
86	Feed Class	Total		Total		Total								
87	Feed Class 2	Total		Total		Total								
88	Feedstream Description	Total		Total		Total								
89	Feed Rate													
90	Feed Rate													
91	Thermal Feedrate	27.5		28.3		27.6								
92	Heating Value													
93	Heating Value													
94	Density													
95	Viscosity													
96	Ash													
97	Chlorine													
98	Arsenic													
99	Cadmium													
100	Chromium													
101	Lead													
102														
103	Stack Gas Flowrate	6563		6773		6695								
104	Oxygen	6.93		7.3		7								
105														
106	Estimated Firing Rate	29.3		29.5		30.5								
107														
108	*Feedrate MTEC Calculations*													
109	Ash	9644.9		9738.2		9411.1								
110	Chlorine	9923710		10212234		9856159								
111	Arsenic	896.0		891.7		862.5								
112	Cadmium	298.7		297.2		287.5								
113	Chromium	11947.0		11889.2		11500.2								
114	Lead	55254.9		54987.7		53188.6								
115	SVM	55553.6		55285.0		53476.1								
116	LVM	12843.0		12780.9		12362.8								

	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	AC	AD	AE	AF	AG	AH	AI	AJ
1	**Feedstream 2**																																		
2																																			
3																																			
4	**463C1**				R1		R2		R3		R1		R2		R3		R1		R2		R3		R1		R2		R3		R1		R2		R3		Cond Avg
5																																			
6	Feedstream Number				F1		F1		F1		F2		F2		F2								F3		F3		F3		F4		F4		F4		F4
7	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		Liq HW		Liq HW								Oil		Oil		Oil		Total		Total		Total		Total
8	Feed Class 2																HW		HW		HW		MF		MF		MF		Total		Total		Total		Total
9	Feedstream Description				Organic						Aqueous												Fuel Oil						Total						
10	Feedrate		lb/hr		2700		2580		2580																										
11	Feedrate		gpm								14		14		14								0.8		0.5		0.5								
12	Heating value		Btu/lb		10950		10270		10480		1380		1150		1190								19330		19280		19240								
13	Thermal Feedrate		MMBtu/hr		29.6		26.5		27.0		9.3		7.7		8.0								7.4		4.6		4.6		46.3		38.9		39.7		41.6
14	Density		lb/gal								8		8		8								8		8		8								
15	Ash		wt %		0.1		0.1		0.1		8.3		8		8								0.1		0.1		0.1								
16	Chlorine		ppmw		151000		152000		157000		41000		39000		39000								1000		1000		1000								
17																																			
18	Gas flowrate				9474		9148		9282		9474		9148		9282								9474		9148		9282		9474		9148		9282		9301
19	Oxygen				4.6		5.5		5.2		4.6		5.5		5.2								4.6		5.5		5.2		4.6		5.5		5.2		5.1
20																																			
21	Feedrate MTECs																																		
22	Ash		mg/dscm		65.0		68.1		65.9		13437.4		14192.1		13721.7		13502		14260.2		13787.5		9.3		6.3		6.1		13511.7		14266.6		13793.6		13857.3
23	Chlorine		ug/dscm		9822221		10352653		10338723		6637769		6918664		6689312		16459989		17271316		17028035		9251		6336		6126		16469240		17277652		17034161		16927018
24																																			
25	Estimated Firing Rate		MMBtu/hr																										49.32		45.01		46.56		46.95

	B	C	D	E	F	G
1	**Process Information**					
2						
3	**463C10**			R1	R2	R3
4						
5	Thermocouple	^{o}C		832	838	829
6	Pyrometer	^{o}C		844	829	821
7	Acid Scrubber	10^3 scfm		430	460	450
8	Liq/Gas Ratio	gal		13.6	14.1	13.9
9	Venturi DP	in H2O		40	38	37
10	Scrubber pH	pH		5.4	5.5	5.5
11						
12	**463C11**			R1	R2	R3
13						
14	Thermocouple	^{o}C		824	828	830
15	Acid Scrubber	10^3 scfm		495	495	490
16	Liq/Gas Ratio	gal		25.9	25.6	25.5
17	Venturi DP	in H2O		39	40	39
18	Scrubber pH	pH		5.95	5.95	6
19						
20	**463C12**			R1	R2	R3
21						
22	Comb Chamber Temp	^{o}C		950	954	954
23	Quench Outlet Temp	^{o}C		91	91	91
24	Quench Water Flowrate	gpm		46	48	48
25	Scrubber Water Flowrate	gpm		43	43	58
26	Venturi Inlet Water Flow	gpm		196	196	195
27	Venturi Pressure Drop	in H2O		51	51	49
28	Scrubber Recycle Flowrate	gpm		530	540	535
29	Scrbubber Alkali Flowrate	gpm		2	1.8	1.8
30	Scrubber Effluent Flowrate	gpm		69	90	88
31	Scrubber Effluent	pH		7	7	7
32						
33	**463C13**			R1	R2	R3
34						
35	Comb Chamber Temp	^{o}C		1052	1052	1054
36	Liq to Gas Ratio	gpm:Mscfm		25.3	25.4	25.4
37	SO2 Scrubber Recycle	gpm		454	457	459
38	SO2 Scrubber pH	pH		7	7	7
39	Venturi Pressure Drop	in. H2O		41	41	41