# Table A
## MRS Background Information

**Munitions Response Site Name:** Anti-Tank Range 90-MM -2, FTSW-010-R-01
**Component:** Active     HQAES: 13305.1100
**Installation/Property Name:** Fort Stewart
**Location (City, County, State):** Fort Stewart, Liberty County, Georgia
**Site Name/Project Name (Project No.):** Anti-Tank Range 90-MM -2, FTSW-010-R-01

**Date Information Entered/Updated:** 6 October 2023
**Point of Contact (Name/Phone):** Tavy Wade, (912) 767-2196
**Project Phase (check only one):**

| ❑ PA | ❑ SI | ❑ RI | ☒ **FS** | ❑ RD |
|---|---|---|---|---|
| ❑ RA-C | ❑ RIP | ❑ RA-O | ❑ RC | ❑ LTM |

**Media Evaluated (check all that apply):**

| ❑ Groundwater | ❑ Sediment (human receptor) |
|---|---|
| ☒ **Surface Soil** | ❑ Surface Water (ecological receptor) |
| ❑ Sediment (ecological receptor) | ❑ Surface Water (human receptor) |

**MRS Summary:**                                   RC Date is scheduled for 20530930.

Documents used throughout this MRSPP include the following:
- Corrective Measure Study (CMS) Report, Dated July 2020.
- RCRA Facility Investigation (RFI) Report, Dated March 2018.
- Confirmatory Sampling (CS) Report, Dated September 2011.

FTSW-010-R-01 is also identified in the supporting documents as AT90-MM-2.

The Site is approximately 546 acres and encompasses the former firing points for 40mm anti-aircraft and 90mm anti-tank training ranges, operational during the 1940s (CMS Report, Section 2.2, Page 2).

The magnetometer survey yielded 11 items classified as MD, including 40-mm TP projectiles, 90-mm APT projectiles, 2.36-inch practice rockets, a flare, and practice/training submunition. The majority of these MD were located at the surface, while four items were located in the subsurface from depths of 5 to 18 inches (90-mm APT projectiles). One item at the surface was identified as a 25-mm TP projectile (with cartridge intact) and classified as material potentially presenting an explosive hazard (MPPEH) (CB&I, 2018). The RFI noted that this MPPEH item and one MD item (25-mm TP-T cartridge) were of a more recent vintage (post-1970) than items associated with historical range operations. The DGM survey yielded two items, classified as MD, a 40-mm TP projectile and a mortar of unknown type. These were located at depths of 6 and 12 inches, respectively. No MEC was identified in either survey, and one MPPEH item was identified on the surface. The discarded 25-mm TP-T projectile found as a complete round and classified in the 2018 RFI as MPPEH, will be considered a MEC item (CMS Report, Section 2.6.2, Page 5).

**CHE is rated as NKSH:** Per the RFI, 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 FTSW-010-R-01. The eastern portion of the MRS was historically used for firing 40mm anti-aircraft and 90mm anti-tank rounds from an area that is now a motor pool and fueling station. AP projectiles fired would be solid steel, while fillers used may have included TNT or Comp B (TNT/RDX mixtures) according to technical data sheets. Use of the range for other types of munitions was not identified in historical reports (RFI Report, Table 6-1, Page 6-1).

**HHE is rated as NKSH:** Previously conducted soil sampling suggests there is no observed MC hazard associated with the Site (CMS Report, Section ES, Page v).

## Table A Continued

There were no potential sources of MC encountered during the MEC investigation (i.e. exposed fillers, burial pits containing DMM, or small arms berms).  No MC samples were collected.  The need for additional environmental sampling, as outlined in the approved work plan, was not identified during the course of RFI activities. Since environmental sampling for MC was not conducted at any of the four MRS sites, neither a comparison to screening levels nor an MC risk assessment was conducted (RFI Report, Section 3.4, Page 3-7).

**Stakeholder Involvement:**  xxxxxxx

**Description of Pathways for Human and Ecological Receptors:**  As there was no stated source of MEC at the Site, the pathway for exposure to MEC was considered incomplete in the RFI (CB&I, 2018).  MPPEH in the form of a discarded 25-mm TP-T projectile on the ground surface was discovered and represented an MPPEH source.  Accordingly, the MPPEH exposure pathway was considered complete at the surface, and incomplete in the subsurface (CB&I, 2018).  This CMS considers the MPPEH item to be MEC. With ongoing use of the MRS, the MEC exposure pathway is complete at the ground surface (CMS Report, Section 4.1.2.1, Page 4-3).

**Description of Receptors (Human and Ecological):**  Recreation Receptors who may hunt in undeveloped areas, Training Receptors who may conduct maneuvers in undeveloped areas; Indoor Facility Workers who occupy FTSW buildings for work purposes; Maintenance & Construction Workers who may perform grounds keeping, landscaping, or excavation activities; Visitors who may access and walk through the area (RFI, Section 4.3.2.1, Page 4-6).

# Table 1
## EHE Module:  Munitions Type Data Element Table

**DIRECTIONS:**  Below are 11 classifications of munitions and their descriptions.  Highlight the scores that correspond with **all** 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).<br>◆ Hand grenades containing energetic filler.<br>◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard. | 30 |
| **High explosive (used or damaged)** | ◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive."<br>◆ DMM containing a high-explosive filler that have:<br>　▪ Been damaged by burning or detonation<br>　▪ Deteriorated to the point of instability. | 25 |
| **Pyrotechnic (used or damaged)** | ◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades).<br>◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have:<br>　▪ Been damaged by burning or detonation<br>　▪ Deteriorated to the point of instability. | **20** |
| **High explosive (unused)** | ◆ DMM containing a high-explosive filler that:<br>　▪ Have not been damaged by burning or detonation<br>　▪ 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).<br>◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation<br>　▪ 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).<br>◆ 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. | 10 |
| **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<br>　▪ Are not deteriorated to the point of instability. | 10 |
| **Practice** | ◆ UXO that are practice munitions that are not associated with a sensitive fuze.<br>◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation<br>　▪ 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 **the single highest score** from above in the box to the right (maximum score = 30). | **20** |

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

The magnetometer survey yielded 11 items classified as MD, including 40-mm TP projectiles, 90-mm APT projectiles, 2.36-inch practice rockets, a flare, and practice/training submunition.  One item at the surface was identified as a 25-mm TP projectile (with cartridge intact) and classified as MPPEH.  The DGM survey yielded two items, classified as MD, a 40-mm TP projectile and a mortar of unknown type.  These were located at depths of 6 and 12 inches, respectively.  No MEC was identified in either survey.  The discarded 25-mm TP-T projectile found as a complete round and classified in the 2018 RFI as MPPEH, will be considered a MEC item (CMS Report, Section 2.6.6, Page 6).

# Table 2
## EHE Module:  Source of Hazard Data Element Table

**DIRECTIONS:**  Below are 11 classifications describing sources of explosive hazards.  Highlight the scores that correspond with **all** 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. | <span style="color:red">**4**</span> |
| **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 **the single highest score** from above in the box to the right (maximum score = 10). | **4** |

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

The Site is approximately 546 acres and encompasses the former firing points for 40mm anti-aircraft and 90mm anti-tank training ranges, operational during the 1940s (CMS Report, Section 2.2, Page 2)

# Table 3
## EHE Module: Location of Munitions Data Element Table

**DIRECTIONS:** Below are eight classifications of munitions locations and their descriptions. Highlight the scores that correspond with **all** 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 | Score |
|---|---|---|
| **Confirmed surface** | ◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS.<br>◆ 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.<br>◆ 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.<br>◆ 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 **the single highest score** from above in the box to the right (maximum score = 25). | **25** |

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

The magnetometer survey yielded 11 items classified as MD, including 40-mm TP projectiles, 90-mm APT projectiles, 2.36-inch practice rockets, a flare, and practice/training submunition. One item at the surface was identified as a 25-mm TP projectile (with cartridge intact) and classified as MPPEH. The DGM survey yielded two items, classified as MD, a 40-mm TP projectile and a mortar of unknown type. These were located at depths of 6 and 12 inches, respectively. The discarded 25-mm TP-T projectile found as a complete round and classified in the 2018 RFI as MPPEH, will be considered a MEC item (CMS Report, Section 2.6.6, Page 6).

# Table 4
## 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.  Highlight 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 | Score |
|---|---|---|
| **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. | 8 |
| **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** | ◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS. | 0 |
| **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.

Bow hunting is permitted at the Site, and training maneuvers are conducted in the area.  The Site also contains a fenced motor pool, laydown yards, a borrow pit, a motor fuel and wash yard, and Pond #10 (CMS Report, Section 2.3.2, Page 3).

## Table 5
### 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.  Highlight 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.<br><br>◆ 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. | 5 |
| **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

The Site is in the northwestern part of the cantonment area, which is the southernmost portion of Fort Stewart (CMS Report, Section 2.1, Page 2).

# Table 6
## 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.  Highlight the most appropriate score.

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

| Classification | Description | Score |
|---|---|---|
| **> 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). | **5** |

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


There are 797.1 persons per square mile on Fort Stewart, Georgia

https://www.census.gov/quickfacts/fact/table/fortstewartcdpgeorgia/PST045222

# Table 7
### 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 highlight 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. | 1 |
| **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*** classification in the space provided.

There are 26 or more inhabited structures located within 2 miles from the boundary of the MRS, there are also some within the boundary of the MRS (CMS Report, Figures, 2, 4, & 5, Pages 25, 27 & 28).

# Table 8
## 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 highlight the scores that correspond with **all** 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. | **2** |
| **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 **the single highest score** from above in the box to the right (maximum score = 5). | **4** |

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

Land at the Site is largely undeveloped forested land. Bow hunting is permitted at the Site, and training maneuvers are conducted in the area. The Site also contains a fenced motor pool, laydown yards, a borrow pit, a motor fuel and wash yard, and Pond #10 (CMS Report, Section 2.3.2, Page 3).

# Table 9
## 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 highlight 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 | Score |
|---|---|---|
| **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 the *Ecological and/or Cultural Resources* classification in the space provided.

Except for the habitats provided by forested areas, there are no known site-specific, sensitive ecological or cultural resources at this MRS (CMS Report, Section 2.3.2, Page 3).

# Table 10
## Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, 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.

3. 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 | 20 | 24 |
| Source of Hazard | Table 2 | 4 | |
| **Accessibility Factor Data Elements** | | | |
| Location of Munitions | Table 3 | 25 | 35 |
| Ease of Access | Table 4 | 10 | |
| Status of Property | Table 5 | 0 | |
| **Receptor Factor Data Elements** | | | |
| Population Density | Table 6 | 5 | 14 |
| Population Near Hazard | Table 7 | 5 | |
| Types of Activities/Structures | Table 8 | 4 | |
| Ecological and/or Cultural Resources | Table 9 | 0 | |
| **EHE MODULE TOTAL** | | | **73** |

| EHE Module Total | EHE Module Rating |
|---|---|
| 92 to 100 | A |
| 82 to 91 | B |
| 71 to 81 | **C** |
| 60 to 70 | D |
| 48 to 59 | E |
| 38 to 47 | F |
| less than 38 | G |
| Alternative Module Ratings | Evaluation Pending |
| | No Longer Required |
| | No Known or Suspected Explosive Hazard |
| **EHE MODULE RATING** | **C** |

# Table 11
## CHE Module:  CWM Configuration Data Element Table

**DIRECTIONS:**  Below are seven classifications of CWM configuration and their descriptions.  Highlight the scores that correspond with **all** 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:<br>• CWM that are UXO (i.e., CWM/UXO)<br>• 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:<br>• Nonexplosively configured CWM/DMM either damaged or undamaged<br>• 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 **the single highest score** 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:

Per the RFI, 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 FTSW-010-R-01.  The eastern portion of the MRS was historically used for firing 40mm anti-aircraft and 90mm anti-tank rounds from an area that is now a motor pool and fueling station.  AP projectiles fired would be solid steel, while fillers used may have included TNT or Comp B (TNT/RDX mixtures) according to technical data sheets.  Use of the range for other types of munitions was not identified in historical reports (RFI Report, Table 6-1, Page 6-1).

**Tables 12 – 19 are intentionally omitted IAW Army Guidance**.

# Table 20
## Determining the CHE Module Rating

| | | Source | Score | Value |
|---|---|---|---|---|
| **CWM Hazard Factor Data Elements** | | | | |
| CWM Configuration | | Table 11 | 0 | 0 |
| Sources of CWM | | Table 12 | | |
| **Accessibility Factor Data Elements** | | | | |
| 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 | | |

**DIRECTIONS:**

1. 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.

3. 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.

| CHE MODULE TOTAL | 0 |
|---|---|

| CHE Module Total | CHE Module Rating |
|---|---|
| 92 to 100 | A |
| 82 to 91 | B |
| 71 to 81 | C |
| 60 to 70 | D |
| 48 to 59 | E |
| 38 to 47 | F |
| less than 38 | G |
| Alternative Module Ratings | Evaluation Pending |
| | No Longer Required |
| | No Known or Suspected CWM Hazard |
| **CHE MODULE RATING** | **No Known or Suspected CWM Hazard** |

# Table 21
## HHE Module:  Groundwater Data Element Table

### Contaminant Hazard Factor (CHF)

**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.

| Contaminant | Maximum Concentration (µg/L) | Comparison Value (µg/L) | Ratios |
|---|---|---|---|
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

| CHF Scale | CHF Value | Sum The Ratios | |
|---|---|---|---|
| CHF > 100 | H (High) | | |
| 100 > CHF > 2 | M (Medium) | $CHF = \sum \dfrac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$ | |
| 2 > CHF | L (Low) | | |

| CONTAMINANT HAZARD FACTOR | DIRECTIONS:  Record **the CHF Value** from above in the box to the right (maximum value = H). | |
|---|---|---|

### Migratory Pathway Factor

**DIRECTIONS:**  Highlight the value that corresponds most closely to the groundwater migratory pathway at the MRS.

| Classification | Description | 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. | H |
| Potential | Contamination in groundwater 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. | M |
| 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). | L |
| MIGRATORY PATHWAY FACTOR | DIRECTIONS:  Record **the single highest value** from above in the box to the right (maximum value = H). | |

### Receptor Factor

**DIRECTIONS:**  Highlight the value that corresponds most closely to the groundwater receptors at the MRS.

| Classification | Description | 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). | H |
| 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). | M |
| 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). | L |
| RECEPTOR FACTOR | DIRECTIONS:  Record **the single highest value** from above in the box to the right (maximum value = H). | |
| No Known or Suspected Groundwater MC Hazard | | ❑ |

Media not Sampled.
No MC samples were collected.  The need for additional environmental sampling, as outlined in the approved work plan, was not identified during the course of RFI activities.  Since environmental sampling for MC was not conducted at any of the four MRS sites, neither a comparison (RFI Report, Section 3.4, Page 3-7).

# Table 22

## 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) | | |
| 100 > CHF > 2 | M (Medium) | $CHF = \sum \dfrac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$ | |
| 2 > CHF | L (Low) | | |
| **CONTAMINANT HAZARD FACTOR** | **DIRECTIONS:**  Record **the CHF Value** from above in the box to the right (maximum value = H). | | |

### Migratory Pathway Factor

**DIRECTIONS:**  Highlight the value that corresponds most closely to the surface water migratory pathway at the MRS.

| Classification | Description | Value |
|---|---|---|
| **Evident** | Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure. | H |
| **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. | M |
| **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). | L |
| **MIGRATORY PATHWAY FACTOR** | **DIRECTIONS:**  Record **the single highest value** from above in the box to the right (maximum value = H). | |

### Receptor Factor

**DIRECTIONS:**  Highlight the value that corresponds most closely to the surface water receptors at the MRS.

| Classification | Description | Value |
|---|---|---|
| **Identified** | Identified receptors have access to surface water to which contamination has moved or can move. | H |
| **Potential** | Potential for receptors to have access to surface water to which contamination has moved or can move. | M |
| **Limited** | Little or no potential for receptors to have access to surface water to which contamination has moved or can move. | L |
| **RECEPTOR FACTOR** | **DIRECTIONS:**  Record **the single highest value** from above in the box to the right (maximum value = H). | |

| No Known or Suspected Surface Water (Human Endpoint) MC Hazard | ❏ |
|---|---|

Media not Sampled.

No MC samples were collected.  The need for additional environmental sampling, as outlined in the approved work plan, was not identified during the course of RFI activities.  Since environmental sampling for MC was not conducted at any of the four MRS sites, neither a comparison (RFI Report, Section 3.4, Page 3-7).

# Table 23

## 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) | | |
| 100 > CHF > 2 | M (Medium) | $CHF = \sum \dfrac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$ | |
| 2 > CHF | L (Low) | | |
| **CONTAMINANT HAZARD FACTOR** | **DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H). | | |

### Migratory Pathway Factor

**DIRECTIONS:** Highlight the value that corresponds most closely to the sediment migratory pathway at the MRS.

| Classification | Description | 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. | H |
| **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. | M |
| **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). | L |
| **MIGRATORY PATHWAY FACTOR** | **DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H). | |

### Receptor Factor

**DIRECTIONS:** Highlight the value that corresponds most closely to the sediment receptors at the MRS.

| Classification | Description | Value |
|---|---|---|
| **Identified** | Identified receptors have access to sediment to which contamination has moved or can move. | H |
| **Potential** | Potential for receptors to have access to sediment to which contamination has moved or can move. | M |
| **Limited** | Little or no potential for receptors to have access to sediment to which contamination has moved or can move. | L |
| **RECEPTOR FACTOR** | **DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H). | |
| No Known or Suspected Sediment (Human Endpoint) MC Hazard | | ❑ |

Media not Sampled.
No MC samples were collected. The need for additional environmental sampling, as outlined in the approved work plan, was not identified during the course of RFI activities. Since environmental sampling for MC was not conducted at any of the four MRS sites, neither a comparison (RFI Report, Section 3.4, Page 3-7).

# Table 24

## 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) | $CHF = \sum \dfrac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$ | |
| 100 > CHF > 2 | M (Medium) | | |
| 2 > CHF | L (Low) | | |
| **CONTAMINANT HAZARD FACTOR** | **DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H). | | |

### Migratory Pathway Factor

**DIRECTIONS:** Highlight the value that corresponds most closely to the surface water migratory pathway at the MRS.

| Classification | Description | Value |
|---|---|---|
| **Evident** | Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure. | H |
| **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. | M |
| **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). | L |
| **MIGRATORY PATHWAY FACTOR** | **DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H). | |

### Receptor Factor

**DIRECTIONS:** Highlight the value that corresponds most closely to the surface water receptors at the MRS.

| Classification | Description | Value |
|---|---|---|
| **Identified** | Identified receptors have access to surface water to which contamination has moved or can move. | H |
| **Potential** | Potential for receptors to have access to surface water to which contamination has moved or can move. | M |
| **Limited** | Little or no potential for receptors to have access to surface water to which contamination has moved or can move. | L |
| **RECEPTOR FACTOR** | **DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H). | |
| No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard | | ❏ |

Media not Sampled.
No MC samples were collected. The need for additional environmental sampling, as outlined in the approved work plan, was not identified during the course of RFI activities. Since environmental sampling for MC was not conducted at any of the four MRS sites, neither a comparison (RFI Report, Section 3.4, Page 3-7).

# Table 25
## 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 | Maximum Concentration (mg/kg) | Comparison Value (mg/kg) | Ratios |
|---|---|---|---|
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

| CHF Scale | CHF Value | Sum the Ratios | |
|---|---|---|---|
| CHF > 100 | H (High) | $CHF = \sum \dfrac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$ | |
| 100 > CHF > 2 | M (Medium) | | |
| 2 > CHF | L (Low) | | |
| **CONTAMINANT HAZARD FACTOR** | **DIRECTIONS:**  Record **the CHF Value** from above in the box to the right (maximum value = H). | | |

### Migratory Pathway Factor

**DIRECTIONS:**  Highlight the value that corresponds most closely to the sediment migratory pathway at the MRS.

| Classification | Description | 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. | H |
| **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. | M |
| **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). | L |
| **MIGRATORY PATHWAY FACTOR** | **DIRECTIONS:**  Record **the single highest value** from above in the box to the right (maximum value = H). | |

### Receptor Factor

**DIRECTIONS:**  Highlight the value that corresponds most closely to the sediment receptors at the MRS.

| Classification | Description | Value |
|---|---|---|
| **Identified** | Identified receptors have access to sediment to which contamination has moved or can move. | H |
| **Potential** | Potential for receptors to have access to sediment to which contamination has moved or can move. | M |
| **Limited** | Little or no potential for receptors to have access to sediment to which contamination has moved or can move. | L |
| **RECEPTOR FACTOR** | **DIRECTIONS:**  Record **the single highest value** from above in the box to the right (maximum value = H). | |

| No Known or Suspected Sediment (Ecological Endpoint) MC Hazard | ❏ |
|---|---|

Media not Sampled.
No MC samples were collected.  The need for additional environmental sampling, as outlined in the approved work plan, was not identified during the course of RFI activities.  Since environmental sampling for MC was not conducted at any of the four MRS sites, neither a comparison (RFI Report, Section 3.4, Page 3-7).

# Table 26
## 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 |
|---|---|---|---|
| Aluminum | 8710 | 77000 | .113 |
| Antimony | .68 | 31 | .022 |
| Copper | 11.3 | 3100 | .004 |
| Lead | 21.5 | 400 | .054 |
| Zinc | 85.8 | 23000 | .004 |

| CHF Scale | CHF Value | Sum the Ratios | .197 |
|---|---|---|---|
| CHF > 100 | H (High) | | |
| 100 > CHF > 2 | M (Medium) | $CHF = \sum \dfrac{[\text{Maximum Concentration of Contaminant}]}{[\text{Comparison Value for Contaminant}]}$ | |
| 2 > CHF | L (Low) | | |

| CONTAMINANT HAZARD FACTOR | DIRECTIONS:  Record **the CHF Value** from above in the box to the right (maximum value = H). | L |
|---|---|---|

## Migratory Pathway Factor
DIRECTIONS:  Highlight the value that corresponds most closely to the surface soil migratory pathway at the MRS.

| Classification | Description | Value |
|---|---|---|
| **Evident** | Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure. | H |
| **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. | M |
| **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). | L |
| **MIGRATORY PATHWAY FACTOR** | DIRECTIONS:  Record **the single highest value** from above in the box to the right (maximum value = H). | M |

## Receptor Factor
DIRECTIONS:  Highlight the value that corresponds most closely to the surface soil receptors at the MRS.

| Classification | Description | Value |
|---|---|---|
| **Identified** | Identified receptors have access to surface soil 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. | M |
| **Limited** | Little or no potential for receptors to have access to surface soil to which contamination has moved or can move. | L |
| **RECEPTOR FACTOR** | DIRECTIONS:  Record **the single highest value** from above in the box to the right (maximum value = H). | M |
| | No Known or Suspected Surface Soil MC Hazard | ❑ |

MC Sampling Data can be found in the CS Report, Table 4-5, Page 70).

# Table 27
## 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 |
|---|---|---|---|---|
| | | | | |
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# Table 28
## 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 | M | M | | 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 |
|---|---|
| HHH | A |
| HHM | B |
| HHL | C |
| HMM | C |
| HML | D |
| MMM | D |
| HLL | E |
| MML | E |
| MLL | F |
| LLL | G |
| Alternative Module Ratings<br>Note: Surface soil sampling results were determined to not pose a risk to human receptors. | Evaluation Pending |
| | No Longer Required |
| | No Known or Suspected MC Hazard |

No explosives were detected in any of the samples. No metals were detected in excess of their USEPA RSLs. Zinc was detected above the ESV and above the FTSW Background Value in one sample; however, the detected zinc concentration is within an order of magnitude of the Background Value and is considered more likely to be naturally occurring than associated with historical munitions use at the Site (CMS Report, Section 2.6.1, Page 4). According to the approved work plan for the RFI, the absence of any identified material containing explosives deemed additional environmental sampling for MC unnecessary (CMS Report, Section 2.6.2, Page 6).
Previously conducted soil sampling suggests there is no observed MC hazard associated with the Site (CMS Report, Section ES, Page v).

# Table 29
## MRS Priority

**DIRECTIONS:** In the chart below, highlight the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE).   Highlight 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 |
|---|---|---|---|---|---|
|  |  | A | 1 |  |  |
| A | 2 | B | 2 | A | 2 |
| B | 3 | C | 3 | B | 3 |
| **C** | **4** | D | 4 | C | 4 |
| D | 5 | E | 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 or Suspected Explosive Hazard | | **No Known or Suspected CWM Hazard** | | **No Known or Suspected MC Hazard** | |
| **MRS PRIORITY or ALTERNATIVE MRS RATING** | | | | **4** | |