	B	C
1	**Source Description**	
2		
3	Phase I ID No.	493
4	EPA ID No.	UT5210090002
5	Facility Name	TOCDF, Deseret Army Depot, DEPARTMENT OF THE ARMY - South
6	Facility Location	
7	City	Tooele
8	State	UT
9	Unit ID Name/No.	Liquid Incinerator System #1
10	Other Sister Facilities	
11	Number of Sister Facilities	
12	Combustor Class	Onsite incinerator, DoD Chem Demil
13	Combustor Type	Liquid injection
14	Combustor Characteristics	Liquid injection unit
15	Capacity (MMBtu/hr)	
16	Soot Blowing	
17	APCS Detailed Acronym	C/QT/VS/PBS/DM
18	APCS General Class	C, HEWS, LEWS
19	APCS Characteristics	Quench, venturi, packed bed, demister
20	Hazardous Wastes	Sludge
21	Haz Waste Description	Chemical weapon nerve agent liquids
22	Supplemental Fuel	
23		
24	Stack Characteristics	
25	Diameter (ft)	4.5
26	Height (ft)	100.0
27	Gas Velocity (ft/sec)	3.6
28	Gas Temperature (°F)	273.8
29		
30	Permitting Status	
31	HWC Burn Status (Date if Terminated)	

	B	C
1	**Condition Description**	
2		
3	**493C1**	
4		
5	Report Name/Date	Tooele Chemical Agent Disposal Facility (TOCDF), RCRA Agent Trial Burn Report for the Liquid Incinerator System No. 1, EG&G Defense Materials, Inc., July 7, 1997
6	Report Prepare	EG&G
7	Testing Firm	
8	Cond Descr	Trial burn, DRE FOR AGENT FEED GB
9	Testing Dates	February 26-28, 1997
10	Cond Dates	Feb-97
11		
12	**493C10**	
13		
14	Report Name/Date	TOCDF, Agent GB Mini-Burn Report for the Liquid Incinerator System #1, EG&G Defense Materials Inc., January 20, 1999
15	Report Prepare	EG&G Defense Materials, Inc.
16	Testing Firm	
17	Cond Descr	Trial burn to set arsenic operating limits (waste with higher than average arsenic used), and gather risk burn data for other constituents
18	Testing Dates	22-Nov-98
19	Cond Dates	Nov-98

	B	C	D	E	F	G	H	I	J	K	L	M	Y	Z
1	**Stack Gas Emissions 2**													
2														
3														
4	**493C1**					R1		R2		R3		R4		Cond Avg
5														
6	PM	E1	gr/dscf	y		0.0022		0.0023		0.0014				0.0020
7	CO (MHRA)	E1	ppmv	y		41.0		38.0		51.0				43.3
8	HCl	E1	ppmv	y	nd	1.8		0.5	nd	0.6				1.0
9	Aluminum	E2	ug/dscm	y		14.6		4.3		7.2				8.7
10	Antimony	E2	ug/dscm	y		0.3		0.1		0.3				0.2
11	Arsenic	E2	ug/dscm	y		0.2		0.3		0.3				0.3
12	Barium	E2	ug/dscm	y		1.3		0.3		0.9				0.8
13	Beryllium	E2	ug/dscm	y		0.1		0.1		0.1				0.1
14	Boron	E2	ug/dscm	y		13.0		10.2		14.9				12.7
15	Cadmium	E2	ug/dscm	y		4.1		0.1		0.3				1.5
16	Chromium	E2	ug/dscm	y		2.9		0.9		1.6				1.8
17	Chromium (Hex)	E3	ug/dscm	y		0.3		0.9		2.2				1.1
18	Cobalt	E2	ug/dscm	y		0.2		0.5		0.8				0.5
19	Copper	E2	ug/dscm	y		1.3		0.8		1.4				1.2
20	Lead	E2	ug/dscm	y		241.7		5.1		12.0				86.3
21	Manganese	E2	ug/dscm	y		2.7		3.6		6.3				4.2
22	Mercury	E2	ug/dscm	y		6.4		6.4		4.0				5.6
23	Nickel	E2	ug/dscm	y		2.8		0.9		0.7				1.5
24	Phosphorus	E2	ug/dscm	y		994.5		1193.6		321.9				836.7
25	Selenium	E2	ug/dscm	y		0.2		0.3		0.3				0.3
26	Silver	E2	ug/dscm	y		0.1		0.1		0.1				0.1
27	Thallium	E2	ug/dscm	y		0.1		0.1		0.1				0.1
28	Tin	E2	ug/dscm	y		0.1		0.1		0.1				0.1
29	Vanadium	E2	ug/dscm	y		0.6		0.6		0.7				0.6
30	Zinc	E2	ug/dscm	y		35.7		23.9		21.2				26.9
31	SVM	E2	ug/dscm	y		245.8		5.2		12.3				87.8
32	LVM	E2	ug/dscm	y		3.2		1.3		2.1				2.2
33														
34	GB Agent	E4	%			99.99999997		99.99999997		99.99999997				
35														
36	Sampling Train	Particulat	E1											
37	Stack Gas Flowrate		dscfm			3348.0		3235.0		3548.0				
38	O2		%			6.7		7.5		9.2				
39	Moisture		%			55.8		54.5		54.6				
40	Temperature		°F			278.0		278.0		271.0				
41														
42	Sampling Train	Metals	E2											
43	Stack Gas Flowrate		dscfm			3450.0		3522.0		3744.0				
44	O2		%			6.7		7.5		9.2				
45	Moisture		%			56.7		56.5		54.4				
46	Temperature		°F			277.0		274.0		266.0				
47														
48	Sampling Train	Cr Hex	E3											
49	Stack Gas Flowrate		dscfm			3514.0		5470.0		3384.0				
50	O2		%			6.7		7.5		9.2				
51	Moisture		%			54.3		57.0		57.0				
52	Temperature		°F			276.0								
53														
54	Sampling Train	Dioxin & F	E4											
55	Stack Gas Flowrate		dscfm			3280.0		3454.0		3546.0				
56	O2		%			6.7		7.5		9.2				
57	Moisture		%			56.2		55.1		53.4				
58	Temperature		°F											
59														
60	**493C10**					R1		R2		R3		R4		Cond Avg
61														
62	Aluminum		ug/dscm	n	nd	49.9	nd	53		54.6	nd	52		52.4
63	Antimony		ug/dscm	n	nd	0.96	nd	1.3	nd	0.56	nd	1		1.0
64	Arsenic		ug/dscm	n		1		0.96		1.71		2.24		1.5
65	Barium		ug/dscm	n	nd	0.38	nd	0.69	nd	0.94	nd	0.41		0.6
66	Beryllium		ug/dscm	n	nd	0.66	nd	0.66	nd	0.65	nd	0.65		0.7
67	Boron		ug/dscm	n	nd	26	nd	24	nd	9.6	nd	26		21.4
68	Cadmium		ug/dscm	n	nd	0.33	nd	0.41	nd	0.33	nd	0.3		0.3
69	Chromium		ug/dscm	n		4.62		4.61		4.86		5.11		4.8
70	Cobalt		ug/dscm	n	nd	0.66	nd	0.5	nd	0.49	nd	0.65		0.6
71	Copper		ug/dscm	n	nd	0.86	nd	1.2	nd	1	nd	1.4		1.1

	B	C	D	E	F	G	H	I	J	K	L	M	Y	Z
72	Lead		ug/dscm	n		1.7		19.8	nd	0.89		2.9		6.3
73	Manganese		ug/dscm	n		5.3	nd	1.9		2.2		3.6		3.3
74	Mercury		ug/dscm	n		429		460		161		166		304.0
75	Nickel		ug/dscm	n	nd	0.6	nd	0.8	nd	0.5		0.008		0.5
76	Phosphorus		ug/dscm	n	nd	2183		2388	nd	2534	nd	2506		2402.8
77	Selenium		ug/dscm	n	nd	1.3	nd	1.3	nd	1.3	nd	1.3		1.3
78	Silver		ug/dscm	n	nd	0.33	nd	0.33	nd	0.33	nd	0.32		0.3
79	Thallium		ug/dscm	n	nd	0.66	nd	0.66	nd	0.65	nd	0.65		0.7
80	Tin		ug/dscm	n	nd	5	nd	4.4	nd	1.7	nd	5.3		4.1
81	Vanadium		ug/dscm	n	nd	3.3	nd	3.3	nd	3.3	nd	3.2		3.3
82	Zinc		ug/dscm	n		28.7		40.8		9.4		21.9		25.2
83														
84	Aluminum	E1	ug/dscm	y		56.8		60.3		62.1		59.2		59.6
85	Antimony	E1	ug/dscm	y		1.1		1.5		0.6		1.1		1.1
86	Arsenic	E1	ug/dscm	y		1.1		1.1		1.9		2.5		1.7
87	Barium	E1	ug/dscm	y		0.4		0.8		1.1		0.5		0.7
88	Beryllium	E1	ug/dscm	y		0.8		0.8		0.7		0.7		0.7
89	Boron	E1	ug/dscm	y		29.6		27.3		10.9		29.6		24.4
90	Cadmium	E1	ug/dscm	y		0.4		0.5		0.4		0.3		0.4
91	Chromium	E1	ug/dscm	y		5.3		5.2		5.5		5.8		5.5
92	Cobalt	E1	ug/dscm	y		0.8		0.6		0.6		0.7		0.7
93	Copper	E1	ug/dscm	y		1.0		1.4		1.1		1.6		1.3
94	Lead	E1	ug/dscm	y		1.9		22.5		1.0		3.3		7.2
95	Manganese	E1	ug/dscm	y		6.0		2.2		2.5		4.1		3.7
96	Mercury	E1	ug/dscm	y		488.3		523.6		183.3		188.9		346.0
97	Nickel	E1	ug/dscm	y		0.7		0.9		0.6		0.0		0.5
98	Phosphorus	E1	ug/dscm	y		2484.7		2718.0		2884.2		2852.4		2734.8
99	Selenium	E1	ug/dscm	y		1.5		1.5		1.5		1.5		1.5
100	Silver	E1	ug/dscm	y		0.4		0.4		0.4		0.4		0.4
101	Thallium	E1	ug/dscm	y		0.8		0.8		0.7		0.7		0.7
102	Tin	E1	ug/dscm	y		5.7		5.0		1.9		6.0		4.7
103	Vanadium	E1	ug/dscm	y		3.8		3.8		3.8		3.6		3.7
104	Zinc	E1	ug/dscm	y		32.7		46.4		10.7		24.9		28.7
105	SVM	E1	ug/dscm	y		2.3		23.0		1.4		3.6		7.6
106	LVM	E1	ug/dscm	y		7.1		7.1		8.2		9.1		7.9
107														
108														
109	Sampling Train	Metals	E1											
110	Stack Gas Flowrate					3704		3642		3675		3679		3675.0
111	Oxygen					8.7		8.7		8.7		8.7		8.7
112	Moisture					53.7		53.6		54		53.7		53.8
113	Temperature					291		292		292		293		292.0

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	**Feedstream 2**																		
2																			
3																			
4	**493C1**				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		Total		Total		Total		Total
8	Feed Class 2				HW		HW		HW		HW		Total		Total		Total		Total
9	Feedstream Description				GB agent		GB agent		GB agent				Total		Total		Total		Total
10	Feedrate		lb/hr		788.6		777.9		765.3										
11	Heating value		Btu/lb																
12	Ash		wt %																
13	Aluminum		ug/L (ppbw)		385000		405500		216000										
14	Antimony		ug/L (ppbw)	1	17000	1	19500	1	18000										
15	Arsenic		ug/L (ppbw)		9000		17000		9600										
16	Barium		ug/L (ppbw)		1700		4450		4000										
17	Beryllium		ug/L (ppbw)	1	70	1	80	1	70										
18	Boron		ug/L (ppbw)		1197000		1251500		622000										
19	Cadmium		ug/L (ppbw)	1	700	1	800	1	1000										
20	Chromium		ug/L (ppbw)		1700	1	1950	1	1800										
21	Cobalt		ug/L (ppbw)		10300		7550		6800										
22	Copper		ug/L (ppbw)		41000		51000		61000										
23	Lead		ug/L (ppbw)		14000		7850		12000										
24	Manganese		ug/L (ppbw)		1100		4200		1200										
25	Mercury		ug/L (ppbw)		55		46.5		20										
26	Nickel		ug/L (ppbw)		53000		52000		47000										
27	Selenium		ug/L (ppbw)	1	12000	1	13500	1	13000										
28	Silver		ug/L (ppbw)	1	1000	1	1150	1	1100										
29	Thallium		ug/L (ppbw)	1	17000	1	19500	1	18000										
30	Tin		ug/L (ppbw)	1	69000	1	78500	1	74000										
31	Vanadium		ug/L (ppbw)	1	700	1	800	1	700										
32	Zinc		ug/L (ppbw)		25000		25000		40000										
33																			
34	Stack Gas Flowrate		dscfm		3450		3522		3744										3572
35	Oxygen				6.7		7.5		9.2										7.8
36																			
37	Estimated Firing Rate																		15.0
38																			
39	Feedrate MTECs																		
40																			
41	Aluminum		ug/dscm		23036		24833		14006		20625		23036		24833		14006		20625
42	Antimony		ug/dscm	1	1017	1	1194	1	1167		1126		1017		1194		1167		1126
43	Arsenic		ug/dscm		539		1041		622		734		539		1041		622		734
44	Barium		ug/dscm		102		273		259		211		102		273		259		211
45	Beryllium		ug/dscm	1	4	1	5	1	5		5		4		5		5		5
46	Boron		ug/dscm		71621		76644		40332		62866		71621		76644		40332		62866
47	Cadmium		ug/dscm	1	42	1	49	1	65		52		42		49		65		52
48	Chromium		ug/dscm		102	1	119	1	117		113		102		119		117		113
49	Cobalt		ug/dscm		616		462		441		507		616		462		441		507
50	Copper		ug/dscm		2453		3123		3955		3177		2453		3123		3955		3177
51	Lead		ug/dscm		838		481		778		699		838		481		778		699
52	Manganese		ug/dscm		66		257		78		134		66		257		78		134
53	Mercury		ug/dscm		3		3		1		2		3		3		1		2
54	Nickel		ug/dscm		3171		3185		3048		3134		3171		3185		3048		3134
55	Selenium		ug/dscm	1	718	1	827	1	843		796		718		827		843		796
56	Silver		ug/dscm	1	60	1	70	1	71		67		60		70		71		67
57	Thallium		ug/dscm	1	1017	1	1194	1	1167		1126		1017		1194		1167		1126
58	Tin		ug/dscm	1	4129	1	4807	1	4798		4578		4129		4807		4798		4578
59	Vanadium		ug/dscm	1	42	1	49	1	45		45		42		49		45		45
60	Zinc		ug/dscm		1496		1531		2594		1874		1496		1531		2594		1874

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
61	SVM		ug/dscm		859		505		811		725		859		505		811		725
62	LVM		ug/dscm		642		1103		683		810		642		1103		683		810
63																			
64																			
65	**493C10**				R1		R2		R3		Cond Avg		R1		R2		R3		Cond Avg
66																			
67	Feedstream Number				F1		F1		F1		F1		F2		F2		F2		F2
68	Feed Class				Liq HW		Liq HW		Liq HW		Liq HW		Total		Total		Total		Total
69	Feed Class 2				HW		HW		HW		HW		Total		Total		Total		Total
70	Feedstream Description				GB agent		GB agent		GB agent		GB agent		Total		Total		Total		Total
71	Feedrate		lb/hr		800		800		800		800								
72																			
73	Arsenic		ppmw								277								
74	Beryllium		ppmw								0.11								
75	Cadmium		ppmw								0.11								
76	Chromium		ppmw								2.1								
77	Cobalt		ppmw								0.38								
78	Copper		ppmw								8								
79	Lead		ppmw								7								
80	Mercury		ppmw								2.71								
81	Nickel		ppmw								62								
82	Selenium		ppmw								1.25								
83																			
84	Stack Gas Flowrate										3675								
85	Oxygen										8.7								
86																			
87	Arsenic		ug/dscm								18351								18351
88	Beryllium		ug/dscm								7								7
89	Cadmium		ug/dscm								7								7
90	Chromium		ug/dscm								139								139
91	Cobalt		ug/dscm								25								25
92	Copper		ug/dscm								530								530
93	Lead		ug/dscm								464								464
94	Mercury		ug/dscm								180								180
95	Nickel		ug/dscm								4107								4107
96	Selenium		ug/dscm								83								83
97	LVM		ug/dscm								18497								18497
98	SVM		ug/dscm								471								471

	C	D	E	F	G
1	**Process Information 2**				
2					
3	**493C1**		R1	R2	R3
4					
5	Aferburner Temperature	F	2618	2619	2617
6	Combustor Temperature	F	1912	1940	1930
7	WS Temperature	F	189	186	183
8	WS Pressure Drop	in H2O	45	45	44.9

	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	**493C1**				R1				R2				R3	
2		I-TEF		Total	Total	TEQ		Total	Total	TEQ		Total	Total	TEQ
3	ng/dscm	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
4														
5	4D 2378	1	1	0.001	0.000	0.000	1	0.001	0.000	0.000	1	0.000	0.000	0.000
6	4D Other	0		0.004	0.004	0.000		0.002	0.002	0.000	1	0.000	0.000	0.000
7	4D Total	0		0.004	0.004	0.000		0.002	0.002	0.000	1	0.001	0.000	0.000
8	5D 12378	0.5	1	0.001	0.001	0.000	1	0.001	0.001	0.000	1	0.001	0.000	0.000
9	5D Other	0	1	0.002	0.001	0.000	1	0.001	0.001	0.000	1	0.000	0.000	0.000
10	5D Total	0	1	0.003	0.001	0.000	1	0.003	0.001	0.000	1	0.001	0.000	0.000
11	6D 123478	0.1	1	0.001	0.001	0.000	1	0.001	0.000	0.000	1	0.001	0.000	0.000
12	6D 123678	0.1	1	0.001	0.001	0.000	1	0.001	0.000	0.000	1	0.001	0.000	0.000
13	6D 123789	0.1	1	0.001	0.001	0.000	1	0.001	0.000	0.000		0.003	0.003	0.000
14	6D Other	0	1	-0.002	-0.001	0.000	1	-0.001	-0.001	0.000		-0.004	-0.004	0.000
15	6D Total	0	1	0.001	0.001	0.000	1	0.001	0.000	0.000		0.000	0.000	0.000
16	7D 1234678	0.01	1	0.001	0.000	0.000	1	0.001	0.000	0.000	1	0.001	0.000	0.000
17	7D Other	0	1	0.000	0.000	0.000	1	0.000	0.000	0.000	1	0.000	0.000	0.000
18	7D Total	0	1	0.001	0.000	0.000	1	0.001	0.000	0.000	1	0.001	0.000	0.000
19	8D	0.001	1	0.004	0.002	0.000	1	0.003	0.002	0.000	1	0.003	0.001	0.000
20	4F 2378	0.1		0.004	0.004	0.000		0.005	0.005	0.000	1	0.001	0.001	0.000
21	4F Other	0		0.081	0.081	0.000		0.074	0.074	0.000		0.005	0.005	0.000
22	4F Total	0		0.086	0.086	0.000		0.079	0.079	0.000		0.007	0.007	0.000
23	5F 12378	0.05	1	0.003	0.001	0.000	1	0.003	0.001	0.000	1	0.001	0.000	0.000
24	5F 23478	0.5	1	0.001	0.001	0.000	1	0.001	0.001	0.000	1	0.001	0.000	0.000
25	5F Other	0		0.008	0.008	0.000		0.007	0.007	0.000	1	-0.001	0.000	0.000
26	5F Total	0		0.012	0.012	0.000		0.011	0.011	0.000	1	0.001	0.000	0.000
27	6F 123478	0.1	1	0.001	0.000	0.000	1	0.000	0.000	0.000	1	0.000	0.000	0.000
28	6F 123678	0.1	1	0.001	0.000	0.000	1	0.001	0.000	0.000	1	0.000	0.000	0.000
29	6F 123789	0.1	1	0.001	0.000	0.000	1	0.001	0.000	0.000	1	0.000	0.000	0.000
30	6F 234678	0.1	1	0.001	0.000	0.000	1	0.001	0.000	0.000	1	0.000	0.000	0.000
31	6F Other	0	1	-0.001	-0.001	0.000	1	0.000	0.000	0.000	1	-0.001	-0.001	0.000
32	6F Total	0	1	0.002	0.001	0.000	1	0.002	0.001	0.000	1	0.000	0.000	0.000
33	7F 1234678	0.01	1	0.001	0.001	0.000	1	0.001	0.000	0.000	1	0.000	0.000	0.000
34	7F 1234789	0.01	1	0.000	0.000	0.000	1	0.001	0.000	0.000	1	0.000	0.000	0.000
35	7F Other	0	1	0.000	0.000	0.000	1	0.001	0.000	0.000	1	0.000	0.000	0.000
36	7F Total	0	1	0.001	0.001	0.000	1	0.003	0.001	0.000	1	0.000	0.000	0.000
37	8F	0.001	1	0.001	0.001	0.000	1	0.001	0.001	0.000	1	0.001	0.001	0.000
38	Total PCDD/PCDF			0.115	0.109			0.105	0.099			0.015	0.011	
39	TEQ		87.2	0.003		0.002	84.8	0.003		0.002	85.4	0.002		0.001