



# UTAH NATIONAL GUARD

## MUNITIONS REVIEW

News of the MMRP project at Camp Williams, Utah

August 2011

### Piecing together the investigation puzzle

Putting a puzzle together can be a tedious and challenging process as a person fiddles with piece after piece in an attempt to find the one piece that will bridge sections of the puzzle together. Environmental investigations, like the Military Munitions Response Program (MMRP) taking place at Camp Williams, unfold in a similar way with an assortment of information that needs to be pieced together.

During environmental investigations, organizations like the Utah National Guard (UTNG) are presented with an end goal, a picture of what community members and regulatory agencies envision for cleanup at a site with environmental hazards. Then it is the UTNG's job to use the "pieces" of information they have to accomplish that goal in the safest and most efficient way possible. The only problem is, the pieces to this puzzle aren't in a box awaiting assembly and they don't always fit together on the first try.

#### Finding the pieces to the puzzle

The pieces to an environmental restoration puzzle generally need to be found. The process of finding those pieces happens through the process outlined in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLA is the federally approved cleanup process used during environmental investigations. "During the CERCLA process, we start out with a limited amount of information about a site," said Robert Price, the MMRP technical lead for the UTNG. "Then we try to get enough information to determine the risks at a site, and if necessary, select a cleanup alternative that can reduce those risks."

Finding the pieces to the puzzle starts with a Preliminary Assessment and Site Inspection, in which historical records and a fact-finding process identify sites that may require cleanup. Following the Site Inspection, a Remedial Investigation takes place. During this stage of the process, sites are investigated further to determine the nature and extent of contamination. At Camp Williams, the data collection phase of the Remedial Investigation was recently completed at the six sites.

At four of the Munitions Response Sites (MRS)-the



Southwest Area, Southeast Area, Southeast Simulated Attack Area, and the NEW Rose Canyon Training Area-Remedial Investigations found no hazardous munitions, which suggests explosive hazards are not present at those sites. The UTNG is seeking concurrence from UDEQ regulators for a No Further Action status at these four sites. To be eligible for a No Further Action resolution, sites must meet the following criteria outlined in investigation and cleanup guidance:

- The sites must be acceptable for current and anticipated future land use;
- They must show evidence that munitions-related items at the site don't pose an unacceptable hazard to human health or the environment;
- A lack of historical or physical evidence of munitions hazards at the site.

#### Fitting the pieces together with a Feasibility Study

For the remaining two sites, the Wood Hollow Training Area and the NEW Artillery Impact Area Buffer Zone, the UTNG has recommended and is seeking concurrence from UDEQ regulators, for the sites to move to the intensive "fitting" period of the investigation known as the Feasibility Study.

"We have a good idea of the nature and extent of contamination at the sites because of what we learned

during the Remedial Investigation,” said Price. “The next step will be to develop specific alternatives that may be used to clean up the sites that pose an unacceptable risk.”

The purpose of a Feasibility Study is to take the information that has been obtained during previous investigation stages and determine what future action should take place at the sites.

“During the Feasibility Study a variety of cleanup alternatives are developed and evaluated,” said Price. “By the end of the Feasibility Study we will know what

cleanup alternative will work best for each site.”

The process of finding acceptable cleanup alternatives for the two sites at Camp Williams will be an intense process of elimination. First, several alternatives undergo an initial screening and are compared against threshold criteria, which evaluate whether the alternative meets guidelines for protectiveness and compliance with existing laws and regulations (see figure 1). Alternatives that do not pass the threshold criteria will be removed from consideration.

“After the initial screening, we hope to have the list of cleanup alternatives narrowed down significantly,” said Price. “The remaining alternatives will then undergo a detailed analysis.” During the detailed analysis the cleanup alternatives are evaluated using criteria defined by CERCLA. Those criteria can be found in figure 1.

Cleanup alternatives are analyzed individually against each of the criteria and are then compared against one another to determine which alternative is best. A “No Action” alternative, part of all Feasibility Studies, provides a baseline from which to compare the alternatives. Additional cleanup alternatives considered during MMRP investigations are shown on the sidebar to the right.

“Once the UTNG determines what it believes to be the best alternative, it will submit a proposal, called the Proposed Plan, to the Utah Department of Environmental Quality for approval and to the public for comment,” said Price. The Proposed Plan outlines the UTNG’s preferred method for cleaning up the site and provides a summary of the other cleanup options considered for the site.

A 30-day, public-comment period begins at the release of the Proposed Plan. During this comment period, a public meeting is held to present the plan to the public and allow people to ask questions and submit formal comments into the public record. Comments may also be submitted via E-mail, mail or fax at any time during the comment period.

The UTNG relies on public input during the comment period to ensure that the concerns of community members are considered in the selection of a cleanup alternative for the site. At the conclusion of the comment period, the UTNG evaluates and responds to all comments received.

**Figure 1**

Evaluation Criteria
<p><b>Threshold Criteria</b> For an alternative to become the final remedy, it <b>must</b> meet these requirements:</p> <p><b>Protectiveness</b> Will human health and the environment be protected from the effects of the contamination by implementing this alternative? The answer must be “yes” for any selected alternative.</p> <p><b>Compliance with existing laws and regulations</b> Does the alternative comply with all existing laws and regulations? Any chosen alternative must meet this criterion.</p> <p><b>Balancing Criteria</b> The Balancing Criteria are a more subjective evaluation of the alternatives. The alternatives are evaluated on these criteria and then compared to each other. Usually, the alternative that provides the most “bang for the buck” is selected as the preferred option.</p> <p><b>Long-term Effectiveness and Permanence</b> Will the alternative provide a permanent, long-term solution to the problem?</p> <p><b>Reduction in Toxicity, Mobility and Volume through Treatment</b> Will the alternative reduce the toxicity of the contaminants, the size of the contaminated area or slow its movement by applying some type of treatment?</p> <p><b>Implementability</b> Can the alternative be practically and successfully implemented?</p> <p><b>Short-term Effectiveness</b> May be better defined as “short-term impact.” What impact would implementing the alternative have on the community and workers?</p> <p><b>Cost</b> What is the cost to design, build and maintain the system for 30 years?</p> <p><b>Acceptance</b></p> <p><b>State Acceptance</b> The Utah Department of Environmental Quality (UDEQ) must accept the proposal.</p> <p><b>Community Acceptance</b> Community acceptance means the community as a whole accepts the proposal, even though everyone may not agree. The purpose of the public comment period is to determine whether or not the community accepts the proposal.</p>

## The final picture

If the UTNG and the UDEQ determine that the public accepts the Proposed Plan, a Record of Decision is signed, which sets the cleanup in motion. Once the investigation reaches this stage the pieces to the puzzle are all in place and the UTNG carries out the selected cleanup

# MMRP project update

alternative. “Each step in this process helps to either uncover or fit together pieces of the investigation puzzle,” said Price. “This allows us reach our end goal of making sure sites with environmental hazards do not pose a risk to human health or the environment.”

## Common Cleanup Alternatives

**Land Use Controls.** Land Use Controls are physical controls that are put in place to manage the risks or hazards that are present at a site. Land Use Controls could include: fencing, signage, or guard posts. Land Use Controls may be a cleanup option by themselves, or they may be used in conjunction with other cleanup options. Current technologies aren't able to completely removal all potential hazards so Land Use Controls are a part of most cleanup alternatives.

**Institutional Controls.** Institutional controls are non-engineered controls that help minimize the potential for exposure to contamination and/or protect the selected alternative. Institutional Controls reduce exposure to contamination by limiting land or resource use. An example of an Institutional Control could be zoning restrictions to prevent land uses at a site, like residential uses, that are not consistent with the level of cleanup. Institutional Controls are meant to be used as a supplement to Land Use Controls and other cleanup alternatives.

**Surface Removal and Disposal.** This option would consist of removing any hazardous items found on the surface, disposing of those items, and employing Land Use Controls to further manage the site.

**Subsurface Removal to a Specified Depth.** This option would consist of excavating soil and removing subsurface munitions down to a specified depth. The depth of excavation would depend on the depth of potential munitions or munitions-related items and is based on the data obtained during previous investigations.

**Subsurface Removal to a Detected Depth.** This option would consist of excavating soil and removing subsurface munitions down to a detected depth. The depth of excavation would depend on the depth of potential munitions or munitions-related items and would be detected with geophysical instruments.

**Subsurface Removal to a Given Depth.** This option would consist of excavating soil and removing subsurface munitions down to a given depth. The depth of excavation may be recommended by the regulatory agency, or may be requested by community members. The given depth of excavation will be based on the depth of potential munitions or munitions-related items.

**Construction Support.** In areas where construction will take place, support may be offered to ensure safety during the construction project. Construction support has been provided at the Wood Hollow Training Area where Staker-Parson Companies is managing a mining operation near the MRS. Construction support may consist of Emergency Ordnance Disposal crews using geophysical instruments to ensure that hazardous munitions are not in or near the construction area.

The UTNG has been administering the Military Munitions Response Program (MMRP) since 2006 and has reached a significant milestone in the project by completing the data-collection phase of the Remedial Investigations at the sites. Now, after thoroughly investigating the sites, the UTNG is ready to make some recommendations regarding future action at these sites. These recommendations are not yet finalized and are currently being evaluated by regulators at the Utah Department of Environmental Quality (UDEQ). Updated project information for each site is provided below.

## Southwest Area

**Geographic Area:** This privately owned 40-acre parcel is bounded to the north and the east by Camp Williams property and to the west and south by privately owned farmland. The majority of the property is tilled, open farmland, with the southeast corner of the parcel consisting of juniper woodland.

**Historic Use:** Historical military use of this area has not been documented.

**Potential Community Impact:** Land is privately owned and has been farmed since the 1940s. The UTNG has not identified an explosive hazard at this site.

**Investigation History:** In April 2010 a Site Inspection was completed, which found munitions debris indicating a portion of the site may have been used for light military training. During the 2010 Remedial Investigation data collection, no Munitions and Explosives of Concern were observed. Based upon this information, the UTNG does not believe this site was used for military training or that the site represents a risk to the public. The UTNG is seeking concurrence from UDEQ regulators that the munitions response activities are complete and the site requires No Further Action.

## Southeast Area

**Geographic Area:** This 20-acre site is located near the southeast border of Camp Williams and is surrounded by privately owned land. A major utility corridor runs through the center, and a few residential areas from the city of Saratoga Springs are located to the east of the site.

**Historic Use:** Historical military use of this area was not documented, but investigation results show evidence that this site was used as an artillery firing point.

**Potential Community Impact:** The land is owned and managed by the Bureau of Land Management and is open for public access. The UTNG has not identified an explosive hazard at this site.

**Investigation History:** In April of 2010 this site underwent a Site Inspection, which found military-related

items indicating this site may have been used for military training activities. Data collected during the Remedial Investigation, indicated that site was utilized as an artillery firing point. While this site may have been used as a firing point, no Munitions and Explosives of Concern were identified and the site does not pose a risk to the public. The UTNG is seeking concurrence from UDEQ regulators that the munitions response activities are complete and the site requires No Further Action.

### Southeast Simulated Attack Area

**Geographic Area:** This site is near the eastern side of Camp Williams and is comprised of nine acres of land along the banks of the Jordan River in Utah County near the current location of Thanksgiving Point.

**Historic Use:** Floating bridge-building operations were staged and enemy fire was simulated from the banks of the Jordan River.

**Potential Community Impact:** The UTNG has not identified an explosive hazard at this site.

**Investigation History:** During the 2007 Site Inspection, no munitions were observed. However, two 5.56 mm blanks were discovered near a knoll located south of the site. The Remedial Investigation completed in 2010, included this knoll and found a few additional small-arms munitions, all of which were expended blanks, but no explosive hazards were found that warrant further investigation or Remedial Action. The UTNG and UDEQ regulators have agreed upon a No Further Action status for this site.

### Wood Hollow Training Area

**Geographic Area:** The Wood Hollow Training Area Munitions Response Site (MRS) is comprised of low-lying hills and ridges along the northeastern boundary of Camp Williams, near the cities of Herriman and Bluffdale. The original size of this site was approximately 80 acres, but the site has been expanded based on the data collected during the Remedial Investigation.

**Historic Use:** Artillery training may have taken place in this area from 1920 to 1940.

**Potential Community Impact:** May impact residents who use land for hunting or recreational purposes, as there is potential for residents to encounter munitions. Portions of the site and an area to the east are part of an ongoing rock-mining operation performed by Staker Parson Companies. A section of the Mountain View Corridor, a road construction project spanning north to south on the west side of the Salt Lake valley, is also near the site.

**Investigation History:** Unexpended and expended 75 mm artillery shells have been discovered during various

investigations. The presence of these items is a potential hazard, and the UTNG is seeking concurrence from UDEQ regulators for the site to proceed to the Remedial Action phase and undergo a Feasibility Study, which will evaluate various alternatives to eliminate explosive hazards.

### Rose Canyon Training Area & Artillery Impact Area Buffer Zone

The Rose Canyon Training Area and the Artillery Impact Area Buffer Zone were previously separate MRSs, but located adjacent to one another. Recently, the boundaries of both sites were revised based on the results of the data-collection phase of the Remedial Investigation. The artillery projectiles and munitions debris discovered during the Remedial Investigation of both the sites were all found within a limited area of land that straddles the boundary between the two sites and lies just north of the Camp Williams boundary.

**Historic Use:** Military use has not been documented for the Rose Canyon Training Area. In general, the purpose of a buffer zone is to provide a safe landing area for mistargeted munitions. Maps from the 1980s showed some land at the Artillery Impact Area Buffer Zone incorrectly labeled as part of the actual buffer zone. However, the MRS is not believed to have been the actual buffer zone at any time.

**Potential Community Impact:** The UTNG has determined that an explosive hazard does not exist at the NEW Rose Canyon Training Area MRS. There is potential for munitions to be found on trails and land used for recreational purposes or on land that is privately owned at the NEW Artillery Impact Area Buffer Zone MRS.

**Investigation History:**

During the Site Inspection and Remedial Investigation, hazardous munitions items were discovered. The UTNG has decided to revise the boundary of both sites, such that the 702-acre munitions-contaminated area will form the NEW Artillery Impact Area Buffer Zone MRS, and the remaining areas with no munitions contamination will become the NEW Rose Canyon Training Area MRS.

The UTNG is seeking concurrence from UDEQ regulators for the new Artillery Impact Area Buffer Zone MRS to proceed to the Remedial Action phase and undergo a Feasibility Study, which will evaluate various alternatives to eliminate the explosive hazards. For the new Rose Canyon Training Area MRS, the UTNG is seeking concurrence from the UDEQ regulators that the munitions response activities are complete and the site requires No Further Action.