



Indigenous and
Northern Affairs Canada

Affaires autochtones
et du Nord Canada

Agnico Eagle Mines Ltd's Whale Tail Pit Project

Nunavut Impact Review Board /
Nunavut Water Board
Technical Meeting
Baker Lake: April 28-29, 2017



Canada

INAC·AANC



INAC's Role in the NIRB and NWB Assessment of the Proposed Whale Tail Pit Project

- **Responsible Minister:** Has decision-making role under the Nunavut Agreement, NuPPAA, and NWSRTA
- **Intervenor:** Provide expert advice
- **Regulator:** Administration of Crown land and water licence inspections / enforcement





Summary of INAC's participation in the review of the proposed Whale Tail Pit Project

- **Scoping**
 - Attended NIRB community scoping meetings (Baker Lake, Rankin Inlet, Whale Cove, Arviat)
 - Comments on project scope to the NIRB
- **Information Requests (IRs)**
 - Nine (9) IRs submitted to the NIRB
 - Application completeness comments submitted to the NWB
- **Technical Review Comments (TRCs)**
 - Eight (8) TRCs submitted solely to the NIRB
 - Eight (8) TRC submitted to the NIRB and NWB
 - One (1) TRCs submitted solely to the NWB
- **Technical Meeting and Pre-Hearing Conference**



Summary of INAC's review of the Whale Tail Pit Project Proposal

INAC provided expertise on the following:

- Environmental impact assessment methodology;
- Potential for contamination and/or deterioration of Crown land (including permafrost);
- Surface water quality and quantity;
- Groundwater;
- Closure costs;
- Community engagement and consultation;
- Economic development; and,
- Socio-economic plans.



Summary of INAC's Technical Review Comment Submissions

- NIRB
 - Eight technical comments
- NIRB/NWB
 - Eight technical comments
- NWB
 - One technical comment





Socio-Economics

1. Evaluation of Valued Socio-economic Components (VSECs) and Indicators (NIRB - INAC-TRC#10)

- The VSECs assessed in the Whale Tail Pit proposal are based on those used for Meadowbank and have not addressed NIRB's final scoping guidelines.
- Spatial and temporal boundaries used to assess the VSECs are too narrow.

Recommendation:

- The Proponent review and revise the VSECs and indicators used in the assessment in order to adequately cover the NIRB's guidelines and the relevant spatial boundaries.
- The Proponent should provide further analysis and evidence supporting the selection or exclusion of VSECs and indicators chosen for detailed analysis.
- The study period should be extended to address longer-term socio-economic impacts of closure.



Socio-Economics

2. Methodology and Analysis of Prediction of Impacts and Determination of Significance (NIRB - INAC-TRC#11)

- The basis for prediction of project impacts and assessment of significance for VSECs needs to be clarified. Little or no information is provided on the methodology or models used in making impact predictions.

Recommendation:

- Proponent provide additional information to justify and to allow for verification of the conclusions presented in the EIS. These include:
 - The assumptions, evidence, models and methodologies for the predictions of impacts, need to be presented in detail for each VSEC.
 - For the determination of significance, the specific approach and information sources considered in assessing the relevant factors needs to be outlined for each VSEC.



Socio-Economics

3. Nature and Scope of Baseline (NIRB - INAC-TRC#12)

- Baseline information, as presented in the EIS, is inadequate or incomplete.
- Baseline data are not fully addressing the scope required by the NIRB and is generally restricted to results of the Meadowbank Mine.

Recommendation:

- Review and expand baseline data to include all critical categories needed to determine and assess community impacts.
- Obtain additional data on community conditions beyond those represented by the operating results of Meadowbank Mine.
- Obtain specific data on each of the communities in the local study area.



Socio-Economics

4. Public Consultation and Incorporation of Community Concerns into the EIS (NIRB - INAC-TRC#13)

- Little evidence is presented to show that community consultation adequately captures concerns related to the Whale Tail Pit development.
- It is unclear how socio-economic concerns raised through consultation have been used to inform the socio-economic baseline and the overall assessment.

Recommendation:

- Conduct community consultations to validate the revised socio-economic assessment.
- Provide additional information on how socio-economic concerns raised were addressed within project planning.
- The Proponent commit to working with the Community Liaison Committee (CLC) and other partners to ensure consultation information is passed on to the community.



Socio-Economics

5. Socio-Economic Component of the Closure Plan (NIRB - INAC-TRC#14)

- The proposed closure plan in the EIS does not directly address socio-economic issues.
- The Proponent addresses socio-economic issues related to closure through mitigation measures for construction and operation, rather than directly through closure planning.

Recommendation:

- Proponent provide an updated closure plan that directly addresses anticipated adverse socio-economic effects of closure to the Kivalliq communities related to loss of employment and income.
- The revised interim closure plan should be provided before initiation of the project.



Socio-Economics

6. Framework for Monitoring of Project Impacts (NIRB - INAC-TRC#15)

- The short project time frame presents major challenges for monitoring and reporting.

Recommendation:

- Include in the Management and Monitoring Plan examples of how the adaptive management responses identified in the EIS would be implemented and effectively managed within the short time frame of the project.
- Develop and implement formal arrangements with the Socio-Economic Monitoring Committee for collaborative monitoring of community and regional socio-economic impacts.



Socio-Economics

7. Cumulative Socio-Economic Effects (NIRB - INAC-TRC#16)

- The deficiencies regarding the scope and nature of baseline data used, the temporal and spatial scope of the assessment of impacts presented, and the mitigation of long term effects from the closure of the project make it difficult to conclude that the Whale Tail assessment is cumulative in nature.

Recommendation:

- The Proponent provide a combined socio-economic cumulative effects assessment for all of its developments (Whale Tail, Meadowbank and Meliadine).
- The assessment should highlight the overlaps and synergies between the three projects, aligns their mitigation and monitoring, and, allows for adaptive management and monitoring of impacts between projects.



Adaptive Management and Reclamation Research

1. Re-Vegetation Research (NIRB - INAC-TRC#8)

- The proposed Closure and Reclamation Plan involves natural re-vegetation of these disturbed areas but will likely require centuries. The Proponent indicates it may conduct research but has not confirmed how or when it will make the decision.

Recommendation:

- Proponent commit to and initiate the design and implementation of active re-vegetation studies that are applicable to the reclamation of comparable northern developments.
- The Proponent's commitment to perform the re-vegetation studies should be provided prior to the final hearing.



Adaptive Management and Reclamation Research

2. Adaptive Management Plan (NIRB-INAC-TRC#9; NWB-INAC-TRC#8)

- The short operational phase will make it difficult to use adaptive management and reclamation research to address uncertainties regarding environmental performance of the project.

Recommendation:

- Provide an Adaptive Management Plan that identifies specific reclamation research and/or mitigations that will be taken to ensure adequate post-closure performance.
- The required financial security (Water Licence) should be sufficient to implement future mitigation that may be necessary due to uncertainty in post-closure outcomes.



Waste Rock Storage and Tailings Management

1. Design and Depth of Waste Rock Cover (NIRB & NWB - INAC-TRC#1)

- The final quantity of cover material is unknown and the availability is limited.
- The maximum thaw depth remains unknown.
- The time available to revise the cover design is insufficient given the project will be completed by 2021.

Recommendation:

- A defensible cover design that considers the availability of cover material should be submitted for review. This design should include thermal modelling to confirm thaw depths and include the effects of climate change.
- Develop a contingency plan to identify an alternative source of clean cover material(s).
- Develop a contingency plan for placement of additional cover, or alternative contingencies should future monitoring and assessment indicate the selected design will not prevent thawing below the cover.



Waste Rock Storage and Tailings Management

2. Tailings Management (NIRB & NWB - INAC-TRC#2)

- There is insufficient evidence that the Meadowbank Tailing Storage Facility is capable of handling increased tailings deposition from the Whale Tail Project.
- Possible reassessment of Closure Cost Estimate for the tailings facility under water licence 2AM-MEA1525 (Meadowbank).

Recommendation:

- Demonstrate that the deposition of tailings as a result of the Whale Tail Pit Project will not result in any significant impacts.
- The Tailings Management Plan under water licence 2AM-MEA1525 be updated to reflect the additional tailings from Whale Tail.
- The NWB may have to reassess the security held under water licence 2AM-MEA1525 to confirm that it is sufficient to manage the incremental tailings associated with the Whale Tail Project.



Water Quality

1. Predicted Post-Closure Arsenic Levels in Waste Rock Seepage/Runoff (NIRB & NWB - INAC-TRC#3)

- No allowance for metals leaching from waste rock in the cover.
- Monitoring period is likely too short to assess impacts of seepage in the longer term.

Recommendation:

- Undertake a sensitivity analysis to assess the impact of metals leaching and acid generating waste rock in the cover materials.
- Consider cover design to mitigate potential seepage should water quality modelling suggest that long-term treatment is required.
- Given the potential for delayed onset of drainage from the waste rock storage facility, the Proponent should justify its proposed post-closure monitoring period and if necessary extend the monitoring period.



Water Quality

2. Long-Term Water Quality in the Flooded Pit (NIRB & NWB - INAC-TRC#4)

- There are potentially underestimated sources of contamination to surface water that will be contained in the flooded pit.

Recommendation:

- Perform sensitivity analysis to assess implications of groundwater inputs from mineralized zones around the pit as well as the pit walls.
- If the assessment indicates concerns over long-term water quality in the flooded pit, the Proponent should provide a detailed analysis confirming that stable, meromictic conditions will occur within the flooded pit.



Water Quality

3. Ammonia and Nitrate Levels from Explosive Use (NIRB & NWB - INAC-TRC#5)

- It is unclear what levels of ammonia and nitrate will be discharged from explosive usage since estimates are based on Meadowbank data and have not been corrected for Whale Tail Pit.

Recommendation:

- Ammonia and nitrate concentrations should be estimated for Whale Tail using loading data from Meadowbank, including annual losses in mine and pit water per tonne of rock blasted and rock placed in pile.
- Analysis should be done for each year to reflect differences in blasting requirements.



Water Quality

4. Post-Closure Surface Water Impacts (NIRB & NWB - INAC-TRC#6)

- Seepage from the Waste Rock Storage Facility into Mammoth Lake could result in a mixing zone with water quality parameters above guidelines.
- There is insufficient analysis to forecast the extent of the mixing zone.

Recommendation:

- Indicate the spatial extent of the mixing zone
- Complete a sensitivity analysis of contaminant loading scenarios for post-closure
- Evaluate ecological impacts in areas where proposed water quality criteria are expected to be exceeded.



Water Quality

5. Post-Closure Surface Water Uncertainty (NIRB & NWB - INAC-TRC#7)

- There is uncertainty regarding water quality for an extended period after closure (potentially for decades).

Recommendation:

- The Proponent should provide a detailed assessment of proactive measures it will undertake to confirm and/or enhance the assumed water quality performance of the project.
- Proactive measures should be implemented prior to project initiation.



Reclamation Security

1. Preliminary reclamation closure (NWB - INAC-TRC#9)

- INAC has produced a preliminary reclamation closure cost estimate for the Whale Tail Pit Project of \$27 million, which differs from the Applicant's closure cost estimate of \$19 million.

Recommendation:

- Further discussions between the Applicant, INAC and the Kivalliq Inuit Association should take place before a public hearing in order to reach agreement on a reclamation closure cost estimate.



Conclusions

- In general, the information, analysis and presentation of the EIS and Water Licence application submissions were good.
- However, many aspects of the proposed project are still at a preliminary conceptual stage and, as a result, significant uncertainties remain.
- In many respects, potential biophysical impacts associated with the operational phase are well understood, are of limited duration, and/or are readily mitigated through active interventions.
- In contrast, uncertainties regarding post-closure could result in unintended and difficult to mitigate impacts.
- The socio-economic assessment in the EIS also presents some concerns through all phases of the project.



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Thank you
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Maatna
Merci



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