



NATURAL RESOURCES CANADA - INVENTIVE BY NATURE

NUNAVUT IMPACT REVIEW BOARD

Date: February 4, 2021

Exhibit No: 54

# Natural Resources Canada's Final Hearing

## Presentation:

### Baffinland Iron Mines Corporation's Phase 2 Development Proposal

*Prepared for the Nunavut Impact Review Board*

Presented by:

Peter Unger

Senior Environmental Assessment Officer

November , 2019



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## NRCan's Mandate

Natural Resources Canada (NRCan) has a mandate to enhance the responsible development and use of natural resources, providing a source of jobs, prosperity and opportunity, while preserving the environment and respecting Indigenous peoples.

NRCan is a science-based department, with nearly half of its employees being scientists, engineers or technicians.



# NRCan's Role in this Project

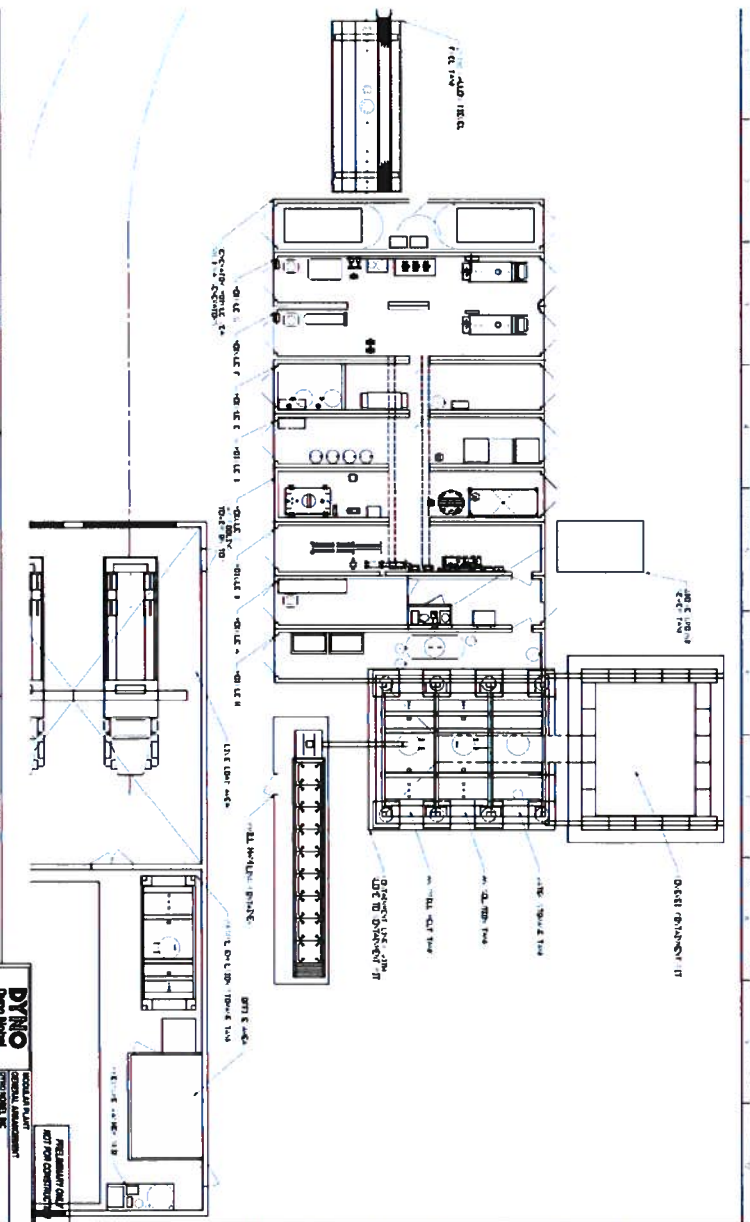
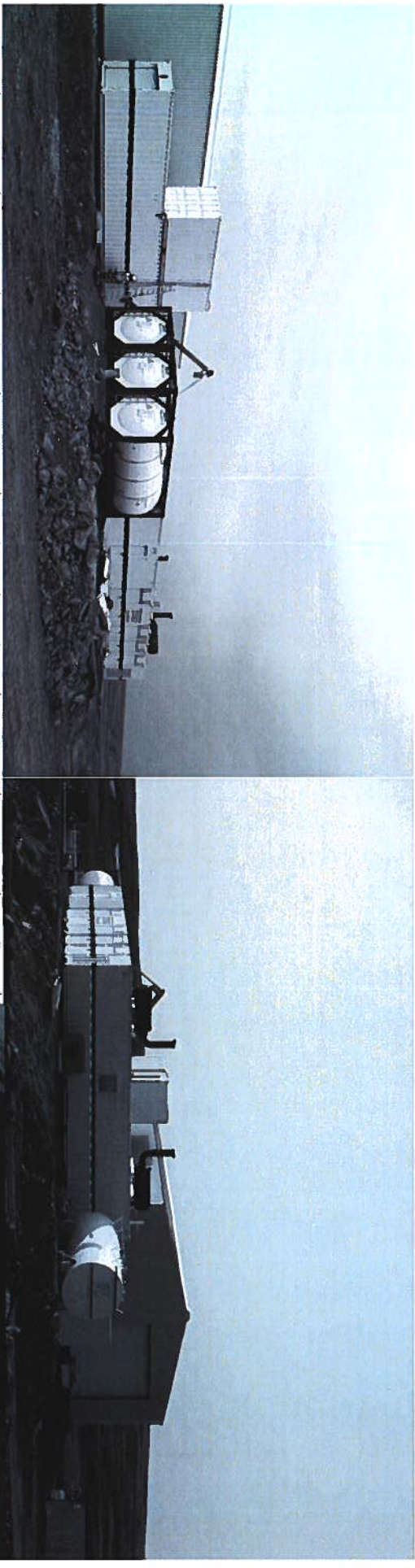
Provision of scientific expertise:

- Permafrost and terrain stability

Regulator for the *Explosives Act*:

- Provision of licenses for the storage and manufacture of explosives







## Technical Review: Permafrost and Terrain Stability

Knowledge of permafrost and terrain conditions is required to minimize the impacts of the project on the environment, and the impacts of the environment on the project.

### Specific issues considered

- Baseline permafrost and ground ice conditions in Northern Railway Corridor
- Thermal analysis and modelling
- Timing of installation of instruments



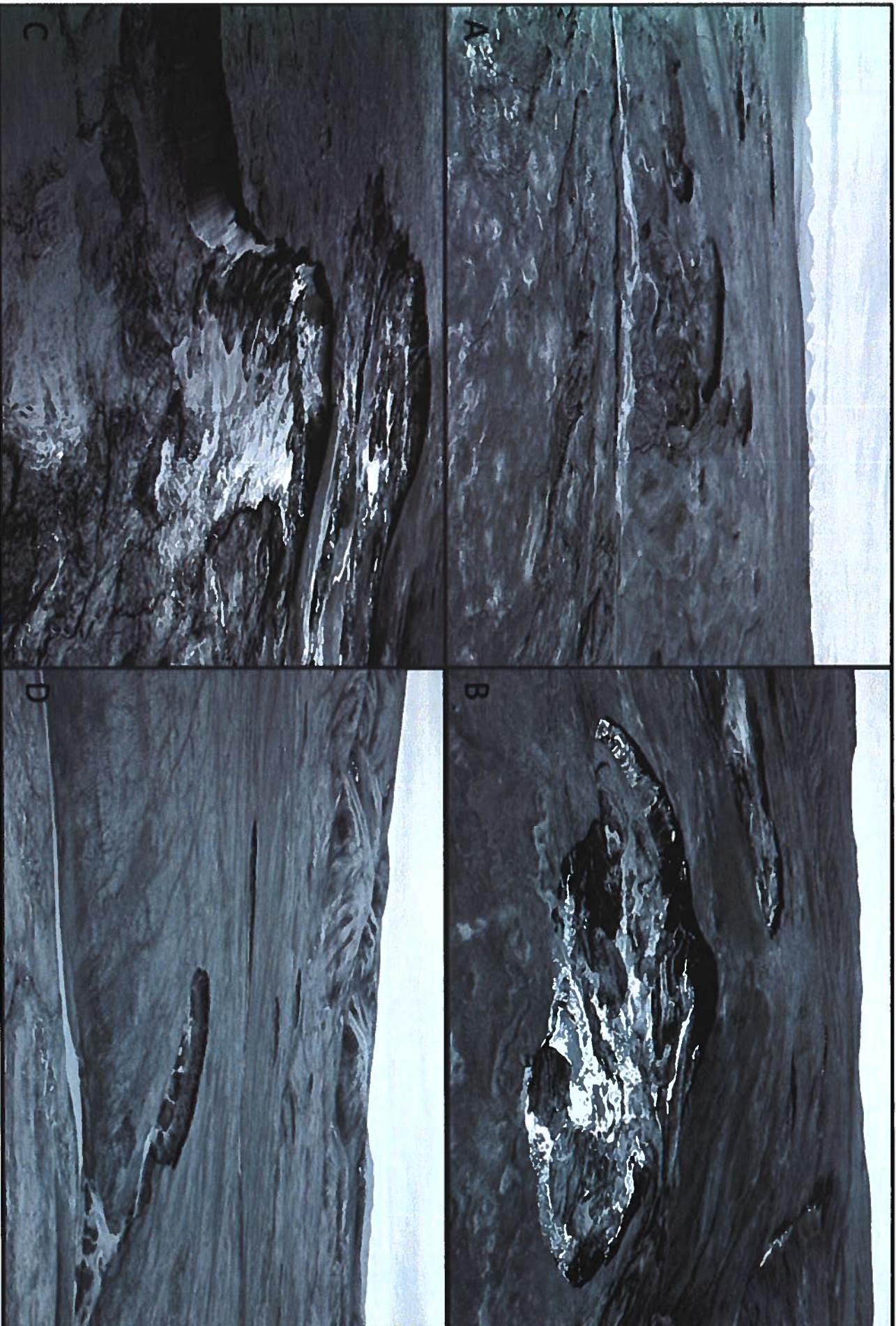


Photo credit:

Melissa Ward, McGill University



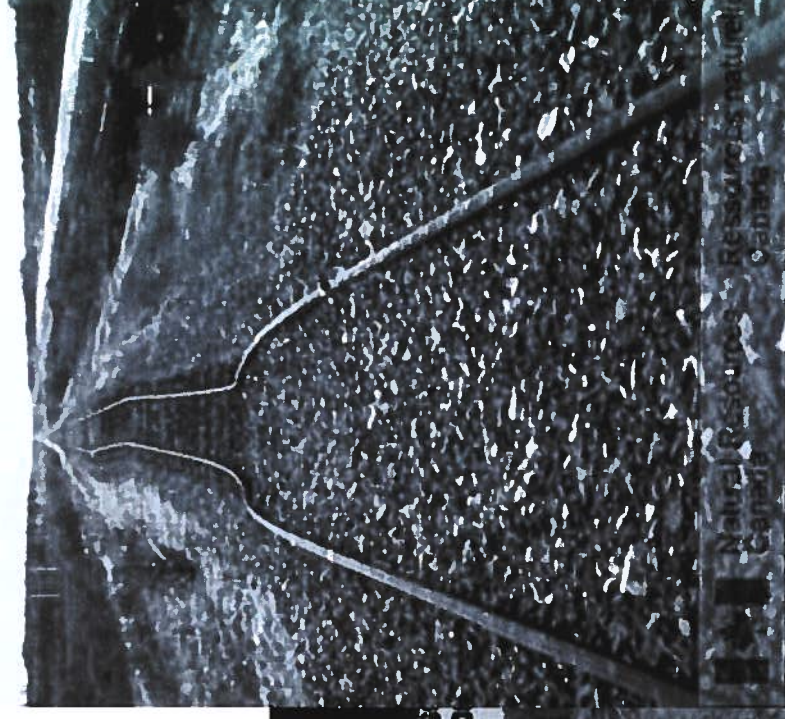
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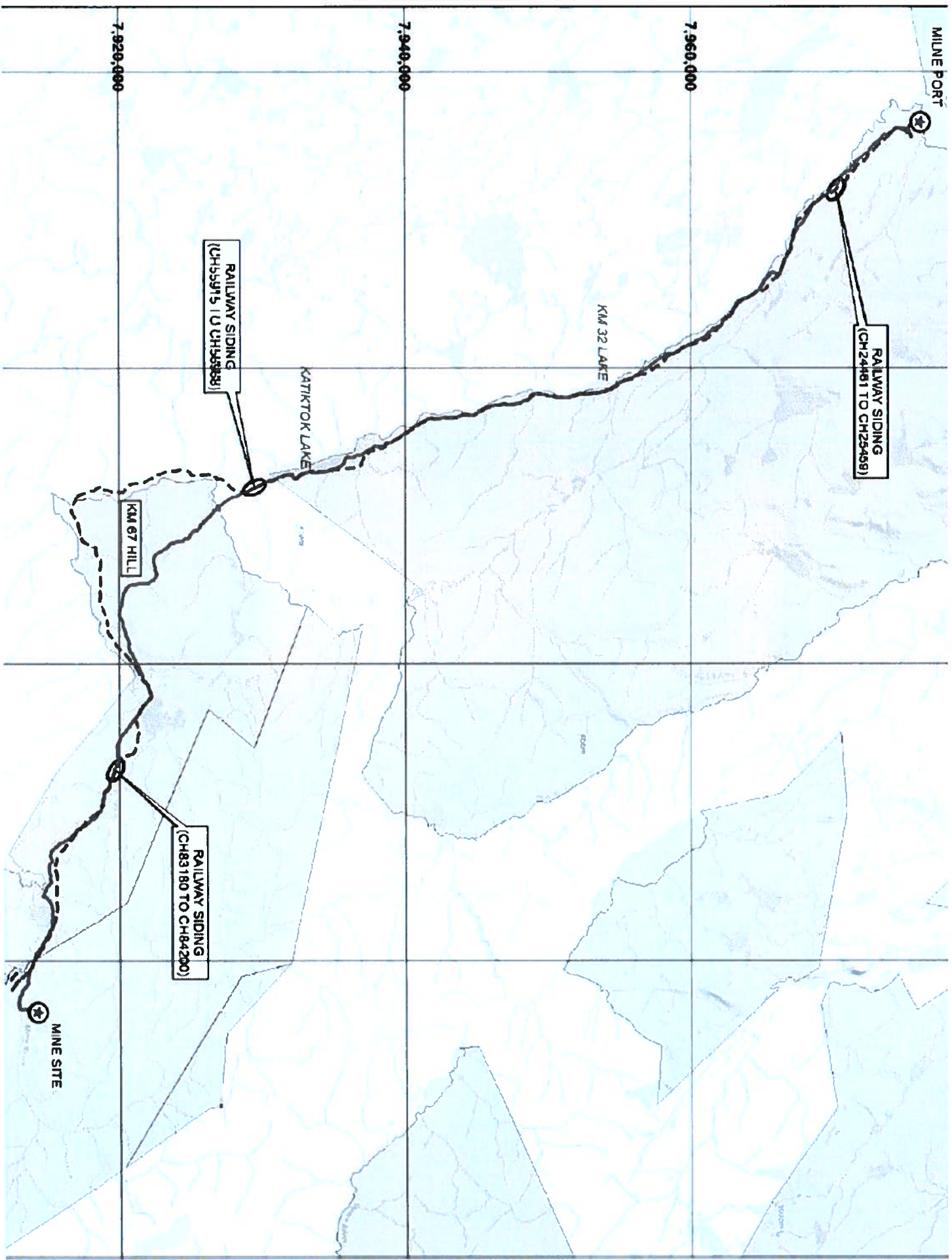
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# Damage to rail lines due to permafrost degradation







# Data collection

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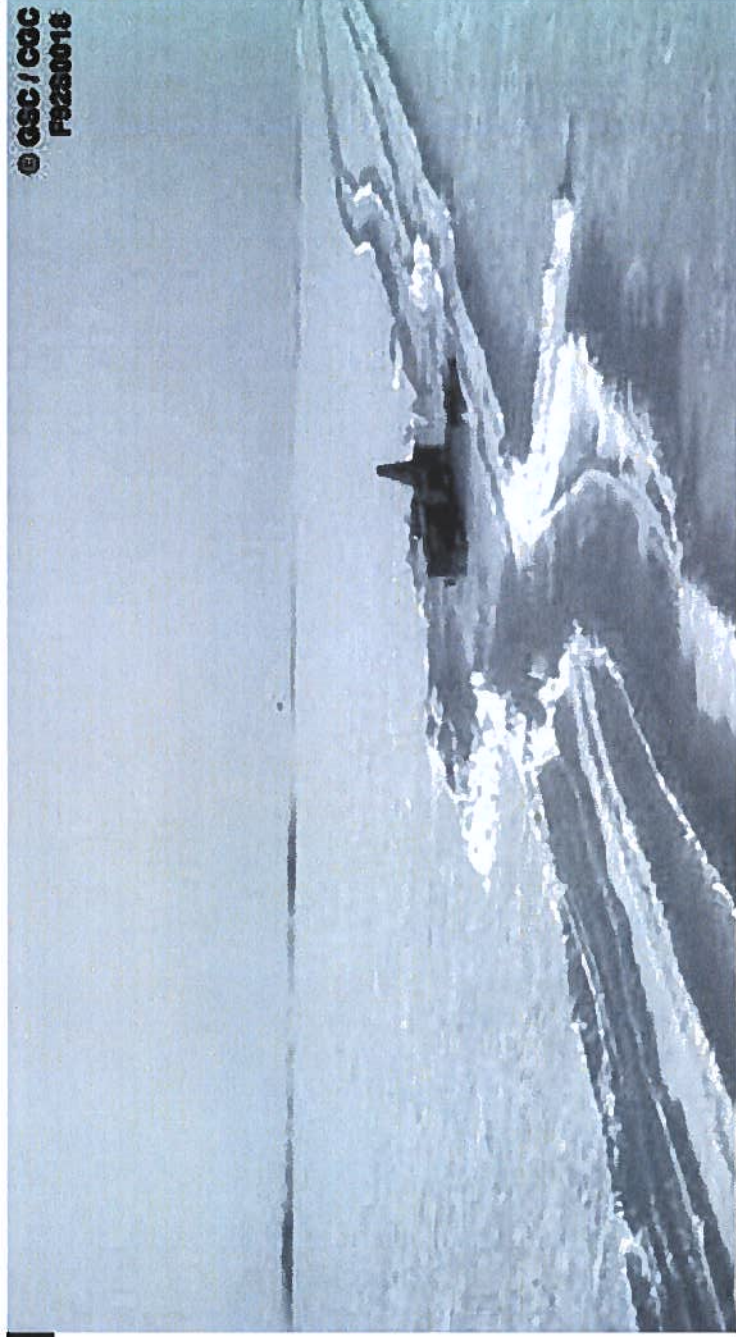
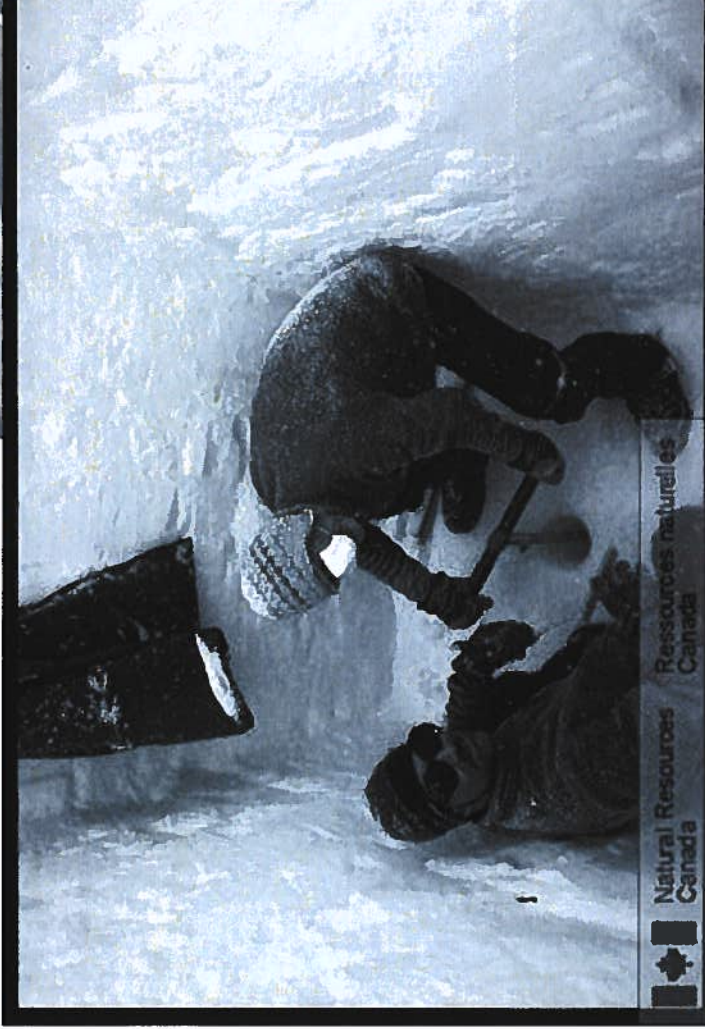


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