

# An Argument for Long-Term Care and Maintenance at Reclaimed Mine Sites<sup>1</sup>

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**Abstract:** The 2020 report to Congress on Abandoned Hard Rock Mines (GAO-20-238) carries some alarming statistics on the state of abandoned mines on public lands and the potential liabilities they pose to the environment, to public health and safety, and to the American taxpayer. In short, approximately \$3B dollars has been spent by federal agencies on abandoned mine work between 2008 and 2017, with annual expenditures running close to \$300M. Future costs for managing our abandoned mine sites will run billions more. Granted many of these abandoned mine sites pre-date modern mining regulations when little to no reclamation was required, however, for current and future mining operations, we have the tools to prevent, or at least minimize, the financial burden from their default and abandonment. Most current federal mining regulations require a reclamation performance bond whose intent is to place the burden for reclamation on the operator. Arriving at a reasonable cost for reclamation, and more importantly any attendant long-term care and maintenance requirements, can be difficult. Responsible planning requires a shift away from an approach based on engineering time and towards one that acknowledges that many closed mine facilities may need to remain functional far into the future. With this type of exercise comes the inevitable requirement to make projections of future needs based on incomplete information. Using simple risk analysis tools, one can begin to quantify out-year care and maintenance requirements and move closer to minimizing any future financial burden. What follows is one approach for identifying, evaluating, and quantifying the costs associated with long-term care and maintenance for closed mining operations.

**Additional Key Words:** Landform, optimism bias, risk analysis, discounted cash flow, trust fund.

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