	B	C
1	**Source Description**	
2		
3	Phase I ID No.	3024
4	EPA ID No.	TXD000017756
5	Facility Name	Dow Chemical Company
6	Facility Location	
7	City	La Porte
8	State	TX
9	Unit ID Name/No.	H-2000 Thermal Treatment Unit
10	Other Sister Facilities	
11	Number of Sister Facilities	0
12	Combustor Class	Onsite incinerator
13	Combustor Type	Liquid injection
14	Combustor Characteristics	A liquid injection incinerator, has two chamber, horizontally fired, refractory lined combustion chamber. Model TO-097001 maufactured by the John Zinc Company. Operated in the range of 1015-1150oC.
15	Capacity (MMBtu/hr)	
16	Soot Blowing	
17	APCS Detailed Acronym	Q/WSC/CSC
18	APCS General Class	WQ, LEWS
19	APCS Characteristics	Quench, packed bed water scrubber, vertical packed bed caustic scrubber
20	Hazardous Wastes	Liq
21	Haz Waste Description	Carbonyl Chloride Production and Carbon Tetrachloride Removal processes. L/M PSA organics
22	Supplemental Fuel	Natural gas
23		
24	Stack Characteristics	
25	Diameter (ft)	2.4
26	Height (ft)	120
27	Gas Velocity (ft/sec)	21.9
28	Gas Temperature (°F)	150
29		
30	Permitting Status	Tier I for all metals except Cr+6 (tier III)
31	HWC Burn Status (Date if Terminated)	

	B	C
1	**Condition Description**	
2		
3	**3024C1**	
4		
5	Report Name/Date	Trial Burn Report, October 1999
6	Report Prepare	Focus Environmental, Inc
7	Testing Firm	METCO Environmental
8	Testing Dates	July 15-16, 1999
9	Cond Dates	Jul-99
10	Condition Descr	Trial burn, max feedrate and max comb temp
11	Content	PM, HCl/Cl2, metals
12		
13	**3024C2**	
14		
15	Report Name/Date	Trial Burn Report, October 1999
16	Report Prepare	Focus Environmental, Inc
17	Testing Firm	METCO Environmental
18	Testing Dates	July 14, 1999
19	Cond Dates	Jul-99
20	Condition Descr	Trial burn, min comb temp (data considered invalid due to VOST analyses after holding time allowance. Testing rerun in Dec. 1999).
21	Content	DRE
22		
23	**3024C3**	
24		
25	Report Name/Date	Risk Burn (do not have complete report, all we have is PCDD/PCDF results table)
26	Report Prepare	
27	Testing Firm	METCO
28	Testing Dates	July 12, 1999
29	Cond Dates	Jul-99
30	Condition Descr	Risk burn
31	Content	PCDD/PCDF

	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	**3024C1**					R1		R2		R3		Cond Avg
7												
8	PM	E1	gr/dscf	y		0.02		0.0186		0.0168		0.0185
9	PM (total)	E1	gr/dscf	y		0.026		0.020		0.023		0.0230
10	CO (RA)		ppmv	n		10.6		10.8		10.8		
11	CO (MHRA)		ppmv	n		11		10.9		12.1		
12	HC (RA)		ppmv	n	nd	0.1		0.8		3.5		
13	NOx		ppmv	n		49.5		46.6		49.5		
14	SO2		ppmv	n		0.4	nd	0.3	nd	0.1		
15												
16	HCl		lb/hr			0.22		0.23		0.22		
17	Cl2		lb/hr			0.0879		0.0915		0.0595		
18												
19	Antimony		g/hr			0.0084		0.0140		0.0060		
20	Arsenic		g/hr		nd	0.0050	nd	0.0050	nd	0.0060		
21	Barium		g/hr			0.0027		0.0027		0.0029		
22	Beryllium		g/hr			0.0014		0.0016		0.0003		
23	Cadmium		g/hr			0.0011		0.0011	nd	0.0017		
24	Chromium		g/hr			0.0490		0.0730		0.0550		
25	Lead		g/hr			0.0410		0.0440		0.0240		
26	Mercury		g/hr		nd	0.0200	nd	0.0200	nd	0.0200		
27	Silver		g/hr		nd	0.0020	nd	0.0020	nd	0.0020		
28	Thallium		g/hr		nd	0.0050	nd	0.0050	nd	0.0060		
29	Chromium (Hex)		g/hr			0.0340		0.0580		0.0480		
30												
31	Sampling Train	PM, HCl/Cl2,	E1									
32	Stack Gas Flowrate		dscfm			3807		3857		3815		3826.3
33	O2		%			7.7		7.7		7.2		7.5
34	Moisture		%			27.64		26.24		26.67		26.9
35	Temperature		°F			151		151		152		151.3
36												
37	CO (RA)	E1	ppmv	y		11.2		11.4		11.0		11.2
38	CO (MHRA)	E1	ppmv	y		11.6		11.5		12.3		11.8
39	HC (RA)	E1	ppmv	y	nd	0.1		0.8		3.6		1.5
40	NOx	E1	ppmv	y		52.1		49.1		50.2		50.5
41	SO2	E1	ppmv	y		0.4	nd	0.3	nd	0.1		0.2
42												
43	HCl	E1	ppmv	y		10.9		11.2		10.4		10.8
44	Cl2	E1	ppmv	y		2.2		2.3		1.5		2.0
45	Total Chlorine	E1	ppmv	y		15.3		15.8		13.4		14.8
46												
47	Antimony	E1	ug/dscm	y		1.37		2.25		0.94		1.5
48	Arsenic	E1	ug/dscm	y	nd	0.81	nd	0.80	nd	0.94	100	0.9
49	Barium	E1	ug/dscm	y		0.44		0.43		0.45		0.4
50	Beryllium	E1	ug/dscm	y		0.23		0.26		0.05		0.2
51	Cadmium	E1	ug/dscm	y		0.18		0.18	nd	0.27		0.2
52	Chromium	E1	ug/dscm	y		7.98		11.73		8.61		9.4
53	Lead	E1	ug/dscm	y		6.68		7.07		3.76		5.8
54	Mercury	E1	ug/dscm	y	nd	3.26	nd	3.21	nd	3.13	100	3.2
55	Silver	E1	ug/dscm	y	nd	0.33	nd	0.32	nd	0.31	100	0.3
56	Thallium	E1	ug/dscm	y	nd	0.81	nd	0.80	nd	0.94	100	0.9
57	Chromium (Hex)	E1	ug/dscm	y		5.54		9.32		7.52		7.5
58	SVM	E1	ug/dscm	y		6.86		7.25		3.89		6.0
59	LVM	E1	ug/dscm	y		9.02		12.79		9.60		10.5
60												
61												
62	**3024C2**					R1		R2		R3		Cond Avg
63												
64	CO (RA)		ppmv	n		5.3		4.6		5.5		
65	CO (MHRA)		ppmv	n		5.8		4.9		6.3		
66												
67	POHC DRE	MCB										
68	POHC Feedrate		lb/hr			305.1		300.1		300.1		
69	Emission Rate	E1	lb/hr			2.20E-05	nd	2.60E-05	nd	1.70E-05		
70	DRE	E1	%			99.999993		99.999991		99.999994		
71												

	B	C	D	E	F	G	H	I	J	K	L	M
72	Sampling Train	DRE	E1									
73	Stack Gas Flowrate		dscfm			4469		4720		4378		4522.3
74	O2		%			12.6		12.5		12.4		12.5
75	Moisture		%									
76	Temperature		°F									
77												
78	CO (RA)	E1	ppmv	y		8.83		7.58		8.95		8.45
79	CO (MHRA)	E1	ppmv	y		9.67		8.07		10.26		9.33

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	**Feedstream**																		
2																			
3																			
4	**3024C1**	**Trial burn**			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg
5																			
6	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2
7	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		Spike		Spike		Spike		Spike
8	Feed Class 2				HW		HW		HW		HW		Spike		Spike		Spike		Spike
9	Feedstream Description				L/M PSA Organics		L/M PSA Organics		L/M PSA Organics		L/M PSA Organics		Spike		Spike		Spike		Spike
10	Feed Rate		lb/hr		608.14		612.94		671.17		630.8								
11	Heating Value		Btu/lb		11300		11500		11300		11366.7								
12	Thermal Feedrate		MM Btu/hr		6.9		7.0		7.59		7.2								
13	Density		lbs/gal		9.4		9.4		9.4		9.4								
14	Viscosity		cp		1		1.0		1		1.0								
15	Ash		lb/hr	nd	0.003	nd	0.003	nd	0.022		0.009		3.3		3.3		3.3		3.3
16	Chlorine		lb/hr		209		211.000		243		221.000		391.7		391.7		383.1		388.8
17	Sulfur		g/hr										452.8		452.8		452.8		452.8
18	Antimony		g/hr		0.0086		0.02		0.0064		0.010								
19	Arsenic		g/hr		0.006		0.006		0.006		0.006								
20	Barium		g/hr		0.0028		0.0		0.003		0.003								
21	Beryllium		g/hr		0.0014		0.0017	nd	0.0003		0.001								
22	Cadmium		g/hr		0.0011		0.0011		0.0018		0.001								
23	Chromium		g/hr		0.0025		0.0017		0.046		0.017		1.00		1.00		1.00		1.00
24	Lead		g/hr		0.041		0.045		0.025		0.037								
25	Mercury		g/hr	nd	0.02	nd	0.02	nd	0.02		0.020								
26	Nickel		g/hr	nd	0.003	nd	0.003		0.032		0.013								
27	Selenium		g/hr	nd	0.01	nd	0.01	nd	0.01		0.010								
28	Silver		g/hr	nd	0.002	nd	0.002	nd	0.002		0.002								
29	Thallium		g/hr	nd	0.005	nd	0.005	nd	0.006		0.005								
30	Zinc		g/hr		0.029		0.14		0.17		0.113								
31																			
32																			
33	Stack Gas Flowrate		dscfm		3807.0		3857		3815		3826		3807.0		3857		3815		3826
34	Oxygen		%		7.7		7.7		7.2		7.5		7.7		7.7		7.2		7.5
35																			
36	Thermal Feedrate		MMBtu/hr																
37	Estimated Firing Rate		MMBtu/hr																
38																			
39	*Feedrate MTEC Calculations*																		
40	Ash		mg/dscm	100	0.2	100	0.2	100	1.6	100	0.7		244.0		240.8		234.6		239.8
41	Chlorine		ug/dscm		15451049.0		15396690.4		17277418.3		16041719.3		28957779.5		28582386.9		27238596.5		28259587.6
42	Sulfur		ug/dscm										73733.1		72777.2		70912.6		36237.1
43	Antimony		ug/dscm		1.4		2.4		1.0		1.6								
44	Arsenic		ug/dscm		1.0		1.0		0.9		1.0								
45	Barium		ug/dscm		0.5		0.5		0.5		0.5								
46	Beryllium		ug/dscm		0.2		0.3	100	0.0		0.2								
47	Cadmium		ug/dscm		0.2		0.2		0.3		0.2								
48	Chromium		ug/dscm		0.4		0.3		7.2		2.6		162.8		160.7		156.6		160.1
49	Lead		ug/dscm		6.7		7.2		3.9		5.9								
50	Mercury		ug/dscm	100	3.3	100	3.2	100	3.1	100	3.2								
51	Nickel		ug/dscm	100	0.5	100	0.5	100	5.0	100	2.0								
52	Selenium		ug/dscm	100	1.6	100	1.6	100	1.6	100	1.6								
53	Silver		ug/dscm	100	0.3	100	0.3	100	0.3	100	0.3								
54	Thallium		ug/dscm	100	0.8	100	0.8	100	0.9	100	0.9								
55	Zinc		ug/dscm		4.7		22.5		26.6		17.9								
56	SVM		ug/dscm		6.9		7.4		4.2		6.2								
57	LVM		ug/dscm		1.6		1.5		8.2		3.8		162.8		160.7		156.6		160.1
58																			
59	**3024C2**	**Trial burn**			R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg
60																			

	B	U	V	W	X	Y	Z	AA	AB
1	**Feedstream**								
2									
3									
4	**3024C1**		R1		R2		R3		Cond Avg
5									
6	Feedstream Number		F3		F3		F3		F3
7	Feed Class		Total		Total		Total		Total
8	Feed Class 2		Total		Total		Total		Total
9	Feedstream Description		Total		Total		Total		Total
10	Feed Rate		608.1		612.9		671.2		630.8
11	Heating Value								
12	Thermal Feedrate		6.9		7.0		7.6		7.2
13	Density								
14	Viscosity								
15	Ash		3.3		3.3		3.3		3.3
16	Chlorine		600.7		602.7		626.1		609.8
17	Sulfur								
18	Antimony								
19	Arsenic								
20	Barium								
21	Beryllium								
22	Cadmium								
23	Chromium								
24	Lead								
25	Mercury								
26	Nickel								
27	Selenium								
28	Silver								
29	Thallium								
30	Zinc								
31									
32									
33	Stack Gas Flowrate		3807.0		3857		3815		3826
34	Oxygen		7.7		7.7		7.2		7.5
35									
36	Thermal Feedrate								
37	Estimated Firing Rate								
38									
39	*Feedrate MTEC Calculations*								
40	Ash		244.1		240.9		235.4		240.1
41	Chlorine		44408828.5		43979077.4		44516014.8		44301306.9
42	Sulfur		73733.1		72777.2		70912.6		36237.1
43	Antimony		1.4		2.4		1.0		1.6
44	Arsenic		1.0		1.0		0.9		1.0
45	Barium		0.5		0.5		0.5		0.5
46	Beryllium		0.2		0.3	100	0.0		0.2
47	Cadmium		0.2		0.2		0.3		0.2
48	Chromium		163.2		161.0		163.8		162.7
49	Lead		6.7		7.2		3.9		5.9
50	Mercury	100	3.3	100	3.2	100	3.1	100	3.2
51	Nickel	100	0.5	100	0.5	100	5.0	100	2.0
52	Selenium	100	0.8	100	0.8	100	0.8	100	1.6
53	Silver	100	0.2	100	0.2	100	0.2	100	0.3
54	Thallium	100	0.4	100	0.4	100	0.5	100	0.9
55	Zinc		2.4		11.3		13.3		17.9
56	SVM		6.9		7.4		4.2		6.2
57	LVM		164.5		162.2		164.8		163.8
58									
59	**3024C2**		R1		R2		R3		Cond Avg
60									

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
61	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2
62	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW								
63	Feed Class 2																		
64	Feedstream Description				MCB Flush		MCB Flush		MCB Flush		MCB Flush								
65	Feed Rate		lb/hr		323		318		331		324.0								
66	Heating Value		Btu/lb		11900		12100		12100										
67	Thermal Feedrate		MM Btu/hr		3.8		3.8		4		3.9								
68	Density		lb/gal		9.2		9.2		9.2										
69	Viscosity		cP 100F		5		5.0		5										
70	Ash		lb/hr	nd	0.0015		0.002		0.0017		0.0017								
71	Chlorine		lb/hr		99.6		97.2		101		99.3								
72																			
73																			
74	Stack Gas Flowrate		dscfm		4469.0		4720		4378		4522.3								
75	Oxygen		%		12.6		12.5		12.4		12.5								
76																			
77	Thermal Feedrate		MMBtu/hr																
78	Estimated Firing Rate		MMBtu/hr																
79																			
80	*Feedrate MTEC Calculations*																		
81	Ash		mg/dscm	100	0.1		0.2		0.2	30	0.2								
82	Chlorine		ug/dscm		9931524.1		9068835.9		10041379.2		9680579.7								

	B	U	V	W	X	Y	Z	AA	AB
61	Feedstream Number								
62	Feed Class		Total		Total		Total		Total
63	Feed Class 2		Total		Total		Total		Total
64	Feedstream Description		Total		Total		Total		Total
65	Feed Rate								
66	Heating Value								
67	Thermal Feedrate								
68	Density								
69	Viscosity								
70	Ash								
71	Chlorine								
72									
73									
74	Stack Gas Flowrate								
75	Oxygen								
76									
77	Thermal Feedrate								
78	Estimated Firing Rate								
79									
80	*Feedrate MTEC Calculations*								
81	Ash	100	0.075		0.2		0.2	30	0.2
82	Chlorine		9931524.1		9068835.9		10041379.2		9680579.7

	B	C	D	E	F	G
1	**Process Information**					
2						
3	**3024C1 Trial burn**			R1	R2	R3
4						
5	Comb Chamber Temp	^{o}C		1315.1	1315.1	1306.1
6	Comb Gas Velocity	acfs		22.2	21.5	21.7
7	Comb Chamber Pressure	psig		0.22	0.22	0.23
8	Inlet Temp to APC	^{o}C		78.1	78.1	78.3
9	Water Scrubber Liq Flow	gpm		120	120	120
10	Caustic Scrubber Liq Flow	gpm		62.3	62.4	62.4
11	APC Scrubber pH	pH		8.3	8.4	8.3
12						
13	**3024C2 Trial burn**			R1	R2	R3
14						
15	Comb Chamber Temp	^{o}C		1014.2	1009.4	1014.7
16	Comb Gas Velocity	acfs		25.7	25.2	25.2
17	Comb Chamber Pressure	psig		0.29	0.29	0.29
18	Inlet Temp to APC	^{o}C		71.7	71.9	72.1
19	Water Scrubber Liq Flow	gpm		120.6	120	120
20	Caustic Scrubber Liq Flow	gpm		63.7	63.2	63.3
21	APC Scrubber pH	pH		8.4	8.4	8.3

	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:	Dow Laporte TX															
4		Condition ID:	3024C3															
5		Condition/Test Date:	Risk burn															
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		Detected in sample volume (pg)																
11		2,3,7,8-TCDD	1	nd	7.6	7.600	3.80	3.800	nd	6.8	6.80	3.40	3.40		10	10	10	10
12		Total TCDD	0		58	0.000	58	0.000		52	0.00	52	0.00		92	0	92	0
13		1,2,3,7,8-PCDD	0.5	nd	4.7	2.350	2.35	1.175	nd	3.5	1.75	1.75	0.88	nd	3.7	2	2	1
14		Total PCDD	0		54	0.000	54	0.000		19	0.00	19	0.00		56	0	56	0
15		1,2,3,4,7,8-HxCDD	0.1	nd	21	2.100	10.50	1.050	nd	14	1.40	7.00	0.70	nd	18	2	9	1
16		1,2,3,6,7,8-HxCDD	0.1	nd	15	1.500	7.50	0.750	nd	9.6	0.96	4.80	0.48	nd	13	1	7	1
17		1,2,3,7,8,9-HxCDD	0.1	nd	15	1.500	7.50	0.750	nd	9.6	0.96	4.80	0.48	nd	13	1	7	1
18		Total HxCDD	0	nd	56	0.000	28	0.000	nd	42	0.00	21	0.00	nd	53	0	27	0
19		1,2,3,4,6,7,8-HpCDD	0.01		28	0.280	28.00	0.280		21	0.21	21.00	0.21		36	0	36	0
20		Total HpCDD	0		50	0.000	50	0.000		40	0.00	40	0.00		64	0	64	0
21		OCDD	0.001		64	0.064	64.00	0.064		160	0.16	160	0.16		76	0	76	0
22		2,3,7,8-TCDF	0.1		28	2.800	28.00	2.800		24	2.40	24	2.40		29	3	29	3
23		Total TCDF	0		1900	0.000	1900	0.000		1600	0.00	1600	0.00		2000	0	2000	0
24		1,2,3,7,8-PCDF	0.05		21	1.050	21	1.050		22	1.10	22	1.10		24	1	24	1
25		2,3,4,7,8-PCDF	0.5		20	10.000	20	10.000		19	9.50	19	9.50		21	11	21	11
26		Total PCDF	0		660	0.000	660	0.000		580	0.00	580	0.00		710	0	710	0
27		1,2,3,4,7,8-HxCDF	0.1		51	5.100	51	5.100		43	4.30	43	4.30		52	5	52	5
28		1,2,3,6,7,8-HxCDF	0.1		15	1.500	15	1.500		20	2.00	20	2.00		14	1	14	1
29		2,3,4,6,7,8-HxCDF	0.1		2.3	0.230	2	0.230		6.5	0.65	7	0.65	nd	7.3	1	4	0
30		1,2,3,7,8,9-HxCDF	0.1	nd	8.9	0.890	4	0.445		18	1.80	18	1.80	nd	7.4	1	4	0
31		Total HxCDF	0		300	0.000	300	0.000		280	0.00	280	0.00		310	0	310	0
32		1,2,3,4,6,7,8-HpCDF	0.01		83	0.830	83	0.830		310	3.10	310	3.10		88	1	88	1
33		1,2,3,4,7,8,9-HpCDF	0.01		17	0.170	17	0.170		62	0.62	62	0.62		13	0	13	0
34		Total HpCDF	0		120	0.000	120	0.000		530	0.00	530	0.00		140	0	140	0
35		OCDF	0.001		170	0.170	170	0.170		1500	1.50	1500	1.50		150	0	150	0
36																		
37		Gas sample volume (dscf)				154.139	154.139	154.139			146.068	146.068	146.068			156.117	156.117	156.117
38		O2 (%)				9	9	9			8.6	8.6	8.6			8.8	8.8	8.8
39																		
40		PCDD/PCDF (ng in sample)				0.0381	3.4	0.0302			0.0392	4.8	0.0333			0.0405	3.6	0.0367
41		PCDD/PCDF (ng/dscm @ 7% O2)		41.8		0.0102	0.910	0.0081	30.3		0.0107	1.31	0.0091	19.1		0.0105	0.94	0.0095
42																		
43		TEQ Cond Avg	0.0089															
44		Total Cond Avg	1.0526															