

Audit Terms of Reference

Major Mine Closure

September 2022

Context

Operating a mine is generally considered a temporary activity; eventually a mine’s economic reserves are exhausted and production ceases. When this occurs, work at a mine ideally transitions to activities of decommissioning, final reclamation and monitoring/maintenance. These activities can continue for years, decades, or even centuries if there are long-term management or treatment obligations.

Mine closure is a complex, multidisciplinary process that includes activities that aim to protect and reclaim the environment affected by a mine and achieve a post-mining land use. This is supported by work across a variety of fields, including reclamation, geoscience, and geotechnical engineering, as well as health and social sciences. The mine closure process includes iterative planning, researching, updating, managing and monitoring throughout the life of a mine (Figure 1).

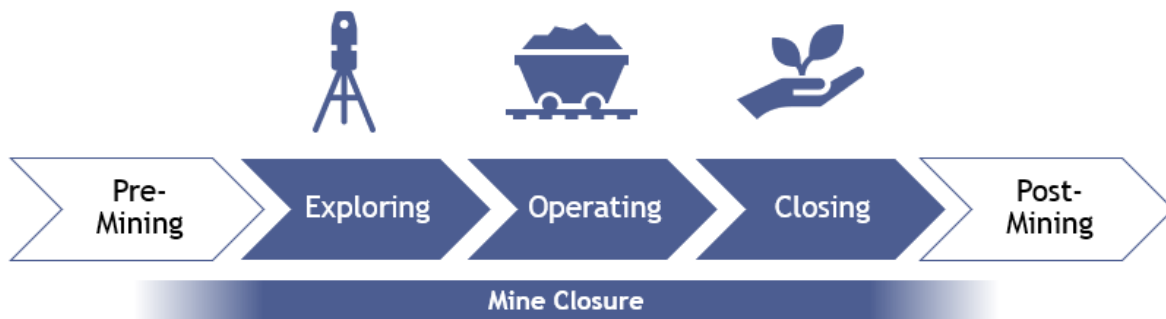


Figure 1: Integration of mine closure in the life of a mine

In British Columbia, mine closure is regulated by the Ministry of Energy, Mines and Low Carbon Innovation (the Ministry) under the [Mines Act](#), the [Health, Safety and Reclamation Code for Mines in B.C. \(the Code\)](#) and authorizations and permits issued under the *Mines Act*. The Ministry currently regulates a total of 96 major mines¹ in the province.

Major mines are required to develop a program for the protection and reclamation of land, watercourses and cultural heritage resources as part of *Mines Act* permit applications, including “a conceptual reclamation plan for the closure or abandonment” of the mine (section 10(1) of the *Mines Act* and section 10.1.3 of the Code). Part 10 of the Code includes general closure prescriptions, including updating plans and releasing mines of further obligations upon satisfactory completion of closure. Site-specific mine closure conditions are included in *Mines Act* permits.

¹ According to the Ministry’s [Major Mines Authorizations Guide \(May 2022\)](#), “The term ‘major mine’ is used to distinguish moderate- to large- scale mineral and coal mining operations from the other types of operations that are defined as mines under B.C.’s *Mines Act*: including sand and gravel pits, quarries, and placer mines.”

Global interest in the topic of mine closure has been increasing for decades and has taken on greater importance for regulators, Indigenous Peoples, industry and the public in recent years. This interest includes a more than 10-fold increase in the number of publications related to mine closure since the 1990s² and the development of multiple, voluntary international standards and guidance documents in the last decade. The Ministry has also developed recent guidance materials related to mine closure, including revised [joint application information requirements \(2019\)](#), [information requirements for annual reclamation reports \(2021\)](#) and [reclamation and closure plan guidance for regional mines \(2021\)](#).

Mining can have permanent impacts on Indigenous Peoples, their lands and communities. Mine closure is of particular interest to Indigenous Peoples in B.C. Through the [Declaration on the Rights of Indigenous Peoples Act \(Declaration Act\)](#) and the supporting [Action Plan](#), the Province has committed to upholding the rights of Indigenous Peoples, including by taking an inclusive, collaborative approach to land and resource management that respects Indigenous Knowledge.

Despite the diversity of parties interested, recent publications and communications reflect some shared principles for successful mine closure, including integrating closure activities throughout the life of a mine, early planning for mine closure and updating of plans, involving local communities and Indigenous Peoples, developing post-mining land uses and setting clear closure and post-mining objectives. Successful mine closure, including the principles listed above, is an obligation of each mine; however, the regulator also has an important role in establishing requirements and holding mines accountable.

Objective

To determine whether the Ministry's regulatory program enables and requires major mines to successfully advance the process of mine closure.

Scope

In examining the effectiveness of the regulatory program for mine closure, the audit will consider:

- The current regulatory framework created by the *Mines Act*, including the regulations, the Code, *Mines Act* permits, and associated policy and guidance.
- Major mines authorizations and review processes, including initial permitting and amendments, site-specific permit conditions, permit decision making and document review.
- Monitoring, compliance verification, and enforcement actions, including inspections, orders, promotion and escalation.
- Ministry engagement with Indigenous Peoples and respect for Indigenous Knowledge.

The audit will consider the current regulatory framework overseen by the Ministry and data related to mines active under this framework. Past regulation, legacy mine disturbance (e.g., pre-1969) and aspects of mine closure overseen by other regulatory bodies (e.g., *Environmental Assessment Act*, *Environmental Management Act*, *Water Sustainability Act*) will not be considered, except insofar as they relate to the evaluation of the Ministry's current framework.

² Based on a search for "mine closure" in [Google Scholar](#).

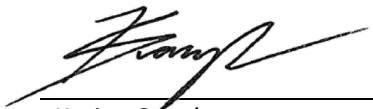
The audit will focus on the process of mine closure and how this is regulated. This will include consideration of mine closure objectives (e.g., post-mining land uses), how these objectives are set, and processes to achieve and verify these objectives. The audit will not include an in-depth examination of reclamation methods or technologies (e.g., seed mixes, cover designs, water treatment technologies), nor will it consider the details of the calculation, collection and management of reclamation security.

In alignment with the Province's commitments under the Declaration Act and the supporting Action Plan, the Audit Unit is committed to engaging with Indigenous Peoples and respecting Indigenous Knowledge throughout this project. The Audit Unit intends to review comments made by Indigenous Peoples during Ministry processes examined in the audit, will seek to engage with communities directly regarding their experiences, and will seek their consent to share their Indigenous Knowledge. The Audit Unit also has a [Memorandum of Understanding with the First Nations Energy and Mining Council](#), which sets out a framework for the parties to collaborate throughout the audit process.

Timeframe and reporting

The audit examination is expected to conclude in summer 2023, though timelines are subject to change. At the conclusion of examination, the audit team will engage with the Ministry, Indigenous peoples and interested parties on the results prior to releasing a public report summarizing the audit findings, conclusion and recommendations.

Approved by:



Karina Sangha
Chief Auditor

August 26, 2022

Date