	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1														
2	**STATE PERMIT APPLICATION EVALUATION SHEET**													
3														
4	**ADMINISTRATIVE INFORMATION**													
5														
6	Facility Name		Granite State Crematorium											
7	Physical Address		12 Industrial Drive											
8	City/Town - ZIP		Concord	03301										
9	Mailing Address		12 Industrial Drive											
10	City/Town - ZIP		Concord	03301										
11														
12	Facility Description		Human Crematorium											
13	AFS Number		3301300112											
14	Application Number		FY01-0052											
15	Permit Number		No Permit Required											
16	Permit Type		ToxicsEval											
17	Date Received		4/19/2002											
18	Technical Contact(s)/Title(s)		Ken Boivin/GZA	Consultant										
19	ARD Engineer Assigned		W. Olender											
20	SPAES Completion Date		4/24/2003											
21														
22														
23														
24	**A-1.0 DEVICE SUMMARY**													
25														
26		**A-1.1 Fuel Burning Devices**		N/A [Units < Env-A 607.01(f) PAT]										
27														
28														
29		**A-1.2 Processes**												
30														
31														
32		Section A-1 Footnotes & Acronyms:												
33														
34		[1] Supplied by Source (e.g., Blr #2, Cogen Engine, etc.)												
35		[2] e.g., boiler, engine, incinerator												
36		[3] By weight												
37		[4] e.g., widget coating line, reclamation unit, paint spraybooth												
38		[5] If applicable												
39														
40		D/O: Distillate (incl. Diesel) fuel oil												
41		LP gas: Liquefied petroleum gas												
42		N/G: Natural gas												
43		NPR: No permit required for device												
44		R/O: Residual fuel oil												

A-2.0 EMISSION CALCULATIONS

A-2.1 Fuel Burning Devices N/A Both below Env-A 607.01(f) PAT

Section A-2.1 Footnotes & Acronyms:

[1] From Table 3.1
[2] As applicable (e.g. 24-hour)
[3] Tons per consecutive 12-month period
[4] Generally based on sought or ARD-imposed permit limit
[5] Generally based on 8,760 hours per year of operation

PAT: Permit applicability threshold
tpy: tons per consecutive 12-month period

A-2.2 VOCs and Toxics-Emitting Devices & Processes

A-2.2.1 Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs) N/A (Negligible for cremation units)

A-2.2.2 NH Regulated Toxic Air Pollutants (RTAPs)

A-2.2.2.1 Deminimus & In-Stack Ambient Air Limit (AAL) Permit Applicability Tests

<<One table for each process/device listed in Table 3.2 FOR WHICH RTAPS ARE A POTENTIAL ISSUE>>

Process/Device ID[1] Facility

A. DEMINIMUS EVALUATION - BASED ON POTENTIAL EMISSIONS[a]

CAS-SN*	Raw Material ID[2]	CAS#	RTAP Content	Portion Emitted[3]		Max Hourly Throughput[4]		Potential Emissions[5]		NH Deminimus[6]		Pass/Fail Deminimus	
			(lb/body)	Percent	Basis	Value	Units	24-Hour	12-Month	24-Hour	12-Month	24-Hour	12-Month
			per BAAQMD					(pph)	(ppy)	(pph)	(ppy)		
			w_{RTAP}	ETA%		PR		TPE24	TPEa				
88	Acetaldehyde	75-7-0	8.11E-05	100	Assumed	0.5	bodies	4.06E-05	1.78E-01	1.50E-02	29.5	pass	pass
590	**Arsenic**	**7440-38-2**	**3.00E-05**	**100**	**Assumed**	**0.5**	**bodies**	**1.50E-05**	**6.57E-02**	**3.34E-06**	**0.0781**	**FAIL**	**pass**
592	**Beryllium**	**7440-41-7**	**1.37E-06**	**100**	**Assumed**	**0.5**	**bodies**	**6.85E-07**	**3.00E-03**	**6.69E-07**	**0.0156**	**FAIL**	**pass**
593	**Cadmium**	**7440-43-9**	**1.11E-05**	**100**	**Assumed**	**0.5**	**bodies**	**5.55E-06**	**2.43E-02**	**3.34E-06**	**0.0781**	**FAIL**	**pass**
595	Chromium, metal	7440-47-3	2.99E-05	100	Assumed	0.5	bodies	1.50E-05	6.55E-02	1.67E-04	3.91	pass	pass
599	Copper, fume	7440-50-8	2.74E-05	100	Assumed	0.5	bodies	1.37E-05	6.00E-02	6.69E-05	1.56	pass	pass
23	Formaldehyde	50-0-0	2.16E-05	100	Assumed	0.5	bodies	1.08E-05	4.73E-02	1.24E-04	2.89	pass	pass
616	**Hydrogen chlorid**	**7647-1-0**	**7.20E-02**	**100**	**Assumed**	**0.5**	**bodies**	**3.60E-02**	**1.58E+02**	**2.51E-03**	**65.6**	**FAIL**	**FAIL**
618	Hydrogen fluoride	7664-39-3	6.55E-04	100	Assumed	0.5	bodies	3.28E-04	1.43E+00	7.69E-04	18	pass	pass
563	**Lead, elemental &**	**7439-92-1**	**6.62E-05**	**100**	**Assumed**	**0.5**	**bodies**	**3.31E-05**	**1.45E-01**	**1.67E-05**	**0.391**	**FAIL**	**pass**
567	**Mercury, inorgani**	**7439-97-6**	**3.29E-03**	**100**	**Assumed**	**0.5**	**bodies**	**1.65E-03**	**7.21E+00**	**2.81E-05**	**0.984**	**FAIL**	**FAIL**
572	Nickel, metal	7440-2-0	3.82E-05	100	Assumed	0.5	bodies	1.91E-05	8.37E-02	3.34E-04	7.81	pass	pass
642	Selenium	7782-49-2	4.36E-05	100	Assumed	0.5	bodies	2.18E-05	9.55E-02	6.69E-05	1.56	pass	pass
603	Zinc (as zinc oxide,	7440-66-6	3.53E-04	100	Assumed	0.5	bodies	1.77E-04	7.73E-01	2.35E-03	55	pass	pass
522	**2,3,7,8-Tetrachlor**	**1746-1-6**	**7.94E-11**	**100**	**Assumed**	**0.5**	**bodies**	**3.97E-11**	**1.74E-07**		**	Perform In-Stack Analysis	
										From Env-A 1450			

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
97		*B. IN-STACK EVALUATION*[7]			Exhaust Flow Rate =	***2,400***	cfm							
98	CAS-SN*	Raw Material ID[2]	CAS#	Potential Emissions[5]	In-Stack Concen. (Adjusted)[8]	NH AAL (Per Env-A 1450)		Pass/Fail In-Stack AAL?		Margin of Failure				
99				Max Hrly	Max Hrly	24-Hour	12-Month	24-Hour	12-Month	24-Hour	12-Month			
100				(pph)	(ug/m3)	(ug/m3)	(ug/m3)							
101														
102		Based on *Potential* Emissions:												
103														
104	590	Arsenic	7440-38-2	1.50E-05	4.17E-03	0.036	0.024	pass	pass	1.16E-01	1.74E-01			
105	592	Beryllium	7440-41-7	6.85E-07	1.91E-04	0.007	0.005	pass	pass	2.72E-02	3.81E-02			
106	593	Cadmium	7440-43-9	5.55E-06	1.54E-03	0.036	0.024	pass	pass	4.29E-02	6.43E-02			
107	616	Hydrogen chloride	7647-1-0	3.60E-02	1.00E+01	27	20	pass	pass	3.71E-01	5.01E-01			
108	563	Lead, elemental &	7439-92-1	3.31E-05	9.21E-03	0.179	0.119	pass	pass	5.14E-02	7.74E-02			
109	**567**	**Mercury, inorgani**	**7439-97-6**	**1.65E-03**	**4.58E-01**	**0.3**	**0.3**	**FAIL**	**FAIL**	1.53E+00	1.53E+00			
110	522	2,3,7,8-Tetrachloro	1746-1-6	3.97E-11	1.10E-08	0.001	0.001	pass	pass	1.10E-05	1.10E-05			
111														
112														
113		Based on *Actual* Emissions (comparing with 50% of the applicable AAL):												
114														
115	567	Mercury, inorganic	7439-97-6	3.10E-04	8.62E-02	0.3	0.3	pass	pass	5.17E-02	5.17E-02			
116														
117														
118					=2.67E^6^*(C_i pph)/900 cfm									
119														
120														
121		Subsection A-2.2.2.1 Footnotes & Abbreviations:												
122														
123		[1] As supplied by Source												
124		[2] Brand name, generic chemical name or source-used ID												
125		[3] To the atmosphere												
126		[4] Generally based on source-supplied input												
127		[5] Generally based on 8,760 hrs/yr with no externally-applied controls												
128		[6]From Env-A 1450 tables												
129		[7] In general, for those RTAPs that fail the deminimus test (for the applicable time period - 24-hour or 12-month)												
130		[8]Via Env-A 1406 procedure												
131		[9]If EITHER deminimus OR in-stack AAL is passed for BOTH the 24-hr & 12-month time periods for ALL RTAPs, then NO permit will be												
132		required for RTAPs												
133		*User-defined sequence number (to facilitate RTAPs table look-up)												
134														
135		[a] =(ETA%/100)*w_{RTAP}*PR												
136		[b] =(ETA%/100)*w_{RTAP}*2,190 (Based on a maximum throughput of 4,380 cremations per year for both cremation units)												
137														
138		cfm: cubic feet per minute												
139														