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Mine Reclamation Guidelines for NWT and Nunavut

Draft

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Yellowknife, NT**

A vertical decorative bar on the right side of the slide, divided into three horizontal sections: a top red section with a white wave-like pattern, a middle section with a white background and a red maple leaf, and a bottom orange section.

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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



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History of Reclamation in NWT



Con Mine



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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)



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Giant Mine



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Colomac Mine



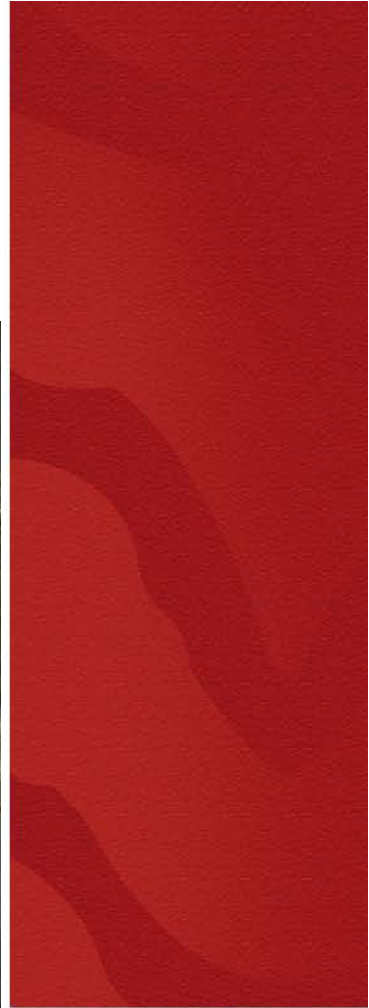
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Discovery Mine



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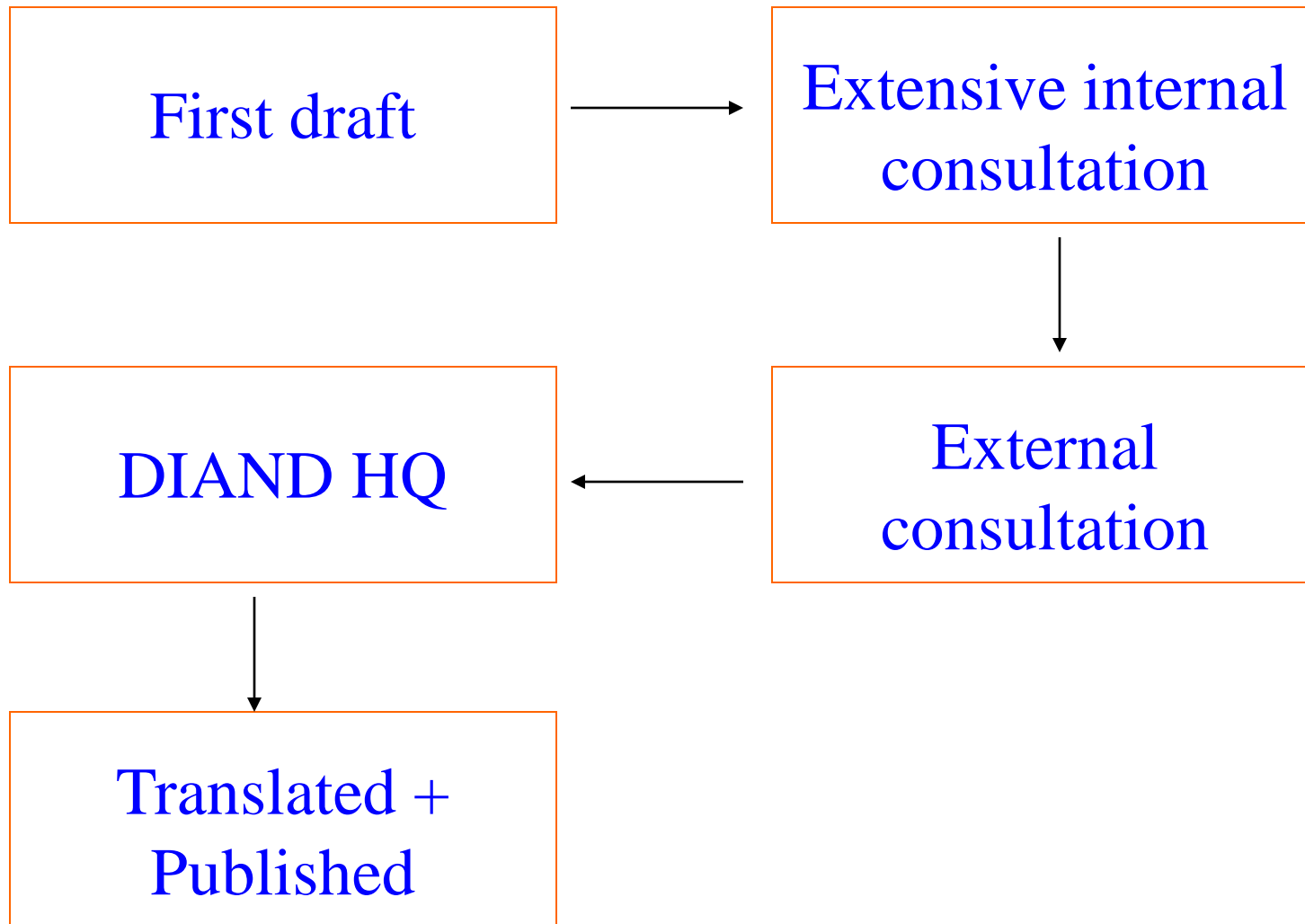


Mine Site Reclamation Policy Objectives

- 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

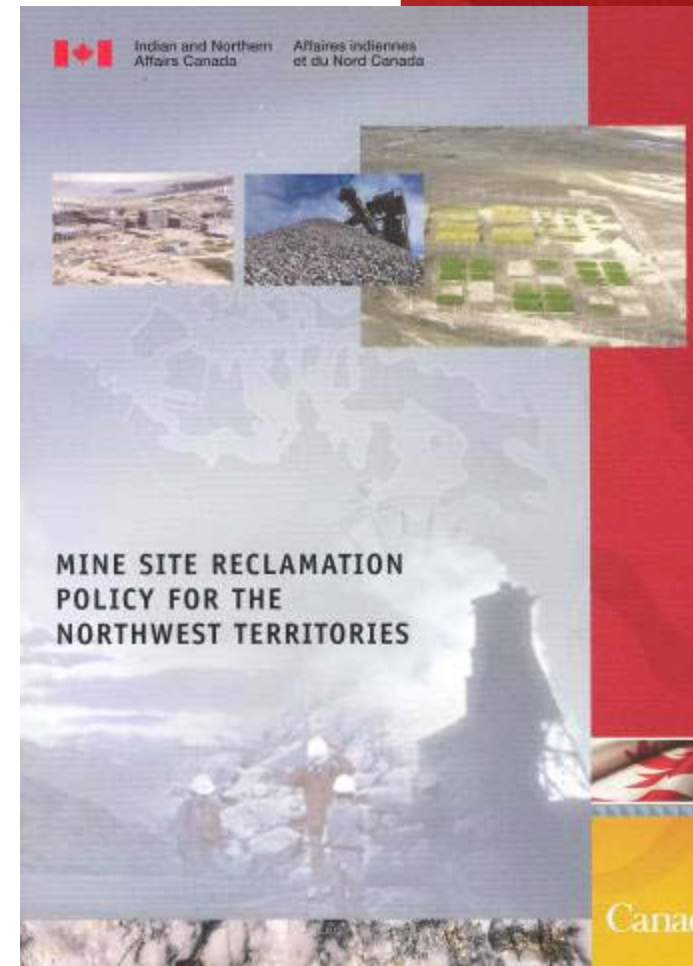




Mine Site Reclamation Policy for the Northwest Territories

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 Reclamation

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)

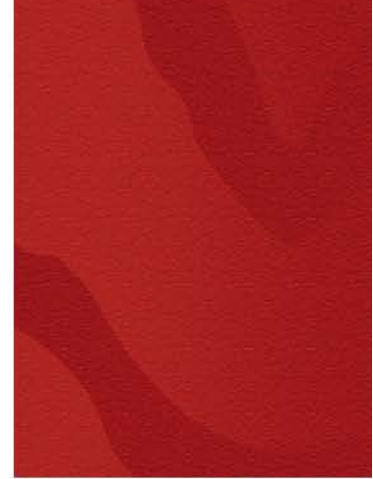
The long term stability of the backfilled or capped opening shall be certified by a qualified professional engineer

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



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Questions or Comments?



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