



# **NRCan Presentation on Hydrogeology and Geotechnical Aspects**

**Fortune NICO Mine  
Mackenzie Valley Environmental Impact Review Board  
Public Hearing**

**Yellowknife, NWT, August 29, 2012**



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# Outline

- **Technical review of:**
  - **Hydrogeology and groundwater quantity**
  - **Geotechnical engineering – stability and performance of the co-disposal facility**
- **Closing**



# Hydrogeology and Groundwater Quantity

## Why is this Important?

Adequate information on hydrogeology and groundwater flow is required to determine the impact of mining activities, such as mine dewatering and seepage from mine waste, on groundwater quantity and quality.



# Hydrogeology and Groundwater Quantity

## NRCan Views:

- Fortune's field characterization and numerical groundwater flow model is appropriate.
- NRCan recommended clarifications on parameters and values in order to characterize the groundwater flow regime and assessment of potential impacts to water quantity and quality.
- Fortune provided clarifications to NRCan during July 26 meeting, and Aug. 15, 18 and 22 written responses.
- NRCan is satisfied with Fortune's written responses.



# Geotechnical Engineering - stability and performance of CDF

## Why is this Important?

Maintenance of stability and integrity of the co-disposal facility (CDF) is important to ensure containment of contaminants and to minimize the impacts on water quality.

Stability of the CDF is dependent on geotechnical properties of earth materials and of tailings and waste rock.



# Geotechnical Engineering - stability and performance of CDF

## NRCan Views:

- NRCan agreed that impacts related to seepage from co-disposal facility (CDF) can be minimized with appropriate design and an effective management plan.
- Fortune agreed to NRCan's recommendations regarding stability analysis, and committed to further geotechnical investigations, and to refine seepage/stability analysis to support detailed/final design.
- Fortune provided written responses to NRCan (Aug. 18).
- NRCan is satisfied that Fortune's commitments and clarifications will minimize water quality impacts.



# Closing

- Natural Resources Canada appreciates the opportunity to participate in this review.



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