

Environmental Assessment of the Meliadine Extension Proposal

Technical Presentation of Final Environmental Impact Statement Addendum



Rankin Inlet, Nunavut
September 12-20, 2023



KivIA's Mandate and Objectives

- KivIA is a Designated Inuit Organization pursuant to Article 39 of the *Nunavut Agreement*, and represents Inuit beneficiaries of the *Nunavut Agreement* in the Kivalliq Region.¹
- KivIA holds title to and manages surface Inuit Owned Lands in the Kivalliq Region.
- The primary purpose of Inuit Owned Lands is to provide Inuit with rights in land that promote economic self-sufficiency in a manner consistent with the cultural and social well-being of Inuit now and in the future.²
- Mandate is to:
 - Manage surface Inuit Owned Lands in a manner that supports sustainable economic development opportunities for Inuit.
 - Ensure that any economic development is done in an environmental and socially responsible manner that protects Inuit rights guaranteed under the *Nunavut Agreement*.

1. Article 39 of the *Nunavut Agreement*.

2. Article 17 of the *Nunavut Agreement*.



KivlA's Objectives in this Environmental Assessment

- Ensure that the potential impacts and benefits are comprehensively assessed.
- Ensure Inuit Qaujimajatuqangit values are incorporated into impact determination, mitigation, project design and monitoring.
- Ensure that the voices of Inuit are heard.
- Ensure that the rights of Inuit are paramount and that they are respected now and into the future.



Meliadine Extension Review Timeline

April 12, 2022- Agnico Eagle's Meliadine Extension Project Proposal submitted to the NIRB.

June 7, 2022- KivA Significant Modification Letter.

September 6, 2022-KivA Information Requests..

October 24, 2022-KivA Technical Submission.

November 22-25, 2023- Technical Meeting and Community Round Table, and Pre-Hearing Conference # 1.

Pre-Hearing Conference # 2- March 16, 2023.

July 26, 2023- KivA Final Written Submission.



Information Requests and Technical Comments

- The KivlA information requests and technical comments have concerned:
 - Impacts to Inuit Employment,
 - Impacts on Inuit social, cultural, and economic well-being,
 - Impacts to Inuit harvesting rights, including impacts on caribou, specifically the Qamanirjuaq herd,
 - In-pit tailings and waste rock management, and
 - Impacts to Meliadine Lake and surface contact water management.
- The majority of technical comments remain outstanding as of the date of this submission.



Technical Comments Review

1. Socio-Economic Environment
2. Impacts on Caribou
3. In-pit disposal of tailings and/or waste rock
4. Discharge to Meliadine Lake



Socio-Economic Environment

- KivIA's TRC 10 and TRC 11 from its Technical Submission dated October 22, 2022 remain outstanding.
- The FEIS Addendum does not adequately address the state of social, cultural, or economic wellbeing in the Kivalliq Region.
- Food security is a significant concern for Inuit.
- Discussion, analysis, and planning on food security and a cultural wellbeing as it relates to the Meliadine Extension Proposal needs to occur.
- KivIA expects these discussions to occur with the Agnico Eagle.

Impacts on Caribou: Will the Meliadine Extension Project significantly impact caribou?

1. Will the Meliadine Extension Proposal add to existing impacts?
2. How has the Qamanirjuaq herd changed since the 2014 assessment?
3. Will caribou be significantly impacted?



Existing impacts: What is the caribou use of the mine site?

- Information gaps: annual use.
- Has use of mine site changed since 2014?
- Limited Use of TK/IQ.

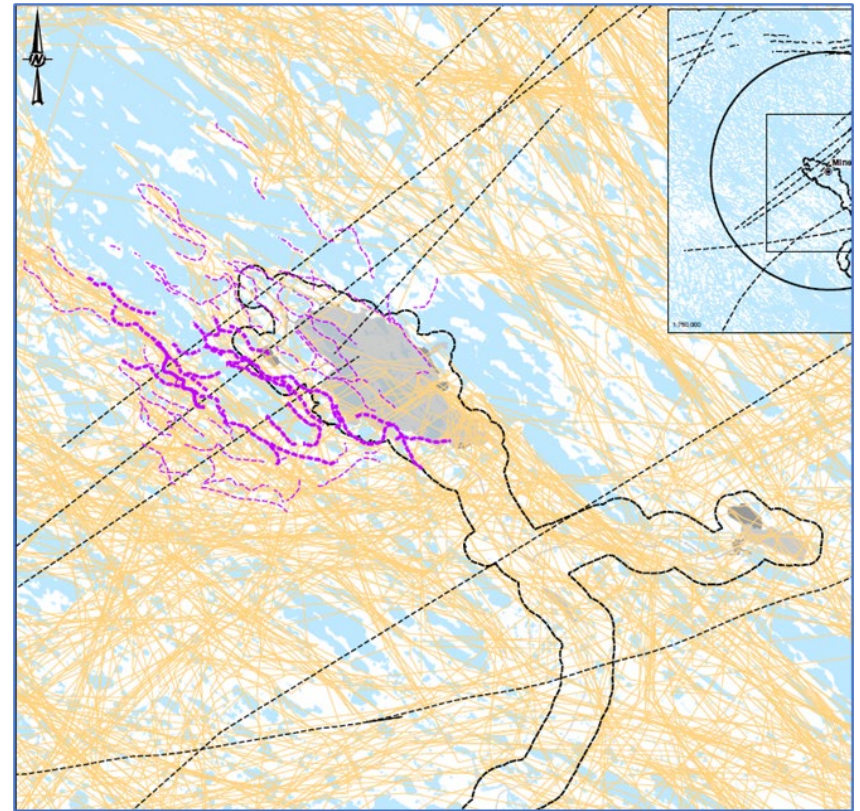
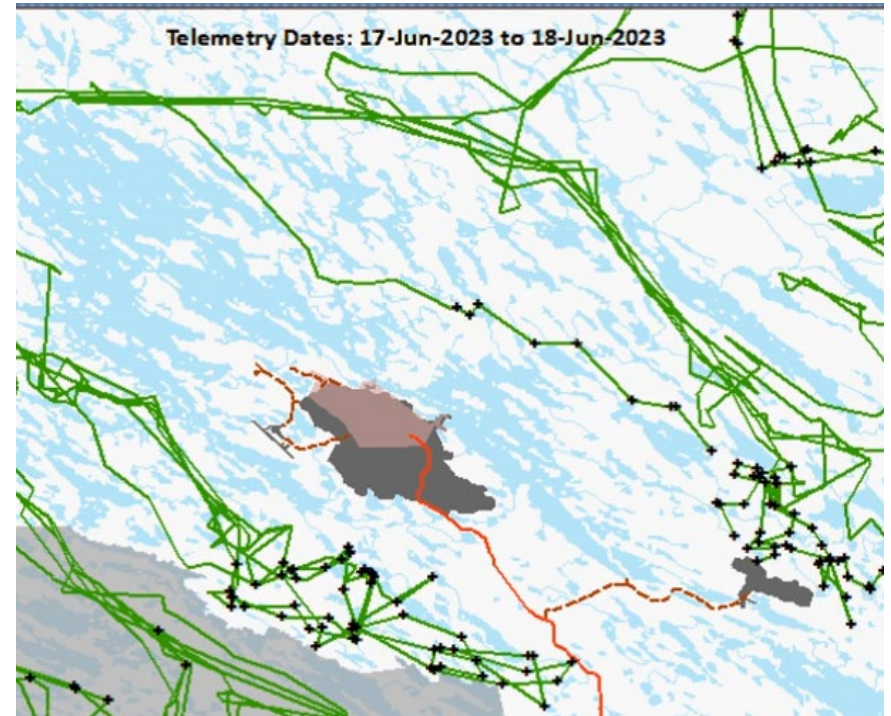
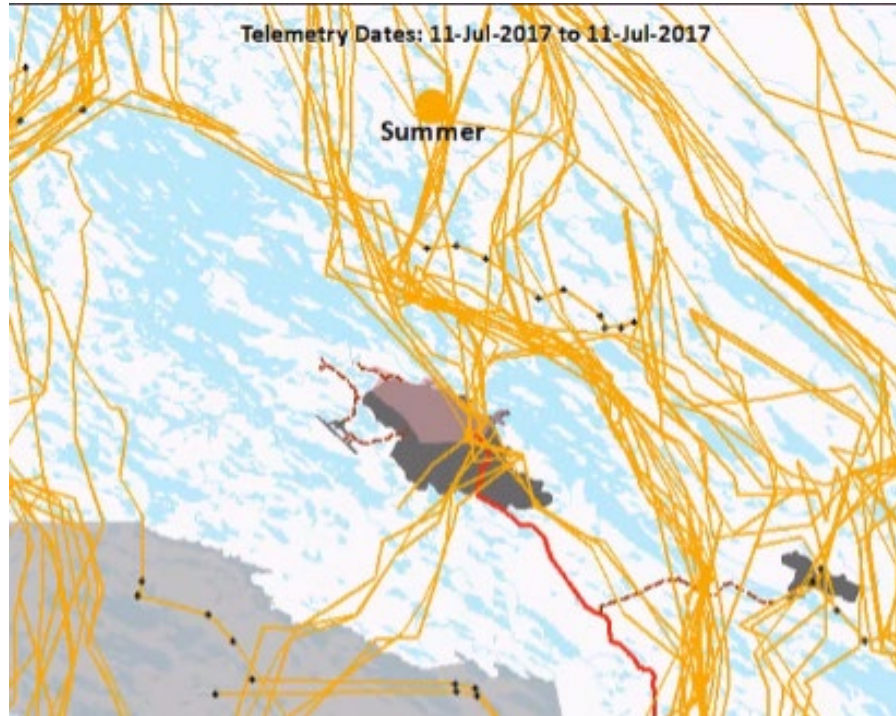


Figure Q1IVc (Att. K: Memo 19 May 2023) : collar pathways during 2018 to 2022; Inuit knowledge and 2021 mapped ground trails.

Has use of mine site changed since 2014?



A screen grab from GN animation for caribou collar pathways on 11 July 2017 and 17 July 2023

How do caribou respond to current activities - is current mitigation effective?

- How do caribou respond at mine site?
- Mine activities shutdown when caribou in vicinity but effectiveness unmonitored.
- Cows with young calves more responsive.



<https://www.flickr.com/photos/agnico-eagle/48866701658/in/album-72157629673907261/>

Existing impacts: How do caribou respond to AWAR and mine site ?

- Brief interruptions to foraging when AWAR closed.
- Collar pathway maps suggest caribou deflect and parallel the AWAR and mine site.
- Analysis suggests habitat had more impact than AWAR and mine site (large-scale analysis).

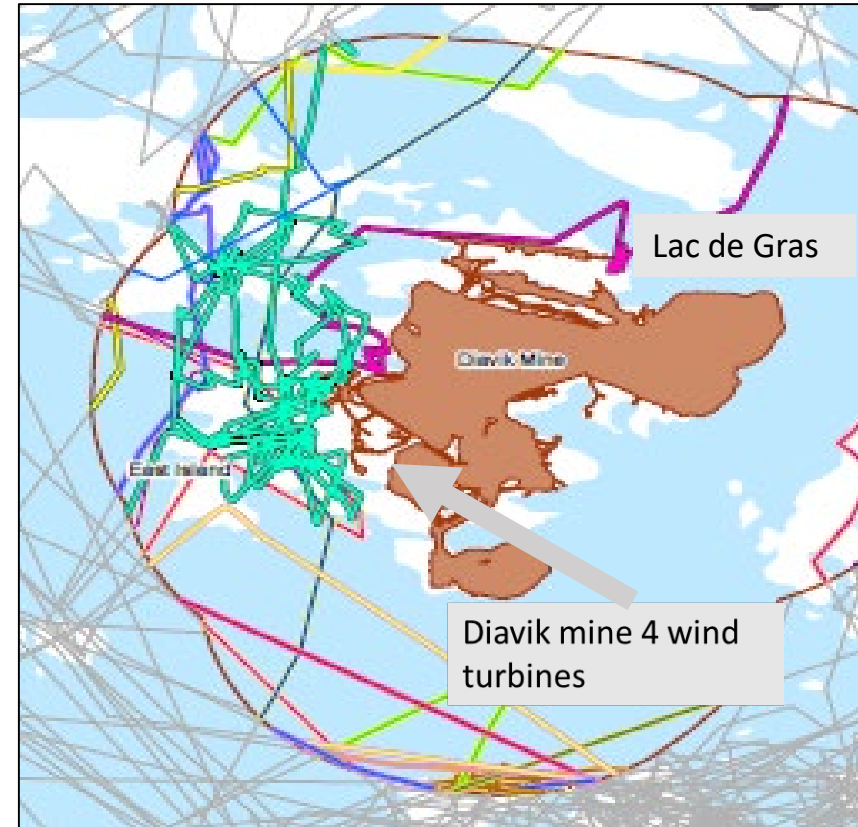


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How will caribou respond to a wind farm?

- No assessment pathway for caribou and the windfarm.
- Experience from domesticate reindeer is mostly avoidance especially during calving.
- Diavik mine (NWT) experience is limited to winter and very low caribou numbers.



From Figure 2; Exploratory Collared Caribou Movement Analysis Technical Memorandum as an addendum to DDMI's 2021 Wildlife Management and Monitoring Report (2022)

Is the proposed mitigation for the wind farm likely to be effective?

- How and when caribou see or hear wind turbines is unknown.
- No experience developing mitigation thresholds (AEM proposing turbine shutdown when caribou close by).
- Cows with young calves likely to respond more.



<https://9newsng.com/norwegian-wind-farms-violate-rights-of-sami-reindeer-herders-says-court/>

Will the incremental impacts accumulate over time?

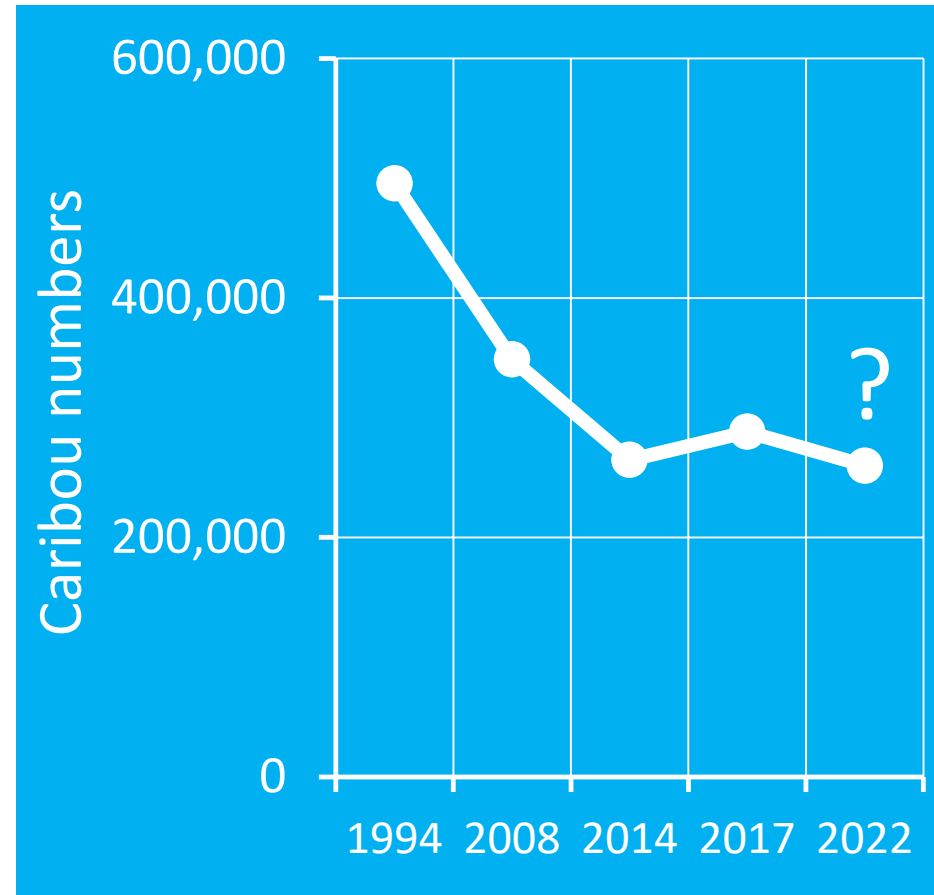
- What do the indirect habitat impacts mean for caribou?
- How is a warmer climate impacting responses?
- Is an alternative approach needed?





How has the Qamanirjuaq herd changed since the 2014 assessment?

- BQCMB rated the Qamanirjuaq herd's vulnerability as medium- high.
- Calving distribution has shifted closer to the Mine site.
- Earlier springs, warmer summers and more mosquitos.



Will the Extension Project significantly impact caribou?

- A precautionary answer is that the Extension Project without enhanced mitigation will have a significant impact on the Qamanirjuaq herd.
- Collaboration and use of TK/IQ to develop alternative approaches and refine mitigation monitoring.





In-Pit Disposal of Tailings and/or Waste Rock

KivIA supports CIRNAC's recommendations with the following additional recommendations:

1. The Proponent must define the package of information on a “pit by pit” basis that will be submitted to the Nunavut Water Board (NWB) one (1) year prior to starting the in-pit disposal of tailings and/or waste rock.
2. Additional Requirements include:
 - a) thermal studies,
 - b) hydrogeological studies,
 - c) updated water balance and water quality models,
 - d) updating water management plan, and
 - e) updating the Interim Closure and Reclamation plan, Water Management Plan, Waste Management Plan, and adaptive management strategies upon completion of mining of each open pit.



Discharge of Surface Contact Water to Meliadine Lake

- Meliadine Lake is extremely important to local Inuit as a source of drinking water, fish, and access to caribou hunting grounds. Preservation of Meliadine Lake is of utmost importance to the KivIA and Inuit of the Kivalliq.
- Impacts due to the Meliadine project as a whole have already been observed in Meliadine Lake, including:
 - Increases in concentrations of chlorophyll and phosphorus.
 - Increases in Metals, such as arsenic, strontium, and molybdenum in water and fish tissue.
 - Increases in the average temperature of the southeast basin.
 - Many local Inuit have also moved away from collecting drinking water at Ijiraliq, impacting traditional uses of the water
- The KivIA was assured by the Proponent that the approved dual waterline to Itivia Harbour would diminish the impacts of the project on the lake, by diverting surface contact water away from Meliadine Lake.
 - *“... with the waterline, we reduced significantly the amount of water going to Meliadine Lake. Some years, it might be zero, and others we might have more, but less than we were originally planning. So overall the impact will be less.”³*

³Nunavut Impact Review Board Reconsideration Report and Recommendations for the Saline Effluent Discharge to Marine Environment Proposal- Agnico Eagle Mines Limited's Meliadine Gold Mine Project, Project Certificate No. 006 NIRB File No. 11MN034, July 2021



Discharge of Surface Contact Water to Meliadine Lake – Cont'd

- Agnico Eagle is required by the NIRB Project Certificate to utilize the waterline to *minimize or eliminate discharge* to Meliadine Lake.
- The Water Quality Water Balance Models present a significant increase in discharge to Meliadine Lake, even with the operational waterline to Itivia Harbour.
- The 19% reduction in proposed discharge between the first 2022 FEIS extension application and the May 2023 used by Agnico Eagle is not based on current projects conditions, and in KivIA's view does not satisfy the Term and Condition 25.
- Agnico Eagle also suggests that these models represent a 49% reduction in discharge to Meliadine Lake from the 2014 FEIS. Taking in to account a conservative precipitation estimate and additional project lifetime, the Extension will increase discharge to Meliadine Lake by approximately 3-fold.
- Further, if reasonable assumptions on waterline efficiency due to maintenance and other shutdowns are used, the 2014 maximum assessed annual discharge of 2.6 million cubic metres will likely be exceeded in the Mid-Operations phase of the Extension.

Discharge of Surface Contact Water to Meliadine Lake- Summary



- The Extension Proposal does not contain adequate mechanisms for managing surface contact water away from Meliadine Lake.
- Proponent should provide details on water management infrastructure, including construction plans, updated management plans, and updated water quality water balance models prior to commencement of the Extension Proposal that meet the requirements of Term and Condition 25 of the Project Certificate.⁴



⁴Nunavut Impact Review Board Reconsideration Report and Recommendations for the Saline Effluent Discharge to Marine Environment Proposal- Agnico Eagle Mines Limited's Meliadine Gold Mine Project, Project Certificate No. 006 NIRB File No. 11MN034, July 2021



Conclusion

KivIA's recommendations will ensure that if the Meliadine Extension is approved it will be approved in a way that ensures long-lasting benefit to Inuit, while not unduly impacting our traditional way of life.

The KivIA appreciates the opportunity to provide this presentation and thanks the NIRB and Participants.

Questions?