MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the MRS Summary, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non-munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

	•	e Site Name:	WSIPI-01	1-K-01		WEBCASS:	36993.1031		
Component: Active Army									
Ins	Installation/Property Name: West Point Military Reservation Location (City, County, State): West Point Military Reservation, Putnam County, New York								
Loc									
		Name (Project		-		-			
	- · · · - ·		2024		·				
		red/Updated: 2 Jul	•	0) 674 3	260				
	•	e/Phone): Anne L	.ogwood, (52	0) 6/4-2	269				
Projec	ct Phase (check only one):	<u></u>							
	□ PA	□ SI	□ RI		□ FS	X RD			
	□ RA-C	□ RIP	□ RA-O		□ RC	□ LTM			
Med	dia Evaluated (chec	k all that apply):		·					
☐ Groundwater				☐ Sediment (human receptor)					
X □ Surface soil □ Surface Water (ecological receptor)									
	☐ Sediment (ecol	logical receptor)		□ Su	rface Water (hun	man receptor)			
145									

MRS Summary:

RC Date is 2024 09 15

Documents used throughout this MRSPP include the following:

- Remedial Investigation (RI), Dated June 2014.
- Feasibility Study (FS), Dated January 2018.
- Decision Document (DD), Dated July 2022.

The MRS encompasses 14 acres on West Point (DD, Section 1.1, Page 1).

The MRS constitutes portions of former artillery firing ranges and was constructed in the mid-twentieth century of fill material that was removed from a target area. The target area from which the MRS was constructed was used in the late-eighteenth to early-twentieth centuries (DD, Section 1.3.1, Page 2).

During the RI, an 8-inch Coehorn siege mortar was recovered; along with 13 x MD items were found, including a 4.5-inch cannonball, two 6-inch cannonballs, and unidentified fragments. The UXO was recovered from a depth of 32 inches bgs, and the MD items were recovered from two to 16 inches bgs. Prior to the RI, a 76mm M339 armor-piercing tracer, had been recovered from an unknown depth during the renovation of the Shea Stadium in June 1999 (DD, Section 2.5.2.2, Page 17).

The Army concluded that the MRS under the current and reasonably anticipated land use does not qualify for UU/UE because MEC exposure pathways are complete and unacceptable explosives safety hazards are present, although MC-related contamination does not pose unacceptable risks to human health or the environment (DD, Section 2.7.2.3, Page 25).

The Selected Remedy for the MRS is Alternative 2 – Risk Management (DD, Section 1.4.1, Page 2).

CHE Rated as NKSH: Per the DD, Section 2.5.2.2, Page 17, only conventional munitions were used. There is no historical use of CWM at the MRS and no documentation of CWM use was found during the review of historical documents of WSTPT-011-R-01.

Table A Continued

HHE Rated as NKSH: The RI Report that the nature and extent of MC-related contamination was adequately characterized and the MRS should not undergo further action for MC-related contamination because an area of concern was not identified (DD, Section 2.5.2.2, Page 17).

Stakeholder Involvement - TBD

Description of Pathways for Human and Ecological Receptors: Pathways for MEC are complete. The primary exposure mechanism for human receptors to surface MEC is through handle/tread underfoot. Also, a subsurface pathway may occur during construction excavation activities (DD, Section 2.5.2.2, Page 17) & (DD, Section 2.7.2.1, Page 24) & (RI, Page ES-3/4).

Pathways for MC are incomplete (DD, Section 2.7.2.2, Page 25) & (RI, Page ES-4).

Description of Receptors (Human and Ecological): installation personnel (coaches), maintenance workers, recreational users (athletes), and site visitors (DD, Section 2.8.2, Page 27).

There are no ecological resources or wetlands on the MRS (RI, Section 1.3.7.1 & 1.3.7.2 & 1.3.7.4, Page 1-7).

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with <u>all</u> the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	 UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). Hand grenades containing energetic filler. Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard. 	30
High explosive (used or damaged)		
Pyrotechnic (used or damaged)	 UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: Been damaged by burning or detonation Deteriorated to the point of instability. 	20
High explosive (unused)	 DMM containing a high-explosive filler that: Have not been damaged by burning or detonation Are not deteriorated to the point of instability. 	15
Propellant	 UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: Damaged by burning or detonation Deteriorated to the point of instability. 	15
Bulk secondary high explosives, pyrotechnics, or propellant	DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	
Pyrotechnic (not used or damaged)	 DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: Have not been damaged by burning or detonation Are not deteriorated to the point of instability. 	10
Practice	 UXO that are practice munitions that are not associated with a sensitive fuze. DMM that are practice munitions that are not associated with a sensitive fuze and that have not: Been damaged by burning or detonation Deteriorated to the point of instability. 	5
Riot control	UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	 Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.) 	2
Evidence of no munitions	 Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present. 	0
MUNITIONS TYPE	DIRECTIONS: Record <u>the single highest score</u> from above in the box to the right (maximum score = 30).	25

DIRECTIONS: Document any MRS-specific data used in selecting the *Munitions Type* classifications

During the RI, an 8-inch Coehorn siege mortar was recovered; along with 13 x MD items were found, including a 4.5-inch cannonball, two 6-inch cannonballs, and unidentified fragments. Prior to the RI, a 76mm M339 armor-piercing tracer, had been recovered from an unknown depth during the renovation of the Shea Stadium in June 1999 (DD, Section 2.5.2.2, Page 17).

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with <u>all</u> the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms former range, practice munitions, small arms range, physical evidence, and historical evidence are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	• The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	DIRECTIONS: Record <u>the single highest score</u> from above in the box to the right (maximum score = 10).	10

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

The North Athletic Field MRS does not contain a firing point or a target area but constitutes a portion of the overlapping Siege Battery and Fort Clinton artillery firing ranges. The MRS was constructed of fill material that was removed from an area known as "Target Hill." Target Hill served as a target/impact area for firing points. While it was not a "former range" the North Athletic Field MRS may contain munitions associated with those former artillery firing ranges and the fill from Target Hill (DD, Section 2.5.2.2).

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with <u>all</u> the locations where munitions are known or suspected to be present at the MRS.

Note: The terms confirmed, surface, subsurface, small arms ammunition, physical evidence, and historical evidence are

defined in Appendix C of the Primer.

Classification	Description		
Confirmed surface	 Physical evidence indicates that there are UXO or DMM on the surface of the MRS. Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS. 	25	
Confirmed subsurface, active	 Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. 	20	
Confirmed subsurface, stable	 Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. 	15	
Suspected (physical evidence)	 There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS. 	10	
Suspected (historical evidence)	There is historical evidence indicating that UXO or DMM may be present at the MRS.	5	
Subsurface, physical constraint	 There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM. 	2	
Small arms (regardless of location)	The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1	
Evidence of no munitions	Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0	
LOCATION OF MUNITIONS	DIRECTIONS: Record <u>the single highest score</u> from above in the box to the right (maximum score = 25).	20	

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications

MEC was recovered from a depth of 32 inches bgs, and the MD items were recovered from two to 16 inches bgs (DD, Section 2.5.2.2, Page 17).

Erosion and Frost Heave are a concern at the MRS (RI, Section 5.1, Page 5-2).

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds

with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description		
No barrier	 There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible). 	10	
Barrier to MRS access is incomplete	There is a barrier preventing access to parts of the MRS, but not the entire MRS.		
Barrier to MRS access is complete but not monitored	 There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS. 	5	
Barrier to MRS access is complete and monitored	ensure that the harrier is effectively preventing access to all parts of		
EASE OF ACCESS	DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 10).	10	

DIRECTIONS: Document any MRS-specific data used in selecting the *Ease of Access* classification in the space provided.

There is no barrier to the MRS (DD, Figure 2-9, Page 84).

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	 The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day. 	
Scheduled for transfer from DoD control	The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).	0

DIRECTIONS: Document any MRS-specific data used in selecting the *Status of Property* classification in the space provided.

The MRS is located on West Point under DoD control (DD, Section 1.1, Page 1).

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the <u>highest</u> population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	
> 500 persons per square mile	There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).	3

DIRECTIONS: Document any MRS-specific data used in selecting the *Population Density* classification in the space provided.

The MRS is in Orange County. The towns of Cold Spring, Highland Falls, and Garrison are within two miles of the MRS boundary, but they are not listed in census.gov

There are 494 persons per square mile in the U.S. Census Bureau tract in which the MRS is located in Orange County; and 398 at West Point.

https://www.census.gov/quickfacts/fact/table/westpointcdpnewyork,orangecountynewyork/PST045223

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number

of inhabited structures.

Note: The term inhabited structures is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	
0 inhabited structures	There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).	5

DIRECTIONS: Document any MRS-specific data used in selecting the *Population Near Hazard*

The entire campus of West Point is located within 1 mile of the MRS. There are well over 26 inhabited structures located within 2 miles from the boundary of the MRS.

https://earth.google.com/web/@41.41173367,-73.95820235,-2.95093737a,14684.21887968d,35y,-0h,0t,0r

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the

types of activities that occur and/or structures that are present within two miles of the MRS and circle the

scores that correspond with <u>all</u> the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	 Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering. 	5
Parks and recreational areas	Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	
No known or recurring activities	There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	DIRECTIONS: Record <u>the single highest score</u> from above in the box to the right (maximum score = 5).	

DIRECTIONS: Document any MRS-specific data used in selecting the *Types of Activities/Structures* classifications

There are residences, academic activities, recreational activities, and industrial activities on or within two miles of the MRS boundary (DD, Section 2.6, Page 20) & (DD, Section 2.6.2, Page 21).

https://earth.google.com/web/@41.3984196,-73.96254999,1.21698014a,984.50459715d,35y,0h,0t,0r

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the

types of resources present and circle the score that corresponds with the ecological and/or cultural

resources present on the MRS.

Note: The terms ecological resources and cultural resources are defined in Appendix C of the Primer.

Classification	Description	
Ecological and cultural resources present	There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	There are ecological resources present on the MRS.	3
Cultural resources present	There are cultural resources present on the MRS.	3
No ecological or cultural resources present	There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	DIRECTIONS: Record the single highest score from above in the box to the right (maximum score = 5).	0

DIRECTIONS: Document any MRS-specific data used in selecting th**€cological and/or Cultural Resources**

The MRS does not contain cultural and archaeological resources (DD, Section 2.5.1.5, Page 14).

There are no ecologocial resources or wetlands on the MRS (RI, Section 1.3.7.1 & 1.3.7.2 & 1.3.7.4, Page 1-7).

Table 10
Determining the EHE Module Rating

DIRECTIONS:

- From Tables 1–9, record the data element scores in the Score boxes to the right.
- Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
- Add the three Value boxes and record this number in the EHE Module Total box below.
- 4. Circle the appropriate range for the **EHE Module Total** below.
- 5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value			
Explosive Hazard Factor Data Elements						
Munitions Type	Table 1	25	35			
Source of Hazard	Table 2	10	35			
Accessibility Factor Data Elements						
Location of Munitions	Table 3	20				
Ease of Access	Table 4	10	30			
Status of Property	Table 5	0				
Receptor Factor Data Elements						
Population Density	Table 6	3				
Population Near Hazard	Table 7	5	12			
Types of Activities/Structures	Table 8	5	13			
Ecological and/or Cultural Resources	Table 9	0				
EHE MODULE TOTAL 78						
EHE Module Total	EHE Module Rating		ating			
92 to 100		Α				
82 to 91	В					
71 to 81		С				
60 to 70	D					
48 to 59	Е					
38 to 47	F					
less than 38	G					
	Evaluation Pending					
Alternative Module Ratings	No Longer Required					
	No Known or Suspected Explosive Hazard					
EHE MODULE RATING C			V			
		•				

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with <u>all</u> the CWM configurations known or suspected to be present at the MRS.

Note: The terms CWM/UXO, CWM/DMM, physical evidence, and historical evidence are defined in Appendix C of the

Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	 The CWM known or suspected of being present at the MRS are: CWM that are UXO (i.e., CWM/UXO) Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged. 	30
CWM mixed with UXO	The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	 The CWM known or suspected of being present at the MRS are: Nonexplosively configured CWM/DMM either damaged or undamaged Bulk CWM (e.g., ton container). 	15
CAIS K941 and CAIS K942	The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	 Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS. 	0
CWM CONFIGURATION	DIRECTIONS: Record <u>the single highest score</u> from above in the box to the right (maximum score = 30).	0

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications

CHE Rated as NKSH: Per the DD, Section 2.5.2.2, Page 17, only conventional munitions were used. There is no historical use of CWM at the MRS and no documentation of CWM use was found during the review of historical documents of WSTPT-011-R-01.

IAW Army Guidance, Tables 12-19 have been omitted.

Table 20 Determining the CHE Module Rating

DIRECTIONS:

- From Tables 11–19, record the data element scores in the Score boxes to the right.
- 2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
- Add the three Value boxes and record this number in the CHE Module Total box below.
- 4. Circle the appropriate range for the **CHE Module Total** below.
- 5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elemen	nts		
CWM Configuration	Table 11	0	0
Sources of CWM	Table 12		0
Accessibility Factor Data Elemer	nts		
Location of CWM	Table 13		
Ease of Access	Table 14		
Status of Property	Table 15		
Receptor Factor Data Elements			
Population Density	Table 16		
Population Near Hazard	Table 17		
Types of Activities/Structures	Table 18		
Ecological and/or Cultural Resources	Table 19		
CHE	MODULE	TOTAL	0
CHE Module Total	CHE	Module R	ating
92 to 100		Α	
82 to 91		В	
71 to 81		С	
60 to 70		D	
48 to 59		Е	
38 to 47		F	
less than 38	G		
	Eva	luation Pen	ding
Alternative Module Ratings	No L	₋onger Requ	uired
		wn or Sus WM Haza	•
CHE MODULE RATING	No Kno	wn or Su WM Haza	spected

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

Maximum Concentration (ug/L)

Contaminant

DIRECTIONS: Record the maximum concentrations of all contaminants in the MRS's groundwater and their comparison values (from Appendix B of the Primer) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the ratios for each contaminant by dividing the maximum concentration by the comparison value. Determine the CHF by adding the contaminant ratios together, including any additional groundwater contaminants recorded on Table 27. Based on the CHF, use the CHF Scale to determine and record the CHF Value. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Comparison Value (ug/L)

Ratios

	(F 9 . –)				
CHF Scale	CHF Value	Sum The Ratios			
CHF > 100	H (High)	[Maximum Concentration of Co	ontaminantl		
100 > CHF > 2	M (Medium)	CHF = Z			
2 > CHF	L (Low)	[Comparison Value for Conta	minantj		
CONTAMINANT HAZARD FACTOR	DIRECTIONS: Record the CHF Value (maximum value = H).	from above in the box to the right			
	Migratory Pathw	av Factor			
DIRECTIONS: Circle th		the groundwater migratory pathway at the I	MRS.		
Classification	Desc	cription	Value		
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at,				
	moving toward, or has moved to a point of exposure. Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could				
Potential	move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.				
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to the presence of geological structures or physical controls).				
MIGRATORY	DIRECTIONS: Record the single high				
PATHWAY FACTOR	right (maximum value =	= H).			
	Receptor Fa	actor			
DIRECTIONS: Circle th	ne value that corresponds most closely to	the groundwater receptors at the MRS.			
Classification	Desc	cription	Value		
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).				
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).				
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).				
RECEPTOR FACTOR	DIRECTIONS: Record the single high right (maximum value =				
		wn or Suspected Groundwater MC Hazard			

Media not sampled. There is no site-specific groundwater information available because no groundwater monitoring wells were installed as part of previous investigations of the MRS. Groundwater on West Point generally occurs in an unconsolidated aquifer consisting of alluvial deposits and a consolidated bedrock aguifer. Water within the unconsolidated aguifer occurs primarily in the sands and gravels of the stratified drift deposits. These deposits represent the most prolific sources of groundwater on the installation, but the deposits are thin and generally have fairly small well yields which average about 40 gallons per minute (DD, Section 2.5.1.4.2, Page 13).

HHE Module: Surface Water - Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the maximum concentrations of all contaminants in the MRS's surface water and their comparison values (from Appendix B of the Primer) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the ratios for each contaminant by dividing the maximum concentration by the comparison value. Determine the CHF by adding the contaminant ratios together, including any additional surface water contaminants recorded on Table 27. Based on the CHF, use the CHF Scale to determine and record the CHF Value. If there is no known or suspected MC hazard with human endpoints present in the surface water, select the box at the bottom of the table.

Contaminant	Maximum Concentration (μg/L)	Comparison Value (μg/L)	Ratios	
CHF Scale	CHF Value	Sum The Ratios		
CHF > 100	H (High)	— Maximum Concentration of Co	entaminantl	
100 > CHF > 2	M (Medium)	CHF = [Maximum Concentration of Co	ntammantj	
2 > CHF	L (Low)	[Comparison Value for Conta	minant]	
CONTAMINANT HAZARD FACTOR	DIRECTIONS: Record the CHF Value (maximum value = H).	from above in the box to the right		
DIRECTIONS: Circle to	Migratory Pathw he value that corresponds most closely to	ay Factor the surface water migratory pathway at the	MRS.	
Classification		ription	Value	
Evident	Analytical data or observable evidence indicates t moving toward, or has moved to a point of exposu	Н		
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.			
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to the presence of geological structures or physical controls).			
MIGRATORY PATHWAY FACTOR	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).			
DIRECTIONS: Circle to	Receptor Fa			
Classification		ription	Value	
Identified	Identified receptors have access to surface water to which contamination has moved or can move.			
Potential	Potential for receptors to have access to surface was move.	М		
Limited	Little or no potential for receptors to have access or can move.	L		
RECEPTOR FACTOR	DIRECTIONS: Record the single high the right (maximum value)			
	No Known or Suspected Sui	face Water (Human Endpoint) MC Hazard		

Media not sampled.

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison** values (from Appendix B of the Primer) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the ratios for each contaminant by dividing the maximum concentration by the comparison value. Determine the CHF by adding the contaminant ratios together, including any additional sediment contaminants recorded on Table 27. Based on the CHF, use the CHF Scale to determine and record the CHF Value. If there is no known or suspected MC hazard

with human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios	
CHF Scale	CHF Value	Sum The Ratios		
CHF > 100	H (High)	- [Maximum Concentration of Co	ntaminantl	
100 > CHF > 2	M (Medium)	CHF = [Maximum Concentration of Co	· 4	
2 > CHF	L (Low)	[Comparison Value for Conta	minantj	
CONTAMINANT HAZARD FACTOR	DIRECTIONS: Record the CHF Value maximum value = H).	from above in the box to the right		
DIRECTIONS: Circle th	Migratory Pathw ne value that corresponds most closely to	vay Factor the sediment migratory pathway at the MRS	S.	
Classification		cription	Value	
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.			
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.			
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to the presence of geological structures or physical controls).			
MIGRATORY PATHWAY FACTOR	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).			
DIRECTIONS: Circle th	Receptor F ne value that corresponds most closely to			
Classification	Des	cription	Value	
Identified	Identified receptors have access to sediment to	which contamination has moved or can move.	Н	
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.			
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.			
RECEPTOR FACTOR	DIRECTIONS: Record the single high the right (maximum value)			
	No Known or Suspecte	ed Sediment (Human Endpoint) MC Hazard		

Media not sampled.

HHE Module: Surface Water - Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the maximum concentrations of all contaminants in the MRS's surface water and their comparison values (from Appendix B of the Primer) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the ratios for each contaminant by dividing the maximum concentration by the comparison value. Determine the CHF by adding the contaminant ratios together, including any additional surface water contaminants recorded on Table 27. Based on the CHF, use the CHF Scale to determine and record the CHF Value. If there is no known or suspected MC hazard with ecological endpoints present in the surface water, select the box at the bottom of the table.

Contaminant	Maximum Concentration (μg/L)	Comparison Value (μg/L)	Ratios
CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	CHF = [Maximum Concentration of Co	ontaminantl
100 > CHF > 2	M (Medium)	[Comparison Value for Conta	
2 > CHF	L (Low)	. ,	Immanij
CONTAMINANT HAZARD FACTOR	DIRECTIONS: Record the CHF Value (maximum value = H).	from above in the box to the right	
DIRECTIONS: Circle th	Migratory Pathw ne value that corresponds most closely to	vay Factor the surface water migratory pathway at the	MRS.
Classification	Desc	Value	
Evident	Analytical data or observable evidence indicates moving toward, or has moved to a point of expos	Н	
Potential	Contamination in surface water has moved only s move but is not moving appreciably, or informatic or Confined.	М	
Confined	Information indicates a low potential for contamin to a potential point of exposure (possibly due to to controls).	L	
MIGRATORY	DIRECTIONS: Record the single high		
PATHWAY FACTOR right (maximum value = H).			
DIRECTIONS: Circle th	Receptor Fance value that corresponds most closely to	actor o the surface water receptors at the MRS.	
Classification	Desc	cription	Value
Identified	Identified receptors have access to surface water	Н	
Potential	Potential for receptors to have access to surface move.	М	
Limited	Little or no potential for receptors to have access or can move.	to surface water to which contamination has moved	L
RECEPTOR FACTOR	DIRECTIONS: Record the single high right (maximum value =	hest value from above in the box to the = H).	
	No Known or Suspected Surfac	ce Water (Ecological Endpoint) MC Hazard	

Media not sampled.

HHE Module: Sediment - Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison** values (from Appendix B of the Primer) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the ratios for each contaminant by dividing the maximum concentration by the comparison value. Determine the CHF by adding the contaminant ratios together, including any additional sediment contaminants recorded on Table 27. Based on the CHF, use the CHF Scale to determine and record the CHF Value. If there is no known or suspected MC hazard

with ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Contaminant Maximum Concentration (mg/kg) Comparison Value (mg/kg)					
CHF Scale	CHF Value	Sum the Ratios				
CHF > 100	H (High)	— Maximum Concentration of Co	ntominontl			
100 > CHF > 2	M (Medium)	CHF = [Maximum Concentration of Co	ntaminantj			
2 > CHF	L (Low)	[Comparison Value for Contai	minant]			
CONTAMINANT HAZARD FACTOR	DIRECTIONS: Record <u>the CHF Valu</u> (maximum value = H).					
Classification Evident	Description Analytical data or observable evidence indicates that contamination in the sediment is present at,					
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.					
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.					
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to the presence of geological structures or physical controls).					
MIGRATORY		phest value from above in the box to the				
PATHWAY FACTOR	right (maximum value	= H).				
	Receptor I					
DIRECTIONS: Circle t	he value that corresponds most closely	to the sediment receptors at the MRS.				
Classification		scription	Value			
dentified	Identified receptors have access to sediment to	which contamination has moved or can move.	Н			
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.					
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.					
RECEPTOR FACTOR	DIRECTIONS: Record the single high right (maximum value	ghest value from above in the box to the = H).				

Media not sampled.

HHE Module: Surface Soil Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the maximum concentrations of all contaminants in the MRS's surface soil and their comparison values (from Appendix B of the Primer) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the ratios for each contaminant by dividing the maximum concentration by the comparison value. Determine the CHF by adding the contaminant ratios together, including any additional surface soil contaminants recorded on Table 27. Based on the CHF, use the CHF Scale to determine and record the CHF Value. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio		
4-Amino-2,6-dinitrotoluene	e .29 150		.002		
COPPER	289	3100	.093		
IRON	21800	55000	.396		
LEAD	13.7	400	.034		
MERCURY	.36	23	.016		
		Total From Table 27	.004		
CHF Scale	CHF Value	Sum the Ratios	.545		
CHF > 100	H (High)	CHF = [Maximum Concentration of Co	ontaminant]		
100 > CHF > 2 2 > CHF	M (Medium) L (Low)	[Comparison Value for Conta	minantl		
CONTAMINANT HAZARD FACTOR	DIRECTIONS: Record the CHF Value (maximum value = H	ue from above in the box to the right	L		
	•	to the surface soil migratory pathway at the M	RS. Value		
Classification	Description Analytical data or observable evidence indicates that contamination in the surface soil is present at,				
Evident	moving toward, or has moved to a point of exposure.				
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.				
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to the presence of geological structures or physical controls).				
MIGRATORY PATHWAY FACTOR	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).				
DIRECTIONS: Circle the		Factor to the surface soil receptors at the MRS.	Value		
Identified		il to which contamination has moved or can move.	H		
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.				
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.				
RECEPTOR FACTOR	DIRECTIONS: Record the single highest value from above in the box to the right (maximum value = H).				
	No K	Known or Suspected Surface Soil MC Hazard			

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants in any given medium present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the media in which these contaminants are present. Then record all contaminants, their maximum concentrations and their comparison values (from Appendix B of the Primer) in the table below. Calculate and record the ratio for each contaminant by dividing the maximum concentration by the comparison value. Determine the CHF for each medium on the appropriate media-specific tables.

Note: Do not add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio
SOIL	POTASSIUM	891	Not in App. B-1.	N/A
SOIL	ZINC	83.8	23000	.004
			TOTAL SOIL THIS PAGE	.004

Determining the HHE Module Rating

DIRECTIONS:

- 1. Record the letter values (H, M, L) for the **Contaminant Hazard**, **Migration Pathway**, and **Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
- 2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
- 3. Using the **HHE Ratings** provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value	Three-Letter Combination (Hs-Ms-Ls)	Media Rating (A-G)
Groundwater (Table 21)					
Surface Water/Human Endpoint (Table 22)					
Sediment/Human Endpoint (Table 23)					
Surface Water/Ecological Endpoint (Table 24)					
Sediment/Ecological Endpoint (Table 25)					
Surface Soil (Table 26)	L	М	М	MML	E

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING

NKSH

HHE Ratings (for reference only)				
Combination	Rating			
ННН	Α			
ННМ	В			
HHL				
НММ	С			
HML	_			
MMM	D			
HLL	_			
MML	E			
MLL	F			
LLL	G			
	Evaluation Pending			
Alternative Module Ratings	No Longer Required			
	No Known or Suspected MC Hazard			

The RI concluded that the nature and extent of MC-related contamination was adequately characterized and the MRS should not undergo further action for MC-related contamination because an area of concern was not identified (DD, Section 2.5.2.2, Page 17).

Table 29 **MRS Priority**

DIRECTIONS: In the chart below, circle the letter rating for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical priority for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS Priority is the single highest priority; record this relative priority in the MRS Priority or Alternative MRS **Rating** at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		Α	1		
А	2	В	2	А	2
В	3	С	3	В	3
С	4	D	4	С	4
D	5	Е	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation	Pending	Evaluation Pending		Evaluation Pending	
No Longer	Required	No Longer Required		No Longer Required	
No Known o Explosive			Known or Suspected No Known or Suspected MC Hazard		•
MRS PRIORITY or ALTERNATIVE MRS RATING			4		