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РПАН 12-Г 20-Л, 2023

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## Health Canada's Final Hearing Presentation

*(Prepared for the Nunavut Impact Review Board)*

**September 12-20, 2023**

## Rankin Inlet, Nunavut

ΔΕΙΞΤΕ ΜΑΣ ΤΗΝ ΠΡΟΤΙΜΗ ΣΑΣ... Η ΥΓΕΙΑ ΚΑΙ ΤΗΝ ΑΣΦΑΛΕΙΑ ΣΑΣ... Η ΠΡΟΤΙΜΗ ΜΑΣ.



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## Outline

- Health Canada's Mandate
- Health Canada's Scope of Review
- Health Canada's Limitations
- Recommendations

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# Health Canada's Mandate

- Health Canada is a federal department responsible for helping Canadians maintain and improve their health.
- The Department provides information and knowledge to the Nunavut Impact Review Board regarding the potential impacts of a proposed project on human health.

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## Scope of Review

### Air Quality

Potential contaminants in ambient air.

### Noise

Potential effects of noise on humans.

### Water Quality

Potential contamination of recreational and drinking water.

### Human Health Risk Assessment

Methods used to assess potential human health risks were appropriate and scientifically valid.

### Country Foods

Potential contaminants in country foods (also known as traditional foods).

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## Review Limitations

Health Canada does not:

- Validate the Proponent's modelling; therefore, Health Canada assumes that the modelling yields correct results.
- Make any decisions or issue any licenses, permits or authorizations in relation to the Project.
- Provide comments on occupational health or on socio-economic impacts.

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## Resolved Comments

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Topic	Comment ID#
Clarification requested on the assessment of risks from exposure to diesel particulate matter and aldehyde	HC-AQ-01
Clarification requested on boundaries of local study area for noise	HC-N-03
Clarification requested on calculations of “percent highly annoyed”	HC-N-04
Potential for groundwater and surface water contamination during post-closure phase	HC-WQ-02

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## Resolved Comments

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Topic	Comment ID#
Guidelines used to assess methylmercury levels in fish tissue applicable to commercial foods	HC-HHRA-01
Clarification requested on baseline and predicted soil concentrations used	HC-HHRA-02
Clarification requested on the sediment quality assessment	HC-HHRA-05

## Comments Resolved through Commitments

Topic	Comment ID#
Rationale needed for not updating air quality modelling	HC-AQ-02 Refer to commitment 23
Additional information requested on air quality assessment scenarios	HC-AQ-03 Refer to commitment 23
Clarification requested on the use of existing noise monitoring data	HC-N-01 Refer to commitment 30



## Comments Resolved through Commitments

Topic	Comment ID#
Clarification requested on receptor locations used in the human health risk assessment	HC-HHRA-03 Refer to commitment 30
Clarification requested on assumptions regarding recreational land user exposure	HC-HHRA-04 Refer to commitments 26 and 31

## Summary of Recommendations

Topic	Comment ID#
Insufficient information regarding air emissions	HC-AQ-04
Need for more noise monitoring and mitigation	HC-N-02
Clarification whether traditional land users informed the assessment of arsenic	HC-WQ-01 Covered under HC-CF-02
Elevated concentrations of contaminants of potential concern in soil under baseline conditions	HC-HHRA-06 Covered under HC-CF-02
Measured concentrations of contaminants of potential concern in country foods are not provided	HC-CF-01 Covered under HC-CF-02
Insufficient rationale to support conclusion of incomplete country foods exposure pathway for arsenic	HC-CF-02

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# Air Quality (Atmospheric Environment)

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# Air Quality

- Exposure to air pollution can result in human health impacts at any levels of exposure. Poor air quality has been linked to lung and heart problems, hospitalizations, and even premature death.
- Only qualitative air quality information from existing monitoring was provided, and results were not compared to the Canadian Ambient Air Quality Standards.
- Health Canada compared current air quality levels (before the project extension) to predicted future air quality conditions (with the project extension) and examined how these changes may affect human health within the project area.

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- # Health Canada Recommendation #1

- Continue to monitor air quality contaminants (including but not limited to fine particulate matter, sulfur dioxide, nitrogen dioxide, cadmium, and iron) for all phases of the Project;
- Continue implementing all economically and technically feasible mitigation measures to limit emissions of non-threshold contaminants to the extent possible; and,
- Compare measured air quality contaminants to their respective Canadian Ambient Air Quality Standards and develop strategies to avoid data loss or missing samples in future air quality monitoring reports.

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**Noise**  
**(Acoustic**  
**Environment)**

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# Noise

- Health Canada reviewed noise assessments for scientific validity and potential risks to human health from project-related changes in environmental noise.
- Current noise levels (before the project extension) were compared to predicted future noise levels (with the project extension) to examine how human health may be affected within the project area.
- Noise levels predicted at several locations were approaching levels that could potentially impact sensitive humans.

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## Health Canada Recommendation #2

- Continue to monitor noise levels over the course of the mine life as described in Commitment 30 of the Technical Memorandum; and,
- Maintain public complaint response mechanism along with additional monitoring and/or mitigation activities in the event of public complaints.



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**Human Health Risk  
Assessment,  
Water Quality,  
and Country Foods**

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# Human Health Risk Assessment, Water Quality, and Country Foods

- A Human Health Risk Assessment is a tool used to predict potential risks to human health from changes to the environment as a result of project activities.
- Health Canada compared current exposure to contaminants in country foods, water, soil, and air (before the project extension) to predicted future exposure (with the project extension) and examined how human health may be affected.
- Health Canada requested additional information on how the Human Health Risk Assessment was completed and its conclusions.

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# Human Health Risk Assessment, Water Quality, and Country Foods

- Arsenic is a naturally occurring element in soil and minerals.
- Health Canada identified uncertainty in the assessment of potential exposure to arsenic in water and country foods.
- Humans can be exposed to arsenic through food, air, soil, and water that contain elevated levels of arsenic.
- There is uncertainty in the assessment of arsenic in soil, water, and foods as soil monitoring data from 2017 and 2019 were not used as part of the risk assessment.

[illegible]

- [illegible]

## Health Canada Recommendation #3

- Continue to monitor arsenic in soils and other relevant environmental media (e.g., surface water) during all project phases; and,
- Provide details on how the results of the monitoring program will inform adaptive management measures in all phases of the Project.
- If arsenic increases over time, update the Human Health Risk Assessment with arsenic monitoring data, monitor relevant country foods, and implement any necessary additional mitigation or adaptive management.

$L^c_Q$

**Thank You**