

**Feasibility Study for the Ricochet Area
Munitions Response Site in State Game Lands 211, Pennsylvania
Military Munitions Response Program**

**Alternative 3 –
Surface Removal of Munitions
with Containment and Controls**

- Explosive risk is mitigated primarily by removing munitions on the surface.
 - Search entire site – 3,262 acres
 - Conduct search with analog instrumentation – metal detectors.
 - Clear brush as needed to access area.
 - Removal and disposal of all munitions and other metal debris.
- Munitions in the subsurface are not investigated or removed.
- Public awareness training consistent with Alternative 2 provided.



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Evaluation Criteria Rating**

Evaluation Criteria	Rating	
Overall protectiveness of human health and the environment	●	A surface removal provides some protection for human health, but does not completely address the moderate hazard potential and human exposure to unexploded ordnance (UXO) and discarded munitions in the subsurface.
Compliance with applicable or relevant and appropriate requirements	●	Implemented to comply.
Long-term effectiveness and permanence	◐	Removes approximately 66% of the remaining UXO items; however, UXO and discarded military munitions below the surface would remain and could move to the surface because of erosion, frost heave, or human interaction.
Reduction of toxicity, mobility, or volume of contaminants through treatment	◐	Would reduce the toxicity, mobility, or volume of munitions in the surface but not in the subsurface.
Short-term effectiveness	◐	During the removal of munitions there is an increased risk to the community and workers that would need to be mitigated through engineering controls and/or blocking off munitions work zones.
Implementability	◐	Surface removals of UXO and discarded munitions were implemented effectively during the remedial investigation. Specific procedures are required to protect natural and cultural resources. Detonations in place are more complicated to conduct than consolidated detonations because it is difficult to control the area and transport engineering controls to the item.
Cost	\$16,182,335	
Regulatory agency acceptance	The criteria for regulatory agency acceptance cannot be fully evaluated and assessed until comments of the feasibility study are received.	
Community acceptance	The criteria for community acceptance cannot be fully evaluated and assessed until comments of the proposed plan are received.	

Favorable ●

Moderately Favorable ◐

Not Favorable ●



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