



SCREENING DECISION REPORT NIRB FILE No.: 11EN010

NIRB Application No.: 125071
NPC File No.: 148399

April 18, 2017

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB has determined that, in accordance with section 91 of the *Nunavut Planning and Project Assessment Act* (NuPPAA), Agnico Eagle Mines Ltd.'s "Pilot study – Hovercraft Implementation in Nunavut" project proposal should be **modified or abandoned**.

The NIRB is of the view that the project proposal as currently designed is likely to cause significant public concern, and is likely to result in significant adverse ecosystemic and socio-economic impacts. The NIRB therefore provides this Screening Decision Report to the responsible Minister(s) for consideration pursuant to NuPPAA paragraph 92(1)(c); the NIRB remains available for consultation with the Minister regarding this report as necessary.

OUTLINE OF SCREENING DECISION REPORT

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REGULATORY FRAMEWORK

The primary objectives of the NIRB are set out in Section 12.2.5 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut Agreement) as follows:

"In carrying out its functions, the primary objectives of NIRB shall be at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Nunavut Settlement Area. NIRB shall take into account the well-being of the residents of Canada outside the Nunavut Settlement Area."

These objectives are confirmed under section 23 of the NuPPAA.

The purpose of screening is provided for under section 88 of the NuPPAA:

“The purpose of screening a project is to determine whether the project has the potential to result in significant ecosystemic or socio-economic impacts and, accordingly, whether it requires a review by the Board...”

To determine whether a review of a project is required, the NIRB is guided by the considerations as set out under subsection 89(1) of NuPPAA:

“89. (1) The Board must be guided by the following considerations when it is called on to determine, on the completion of a screening, whether a review of the project is required:

- (a) a review is required if, in the Board’s opinion,*
 - i. the project may have significant adverse ecosystemic or socio-economic impacts or significant adverse impacts on wildlife habitat or Inuit harvest activities,*
 - ii. the project will cause significant public concern, or*
 - iii. the project involves technological innovations, the effects of which are unknown; and*
- (b) a review is not required if, in the Board’s opinion,*
 - i. the project is unlikely to cause significant public concern, and*
 - ii. its adverse ecosystemic and socioeconomic impacts are unlikely to be significant, or are highly predictable and can be adequately mitigated by known technologies.”*

It is noted that subsection 89(2) provides that the considerations set out in paragraph 89(1)(a) prevail over those set out in paragraph 89(1)(b).

As set out under subsection 92(1), upon conclusion of the screening process, the Board must provide its written report the Minister:

- 92. (1) The Board must submit a written report to the responsible Minister containing a description of the project that specifies its scope and indicating that:*
- a) a review of the project is not required;*
 - b) a review of the project is required; or*
 - c) the project should be modified or abandoned.*

After completing a review of all the information received and taking into account the information the Proponent and parties have supplied for the Board’s consideration, it is the opinion of the NIRB that **the project proposal should be modified or abandoned** in accordance with **section 91** of the NuPPAA.

PROJECT REFERRAL

On December 23, 2016 the Nunavut Impact Review Board (NIRB or Board) received a referral to screen Agnico Eagle Mines Ltd.'s (Agnico Eagle) "Pilot study – Hovercraft Implementation in Nunavut" project proposal from the Nunavut Planning Commission (NPC or Commission) with an accompanying positive conformity determination with the Keewatin Regional Land Use Plan. The NPC noted that the previous conformity determinations issued on March 10, 2011 and March 27, 2014 for the activities associated with the current proposal continue to apply but referred the project proposal to NIRB because the NPC determined that the project proposal is a significant modification to the project because it involves resupply transport not previously considered by the NIRB.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut Agreement) and section 87 of the *Nunavut Planning and Project Assessment Act* (NuPPAA), the NIRB commenced screening this project proposal. Due to the proposal containing activities that were sufficiently related to previously assessed activities under NIRB file number **11EN010**, the NIRB viewed this project proposal as an amendment to the previously screened project and assigned this proposal with this previous file number.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Project Scope

The proposed "Pilot study – Hovercraft Implementation in Nunavut" project is located within the Kivalliq region, approximately 150 kilometres (km) north-northwest from the community of Baker Lake. The Proponent intends to conduct a pilot program to determine the feasibility of the usage of hovercrafts to transport personnel and light cargo on the Amaruq Exploration Access Road and potential usage in search and rescue activities. The program is proposed to take place from July 2017 to December 2018, with potential for extension if the pilot study proves to be successful.

As required under subsection 86(1) of the NuPPAA, the Board accepts the scope of the "Pilot study – Hovercraft Implementation in Nunavut" project as set out by Agnico Eagle in the proposal. The scope of the project proposal includes the following undertakings, works, or activities:

- Transport two (2) hovercraft units with three (3) tonnes capacity each to the Meadowbank Gold Mine site during the third quarter of the 2017 summer sealift season;
- Testing of hovercrafts to ensure low environmental impact which include the use of the hovercrafts to transport personnel and light cargo (no fuel or explosives) from the Meadowbank Gold Mine site on the Amaruq Exploration Access Road, on the approved winter roads and designated trails to drilling properties on the Amaruq property on a year round basis;
- Travel route(s) to typically follow interconnecting lakes and streams similar to the existing previous winter road alignment;
- Use of existing facilities including fuel supplies at the Meadowbank and Amaruq fuel storage facilities; and

- Generation of wastes oils from engines.

2. Inclusion or Exclusion to Scoping List

The NIRB has identified that there are no additional works or activities in relation to the project proposal that should be added to the scope prior to the Board's consideration of the project proposal. Note that the NIRB was considering an amendment to the Amaruq exploration project, the "Amaruq Exploration Access Road - Additional Quarry Amendment" project proposal, at the same time as receiving this application; however it was determined that the applications were for activities that were not integrally linked to the other, so the Board has proceeded with separate screenings for each proposal. The decision was provided to the Minister of Indigenous and Northern Affairs for Agnico Eagle's "Amaruq Exploration Access Road - Additional Quarry Amendment" project proposal on March 7, 2017 for the scope of activities listed in **Appendix A** of this document, in addition to the activities previously approved by the Board related to the Amaruq Exploration Project.

3. Key Stages of the Screening Process

The following key stages were completed:

Date	Stage
December 23, 2016	Receipt of project proposal and positive conformity determination (Keewatin Land Use Plan) from the NPC
January 13, 2017	Information request(s)
February 10, 2017	Proponent responded to information request(s)
February 10, 2017	Scoping pursuant to subsection 86(1) of the NuPPAA
February 14, 2017	Public engagement and comment request
March 7, 2017	Receipt of public comments
March 27, 2017	Ministerial extension requested from the Minister of Indigenous and Northern Affairs
March 28, 2017	Proponent responded to comments/concerns raised by public

4. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on February 14, 2017 to community organizations in Baker Lake, as well as to relevant federal and territorial government agencies, Inuit organizations and other parties. The NIRB requested that interested parties review the proposal and provide the Board with any comments or concerns by March 7, 2017 regarding:

- Whether the project proposal is likely to arouse significant public concern; and if so, why;
- Whether the project proposal is likely to cause significant adverse eco-systemic or socio-economic effects; and if so, why;
- Whether the project proposal is likely to cause significant adverse impacts on wildlife habitat or Inuit harvest activities; if so, why;

- Whether the project proposal is of a type where the potential adverse effects are highly predictable and mitigable with known technology, (please provide any recommended mitigation measures); and
- Any matter of importance to the Party related to the project proposal

The following is a summary of the comments and concerns received by the NIRB:

Kivalliq Inuit Association (KIA)

- Noted concerns related to the potential for significant impacts to wildlife and their habitat, marine mammals and their habitat, birds and their habitat, fish and their habitat, heritage resources in the area, traditional uses of land, Inuit Harvesting activities, community involvement and consultation, and local development in the area from the use of hovercrafts at site.
- The KIA previously provided correspondence to Agnico Eagle stating that it was opposed to the undertaking of the hovercraft pilot project, and continued to expressly oppose the pilot project occurring on Inuit Owned Land.
- The KIA also expressed concern about the cumulative effects of the proposed Hovercraft pilot project as the project site is already under intense pressure from ongoing exploration activity, with the presence of the Amaruq single lane access road and with the addition of traffic from the proposed Whale Tail Pit project which would add more disturbances to the area.
- The KIA was also sensitive to the use of novel technologies not currently used in Nunavut; and therefore could not support the use of hovercraft on Inuit Owned Land.
- KIA noted that the current workplan provided by Agnico Eagle in the project proposal does not contemplate the use of hovercraft technology and the necessary application to amend the workplan should be provided to ensure regulators are better informed about the use of this type of technology.

Environment and Climate Change Canada (ECCC)

- Identified potential for destruction of nests by hovercraft on passages/portages; and for disturbing/stressing broods and molting waterfowl using large waterbodies.
- Noted that there was a lack of local information on bird use or abundance along the proposed routes, making it difficult to assess the impacts without understanding how many nests and birds may be impacted.
- ECCC expressed concern regarding the potential for inadvertent harming, killing, disturbance or destruction of migratory birds, nests and eggs known as incidental take which can have long-term consequences for migratory bird populations in Canada.
- Identified that the potential for cumulative effects on migratory bird populations through many different incidental take. ECCC reminded the Proponent that current regulations do not provide for authorizations or permits for the incidental take of migratory birds or their nests or eggs in the course of industrial or other activities. ECCC also noted that reasonable care and avoidance are the best approaches to take when contemplating any activity or decision.
- ECCC reminded the Proponent that it is their responsibility for taking appropriate measures to not conduct potentially destructive or disruptive activities at key locations or during key periods to avoid detrimental effects to migratory birds.

- Noted that migratory birds may be found nesting from the end of May until mid-August but that breeding periods may vary from year to year due to climatic conditions and some species may nest outside the dates provided if conditions are favourable.
- Proponent reminded that any nest(s) found should be protected with a buffer zone determined by a setback distance appropriate for the species, the intensity of disturbance and the surrounding habitat until the young have naturally and permanently left the vicinity of the nest.
- Noted that Proponent should consult the Safeguarding guidance on ECCC's web page.

Fisheries and Oceans Canada (DFO)

- Noted concern regarding the disturbance of marine mammals and recommended that areas should be surveyed to avoid disturbance by rerouting, slowly navigating around any marine mammals at reduced speed and maintaining a suitable distance between hovercraft and any marine mammals.
- DFO identified that the Proponent should implement measures provided for the protection of freshwater habitat including fish and fish habitat and provided a link to DFO's guidance tools.

Indigenous and Northern Affairs Canada (INAC)

- Noted that the KIA voiced concern regarding impacts from use of the Hovercraft and emphatically refused to support the project prior to the submission of this proposed pilot project. Further, INAC noted that even after reviewing the proposal, the KIA continues to oppose the use of Hovercraft due to a lack of baseline information on wildlife, marine mammals, birds, fish and their habitats, heritage resources, traditional land uses, Inuit harvesting activities, community involvement and consultation and local development.
- INAC also noted that the KIA also voiced concern over the cumulative effects of the proposed Hovercraft pilot project, as a result of the project site already being in an area under intense activity pressure with the ongoing Amaruq Road and Exploration project and the Whale Tail project proposal.
- Noted that the cumulative eco-systemic and socio-economic impacts were a concern and continues to be a concern for this most recent proposed pilot project application.
- Recommended that the Proponent address the potential cumulative impacts of the project as a whole, including the activities of this project amendment and the other past and reasonably foreseeable projects in the area.

Transport Canada (TC)

- Noted no concern with respect to the project proposal.
- Identified that all small commercial marine vessels between 15 and 150 gross tonnage require inspection and certification by Transport Canada. Any smaller vessel that carries more than 12 passengers must also be inspected and certified; followed by regular inspections depending on the vessel's commercial use.
- Noted that all commercial vessels are required to be registered and provided two options to the Proponent.
- Recommended the Proponent contact the Marine Safety and Security Services for more information regarding the requirements.

5. Comments and Concerns with respect to Inuit Qaujimaningit, Traditional and Community Knowledge

No concerns or comments were received with respect to Inuit Qaujimaningit or traditional and community knowledge in relation to the proposed project; however, the KIA noted that the proposal lacked baseline information on heritage resources, traditional land uses, Inuit harvesting activities, and community involvement.

6. Proponent's Response to Public Comments and Concerns

The following is a summary of the Proponent's response to concerns as received on March 28, 2017:

- Agnico Eagle noted its letter to the KIA and its commitment to continuing to work with the KIA in coming to an agreement in respect of the use of hovercraft in the region.
- In response to concerns regarding the disturbance of marine mammals and request for areas to be surveyed to avoid disturbing the mammals, the Proponent provided a map that identifies the routes to be traversed by the hovercrafts and noted that the alignments of the routes would not fall within or be near marine waters.
- In response to concerns regarding the potential for impacts to nests containing eggs or young of migratory birds and guidance provided by ECCC, the Proponent noted that:
 - The hovercraft technology has been implemented around the world for different activities for several decades with a number of investigations into the environmental impacts of hovercraft operation having been undertaken in various areas.
 - The potential effects of hovercraft travelling over nests are less deleterious than that of other vehicles.
 - An investigation into the effect of hovercraft used for oil and gas exploration and equipment transport in coastal Louisiana did not appear to affect bird eggs in nests, young shorebird or small rodents when they were inadvertently run over by the hovercraft.
 - It is likely that nesting would not occur adjacent to lake areas as the hovercraft travel will deter waterbird activities. Noted as an indirect effect related to avoidance of portages.
 - Nests are not anticipated to be destroyed by the operations of hovercrafts.
 - The Amaruq Wildlife Protection and Response plan would be updated and implemented to include efforts to avoid potential adverse effects on migratory birds that could be associated with hovercraft use.
 - Monitoring of presence of bird nests would be undertaken by Agnico Eagle under its wildlife plan to identify any active nests, ensure they are marked, and the hovercraft route would be changed to avoid the nest(s).
 - Development of a nest-specific management plan if necessary.
- In response to concerns related to the potential for cumulative eco-systemic and socio-economic impacts from the addition of the proposed hovercraft to other activities, the Proponent provided an assessment of the potential cumulative impacts of the project as a whole, including other past and reasonably foreseeable projects in the area. The summary of the assessment noted that with the implementation of mitigation identified

for each effect pathway in the Screening Level Assessment, and for past, present and future developments, cumulative effects are not assessed as significant.

- Noted that hovercraft would make up to 15 trips per day between the Meadowbank Mine and the Amaruq Exploration site, representing regular daily traffic throughout the year along the winter road alignment.
- In response to concerns regarding lack of baseline information, the Proponent noted that baseline information and data have been collected on the Amaruq Exploration Property since 2014 and the routes to be traversed by the hovercraft are within the same study area boundaries for the Whale Tail Pit project.
- The Proponent noted that it would follow all applicable Transport Canada regulations, including those regarding the inspection, certification and registry of hovercraft vessels.

FACTORS FOR DETERMINING SIGNIFICANCE OF IMPACTS

In determining whether a review of the project is required, the Board considered whether the project proposal had potential to result in significant ecosystemic or socio-economic impacts.

Accordingly, the assessment of impact significance was based on the analysis of those factors that are set out under section 90 of the NuPPAA. The Board took particular care to take into account Inuit Qaujimaningit, traditional and community knowledge in carrying out its assessment and determination of the significance of impacts.

The following is a summary of the Board's assessment of the factors that are relevant to the determination of significant impacts with respect of this project proposal:

1. *The size of the geographic area, including the size of wildlife habitats, likely to be affected by the impacts.*

Agnico Eagle's Amaruq Mineral Leases cover approximately 408 square kilometres (km²) total area, and within this area of leases, exploration related to the Amaruq Exploration project has been undertaken for several years. The Amaruq Exploration camp is focused within approximately three (3) km², plus the footprint of the Meadowbank Gold Mine Site Area to Amaruq exploration access road. The additional project components associated with the "Pilot study – Hovercraft Implementation in Nunavut" project would occur along the approved Amaruq exploration access road, on the approved winter roads and designated trails to drilling properties on the Amaruq property on a year round basis; all within the previously assessed local study area of the approved access road and the exploration activities. Therefore, the size of the geographic area likely to be affected by impacts from the development of the use of the two (2) hovercrafts would be within the 408 km² of the mineral leases. In addition to these areas, the geographic area likely affected by impacts would also include zones of influence around project activities and components. The proposed activities would also take place within the habitats of many local far-ranging wildlife species, such as the Ahiak, Lorillard, Wager Bay, and Qamanirjuaq caribou herds, muskox, wolves, and migratory and non-migratory birds, bird nesting grounds, and fish habitats.

2. *The ecosystemic sensitivity of that area.*

The proposed project would occur in an area with no formal designation for wildlife protection or particular identified ecosystemic sensitivity. However, it has been previously noted that important wildlife occur within the spatial and temporal boundaries of the proposed project within the ranges of the Ahiak, Lorillard, Wager Bay, and Qamanirjuaq caribou herds, though activities would occur outside of the critical calving/key access corridor range.

This area has been identified as having value and priority to local communities for:

- Caribou;
- Muskox;
- Grizzly bears;
- Wolves; and
- Migratory birds.

3. *The historical, cultural and archaeological significance of that area.*

The project Proponent has indicated that there are no known areas of historical, cultural, and archaeological significance associated with the project area, and parties did not identify any significant resources in the area or note any specific additional concerns of impacts from project activities. However, the Proponent noted that the proposed hovercraft activities would occur on the Amaruq Exploration Access Road and on the approved winter roads for which archaeological assessments have been carried out. The Proponent further noted that no new ground disturbances are expected as a result of the Pilot Study, removing the potential for chance finds of buried archaeological resources.

The Amaruq site has been progressively explored since 2008 and the project components of the Pilot Study are located within the previously explored areas.

4. *The size of the human and the animal populations likely to be affected by the impacts.*

The proposed project would occur approximately 150 kilometres (km) north of the Hamlet of Baker Lake, the nearest community. As a result of the project being located within the habitats of several far ranging species identified as important to the community (e.g., caribou and other terrestrial wildlife, fish, and migratory and non-migratory birds), the animal populations in proximity to the proposed project activities could be disturbed, displaced, or attracted to the area by the operations of the hovercrafts. Impacts to the animal populations noted above would affect traditional land use activities, Inuit harvesting, and the cultural identity of the region.

The NIRB notes that, while the Amaruq Exploration program (which includes advanced mineral exploration within 408 km², the development of the exploration access road from Meadowbank, development of a portal/ramp and advanced underground exploration) is not in close proximity to the community of Baker Lake (150 km southeast), adjacent areas may occasionally be used by residents for recreational/traditional pursuits and/or Inuit wildlife

harvesting. Therefore, additional mitigation measures should be considered to reduce potential impacts by encouraging further engagement of the community and the Hunters and Trappers Organization.

5. *The nature, magnitude and complexity of the impacts; the probability of the impacts occurring; the frequency and duration of the impacts; and the reversibility or irreversibility of the impacts.*

As the “Pilot study – Hovercraft Implementation in Nunavut” project is a proposed Pilot Study to determine the feasibility of the operational benefits of the usage of the hovercrafts relative to other modes of transportation within the Kivalliq region, the nature of the potential impacts are not well-known as this is considered to be new technology in Nunavut. The frequency and duration of the impacts, and the reversibility or irreversibility of the impacts are unknown until further research studies can be completed on the nature, magnitude and complexity of the impacts on the environment.

As a pilot study to understand the impacts of this new technology, it would be expected that Agnico Eagle would undertake the required research to specifically identify the types and extent of the potential impacts from this technology in advance of undertaking the activity. However, it remains unclear in the current application how Agnico Eagle intends to identify the potential for impacts, and collect data regarding actual impacts and potentially use the data collected to support further applications.

6. *The cumulative impacts that could result from the impacts of the project combined with those of any other project that has been carried out, is being carried out or is likely to be carried out.*

The proposed project would take place within a 100 kilometre radius of a number of other projects that are currently active, in addition to other projects proposed and currently undergoing assessment by the Board as listed in Table 1 below. The potential for cumulative impacts to caribou and caribou habitats, fish and fish habitats, migratory birds, non-migratory birds and nesting, general wildlife, traditional land use activities, Inuit harvesting, and overall integrity resulting from the use of the hovercrafts (increase in noise and presence of people) along the Amaruq Exploration Access Road, winter roads and designated trails to exploration drilling sites were identified and considered in the development of the NIRB’s recommendations.

Further, it has also been identified that this project proposal could induce additional exploration activities in the area.

Table 1: Project List

NIRB Project #	Project Title	Project Type
<i>Proposed Developments – undergoing assessment</i>		
16MN056	Whale Tail Pit and Haul Road – Meadowbank Gold Project	Mine Development
17EN020	Meadowbank Precious Metal Project	Exploration

NIRB Project #	Project Title	Project Type
17EN029	Gibson-McQuoid Project	Exploration
Active Projects		
03MN107	Meadowbank Gold Mine and the Vault Pit Expansion Project	Gold Mine (year round)
11EN010	Amaruq Exploration Property	Advanced Mineral Exploration and Access Road Development (year round)
11EN010	Amaruq Exploration – Portal/Ramp, Quarry and Advanced Underground Exploration and Bulk Sample	Advanced Underground Mineral Exploration with the development of a portal/ramp (year round)
15EN050	Amaruq, Meadowbank and Whitehills	Exploration (seasonal)
16YN037	Lithologic and tectonic controls on Paleoproterozoic banded iron formation-hosted/associated gold – A study of the Amaruq gold zones	Research (seasonal)
16YN040	Western Hudson Bay Geoscience for Infrastructure	Research (seasonal)
16YN067	Synthesis of Glacial History and Dynamics in the Rae Geological Province	Research

The Kivalliq Inuit Association (KIA) noted specific concerns, and Indigenous and Northern Affairs Canada indicated lack of detail in the application on the potential cumulative effects of the project. Agnico Eagle provided a cumulative effects assessment within its response to comments, at the end of which the Proponent noted that it considered the effects to be not significant. The NIRB notes however, that the concerns of the designated Regional Inuit Organization have not specifically been addressed by the Proponent since Agnico Eagle's initial inquiry to the KIA regarding its intent to undertake the proposed project.

7. *Any other factor that the Board considers relevant to the assessment of the significance of impacts.*

It is noted that the Proponent provided correspondence to the Kivalliq Inuit Association prior to submitting an application to the NIRB, and through the assessment it is clear that the issues and concerns raised by the KIA during that initial inquiry have not been addressed by the Proponent during this process. Despite Agnico Eagle expressing interest in continuing its negotiation with the KIA, no specific commitments have been made by Agnico Eagle that would provide the NIRB with any confidence that the issues raised by the KIA in respect of this project proposal could be resolved in the future. As such, the KIA continues to oppose the project proposal, which would occur in large part on Inuit Owned Land, based on feedback and concerns from the community of Baker Lake regarding increasing development pressure on the area and concerns over increasing impacts to wildlife and fish in the area. The Board considers the concerns raised by the KIA to indicate that significant public concern

may exist regarding use of this new technology in the Nunavut Settlement Area that is not supported by proper research to identify the likely impacts of hovercraft use in this environment. The application was not supported by the expected assessment data or research that uses both scientific models and traditional knowledge to adequately identify potential impacts. Such research would be required to provide the foundation for a properly structured pilot study that would be necessary for the project proposal to truly be a pilot study, not solely an economic feasibility study such as that being currently proposed.

VIEWS OF THE BOARD

In considering the factors as set out above in the screening of the project proposal, the NIRB has identified a number of issues below and respectfully provide the following views regarding whether or not the proposed project has the potential to result in significant impacts.

Ecosystem, wildlife habitat and Inuit harvesting activities:

Issue 1: Potential adverse impacts to caribou and caribou habitats (Ahiak, Lorillard, Wager Bay, and Qamanirjuaq herds) from the testing of the hovercrafts, dust deposition and noise disturbances associated with the use of the hovercrafts to transport personnel and light cargo from the Meadowbank Gold Mine site on the Amaruq Exploration Access Road, on the approved winter roads and designated trails to drilling properties on the Amaruq property on a year round basis.

Board views: As discussed above in the assessment of factors, the potential for impacts is applicable to a 408 square kilometre (km²) exploration area that includes the approved exploration access road, winter roads, designated trails to drilling properties in addition to zones of influence surrounding areas of project activities and components. Although the pilot study is proposed to be limited to one (1) year, the impacts within that time period would be ongoing with operations. The proposed timing of the potential impacts is considered to be intermittent, but consistent during periods of operation, based on the proposal of both winter and summer operations over a one (1) year period of usage of the hovercrafts. Caribou data from the Government of Nunavut-Department of Environment identified that the proposed Pilot Study spatially and temporally overlaps the range of the Ahiak herd spring migration grounds, the Lorillard herd wintering grounds, the range of the Wager Bay caribou herds and is at the edge of the Qamanirjuaq caribou herd's range, which incorporated monitoring data (*previous comments on 11EN010 file*). Further, annual reports from as recently as 2015 (Agnico Eagle's "Amaruq Exploration Project", NIRB File No. 11EN010 and "Meadowbank Gold Mine Project," NIRB File No. 03MN107) identified the presence of caribou in the area during monitoring activities. The harvesting of caribou was identified as a valued traditional land use activity, and impacts to caribou and caribou habitats could impact the cultural identity of the area.

In addition, as previously discussed, the proposed activities may have the potential to contribute cumulatively to impacts on caribou and caribou habitats with other projects that have taken place and are taking place, and the project could induce additional exploration activities in the region.

The Proponent submitted a Screening Level Environmental Assessment that acknowledged that the Ahiak and Lorillard herds are considered to be the most likely to interact with the hovercrafts and the potential for operations leading to sensory disturbance (noise, movement, light, and smells) could change the amount of different quality habitats and alter caribou movement, migration, and behaviour. The Proponent's assessment discussed environmental design features and mitigation including speed reductions and/or work stop measures when caribou are migrating through the area. Additionally, the Proponent committed to adhering to the Keewatin Regional Land Use Plan caribou protection measures.

Board Recommendation: It is recommended that the Proponent further develop its Amaruq Wildlife Protection and Response plan in consultation with local communities and the Kivalliq Inuit Association to better identify impacts from the use of hovercrafts and provide appropriate mitigation to address outstanding concerns that currently remain unaddressed in the existing proposal regarding the Project Proposal's potential impacts to caribou and caribou habitats in the proposed project area and the lack of baseline information on wildlife. The NIRB further recommends that additional research be conducted to determine the potential effects of using hovercrafts on the tundra. The research should be conducted using scientific methods incorporating traditional knowledge, have a clear intent, design, and reporting of results in respect of predicted impacts due to noise and dust with a focus on impacts to caribou and their habitat. This research is required to provide parties with assurance on expected impacts should a future application be considered for use of hovercraft to support exploration and operations around Amaruq.

Issue 2: Potential adverse impacts to migratory birds, nesting birds, denning animals, other terrestrial wildlife and their respective habitats, from the testing of the hovercrafts, dust deposition and noise disturbances associated with the use of the hovercrafts to transport personnel and light cargo from the Meadowbank Gold Mine site on the Amaruq Exploration Access Road, on the approved winter roads and designated trails to drilling properties on the Amaruq property on a year round basis.

Board views: As discussed above in the assessment of factors, the potential for impacts is applicable to a 408 square kilometre (km²) exploration area that includes the approved exploration access road, winter roads, designated trails to drilling properties in addition to zones of influence surrounding areas of project activities and components which also include transportation to and from the Meadowbank site. The proposed timing of the potential impacts is considered to be intermittent, but consistent during periods of operation, based on the proposal of both winter and summer operations over a one (1) year period of hovercraft use. The primary effects of the proposed project on wildlife and migratory birds would result from the loss of habitat from noise disturbance and dust. Some bird-nesting habitat may be disrupted or lost on portages by the use of the hovercraft. In addition, dust deposition from operation activities may increase the footprint of the disturbed or avoided areas.

Residual impacts, and cumulative impacts, from the proposed project on birds (nesting and migratory), and denning animals, and their respective habitats, could in-turn impact traditional land use activities, Inuit harvesting, and the overall environmental integrity of the area.

The Proponent submitted a Screening Level Environmental Assessment that acknowledged the potential for habitat disturbance, destruction of bird nests, unintentional disturbance from the proposed project and the potential for operations leading to sensory disturbance (noise, movement, light, and smells). In its response to parties' comments, the Proponent noted that an indirect effect related to nesting along portages is likely and was predicted within the Screening Level Assessment; however, the Proponent noted that based on the available literature, it does not expect that nests would be destroyed by the operation of hovercrafts, should they be encountered. The Proponent further noted that the Amaruq Wildlife Protection and Response plan would be updated and implemented to include efforts to avoid potential adverse effects on migratory birds specific to hovercraft use and consistent with the Meadowbank Gold Project Terrestrial Ecosystem Management Plan.

Board Recommendation: It is recommended that the Proponent further develop its Amaruq Wildlife Protection and Response plan in consultation with local communities and the Kivalliq Inuit Association to address outstanding concerns that remain unaddressed in the project proposal regarding the Project's potential impacts on migratory birds, nesting birds, denning animals, other terrestrial wildlife and their respective habitats in the proposed project area and also provides a discussion of specific mitigation measures that may be required to mitigate such impacts. The NIRB further recommends that as noted in Issue 1 above, additional research be conducted to determine the potential effects of the usage of hovercrafts, associated noise and dust on migratory birds, nesting birds, denning animals, other terrestrial wildlife and their respective habitats as there is limited information and data related to the arctic environment and the impacts from hovercrafts.

Issue 3: Potential adverse impacts to the land, vegetation health, soil quality, surface water quality and quantity, and fish and fish habitat from noise, accidental spills and dust deposition.

Board views: The potential for adverse impacts from use of the hovercrafts in the Amaruq exploration area was proposed to substitute for other traffic already considered within the exploration; however, unlike the currently approved exploration vehicles, the hovercraft is not expected to remain limited to the road and winter route areas for which the impacts are more clearly understood. The Proponent has provided several operational plans to propose mitigation for the negative impacts and reduce risk of spills. Specific risks such as spills may be adequately addressed by the proposed plans; however as a result of lack of clarity on the predicted and actual impacts from the hovercraft use, it is difficult for the Board to have assurance that the mitigation proposed would sufficiently address the adverse impacts.

Board Recommendation: It is recommended that the Proponent supplement its existing management and mitigation plans with input generated from actual research, consultation with local communities and the Kivalliq Inuit Association to address concerns related to water and soil quality, fish and fish habitat.

Issue 4: Potential adverse impacts to public and traditional land use activities in the area due to use of the hovercrafts to transport personnel and light cargo from the Meadowbank Gold Mine site on the Amaruq Exploration Access Road, on the approved winter roads and designated trails to drilling properties on the Amaruq property on a year round basis.

Board Views: The project areas identified for the proposed hovercraft transportation routes along the Amaruq Exploration Access Road and the approved winter roads and designated trails have been noted as a travel corridor between Baker Lake and the Back River for traditional land use activities. Community members have previously identified the Amaruq area as having significant cultural importance which is important for undertaking traditional land use activities, and containing historical sites (see NIRB File Nos. 03MN107 Public Hearing Report and 11EN010).^{1,2} Due to the site's close proximity to special wildlife locations, it is possible that wildlife avoidance may temporarily change the distribution of wildlife species commonly harvested which may in turn may affect personal enjoyment of the land, and the social and cultural activities practiced in the region. Terms and conditions have previously been recommended to require the Proponent to plan operations to avoid disturbance to key wildlife, birds, and humans, to minimize negative impacts to traditional land use activities by ensuring ongoing consultation with the community and community organizations.

The Proponent has committed to updating its existing Amaruq wildlife management plan, which outlines measures to be taken for the protection of wildlife, soil, and water within the proposed area.

Board Recommendation: It is recommended that the Proponent conduct additional community consultation sessions to address issues related to the project's potential impacts on hunting areas and areas of traditional land use and for impacts that are identified, that community consultations include a discussion on the proposed use of new technology within Nunavut, of any mitigation measures that may be effective and would be considered acceptable to members of the community. Findings from the consultations sessions should be used to amend existing management plans in consultation with the Baker Lake Hunters and Trappers Organization and the Kivalliq Inuit Association.

Socio-economic effects on northerners:

Issue 5: Potential adverse impacts to historical, cultural, and archaeological sites from the usage of the hovercraft operations.

¹ Nunavut Impact Review Board Public Hearing Report Vault Pit Expansion Project Agnico Eagle Mines Ltd. NIRB File No. 03MN107, April 2016.

² Baker Lake HTO to NIRB Re Comments on AEM's Proposed Amaruq All-Season Road, September 15, 2015.

Board Views: The Proponent noted that the proposed hovercraft operations would occur on the Amaruq Exploration Access Road and approved winter roads, for which archaeological assessments have been carried out. Archaeological concerns on these roads, and on portages where roads intersect with waterbodies, were mitigated by avoidance or systemic data recovery as part of the assessment and approval process. The Proponent noted that no new ground disturbance is expected as a result of the Pilot Study.

Board Recommendation: Due to the extensive proposed use of the hovercraft, the Board recommends that Agnico Eagle consider undertaking research to understand the impacts to archaeological resources and potential to disturb the surface features, and discuss the results with the Kivalliq Inuit Association and residents of the Hamlet of Baker Lake to address any potential public concern remaining.

Significant public concern:

Issue 6: Significant public concern was expressed during the public commenting period for this file as a result of potential cumulative effects and disruption to Inuit Harvesting rights.

Board Views: As previously noted, significant public concern was expressed during the public commenting period for this file from the Kivalliq Inuit Association, Environment and Climate Change Canada and Indigenous and Northern Affairs Canada (see Public Comments and Concerns).

Public concerns identified through the commenting period, which took place from February 14 to March 7, 2017, related to:

- Lack of baseline information on wildlife, marine mammals, birds and abundance, fish and their habitats, heritage resources, traditional land uses, Inuit harvesting activities, community involvement and consultation and local development.
- Novel technology in Nunavut and on Inuit Owned Land.
- Destruction of nests on passages/portages; and disturbance and/or stress on broods and molting waterfowl using large waterbodies.
- Potential for inadvertent harming, killing, disturbance or destruction of migratory birds, nests and eggs with long-term consequences for migratory bird populations.
- Cumulative eco-systemic and socio-economic impacts as the project site is already in an area under intense activity pressure.

Board Recommendation: Agnico Eagle provided a preliminary response to concerns raised by parties presenting its analysis on the potential for cumulative effects, which resulted in a determination that the impacts would be not significant. Further, Agnico Eagle noted that due to the short duration of the proposed study, it had determined that the incremental impacts of the study would result in an overall low-level of change relative to current activities. The Proponent's assertion that the impacts will not be significant due to the short term nature of the study does not provide the Board with sufficient assurance on the types and magnitude of impacts that could be created by use of the hovercrafts at site.

Technological innovations for which the effects are unknown:

Issue 7: Potential adverse impacts to the environment due to the use of novel technologies not currently used in Nunavut.

Board Views: The NIRB notes that the use of hovercraft technology is a novel technology that has not been previously used or tested in Nunavut, and no current research is available on the potential impacts to the environment including terrestrial wildlife, terrestrial environment, migratory birds and fish and fish habitat. The Proponent noted that hovercraft technology has been implemented around the world in resource exploration, search and rescue, and leisure activities for several decades and that a number of investigations into the environmental impacts of hovercraft operation have been undertaken. As an example, the Proponent provided information on an investigation that was completed in Louisiana in 1989. The investigation is outdated, does not provide stress indicators for the wildlife that were run over by the hovercraft during the study and does not consider arctic conditions and small arctic wildlife or arctic birds. Further research would be required prior to determining whether hovercraft technology would be a viable option as an alternative to land transportation in Nunavut.

Board Recommendation: The NIRB recommends that research should be conducted to determine the potential effects of the usage of hovercrafts, associated noise and dust on terrestrial wildlife, migratory and non-migratory birds and fish and fish habitat as there is limited information and data related to the arctic environment and the impacts from hovercrafts.

ISSUE OF ADDITIONAL CONCERNS TO NIRB

The NIRB also notes the following additional concerns related to the project proposal:

Lack of information within project proposal

1. The intent of the project proposal as submitted by Agnico Eagle is a one-year pilot study to validate its operational performance and benefits relative to other modes of transportation, to demonstrate its viability for search and rescue activities in the area around Meadowbank and to determine the technical and economical feasibility of expanding its application to future regional exploration activities. The NIRB notes that no information was provided on any proposed research that would be conducted during the usage of the hovercraft to determine if this technology would have effects on the environment, terrestrial wildlife, migratory and non-migratory birds and fish and fish habitat. As noted previously, the NIRB recommends that research should be conducted to determine the potential effects of the usage of hovercrafts in addition to the feasibility study that would be completed. A research proposal should be submitted for parties' review and assessment prior to the project proceeding to ensure the environment and wildlife would be protected during the usage of the hovercraft.
2. The information provided in the project proposal and the Screening Level Environmental Assessment lacked evidence from the Proponent on the type of noise levels that would be created by the hovercrafts. The Proponent noted that the hovercraft activities would generate air and noise impacts but that the impacts would be less compared to other types of traffic such as helicopters and vehicle traffic on the access road. No evidence or

reference to previous research could be found within the project proposal to validate this claim.

3. There was also a lack of information on the potential for reducing some of the helicopter traffic and vehicle traffic by substituting the use of the hovercraft. No information was provided on the numbers or when this would happen.

Impacts to waterbodies

4. The proposal noted that the impacts to lakes would be minimal as hovercrafts create considerably less noise than conventional propeller vessels such as boats. Although this may be true it should be remembered that propeller vessels have not historically been used in the proposed areas and thus the aquatic wildlife have not been exposed to any of these types of noise previously. Further, the hovercraft would be travelling over several waterbodies during one (1) trip increasing the impacts to a larger area of the aquatic environment instead of having one boat that would be limited to/used within one (1) lake at a time.

SUMMARY OF RECOMMENDATIONS

As illustrated above, the NIRB is of the opinion that the potential for negative impacts to the identified ecosystemic and socio-economic components supports the **recommendation that the proposed project be modified or abandoned**. If the Proponent should choose to modify the proposed project, the following recommendations should be considered prior to subsequent resubmission of a modified project proposal:

Summary of Recommendations:

- It is recommended that the Proponent conduct an approved research study in consultation with interested parties to provide adequate information regarding the potential effects of the usage of hovercrafts, to assist with proposed project planning and the development of updated components of management and mitigation plans that would specifically address the potential impacts associated with the proposed uses of hovercraft.
- It is recommended that the Proponent conduct community consultation sessions with concerned parties to address the ecosystemic and socio-economic concerns identified above that have remained largely unaddressed by the Proponent, despite being given the opportunity to respond more fully once the comment period closed. When communicating the results of consultation sessions in subsequent submissions, the Proponent is advised to directly state which parties were consulted, what issues were discussed, how issues were addressed, and whether the issues were resolved, or if they remained outstanding. Amendments to the project proposal, including amendments to mitigation and management plans, should be clearly illustrated in subsequent submissions to highlight where community consultation and Inuit Qaujimajatuqangit were considered and incorporated.
- It is recommended that the Proponent work with the Kivalliq Inuit Association to resolve concerns expressed regarding the novel use of the technology and the potential for impacts to harvesting rights.
- It is recommended that the Proponent develop its Amaruq Wildlife Protection and Response plan in consultation with concerned parties and agencies to reflect the potential

for impacts specifically associated with hovercraft use and to ensure that all best practice mitigation measures are incorporated into subsequent submissions for the protection of caribou, fish, birds, and other wildlife, and their respective habitats.

NIRB DETERMINATION

After completing a review of all the information received and taking into account the information the Proponent and parties have supplied for the Board's consideration, it is the determination of the NIRB that **the project proposal should be modified or abandoned** in accordance with Article 12, **Section 12.4.4(d)** of the Nunavut Agreement and **section 91** of the NuPPAA.

In making this recommendation, the NIRB was guided by the objectives and considerations as required under Article 12, Part 4 and pursuant to section 91 of the NuPPAA and drew the following conclusions:

1. The impacts of the use of the hovercraft technology in the Nunavut Settlement Area are unclear, and as a result of the lack of certainty of impacts, the Board is unable to confirm that either the project is unlikely to cause significant adverse ecosystemic or socio-economic impacts or that for the potential for significant impacts can be adequately mitigated.
2. The project has the potential to result in unacceptable impacts on wildlife habitat or Inuit harvest activities.
3. The project will cause significant public concern.
4. As much as the criteria above may be a sufficient justification to refer the project to Review under Nunavut Agreement Article 12, Part 5, or NuPPAA subsection 89(1), due to the lack of studies and baseline to inform such a Review, the cost and efforts to undertake a more in-depth assessment would not address these uncertainties. Therefore, it is recommended that the modification of the current proposal to more clearly be designed to provide research results to assess the use of hovercraft technology in the North, with a clear study design, deliverables, and understanding of how the research would be an unbiased representation of scientific research incorporating traditional knowledge to further inform any potential assessments for implementation of the technology at the site.

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Agnico Eagle Mines Ltd.'s "Pilot study – Hovercraft Implementation in Nunavut". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated April 18, 2017 at Whale Cove, NU.



Elizabeth Copland, Chairperson

Attachments: Appendix A: Previously-Screened Project Proposals

APPENDIX A: PREVIOUSLY-SCREENED PROJECT PROPOSALS

The original project proposal (NIRB File No. 11EN010), was received by the NIRB from Agnico-Eagle Mines Ltd. (now Agnico Eagle Mines Ltd.; Agnico Eagle) for a Class A Land Use Permit (LUP) with Indian and Northern Affairs Canada (INAC; now Indigenous and Northern Affairs Canada) for the “Pipe Dream Winter Road and Mining Exploration” project proposal. On March 10, 2011 the NIRB received a positive conformity determination (Keewatin Regional Land Use Plan) from the Nunavut Planning Commission (NPC) for this file. Finally, on March 15, 2011 INAC referred Agnico Eagle’s “Pipe Dream Winter Road and Mining Exploration” project proposal to the NIRB for screening. The project proposal was screened by the Board in accordance with Part 4, Article 12 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada* (Nunavut Agreement). On April 21, 2011 the NIRB issued a Nunavut Agreement 12.4.4(a) screening decision to the Minister of Indian and Northern Affairs which indicated that the proposed project could proceed subject to the NIRB’s recommended project-specific terms and conditions.

Agnico Eagle’s original “Pipe Dream Winter Road and Mining Exploration” project was located within the Kivalliq region, on two (2) properties: the Meadowbank Exploration Project area, approximately 90 kilometers (km) north of the Hamlet of Baker Lake and the Greyhills Exploration Project area, approximately 43 km northeast of the Hamlet of Baker Lake. The Proponent indicated that it intended to continue conducting exploration activities, and construct and operate a winter road network near the Meadowbank project area.

These proposed activities were located near the Meadowbank Exploration Camp, which was included within the scope of the NIRB’s Review of the Meadowbank Gold Mine project (File No. 03MN107) that had been permitted to proceed pursuant to the NIRB’s Project Certificate No. 004 issued December 30, 2006. Following an evaluation of the project scope, the NIRB determined that the “Pipe Dream Winter Road and Mining Exploration” project activities were not included within the scope of the Board’s previous Review of the Meadowbank Gold Mine Project and as such, these activities were treated as a new project subject to screening in accordance with Article 12 of the Nunavut Agreement.

According to the previously screened project proposal, the scope of the project included the following undertakings, works or activities:

- Construction and operation of winter road network, approximately 26.5 km in length:
 - Originating at the Meadowbank Exploration Camp at km 100 of the Meadowbank All Weather Private Access Road,
 - Maximize passage over frozen lakes,
 - Preparation include removal of snow from lake ice without flooding;
- Approximately 13,000 metres (m) total on land and on ice diamond (exploration) drilling on Inuit Owned Land and Crown land at the Meadowbank and Greyhills Exploration Projects:
 - Approximately 78 drilling sites located within 19 different areas (areas to be connected via proposed winter road);
- Geological mapping, prospecting, some trenching, geophysical surveying;
- Access via winter road, supported by helicopter;

- Project personnel based out of the Meadowbank Exploration Camp (NIRB File No. 03MN107); and,
- Transportation of fuel and chemical materials on an as-needed basis to support drilling activities.

Additional authorization and extension requests associated with the “Amaruq Exploration” project previously known as “Pipe Dream Winter Road and Mining Exploration” project have also been reviewed by the NIRB following screening of the original project proposal (File No. 11EN010). In each instance where the NIRB received applications up to and including June 2014, the NIRB confirmed that the application was exempt from the requirement for further screening pursuant to Section 12.4.3 of the Nunavut Agreement and that the activities therein remained subject to the terms and conditions recommended in the original April 21, 2011 Screening Decision Report. On February 10, 2015, after receiving an application for additional activities at site, the NIRB issued additional terms and conditions associated with the “Amaruq Winter Access” project. On November 4, 2015 after receiving an application for additional activities at site, the NIRB issued additional terms and conditions associated with the “Amaruq Exploration Access Road” project. The following is a summary of the previously screened project activities:

The scope of the activities and components associated with the previous August 10, 2011 Nunavut Water Board (NWB) Type “B” Water Licence (No. 2BE-MEA0813) amendment application included:

- Conducting drilling activities within the 30 m high water mark of proximal water bodies; and
- Disposal of all drill waste a minimum of 30 m from the ordinary water mark of proximal water bodies.

The Proponent’s March 22, 2012 application to amend its AANDC (Aboriginal Affairs and Northern Development Canada; now renamed INAC) Land Use Permit (No. N2011C0010) included a request to conduct exploration activities on additional Crown land from April 2012 to August 2014 and included the following components:

- Approximately 30 drill sites per year for a total of 60 sites;
- Drilling to be conducted on land and on ice, with sites located approximately 15 km northwest and up to 20 km northeast of the previously permitted exploration sites (NIRB File No. 11EN010).

The Proponent’s May 29, 2012 application for a new KIA Land Use Licence (No. KVL312C03) proposed additional exploration activities associated with its “IVR property” to take place on Inuit Owned Lands, approximately 50 kilometres northwest of the Meadowbank Mine site. The activities and components were determined to be related to the NIRB’s 11EN010 screening, and included:

- Prospecting, geophysical work, and soil sampling;
- Trenching to enhance surface rock exposure for geological mapping and channel sampling (4 to 8 trenches);
- On-land and on-ice drilling of approximately 30 or more holes per year (dependent upon results obtained);

- Short term storage of fuel and chemicals at drill sites, including diesel, gasoline and propane;
- Transportation of personnel, fuel and equipment to exploration sites via helicopter;
- Use of water for drilling activities as permitted under the amended Type “B” Water Licence; and,
- Backhaul of any waste produced to the Meadowbank mine site for disposal (NIRB File No. 03MN107); and
- Use of Meadowbank Exploration Camp (NIRB File No. 03MN107).

The activities and components associated with the previous January 21, 2013 Type “B” Water licence (*associated* NIRB File No. EX160; NWB File No. 2BE-MEA0813) amendment included a request to add two (2) exploration areas to the licence: “IVR Exploration” and “south Meadowbank area”.

The Proponent requested a two (2) year extension to its AANDC Land Use Permit (No. N2011C0010) in the May 23, 2013 extension application, to continue land use operations.

The Proponent’s March 27, 2014 application for an amendment to its project and a new AANDC Land Use Permit (No. N2013F0030) included the following additional undertakings, works, or activities:

- Development and operation of a winter access road, approximately 53 km in length from the Meadowbank mine site to the IVR Exploration site;
 - Winter road mostly located on lakes with 9 km located on land;
 - No use of water for preparation of winter road;
- Use of winter access road to transport material, equipment and fuel for exploration activities;
- Archaeological investigation to be conducted in the summer of 2014.

In addition, Agnico Eagle’s June 27, 2014 Type “B” Water Licence (*associated* NIRB File No. EX211; NWB File No. 2BE-MEA1318) amendment application included the establishment of a 50 person temporary exploration camp consisting of 12 tents.

The Proponent’s November 18, 2014 applications for an amendment to its project and a Land Use Licence (No. KVCL314C01) included the following additional undertakings, works, or activities:

- Amendments under Agnico Eagle’s Land Use Permit (No. N2013F0030) with AANDC included:
 - Development and operation of an alternative winter access road, approximately 79 kilometres in length and 5 metres (m) wide, from the Meadowbank mine site to the Amaruq (IVR) exploration area to transport materials, equipment and fuel for exploration activities;
 - Winter road mostly located on lakes with 7 km located on land with a total area of 3.5 hectares;
 - Winter access road to be used from February to May with approximately 4 trips per day;

- No use of water for preparation of winter road;
 - Archaeological investigation of the proposed winter access route to be completed in the summer of 2015.
- Amendments under Agnico Eagle's NWB Water Licence (No. 2BE-MEA1318) included:
 - Potential installation of an airstrip approximately 15 m wide and 500 m long at the south side of the proposed exploration camp using gravel from an esker near proposed location;
 - Potential transportation of materials, drills and personnel between the Meadowbank and Amaruq sites via airplane;
 - Installation of accommodations trailers for up to 60 personnel;
 - Storage of fuel (diesel, gasoline, aviation fuel, and propane) and hazardous materials and chemicals (oil, glycol, and grease) in double-walled tanks and/or drums stored in lined berms;
 - Installation of a "Bionest" water treatment system to treat sewage and grey water before discharge into the environment;
 - Accumulated sludge (solid materials) to be disposed of in a pit near the site biennially (every two (2) years) and treated with lime and covered with a minimum of 30 centimetres (cm) of compacted soil;
 - Potential alternative disposal of grey water in a sump to be released to the environment following treatment;
 - Incineration of combustible solid waste;
 - Non-combustible solid waste including scrap metal, hazardous waste, contaminated soil and snow to be transported to an approved facility;
 - Empty barrels to be reused or transported to a recycling facility via barge;
 - Total water consumption of 299 cubic metres (m³/day) for all project related activities (including camp and drill activities).
 - Additional water consumption of 30 cubic m³/day to be used for drilling activities for a total 280 m³/day; and
 - Additional water consumption for domestic use of 10 m³/day to be used for a total of 19 m³/day.
- The new Commercial Lease with the KIA (No. KVCL314C01) included the following additional undertakings, works, or activities:
 - Camp construction, including installation of accommodations trailers, construction of a garage and gravel pad, and installation of a Bionest waste water treatment system;
 - Camp to be re-opened February 2015;
 - Use and construction of two (2) gravel pits;
 - Construction of gravel roads to support exploration, approximately 5 m wide and 0.40 m thick, within the KIA commercial lease area;
 - Drilling activities to commence March 2015, with up to 6 drills anticipated to be in operation for the 2015 season;
 - Storage capacity of 400,000 Litres (L) with tanks to be refilled during the winter season;
 - Installation of 9 - 55,000 Litre (L) and 2 – 100,000 L double-walled tanks;

- Continuation of archaeological investigations in the Amaruq region;
- Additional water use for drilling activities as permitted under the amended NWB Type “B” water licence.

The Proponent’s July 16, 2015 applications for amendments and new permits to its project included new AANDC LUP (No N2015F0026), new KIA Land Use Licence (Nos. KVRW1501 & KVCA15Q02) and new NWB Type “B” water licence (NWB File No.: 8BC-AEA1525) and included the following additional undertakings, works, or activities:

- Development of a private single lane, all-season exploration access road linking the Meadowbank mine site to the Amaruq exploration project site to facilitate year round exploration operations including transport of fuel, equipment and personnel to site and include the items listed below. The road will traverse approximately 40 km on Crown Land with the remaining 22.5 km on Inuit Owned Land (IOL).
 - All-season access road to be 62.5 kilometres (km) long and 6.5 metres wide;
 - Installation of three (3) bridges;
 - Installation of eight (8) large open bottomed arch culverts;
 - Installation of twenty-eight (28) corrugated round culverts;
 - Development of six (6) spur roads to access six (6) of the seven (7) eskers to be used for borrow pits;
 - Development of pullouts approximately every 400 ± 50 m to accommodate two (2) road traffic;
- Use of non-potentially acid generating (NPAG) waste rock from the Vault Pit as quarry material to construct first 17 km of road;
- Use of seven (7) eskers for borrow material to build remainder of road;
- Transportation of materials, equipment and fuel for construction activities;
- Storage and use of fuel in double-walled tanks along the road to distribute fuel to equipment;
- Construction crew to be accommodated at existing and approved Agnico Eagle facilities;
- Additional archaeological studies to be conducted prior to construction of road; and
- Winter road not expected to continue to be used once the single lane access road has been developed.

The Proponent’s May 12, 2016 project proposal included the following additional undertakings, works, or activities:

- Construction of the new infrastructure in late 2016 with underground work on the ramp to continue through 2017, and operations then planned to occur year round from 2018 to 2020;
- Develop a portal and access ramp 5.2 m wide x 5.2 m high, up to 5,200 m in length and 340 m in depth;
- Develop a rock quarry with surface area up to 27,307 square metres (m^2) for extraction of 150,000 to 350,000 tonnes of rock material for construction purposes;
 - Use of quarry material for construction of a services pad (1.5 to 2.0 m depth and surface area up to 31,716 m^2) and an operations pad (1.5 to 2.0 m depth and surface area up to 42,506 m^2) located near the portal;
- Develop a waste rock storage pad to store up to 319,800 m^3 (612,400 tonnes) waste rock adjacent to the portal;

- Use of waste rock material for construction of the underground development and/or elsewhere on the exploration site;
- Develop a storm water storage pond (AP-5);
- Develop a ramp laydown area with offices, a warehouse, and a garage constructed next to the portal;
- Advanced mineral exploration including underground drilling and ongoing surface drilling;
- Collect 9,000 to 15,000 tonnes bulk ore sample(s) from underground to explore deep sections of the gold ore body at Amaruq;
- Storage and use of explosives with two (2) cap and four (4) explosive magazines to be established;
- Use of fuel for equipment;
- Use of water for development of ramp;
- Use of calcium chloride for underground dust control and drilling with brine collected in small sumps for the brine re-circulation system for reuse;
- Amaruq modular camp facilities adapted to accommodate up to 200 personnel from 140 with the addition of two (2) new wings to the camp;
- Increase in sewage and grey water treatment capacity by adding one (1) Bionest with capacity to treat 13,500 litres/day and a second Bionest with a capacity to treat 6,000 litres/day) at the Amaruq camp;
- Increase on site fuel storage by addition of four (4) – 50,000 litre double-walled bulk fuel storage tanks at the Amaruq property; and
- Use of existing infrastructure including airstrip at the Amaruq property.

The Proponent's December 22, 2016 project proposal included the following additional undertakings, works, or activities:

- Development of six (6) additional hard rock quarry/borrow pit sites;
 - Each site selected for non-potentially acid generating (NPAG)/metal-leaching characteristics;
 - Additional large aggregate material would provide a base to ensure reduced thaw susceptibility and washout in sections of the road;
 - Sites located immediately adjacent to the approved exploration access road;
 - Extraction of up to 1,400,630 cubic metres (m³) for construction purposes;
- Use of additional heavy equipment;
- Use of fuel for equipment;
- Use of explosives for blasting of quarry sites;
- Generation of non-combustible wastes;
- Increase in workforce (up to ten (10) contract workers); and
- Continued use of existing camps.