



January 2020

Fact Sheet: Military Munitions Response Program Overview of Remedial Design/Remedial Action Mount Gretna Range Munitions Response Site

Mount Gretna, Pennsylvania

Highlights of the Remedial Design and Remedial Action

The official name of the site that will be remediated is the Mount Gretna Training Camp Artillery Range - West Munitions Response Site (MRS). The 78.7-acre MRS is located in Lebanon County in Mount Gretna, Pennsylvania. As documented in the Final Record of Decision for the Mount Gretna Training Camp Artillery Range – West MRS, which was signed on September 20, 2018, a remedial action is necessary to reduce the risk associated with munitions and explosives of concern and munitions constituents (MC) -contaminated soil that may be present from past munitions-related activities. The remedies chosen to achieve the remedial response are as follows:

- Removal of surface and subsurface munitions and explosives of concern.
- Removal of MC-contaminated soil to a depth of 2 feet.

Surface and subsurface removal of munitions and explosives of concern will be conducted over 78.7 acres in the Mt Gretna Training Camp Artillery Range MRS. The MC-contaminated soil removal will be conducted to a depth of 1 foot over a 0.08-acre portion of the site. The attached figure shows the location of the two removal areas. :

Small arms ammunitions that may be encountered during the remedial action includes, 3-inch Stokes mortars 37mm mortars, and 60mm mortars. The remedial design and remedial action approach is detailed in the Remedial Design/Remedial Action Work Plan. A summary of the technical approach of the remedial action includes the following:

- **Mobilization** – Includes assembly of field staff and equipment.
- **Grid Survey Activities** – A grid system will be established to track progress and results and to ensure complete coverage is achieved during the surface and subsurface removal.
- **Brush Clearing** – Vegetation removal will be conducted only when necessary to ensure personnel safety and to achieve quality removal results during operations.
- **Surface and Subsurface Removal of Munitions and Explosives of Concern** – The removal of military munitions will be completed by qualified munitions technicians using hand-held metal detectors. All items found on the surface and in the subsurface detected by the metal detector, to the maximum detection depth, will be removed with hand tools.

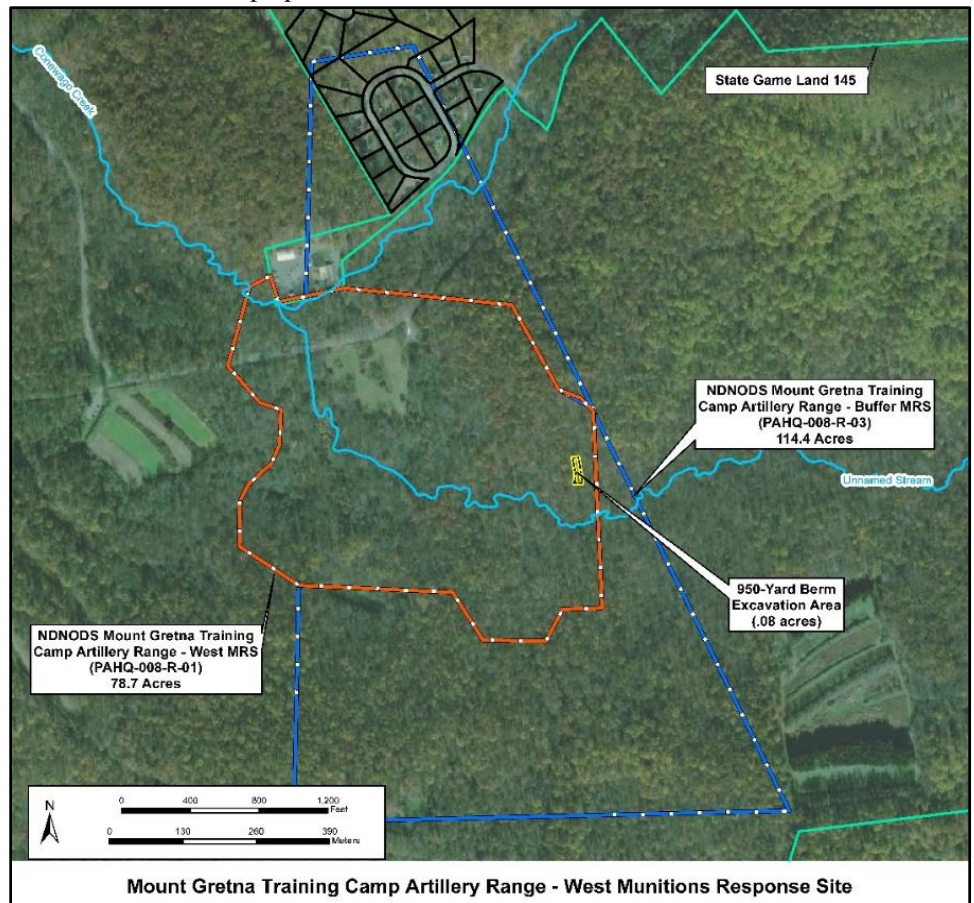
Any item suspected to be munitions and explosives of concern will be blown in place or consolidated with other material potentially presenting an explosive hazard for on-site detonation. The material documented as safe will be combined, certified as explosive-free, and disposed off-site for recycling.

- **Removal of MC-Contaminated Soil** – The lead-contaminated soil in the 0.08-acre area will be removed with excavation equipment. It is estimated that approximately 130 cubic yards of soil will be excavated and shipped to a secure landfill permitted to accept hazardous waste.
- **MC Sampling** – Soil samples will be collected within the excavation area to confirm the contaminated soil has been removed.

Project Schedule

Field activities are scheduled to begin in February 2020. The field work is expected to take approximately 2.5-3.5 months to complete. Following the field activities, a remedial action report will be prepared to summarize the results of the field work.

The data will be used to support unlimited use/unrestricted exposure for the site. In addition, an after action report will be prepared.



Mount Gretna Range Munitions Response Site Background

The Mount Gretna Training Camp Artillery Range West - MRS consists of largely undeveloped forested land, which is being used by The Pennsylvania Game Commission for recreation. The Conewago Creek traverses through the MRS. This MRS is designated as a Supporting Landscape or Core Habitat, which maintains vital ecological processes or secondary habitat for sensitive natural features that may be able to accommodate some types of low-impact activities.

In the northern portion of the MRS, Route 117 passes through the site, and existing buildings are present along the northern boundary of the MRS. Conewago Lake is located to the northeast of the MRS within the borough of Mount Gretna. The MRS is a Non-Department of Defense, Non-Operational Defense Site.

The MRS was used by the Pennsylvania Army National Guard for small arms and artillery training between 1885 and 1941 (estimated). Previous environmental studies at the range included the following activities:

- 2009 – A Non-Department of Defense, Non-Operational Defense Site Inventory Report was completed for the Commonwealth of Pennsylvania, which identified the MRS currently under state ownership and managed by the Pennsylvania Game Commission (State Game Lands 145).
- 2012 – Site inspection was completed. Based on the results of the site inspection, the MRS was divided to separate the east-west range from the north-south range, where munitions and explosives of concern, MC (chemical and substances), and small arms ammunition were detected. Therefore, the acreage was revised to 181 acres, and the MRS was recommended to proceed to the remedial investigation phase to assess munitions and explosives of concern and MC.

Summary of Remedial Investigation and Feasibility Study The remedial investigation was conducted from 2016 to 2017 to characterize the nature and extent of munitions and explosives of concern and MC (substances and chemicals associated with munitions). Based on the results of the remedial investigation field activities, the following conclusions were determined for the site:

- A 78.7-acre area was identified as potentially containing munitions and explosives of concern.

- Site visitors and occupational workers may encounter munitions and explosives of concern on the surface and subsurface.
- MC (antimony and lead) were detected above human health screening criteria in surface soils at the 950-yard backstop.
- Site visitors and occupational workers may encounter MC at the area of the backstop.
- MC metals (antimony, copper, lead, and zinc) were detected in surface soil, in the creek and stream (copper), and in sediment above ecological screening levels.
- MC could potentially enter the food chain for plants and animals through the soil, surface water, and sediment. The only adverse ecological risk was associated with lead detected in the surface soil at the 950-yard backstop.

Based on the results of the remedial investigation, it was recommended the site be divided into two MRSs. The Mount Gretna Training Camp Artillery Range - West MRS was revised to include the potential munitions and explosives of concern and MC source areas present at the site (approximately 78.7 acres). The remaining area (approximately 114.4 acres) where no munitions and explosives of concern, or MC posing unacceptable risks to plants and animals, were identified was named the Mount Gretna Training Camp Artillery Range - Buffer MRS.

A feasibility study was performed in 2017 to identify and evaluate remedial action alternatives for the site. The following five alternatives were identified and evaluated:

- Alternative 1 – No Action
- Alternative 2 – Land Use Controls
- Alternative 3 – Munitions and Explosives of Concern Surface Clearance (78.7 acres) with Land Use Controls
- Alternative 4 – Munitions and Explosives of Concern Surface and Subsurface Clearance (78.7 acres) with Land Use Controls
- Alternative 5 – Munitions and Explosives of Concern Surface Clearance (78.7 acres) with MC Soil Removal (0.08 acre) to depth of 12 inches and No Land Use Controls (*This alternative was recommended to proceed to the remedial action*).

A Proposed Plan was issued in March 2018. The Proposed Plan explained the alternatives, presented the preferred alternative (Alternative 5), and provided an opportunity for public input on the proposed cleanup plan in a 30-day public comment period (February 2 to March 3, 2018).

Project Information Repositories

All documents prepared for this site are available at the following locations:

Pennsylvania Army National Guard
Fort Indiantown Gap, Bldg 0-11
Annville, PA 17003

<https://www.dmva.pa.gov/dmvaoffices/Environmental-Resources/Pages/Mt-Gretna-Training-Camp-Artillery-Range-West-Munitions-Response-Site.aspx>

Annville Free Library
216 East Main Street
Annville, PA 17003



Recognize. Understand you may have encountered a munition.

Retreat. Do not touch, move, or disturb it; but carefully leave the area.

Report. Immediately notify the police. Call 911 and report the location and description of the item. When possible, provide its estimated size, shape, and any visible markings, including coloring.

For More Information

For more information regarding the Mount Gretna Training Camp Artillery Range West MRS and remedial investigation and feasibility study process, please contact:

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