CURRENT PRACTICES IN PHYSICAL HAZARD CLOSURE[1]

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Abstract: Physical hazards at active and abandoned mine sites are dangerous in any number of ways. Old buildings that not only can collapse or burn; they can also contain heavy metal contamination or asbestos. Mill structures might also hide entries to mine workings, pits, sumps, wells and service tunnels. Open pits, benches and highwalls can be unstable, prone to collapse and water filled. Falls and drowning are a common danger. Subsidence features can introduce surface water to acid bearing rock, and can erode to the point they become an actual entry into the mine workings. And of course, shafts and adits are attractive nuisances that can trap, injure and kill.

Since 1977 many states (29 in the NAAMLP alone), Indian tribes and federal agencies have established programs to address physical hazards. These programs address demolition, grading, draining, guarding, and re-vegetation. They also work on sealing and plugging openings, including subsidence features. More recently they have begun to incorporate closures that help habitat use or continue to use mine features. Physical hazards can also be viewed as historical, so preserving while safeguarding is a consideration.

There are many methods to address physical hazards, including backfill, steel, concrete and polyurethane foam. This presentation will showcase a number of methods and materials that have been used in different situations.

Additional Keywords: Abandoned mines; Subsidence; Bat gates; Closing shafts; Closing raises; Closing portals

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