Mine Reclamation Guidelines for NWT and Nunavut

Draft

Presented by Rebecca Chouinard,
Water Resources Division
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Presentation Contents

• History
• Evolution of NWT resource management base
• Development of the NWT Mine Site Reclamation Policy
• Development of the Mine Site Reclamation Guidelines
• Introduction to the Technical Mine Site Reclamation Guidelines
• Next Steps
• Workshop Expectations
History of Reclamation in NWT

Con Mine
Available Resources for NWT

• 1990: Guidelines for Abandonment and Restoration Planning for Mines in NWT, NWT Water Board

• 1992: Mine Reclamation in NWT and Yukon, INAC
1999

- Efforts to improve the resource management base with respect to mine site reclamation in the NWT is initiated (Mine Site Reclamation Policy)
Giant Mine
Colomac Mine
Discovery Mine
Mine Site Reclamation Policy

Objectives

• Minimize impact of mining on human health and the environment
• Reduce liability that falls to the government
• Provide industry and the public with government’s expectations
• Build positive and supportive relationships with regulatory authorities
Policy Development Process

First draft \(\rightarrow\) Extensive internal consultation

DIAND HQ \(\leftarrow\) External consultation

Translated + Published
Mine Site Reclamation Policy for the Northwest Territories

Released by Minister of DIAND, 2002

States that all mines in NWT and Nunavut should be planned, operated, decommissioned and closed in an environmentally sound manner in accordance with current mine closure and reclamation practices.
Mine Site Reclamation Guideline Objectives

- Compliment the Mine Site Reclamation Policy for NWT and Nunavut
- Provide a general approach to determine and meet specific reclamation objectives for mines
- Update previous standards and technologies from older guidance documents
Guideline Development Process

Timeline of Events:

• 2001 Draft 1 internal/external review and edited
• 2002 Draft 2 internal/external review and some editing
• 2003 Complete Draft 2 edits
• 2004 Draft 3 Expert Review and extensive external review
Mine Site Reclamation Guidelines

• Main concerns from the 2004 were:
  ➢ Format
  ➢ Lack of Traditional Knowledge and consultation procedures
  ➢ Lack of clear/concise expectations
...And Now?

• Addressing stakeholder comments

- Technical Reclamation Guidelines (part 1)
- Guidelines on Developing a Reclamation Plan (part 2)
Introduction to the Technical Reclamation Guidelines

- Introduction
- Application
- Global Objectives
- Design for Closure
- Mine Site Reclamation

- Temporary Mine Closure
- Conclusion/Review
- Glossary/Definitions
- Technical Appendices
Mine Site Reclamations

Mine Components

- Underground Workings
- Open Pit Mine Workings
- Buildings and Equipment
- Infrastructure
- Waste Rock and Overburden Piles
- Tailings Containment Area and Other Containment Structures
- Landfills and Other Waste Disposal Areas
- Water Management Systems
Other Reclamation Components

- Metal Leaching and Acid Rock Drainage
- Revegetation
- Contaminated Soils
- Physical Stability
Mine Site Reclamation

Mine Component Description

- Objective
- Pre-mining or Operation Options
- Required Studies/Analysis for Reclamation
- Reclamation Options
- Reclamation Criteria
- Monitoring and Maintenance
- Limitations and Considerations
Underground Mine Workings

Description
The surface expression of an underground mine typically include shafts, raises, stope surface openings, portals, adits, declines and in some cases, subsidence or other surface disturbances.

Objectives (1 example)
Ensure that inadvertent access to mine openings to the surface is prevented

Pre-mining or Operating Options (1 example)
Minimize number of openings to surface

Required Studies/Analysis for Reclamation (1 example)
Stability assessment prior to closure including installation of ground monitoring devices
Reclamation Options (1 example)
Backfill surface opening using appropriate backfill materials

Reclamation Criteria (1 example)
The long term stability of the backfilled or capped opening shall be certified by a qualified professional engineer

Monitoring and Maintenance (1 example)
ie. Regular inspections until considered reclaimed by a qualified professional engineer and accepted by the regulating Board

Limitations/Considerations (1 example)
Provision for venting accumulated gas in the underground mine is sometimes required
Next Steps

• Expert Technical Review
• Detailed DIAND Workout Group
• Final External Review
• Focused Workout Groups with various stakeholders if there is interest
• Publication
Workshop Expectations

• Generate interest and knowledge on reclamation topics
• Understand various positions and concerns with respect to mining and reclamation
• Ideas stemming from discussions may be used to improve the guidelines
Questions or Comments?