



# Giant Mine Remediation Project

## Presentation to the Mackenzie Valley Land and Water Board

by **Environment and Climate Change Canada**

MX2007L8-0031/ MX2019X0007 - Public Hearing

January 20 to 24, 2020

Yellowknife, NWT

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# Overview

- Mandate
- Relevant acts and regulations
- Status of Environment and Climate Change Canada (ECCC) comments
- Outstanding comments and recommendations



# Environment and Climate Change Canada's Mandate

- Preservation and enhancement of the quality of the natural environment, including water, air, and soil quality;
- Coordination of the relevant policies and programs of the Government of Canada;
- Renewable resources, including migratory birds and other non-domestic flora and fauna;
- Meteorology; and
- Enforcement of regulations



# Relevant acts and regulations

- *Department of the Environment Act*
- *Canadian Environmental Protection Act*
  - *Environmental Emergency Regulations*
- *Fisheries Act – Pollution Prevention Provisions*
  - *Metal and Diamond Mine Effluent Regulations*
- *Migratory Birds Convention Act*
- *Species at Risk Act*



# Closure & Reclamation Plan (ORS Review 5 of 7)

## Current status of ECCC Comments

<u>Closure and Reclamation Plan</u>		
ECCC-2	Contaminant migration	Resolved
<b>ECCC-3</b>	<b>Foreshore tailings</b>	<b>FI-ECCC-1</b>
ECCC-4	WTP residuals & disposal	Resolved
ECCC-5	WTP outfall	Resolved



# FI-ECCC-1

## Foreshore tailings

ECCC recommends the Proponent undertake monitoring to ensure that the cover placed on the foreshore tailings will prevent long term leaching of contaminants into Great Slave Lake. ECCC further recommends that the Proponent implement monitoring and adaptive management to address any leaching of contaminants into Great Slave Lake that monitoring may reveal.

If covering/capping the tailings merely avoids human contact and does not prevent the leaching of contaminants into the lake, ECCC recommends that the Proponent consider an alternative approach for foreshore tailings remediation. This could include tailings removal.



# Management Plans Group 2 (Water) (ORS Review 6 of 7)

## Current Status of ECCC Concerns

<u>Effluent Quality Criteria (EQC)</u>		
ECCC-2 & -3	EQC - sediment loading / major ions	Resolved
<u>Conceptual Aquatic Effects Monitoring Design Plan – Yellowknife Bay</u>		
ECCC-4 to -8	Monitoring / harmonization with EEM	Resolved*
<u>Aquatic Effects Monitoring Program Design Plan – Baker Creek</u>		
ECCC-9	General comment	Resolved
ECCC-10	Quantitative assessments	<b>Resolved**</b>
ECCC -11 to -33	Monitoring / assessments / harmonization with EEM	Resolved*

\* pending consideration of working group (FI-ECCC-3)

\*\* pending final SNP / OMP plans (FI-ECCC-2)



## Surface runoff monitoring

ECCC recommends that the Proponent monitor tributaries upstream of Baker Creek, and establish thresholds for investigation or action in the event that monitoring shows increasing concentrations in these tributaries. This may be included as part of the Surveillance Network Program (SNP) monitoring.





# FI-ECCC-3 (Resolved)

## Aquatic Effects Monitoring Program / Environmental Effects Monitoring Program

ECCC recommends that the Proponent establish an Aquatic Effects Monitoring Program Working Group to discuss the finalization of the monitoring program and ongoing results.



# Management Plans Group 3 (Other) (ORS Review 7 of 7)

## Current Status of ECCC comments

<u>Wildlife and Wildlife Habitat Monitoring and Management Plan (WWHMMP)</u>		
ECCE-2 to -8	Updates to WWHMMP	Resolved
<u>Dust Management and Monitoring Plan</u>		
<b>ECCE-9</b>	Dust suppressant / runoff	<b>Resolved**</b>
<b>ECCE-10</b>	<b>CAAQS / assessment</b>	<b>FI-ECCE-4</b>
ECCE-11	Adaptive management	Resolved: FI-ECCE-5
ECCE-12	Monitoring	Resolved
<u>Tailings Management and Monitoring Plan</u>		
ECCE-13 to -14	Alternatives / dam stability	Resolved

\*\* pending final SNP / OMP plans (FI-ECCE-2)



# FI-ECCC-4 (Partially resolved)

## Canadian Ambient Air Quality Standards (CAAQS) and nitrogen dioxide management

ECCC recommends that the Proponent incorporate the CAAQS for NO<sub>2</sub>, SO<sub>2</sub>, and PM<sub>2.5</sub> as applicable ambient air quality criteria into the Project's Dust Management and Monitoring Plan. (Unresolved)

In addition, ECCC recommends that the Proponent's Dust Management and Monitoring Plan include mitigation measures to reduce NO<sub>2</sub> and PM<sub>2.5</sub> associated with power plant emissions, in the event that an active freeze system is implemented. (Resolved)



# FI-ECCC-5 (Resolved)

## Adaptive management of air pollutants

ECCC recommends that the Proponent revise the Dust Management and Monitoring Plan to include adaptive management thresholds for PM<sub>2.5</sub>, NO<sub>2</sub>, and metals (arsenic, antimony, lead, iron, and nickel). The revised plan with updated thresholds should be made available to interested parties prior to commencement of project activities.

Thank You

