

# MEND AND NOAMI UPDATE

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MEND/NOAMI Secretariat

23rd BC-MEND ML/ARD Workshop  
November 30, 2016



Natural Resources  
Canada

Ressources naturelles  
Canada

Canada

# MEND Program



*...to provide leadership and guidance on priority acidic drainage issues in Canada*

- 1989 – 2016
- Extensive national and international multi-stakeholder network
- ~\$21M
- Research budget varies ~ \$60 - 100K/a
- Focused research work plan
- Technology transfer



# Projects on the Go

## **Seasonal Biogeochemical Thiosalts Characterization of the Glencore Oxidation Reservoir and Input Water Sources: Towards Bacterially Informed Management Strategies (*L. Warren, McMaster U*)**

- To increase the understanding of the degradation of thiosalts in treatment systems at the microbial level.

## **Study of Tailings Management (*Klohn Crippen Berger*)**

- Conduct a detailed examination of alternatives to conventional slurry for the management of tailings (i.e. thickened, paste and filtered tailings)
- Document the strengths, limitations, and physical and chemical risks of these alternative technologies, compared to conventional slurry
- Case studies integral part of project





# Projects on the Go

## Diavik Diamond Mine Waste Rock Study

- Waste rock behavior in cold climates
- Phase III: 2015 – 2020
- UBC, U of Alberta, U of Waterloo
- Scale-up and full-scale studies
- Allow improvements in ability to predict waste rock pile performance in the North





# NSERC-TERRE-NET

## NSERC - Toward Environmentally Responsible Resource Extraction - Network

- Led by David Blowes, U of Waterloo and university-based co-investigators
- Partners and researchers in academia, industry, government, First Nation communities, international experts
- 5-year multi-disciplinary projects
- Initiative recently awarded \$5.5 M by NSERC
- MEND to provide in-kind support



# MEND Website

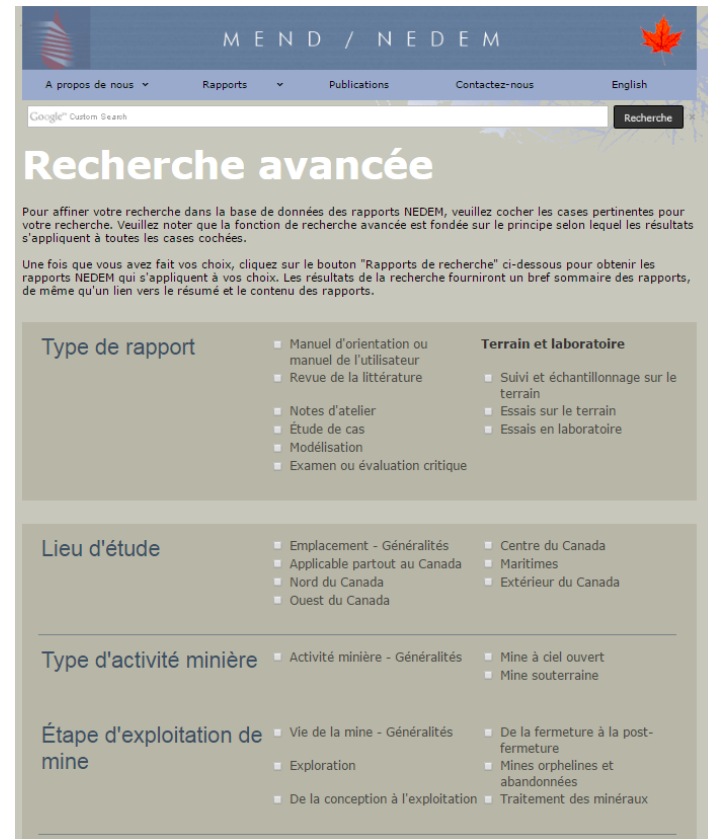
## Advanced Search Functionality

Enhance accessibility of MEND reports to civil society

Plain language summary of reports and increased search capacity.

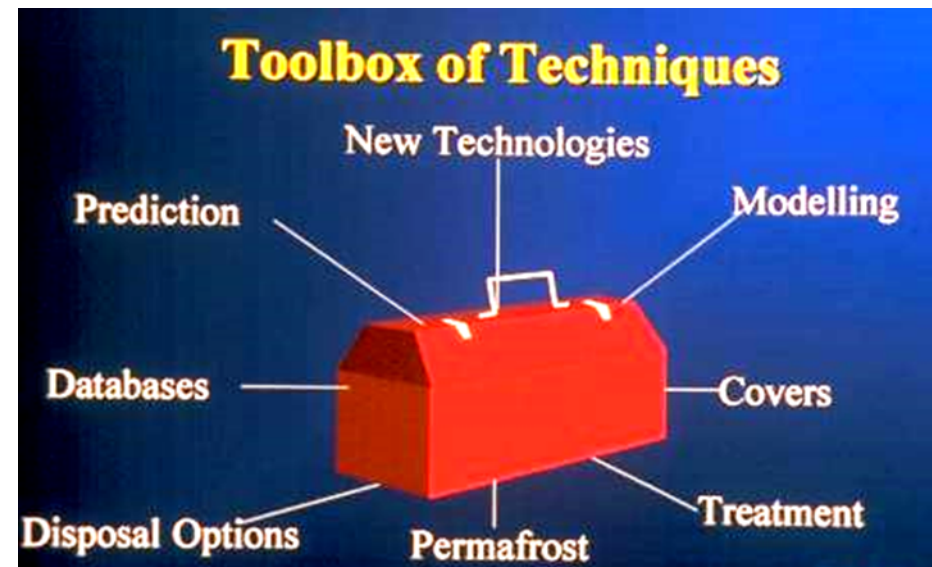
French search site complete

Website: [www.mend-nedem.org](http://www.mend-nedem.org)



# Future Project Areas for MEND

- Further work based on gaps or needs identified by the Tailings Management Study
- Climate change adaptation
- New ideas





# National Orphaned / Abandoned Mines Initiative - NOAMI



**Kam Kotia Mine, near Timmins, ON**



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# The Action Plan

The goals of NOAMI are to provide tools to remediate existing orphaned and abandoned properties and to prevent the occurrence of new orphaned and abandoned mines in the future.

Task groups created to address key issues:

- **Web-based National Inventory**
- Community Engagement
- Legislative and Institutional Barriers to Collaboration
- Funding Approaches
- Jurisdictional Legislative Review
- **Mine Closure and Return of Mining Lands to the Crown**
- **Communication – Overarching**

Contact Lake, SK



# Return of Mining Lands Project (2009 – 2016)

Need for clear policy framework for mine closure, long-term liabilities and return of mining lands to the Crown

NOAMI's RML Project has produced several important tools and guidance documents that contribute to the prevention of orphaned and abandoned mines.

- 1. Policy Framework in Canada for Mine Closure and Management of Long-term Liabilities: A Guidance Document (Cowan Minerals 2010)*
- 2. 2011 Workshop - Exploring the Management of Long-term Liabilities and the Return of Mining Lands to the Crown in Canada*





# Return of Mining Lands Project

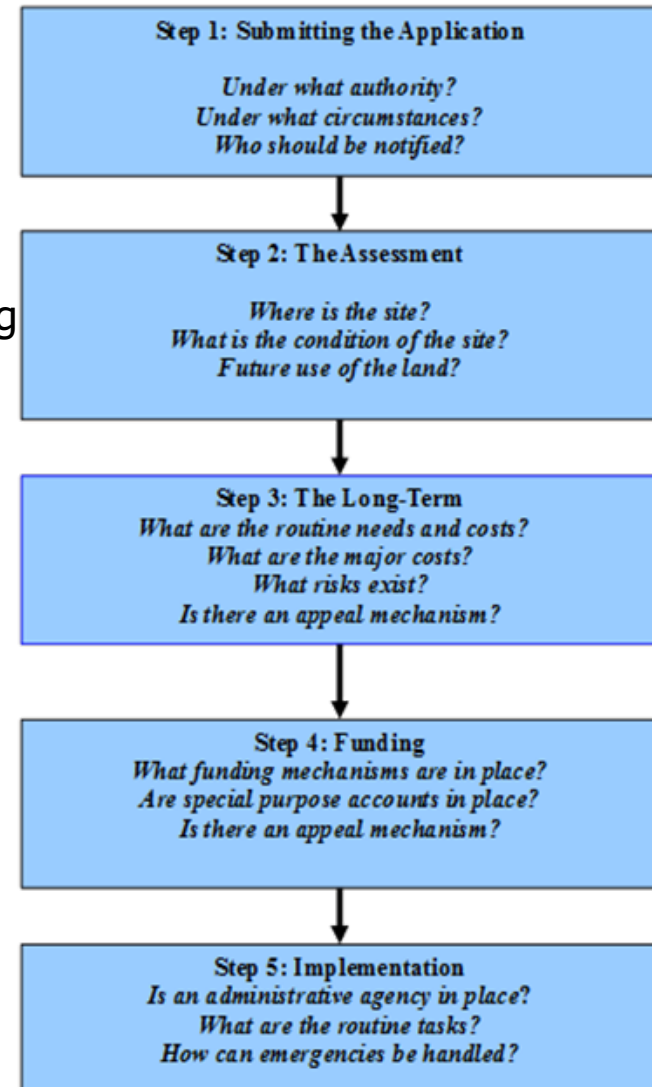
## 3. Case Studies and Decision-making Process for the Relinquishment of Closed Mine Sites (Cowan Minerals 2013)

Outlines key factors that need to be assessed to determine if a site is eligible to be relinquished, or should remain responsibility of the operator.

Follows a natural progression through decommissioning and reclamation to relinquishment.

## 4. Key Criteria for the Effective Long-term Stewardship of Closed, Orphaned/Abandoned Mine and Mineral Exploration Sites (Kingsmere Resource Services 2015)

## 5. Risk Identification and Cost Estimation for Orphaned/Abandoned Mine Closure and Long Term Management (KRS – in progress)



# National Inventory of Orphaned/Abandoned Mines

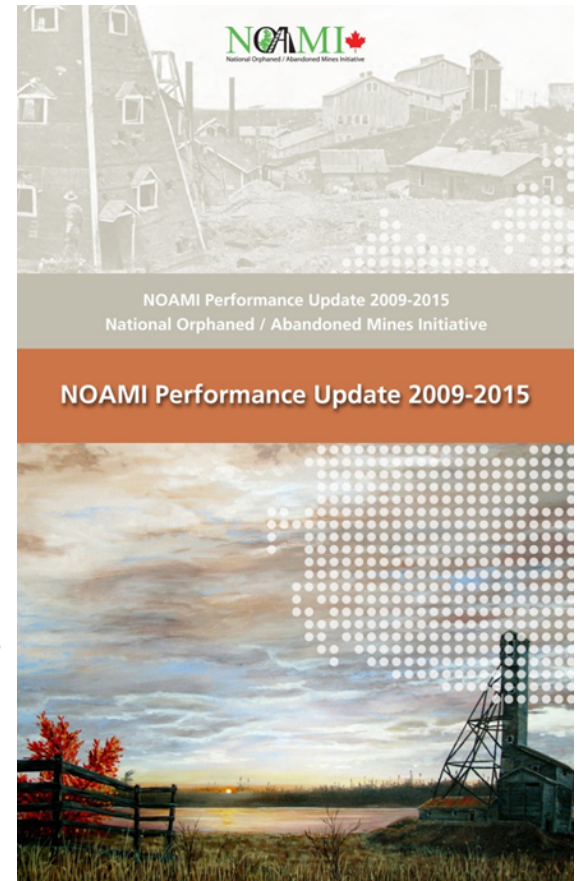
- Feature-based classification of sites
- Map-based
- Portal links to most jurisdictional databases
- Available to the public
- Bilingual
- Interactive website to be launched soon



# NOAMI Highlights

## Information Sharing

- Six NOAMI workshops and Proceedings
- Newsletters
  - NOAMI Nugget / Lingot d'INMOA
- Presentations/publications at conferences
  - Mongolian Delegation Tour
  - CLRA 2016, Timmins
  - Dealing with Derelict Mines Summit, Australia
  - Strong international interest in NOAMI
- Performance Update 2009-2015
  - Highlights NOAMI's major achievements, and the efforts of Canadian jurisdictions to address the potential legacy issues with orphaned and abandoned mines across the country
- Website  
[www.abandoned-mines.org](http://www.abandoned-mines.org)







To download reports, newsletters,  
or workshop proceedings please visit:

Mine Environment Neutral Drainage (MEND)  
[www.mend-nedem.org](http://www.mend-nedem.org)

National Orphaned/Abandoned Mines  
Initiative (NOAMI)

[www.abandoned-mines.org](http://www.abandoned-mines.org)



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# The Butchart Gardens

• OVER 100 YEARS IN BLOOM •

NATIONAL HISTORIC SITE OF CANADA

**Thank You!**



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