TABLE 1

AGENT EXPOSURE LIMITS AND AGENT STACK LIMITS

LOCATION	Concentration (mg/m^3)		
	GB	**H/HD/HT**	**VX**
Source Emission Limit (SEL)[1,2]	0.0003	0.03	0.0003
General Population Limit[1,3] (Averaging time: 24 hours GB/VX and 12 hours Mustard)	0.000003	0.0001	0.000003
Short Term Exposure Limit (STEL)[1,3,] (15 minutes)	0.0001	0.003	0.00001
Worker Population Limit[4] (WPL) (12 hours)	0.00002	0.00027	0.0000006
WPL[4] (8 hours)	0.00003	0.0004	0.000001
WPL[4] (4 hours)	0.00006	0.0008	0.000002
Vapor Screening Level (VSL)	0.0001	0.003	0.00001

1. Public Law 91-121/144 (USC 1512) mandates that the United States Department of Health and Human Services (HHS) review the plans for transporting and/or disposing of lethal chemical agents and make recommendations for protecting human health and safety. HHS delegated review and recommendation authority to the Centers for Disease Control (CDC).

2 The Department of Army proposed the maximum allowable stack concentrations indicated in Table 1. HHS reviewed the concentrations and announced in the March 15, 1988 Federal Register (53 FR 8504) [corrected in 53 FR 11002, April 4, 1988] that the concentrations "met HHS criteria and appear to be more restrictive than limits set on a health base alone", and therefore made no recommendation for changes.

3 CDC published in the Federal Register (FR) Volume 68, Number 196, October 2003 the final AELs for GA, GB and VX. CDC also published in the FR, Volume 69, Number 85, May 3, 2004, recommended AELs for mustard.

4. The 12- hour WPL monitoring level is used for routine historical monitoring. The 8- hour monitoring level is used for LSS air monitoring irregardless of actual sample time. The 4-hour monitoring level is used only for VX if the detection limit cannot be achieved due to interferences.

NOTE:

CDC determined that the current available data precluded acceptable exposure limits for mustard agent being precisely defined. CDC concluded that the work-place limits will amply protect a general population 1000 meters or more from the demilitarization site for transportation route. Therefore, protection of the general public is dependent upon meeting the work-place limits within the facility.

TABLE 2[1]

HAZARDOUS WASTES/PERMITTED HAZARDOUS WASTE MANAGEMENT UNITS

WASTE TYPE	WASTE CODES[15]	HAZARDOUS WASTE MANAGEMENT UNITS																	
		INCINER-ATORS			MISC UNITS		TANK STORAGE TREATMENT					CONTAINER STORAGE							
		DFS	LIC	MPF	DVS Enclosures	DVSSR	SDS	ACS	BRA	S-P[2]	S-S[3]	CHB	UPA	ECV	UPMC	TMA	S-2[1]	Igloo 1632[1]	Igloo 1633[1]
GB	P999/D003	X	X	X	X	X	X[17]	X			X	X	X	X	X	X		X	X
VX	P999/D003	X	X	X	X	X	X[17]	X		X	X	X	X	X	X	X		X	X
MUSTARD	P999/D003		X	X	X	X	X[17]	X		X	X	X	X	X	X	X		X	X
EXPLOSIVES	P999/D003	X										X	X	X	note 13	X			
FUZES	P999/D003	X										X	X	X		X			
DETONATORS	P999/D003/D005/D008	X										X	X	X		X			
INITIATOR	P999/D003	X										X	X	X		X			
BURSTER	P999/D003	X										X	X	X	note 13	X			
MUNITION[5] BODY COMPONENTS	P999/D003			X								X	X	X	X	X			
DRAINED[6] BULK ITEMS	P999/D003			X								X	X	X	X				
FILTERS[7]	P999			X	X	X										X		X	X
METAL[8]	P999			X	X	X										X	X	X	X
WOOD[9]	P999				X	X										X	X	X	X
MISCELLANEOUS[10]	See Note 10				X	X										X	X	X	X
MISCELLANEOUS LIQUID WASTES [14]	P999		X		X	X	X	X		X						X		X	X
BRINE SOLUTION	F999 D002, D004 through D011								X								X	X	
SPENT DECON SOLUTION	F999, P999[17], D002, D003, D004, D006, D007, D008, D009, D0010, D019, D022, D028, D034, D039, D040 and D043		X				X			X	X						X	X	X
LIQUID MONITOR SUPPORT AND LAB WASTES	F999, D001, D002, F002, F003, F005																X	X	X

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TABLE 2[1]

HAZARDOUS WASTES/PERMITTED HAZARDOUS WASTE MANAGEMENT UNITS

WASTE TYPE	WASTE CODES[15]	HAZARDOUS WASTE MANAGEMENT UNITS																	
		INCINER-ATORS			MISC UNITS		TANK STORAGE TREATMENT					CONTAINER STORAGE							
		DFS	LIC	MPF	DVS Enclosures	DVSSR	SDS	ACS	BRA	S-P[2]	S-S[3]	CHB	UPA	ECV	UPMC	TMA	S-2[1]	Igloo 1632[1]	[illegible]
DFS CYCLONE RESIDUE	F999/P999/D003																X	X	X
ECR MAINTENANCE RESIDUE[16]	P999[15], F999, D003	X		X															
INCINERATION RESIDUE	P999, F999, D005, D008																X	X	X

1. A list of the wastes that will be managed at this facility is shown in Attachment 2.
2. Sumps used as primary containment devices
3. Sumps used as secondary containment devices.
4. Reserved.
5. Includes munition body components other than rockets and mine bodies.
6. Includes ton containers.
7. Includes pre-filters and HEPA filters (from the ventilation system).
8. Includes steel pallet bands, parts/equipment, and nails.
9. Includes wood and wood preservatives as applied to pallets.
10. Includes agent contaminated debris, trash, baghouse debris, lightbulbs, demister candle packing, paint debris, ignitable wastes (aerosals, labpacks, isopropyl alcohol/glycol), batteries, refractory, slag, M40 canisters, MPF vacuum ash, spent cleaning solutions, scrap metal, piping, PAS solids, lamps, spent decon solution, sump sludge/solids, tap gear, paper, glass, plastics, demilitarization protective ensemble suit material, solid monitor support building and laboratory wastes that may include the following waste codes: D001-D011, D018, D019, D021, D022, D035, D039, D040, F001 through F005, U002, U003, U037, U044, U080, U131, U154, U159, U210, U220, F999, and P999. Refer to Module III for the list of waste codes that can be placed into a specific container storage area.
11. Reserved
12. Any abbreviations or acronyms found on this table, which are not defined in these footnotes, can be found in Appendix A.
13. Normally, the energetics (e.g., burster, explosives) will be removed from the projectiles/mortars in the ECRs before storage in the UPMC. However, if the burster detection systems, located at the Projectile Output Conveyor discharge stops in the UPMC, detect energetics, then the munitions with the detected energetics will be reloaded onto reject tables in the UPMC for storage.
14. The miscellaneous liquid wastes include agent contaminated hydraulic fluid, and lubricating oil
15. In addition to the waste codes listed in this table, additional waste codes may apply.
16. The ECR maintenance residues are identified in Attachment 2 (Waste Analysis Plan). The only ECR maintenance residues that can be fed to the MPF are unserviceable hand tools and metal hardware that are not contaminated with explosive residues (i.e., do not carry the D003 waste code).
17. Per Condition IV.E.6.

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TABLE 3
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TABLE 4
HAZARDOUS WASTE SUMP [1] SYSTEMS

SUMP I.D.NUMBER[2]	MAXIMUM ALLOWABLE CAPACITY (GALLON)	DIMENSIONS OF SUMP(FEET)	SECONDARY CONTAINMENT VOLUME(GALLON)	LOCATION REFERENCE			UTAH WASTE CODE
				DRAWING[3] COLUMN-ROW	FLOOR	ROOM[4]	
SDS-PUMP-101	89	2.3x2.3x2.25	none required (MDB)	B.1-14	2	UPA	F999[5]
SDS-PUMP-102	89	2.3x2.3x2.25	none required (MDB)	D-14	2	UPA	F999[5]
SDS-PUMP-103	89	2.3x2.3x2.25	none required (MDB)	J-14	2	UPA	F999[5]
SDS-PUMP-104	89	2.3x2.3x2.25	none required (MDB)	A-8	2	UPA	F999[5]
SDS-PUMP-106	89	2.3x2.3x2.25	134	H-6	2	ECR	F999[5]P999[6]
SDS-PUMP-107	59	2.33x2.33x1.46	134	C-6	2	ECR	F999[5]P999[6]
SDS-PUMP-108	89	2.3x2.3x2.25	134	J-10	2	ECV	F999[5]P999[6]
SDS-PUMP-109	89	2.3x2.3x2.25	134	D-10	2	ECV	F999[5]P999[6]
SDS-PUMP-110	89	2.3x2.3x2.25	134	B-10	2	ECV	F999[5]P999[6]
SDS-PUMP-112	89	2.3x2.3x2.25	134	B-7	2	M-CR	F999[5]P999[6]
SDS-PUMP-113	89	2.3x2.3x2.25	134	M-3	2	M-CR	F999[5]P999[6]
SDS-PUMP-114	89	2.3x2.3x2.25	134	J-3	2	M-CR	F999[5]P999[6]
SDS-PUMP-115	89	2.3x2.3x2.25	134	D-3	2	M-CR	F999[5]P999[6]
SDS-PUMP-116	89	2.3x2.3x2.25	134	B-3	2	M-CR	F999[5]P999[6]
SDS-PUMP-117	89	2.3x2.3x2.25	134	N-3	2	M-CR	F999[5]P999[6]
SDS-PUMP-118	89	2.3x2.3x2.25	134	B-5	2	M-CR	F999[5]P999[6]
SDS-PUMP-123	89	2.3x2.3x2.25	None required (MDB)	A-3	2P	AL	F999[5]
SDS-PUMP-124	89	2.3x2.3x2.25	134	B-4	2P	AL	F999[5]
SDS-PUMP-125	89	2.3x2.3x2.25	134	L-5	1P	AL	F999[5]
SDS-PUMP-126	89	2.3x2.3x2.25	134	L-8	2P	AL	F999[5]

TABLE 4

HAZARDOUS WASTE SUMP [1] SYSTEMS

SUMP I.D.NUMBER[2]	MAXIMUM ALLOWABLE CAPACITY (GALLON)	DIMENSIONS OF SUMP(FEET)	SECONDARY CONTAINMENT VOLUME(GALLON)	LOCATION REFERENCE			UTAH WASTE CODE
				DRAWING[3] COLUMN-ROW	FLOOR	ROOM[4]	
SDS-PUMP-127	89	2.3x2.3x2.25	None required (MDB)	L-7	2P	AL	F999[5]
SDS-PUMP-130	89	2.3x2.3x2.25	None required (MDB)	P-11	1	MON	F999[5]
SDS-PUMP-131	89	2.3x2.3x2.25	None required (MDB)	M-13	1	OBS	F999[5]
SDS-PUMP-133	89	2.3x2.3x2.25	None required (MDB)	M-2	1	OBS	F999[5]
SDS-PUMP-134	89	2.3x2.3x2.25	134	T-6	1	M-CR-AL	F999[5]
SDS-PUMP-135	89	2.3x2.3x2.25	134	M-3	1	TMA	F999[5]
SDS-PUMP-136	89	2.3x2.3x2.25	None required (MDB)	C-2	2	OBS	F999[5]
SDS-PUMP-137	89	2.3x2.3x2.25	None required (MDB)	H-2	2	OBS	F999[5]
SDS-PUMP-138	89	2.3x2.3x2.25	None required (MDB)	M-2	2	OBS	F999[5]
SDS-PUMP-139	89	2.3x2.3x2.25	None required (MDB)	P-4	2	OBS	F999[5]
SDS-PUMP-140	89	2.3x2.3x2.25	None required (MDB)	P-6	2	OBS	F999[5]
SDS-PUMP-141	89	2.3x2.3x2.25	None required (MDB)	P-11	2	OBS	F999[5]
SDS-PUMP-142	89	2.3x2.3x2.25	None required (MDB)	L-9	2	OBS	F999[5]
SDS-PUMP-144	89	2.3x2.3x2.25	None required (MDB)	W-11	1 (Pit)	LIC	F999[5]
SDS-PUMP-145	89	2.3x2.3x2.25	134	N-10	2	MPB	F999[5]P999[6]
SDS-PUMP-146	69	2.33x2.33x1.71	134	N-8	2	MPB	F999[5]P999[6]
SDS-PUMP-147	69	2.33x2.33x1.71	134	L-10	2	MPB	F999[5]P999[6]
SDS-PUMP-148	89	2.3x2.3x2.25	134	L-8	2	MPB	F999[5]P999[6]
SDS-PUMP-149	59	2.33x2.33x1.46	95	L-6	2	MPB	F999[5]P999[6]
SDS-PUMP-150	85	2.25x2.25x2.25	None required (tank)	H-7	1	SDS	F999[5] P999[6]
SDS-PUMP-151	512	4.42x4.42x3.5	None required	J-8	1	TOX	F999[5]P999[6]

TABLE 4

HAZARDOUS WASTE SUMP [1] SYSTEMS

SUMP I.D.NUMBER[2]	MAXIMUM ALLOWABLE CAPACITY (GALLON)	DIMENSIONS OF SUMP(FEET)	SECONDARY CONTAINMENT VOLUME(GALLON)	LOCATION REFERENCE			UTAH WASTE CODE
				DRAWING[3] COLUMN-ROW	FLOOR	ROOM[4]	
SDS-PUMP-153	89	2.3x2.3x2.25	134	P-5	1	DECON	F999[5]
SDS-PUMP-154	89	2.3x2.3x2.25	134	M-6	1	TMA	F999[5]
SDS-PUMP-156	89	2.3x2.3x2.25	None required (MDB)	U-11	1 (Pit)	LIC	F999[5]
SDS-PUMP-157	89	2.3x2.3x2.25	None required (MDB)	U-9	1	LIC	F999[5] P999[6]
SDS-PUMP-160	89	2.3x2.3x2.25	None required (MDB)	U-6	1	AL	F999[5]
SDS-PUMP-161	89	2.3x2.3x2.25	None required (MDB)	J-9	1	AL	F999[5]
SDS-PUMP-164	89	2.3x2.3x2.25	134	M-11	1	BSA	F999[5]
SDS-PUMP-167	89	2.3x2.3x2.25	None required (MDB)	M-13	2	OBS	F999[5]
SDS-PUMP-168	69	2.33x2.33x1.71	134	N-6	2	MPB	F999[5]P999[6]
SDS-PUMP-169	89	2.3x2.3x2.25	134	J-6	2	M-CR	F999[5]P999[6]
SDS-PUMP-173	89	2.3x2.3x2.25	None required (MDB)	M-3	1P	OBS	F999[5]
SDS-PUMP-174	89	2.3x2.3x2.25	134	D-6	2	M-CR	F999[5]P999[6]
SDS-PUMP-175	89	2.3x2.3x2.25	134	M-11	2	MPB	F999[5]P999[6]
SDS-PUMP-179	89	2.3x2.3x2.25	134	Q-6	1	M-CR	F999[5]
SDS-PUMP-180	89	2.3x2.3x2.25	None required (MDB)	T-7	1	AL	F999[5]
SDS-PUMP-182	89	2.3x2.3x2.25	None required (MDB)	L-4	1P	AL	F999[5]
SDS-PUMP-184	89	2.3x2.3x2.25	134	M-6	1	M-CR	F999[5]
SDS-PUMP-188	89	2.3x2.3x2.25	None required (MDB)	S-9	1	LIC	F999[5] P999[6]
SDS-PUMP-189	89	2.3x2.3x2.25	134	K-7	2	M-CR	F999[5]P999[6]
SDS-PUMP-190	89	2.3x2.3x2.25	134	M-9	1	BSA	F999[5]
SDS-PUMP-192	89	2.3x2.3x2.25	None required (MDB)	L-6	2P	OBS	F999[5]

TABLE 4

HAZARDOUS WASTE SUMP [1] SYSTEMS

SUMP I.D.NUMBER[2]	MAXIMUM ALLOWABLE CAPACITY (GALLON)	DIMENSIONS OF SUMP(FEET)	SECONDARY CONTAINMENT VOLUME(GALLON)	LOCATION REFERENCE			UTAH WASTE CODE
				DRAWING[3] COLUMN-ROW	FLOOR	ROOM[4]	
SDS-PUMP-193	89	2.3x2.3x2.25	None required (MDB)	K-9	1	OBS	F999[5]
SDS-PUMP-197	89	2.3x2.3x2.25	None required (MDB)	L-6	1	LAB	F999[5]
BRA-PUMP-103	85	2.25x2.25x2.25	None required (tank)	diked area		BRA	F999[5]
BCS[7]-PUMP-107	400	3x3x6	None required (tank)	N/A		UNLOAD STATION	F999[5]

1 Hazardous waste sumps (meeting the RCRA definition of a tank) must comply with all applicable hazardous waste tank system requirements (R315-8-10).

2 MDB = Munition Demilitarization Building, SDS = Spent Decontamination Solution/System, BRA = Brine Reduction Area.

3 Reference building column-row numbers from Drawings TE-1-G-504, -5, -6, -7, -8, -9, -10, and –11, TE-16-P-4.

4 TMA = Toxic Maintenance Area, DECON = Decontamination, MCR = Munition Corridor, BSA = 1st Floor Buffer Storage Area, MCR-AL = Munitions Corridor Airlock, AL = Airlock, ECV = Explosive Containment Room Vestibule, ECR = Explosive Containment Room, TOX = Toxic Cubicle, SDS = Spent Decontamination Solution area, BRA = Brine Reduction Area, LIC = Liquid Incinerator, MON = Monitor Room, OBS = Observation Corridor, UPA = Unpack Area.

5 Spent decontamination solution. One agent per campaign. Other applicable waste codes are D002, D003, D004, D006, D007, D008, D009, D010, D019, D022, D028.

6 Liquid agent routinely in area. Potential for collection and containment of major agent spill.

7 BCS = Bulk Chemical Storage

TABLE 5

SUMPS SYSTEM DESIGN STANDARDS

SUMP AND TRENCH[1] DESIGN STANDARDS	SUMP SYSTEMS		
	PRIMARY CONTAINMENT[2]	SECONDARY CONTAINMENT[3]	TOXIC CUBICLE[4]
Construction Material:	welded carbon steel	welded carbon steel	welded carbon steel
Sump Capacity, gallons	89 (typ)	89 (typ)	512 (typ)
Specified Shell Thickness, inches	3/16 steel	3/16 steel	3/16 steel
Dimensions, feet:	2.3 X 2.3 X 2.25(typ)	2.3 X 2.3 X 2.25 (typ)	4.42 X 4.42 X 3.5 (typ)
Grating, inches	reinforced fiberglass	reinforced fiberglass	reinforced fiberglass
Protective Coating	Agent Resistant	Agent Resistant	Agent Resistant
Secondary Containment			
Capacity, gallons	134	not applicable	512 required
Corrosion Liner Material	concrete	not applicable	concrete
Liner Thickness	6 inch		6 inch
Protective Coating Dimensions, feet:Design Temperature, □F	Agent Resistant	Agent Resistant	Agent Resistant
Leak Detection System			
	Visually inspect by and level detector	not applicable	Visually inspect and level detector

1 Standards apply to trenches (for sump collection system designed with trench).

2 Corresponds to those sumps listed in Table 4 that have a numerical capacity value listed under the "secondary Containment Volume (Gallon)" column heading.

3 With the exception of SDS-PUMP-151 (see below), corresponds to those sumps listed in Table 4 that have "none required" listed under the "Secondary Containment Volume (Gallon)" column heading. Those that are designated as "none required (tank)" correspond to sumps that are part of a secondary containment system for a tank. Those that are designated as "none required (MDB)" are those MDB RCRA permitted sumps that are part of a secondary containment system for miscellaneous operations that occur in the MDB.

4 SDS-PUMP-151 (Toxic Cubicle Sump.)