On the horizon

Environmental Guidelines for Mine Waste Landforms, Design, Closure and Rehabilitation

The increasing focus on mine closure as a result of new and improved regulations, public awareness, education, as well as historical ‘disasters’ has provided impetus for the improved management of the mining landscape to facilitate economical and robust final closure. It is the ACG’s intent to document the latest industry advances, practices and methodologies and provide owners, operators and designers with a valuable reference for mine landforms and their management through their ‘life cycle’.

- Designing for closure
- Investigations and baseline studies
- Stakeholder engagement
- Environmental geochemistry
- Mine water management
- Landforms (design, construction and operation)
- Financial provision for closure
- Establishment of controls to mitigate risks during operation, care & maintenance and preparation for closure
- Landform rehabilitation design
- Terrestrial and aquatic eco-system reconstruction
- Managing landform risk for perpetuity
- Engineering for final closure and implementation
- Management to a self-sustaining state
- Detailed case studies

Objectives

The ACG is developing this text in an endeavour to:

- Share knowledge across industry and to address the creation and closure of the mining landscape and its subsequent many and varied landform types.
- Support industry’s increasing emphasis on improvement and best practice mine management, as it strives toward sustainable proactive management of the mining landscapes for both pre and post mining.
- Define the process of designing for closure and integrate it into all aspects of landform development and operation.
- Integrate both the engineering aspects with the environmental management of landforms into a holistic system in order to create the most effective/efficient use of resources and provide the most optimum mining and closure solutions.
- Promote the monitoring of ecosystem development as a means to contribute to the case for closure.
- Horizontally integrate the key processes of designing for closure, risk management, water management, financial provisioning and the establishment of a closure plan throughout the entire landform lifecycle.
- Minimise the environmental and physical risks, as well as maintenance costs of today’s mining wastes, for our future generations who will need to care from them in the millennia to come.
- Promote the development of a future sustainable society and resource utilisation without continuously degrading the Earth’s biosphere.

The guidelines are applicable to all types of mining located in all climates with the exception of polar, sub-polar regions and those containing permafrost.

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