

Efficient Permanent Closure of Abandoned Mine Safety Hazards on BLM-Managed Lands

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Background

Abandoned mine land (AML) sites are a significant threat to public safety throughout the western United States. Although fencing and posting signs may provide temporary remediation of this threat, permanent closure is the only positive method for eliminating hazards. Nevada has an estimated 50,000 AML sites on land managed by the Bureau of Land Management (BLM) that pose significant threats. The BLM staff has embarked on a mission to deal with this on a large scale.

To do so as efficiently as possible, staff first prepared a statewide programmatic Environmental Assessment (EA) for the Remediation of Abandoned Mine Safety Hazards. This eliminated the considerable task of preparing a separate EA for each closure. The EA followed the standard format for National Environmental Policy Act (NEPA) analysis. Widespread public notification and public meetings were held to identify issues for analysis during the scoping process. A special effort was made to get input from small miners, bat conservationists, and archaeological interests.

Discussion

The Programmatic EA supports a “formal finding of no significant

impact” (FONSI) for mine closure sites that are properly analyzed and cleared under the EA. The result of this NEPA process is that a Documentation of NEPA Adequacy form can be quickly and efficiently completed for AML sites scheduled for closure under the programmatic EA. This process reduces both staff time and paperwork.

Information and processing procedures for mine closure were developed as follows (for more information on each procedure, contact the author):

- Conduct site ranking
- Determine site ownership and responsibility
- Carry out procedures for archaeological and cultural surveys and requirements for monitoring and documentation
- Conduct wildlife surveys in accordance with State and Federal guidelines
- Conduct threatened and endangered (T&E) species surveys and clearances
- Monitor other sensitive species
- Issue special notifications for wilderness and wilderness study areas
- Consider Visual Resource Management so that closure activities do not adversely affect the landscape
- Specify performance measures for conducting and documenting procedures

The order in which tasks are accomplished greatly affects efficiency. First, land status and responsibility are determined to eliminate sites for which the BLM is not responsible. Next, topographic quads are annotated and copied for future use. Finally, a site visit is made to determine hazard ranking and assign a unique site tag identifier.

A major lesson learned from our experiences is that the geologists, archaeologists, botanists, and biologists should visit the sites together, preferably in the same vehicle. This spares various specialists from conducting detailed survey work if another specialist finds issues that would preclude permanent closure in any situation. Examples might include a cultural site that cannot be disturbed, terrain that precludes access by heavy equipment, or a site that has wildlife habitat value and requires gating rather than backfilling. A simultaneous site visit by all specialists also saves time and confusion on remote or hard-to-access sites.

Once these initial surveys are completed, sites that require more intensive clearance can be listed. These may include detailed archaeological and cultural documentation, T&E clearances, or bat surveys. In some instances, it may be important to notify local law enforcement agencies of the intent to close sites, since AMLs are popular disposal sites for various criminal activities.

A major challenge in the clearance process is tracking the status of the various surveys. Nevada State Office surveyors use an Excel spreadsheet, which includes the site name, number, legal status, geographic coordinates, hazard ranking, topographic quad, and other information. Cells are included for notes on the various surveys, and as each survey is completed, the information is summarized in the cell, along with the date and initials of the surveyor. An example of a portion of a spreadsheet is shown in the Table. The recorder includes a note on whether the site can be closed, with or without further work. It has proven best to have one person



responsible for these data, so that multiple versions do not evolve. As each update is made, the sheet is given a new version number so that the most up-to-date information is clearly indicated. As the spreadsheet is completed, the decision on whether the site should be back-filled, gated, or ignored becomes easy to make. At the same time, any remaining work to be done is clear. Scheduling is also facilitated, since sites can be easily grouped by access route or jurisdiction, and limitations are noted.

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Table. Clark County Orphan Hazards Proposed for Backfill—2003—Searchlight/Nelson Area.

Searchlight Area				
HAZ ID NO	Cultural Survey results, date, initials	Tortoise/Biological Survey, results, date, initials	Bat Survey results, date, initials	Closure method
CL-210	Cleared; 3/28/03; SR	OK BT. owl nest w/3 eggs; 5/6/03; BB	1 Townsend's big-eared bat; EP 5/6/03, BB	A: Bat/owl-compatible closure (fence)
CL-936	Cleared; 3/28/03; SR	OK BT. Say's phoebe nest; 5/6/03; BB	No bat habitat; SL 5/6/03; BB	C: Close after doing wild-life check
CL-1545	No info; 6/30/03; SR	No wildlife habitat; 5/6/03; PB		D: Backfill
CL-171	If backfilling, will require photodocumentation; 6/30/03; SR	OK BT. Road access. Transplant cacti. Woodrats; 5/6/03; PB	Bat activity on video; guano throughout mine; EA and V 5/6/03; PB	A: Bat gate
CL-229	Cleared; 3/28/03; SR	OK BT. Possible tortoise turds; large woodrat nest; SL 5/7/03; PB	Probably not bat habitat; need to watch or dig out portal to enter.	B: Survey again before closing E
CL-230	Cleared; 3/28/03; SR	OK BT. Avoid cacti and yucca. No wildlife seen; 5/7/03; PB	Possible bat habitat behind boards; SL 5/7/03; PB	B: Survey again before closing and net first
CL-231	Cleared; 3/28/03; SR	OK BT. Road Access. Rehab road in Fall. Tortoise bone fragments. Tortoise turds; Say's phoebe nest; EA 5/7/03; PB	No bats present; 5/7/03; PB	A: Not hazardous; keep open NA
CL-982	If backfilling, will require photodocumentation; 6/30/03; SR	OK BT. Road access. No wildlife habitat; 5/6/03; PB		D: Backfill
CL-224	No info; 6/30/03; SR	Chris saw cushion cacti nearby	Phoebes present, OK to close, 4/11/03; CR	B: Survey before closing?
CL-932	If backfilling, will require photodocumentation; 6/30/03; SR	OK No tortoise. Access issues 180' cross country BT. Say's phoebe nest; 5/5/03; PB	Issues with bats again and locals delete from consideration video-taped: no bats seen; V 5/5/03; PB	B: Survey again before closing
CL-933	Cultural issues; If backfilling will require complete documentation; 6/30/03; SR	OK BT. Road access. woodrats; 5/5/03; PB	Bat activity on video: Townsend's and myotis; V and W 5/5/03; PB	A: Bat gate
CL-934	If backfilling, will require photodocumentation; 6/30/03; SR	OK BT. Road access No wildlife habitat; 5/5/03; PB		D: Backfill
CL-935	If backfilling, will require photodocumentation; 6/30/03; SR	OK BT. Road access. No wildlife seen; 5/5/03; PB	One myotis entered after dark; W 5/5/03; PB	C: Close after doing wild-life check
CL-1491	If backfilling, will require photodocumentation; 6/30/03; SR Would require SHPO consult SR 7/21/03	FENCE ONLY. Access issues and active burrow No wildlife seen; 5/8/03; BB		D: Backfill
CL-172	If backfilling, will require photodocumentation; 6/30/03; SR	OK tortoise but access issues 300' cross country No wildlife seen; 5/5/03; PB		D: Backfill
CL-105	If backfilling, will require photodocumentation; 6/30/03; SR	Tortoise turds; woodrat nest; 5/7/03; PB Kristin will move tortoises before filling nearby, but leave this one open	No bat sign; EA 5/7/03; PB	B: Survey again before closing E