



## SCREENING DECISION REPORT NIRB FILE No.: 11EN010

NPC File No.: 148261  
KIA File No.: KVCL314C01  
NWB File No.: 2BE-MEA1318

**October 5, 2016**

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of Agnico Eagle Mines Ltd. "Amaruq Exploration – Portal/Ramp, Quarry and Advanced Underground Exploration and Bulk Sample" is not required pursuant to paragraph 92(1)(a) of the *Nunavut Planning and Project Assessment Act* (NuPPAA).

Subject to the Proponent's compliance with the terms and conditions as set out in below, the NIRB is of the view that the project proposal is not likely to cause significant public concerns, and it is unlikely to result in significant adverse environmental and social impacts. The NIRB therefore recommends that the responsible Minister(s) accept this Screening Decision Report.

### OUTLINE OF SCREENING DECISION REPORT

- 1) REGULATORY FRAMEWORK
- 2) PROJECT REFERRAL
- 3) PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS
- 4) FACTORS FOR DETERMINING SIGNIFICANCE OF IMPACTS
- 5) RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS
- 6) MONITORING AND REPORTING REQUIREMENTS
- 7) OTHER NIRB CONCERNS AND RECOMMENDATIONS
- 8) REGULATORY REQUIREMENTS
- 9) CONCLUSION

### REGULATORY FRAMEWORK

The primary objectives of the NIRB are set out in Section 12.2.5 of the Nunavut Land Claims Agreement (NLCA) 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).

Where the NIRB determines that a project may be carried out without a review, the NIRB has the discretion to recommend specific terms and conditions to be attached to any approval of the project proposal. Specifically, paragraph 92(2)(a) of NuPPAA provides:

*“92. (2) In its report, the Board may also*  
*(a) recommend specific terms and conditions to apply in respect of a project that it determines may be carried out without a review.”*

#### PROJECT REFERRAL

On May 12, 2016 the Nunavut Impact Review Board (NIRB or Board) received a referral to screen Agnico Eagle Mines Ltd.’s (Agnico Eagle) “Amaruq Exploration – Portal/Ramp, Quarry and Advanced Underground Exploration and Bulk Sample” project proposal from the Nunavut Planning Commission (NPC or Commission) with an accompanying positive conformity determination with the Keewatin Regional Land Use Plan.

Pursuant to section 86 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 the previous file number. A summary of the previously screened project activities is found in **Appendix A**.

## PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

### 1. Project Description

The proposed “Amaruq Exploration – Portal/Ramp, Quarry and Advanced Underground Exploration and Bulk Sample” project is located within the Kivalliq region, approximately 150 kilometres (km) north of the Hamlet of Baker Lake and approximately 50 km northwest of the Meadowbank Gold Mine Project (NIRB File No. 03MN107). The scope of activities previously approved for this ongoing exploration program (NIRB File No. 11EN010) has been included within **Appendix A**.

Within the current proposal, the Proponent, Agnico Eagle Mines Limited (Agnico Eagle) is proposing to explore deep sections of the gold ore body at the Amaruq property by constructing a portal and a ramp similar to what has been constructed previously during the bulk sample stage at the Meliadine project located outside of Rankin Inlet. These proposed activities would require an amendment to the exploration activity previously approved for the preceding Amaruq Exploration program through Agnico Eagle’s Type “B” water licence (2BE-MEA1318) with the Nunavut Water Board (NWB). Agnico Eagle would begin 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.

According to the project proposal, the scope of the project includes the following undertakings, works or activities:

- 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 m<sup>2</sup> 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<sup>2</sup>) and an operations pad (1.5 to 2.0 m depth and surface area up to 42,506 m<sup>2</sup>) located near the portal;
- Develop a waste rock storage pad to store up to 319,800 m<sup>3</sup> (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.

## 2. Scoping

The NIRB has identified no additional works or activities in relation to the project proposal.

## 3. Key Stages of the Screening Process

The following key stages were completed:

| Date              | Stage   |
|-------------------|---|
| May 12, 2016      | Receipt of project proposal from the NPC                  |
| May 19, 2016      | Information request(s)                                    |
| June 1, 2016      | Proponent responded to information request(s)             |
| June 1, 2016      | Scoping pursuant to subsection 86(1) of the NuPPAA        |
| June 9, 2016      | Public engagement and comment request                     |
| July 13, 2016     | Ministerial extension requested                           |
| July 15, 2016     | Receipt of public comments                                |
| July 25, 2016     | Opportunity to address comments/concerns raised by public |
| September 8, 2016 | 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 June 9, 2016 to community organizations in the Kivalliq region, specifically Arviat, Whale Cove, Rankin Inlet, Chesterfield Inlet, Coral Harbour, Repulse Bay, and Baker Lake, as well as to relevant federal and territorial government agencies, Inuit organizations and interested parties. The NIRB requested that interested parties review the proposal and provide the Board with any comments or concerns by June 30, 2016 (later extended to July 15, 2016) 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 is likely to cause significant adverse impacts on wildlife habitat or Inuit harvesting activities; if so, why;
- Whether the project 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):**

The following is a summary of the issues/concerns raised by KIA:

- Requested the following information:
  - The amount of freshwater required for dust suppression related to the increased in mine vehicle traffic related to the development and use of the portal,
  - The extensions of the all-weather road to the northern and southern ends of the airstrip,
  - Volumes for the rock quarry, services pad and operations pad,
  - Tonnage and rock volumes to be removed, and
  - Testing of the overburden material that would be used in pad construction.
- Recommended a larger geochemical dataset be collected for potentially acid generating (PAG) and non-potential acid generating (NPAG) rock and the analysis should be expanded to include several elements (e.g., arsenic) to better determine the extent and significance of leachable metals within all rock types. This dataset could then be used to determine the extent and significance of leachable metals within all rock types potentially located in the proposed underground workings.
- Requested a full water balance for the primary water management structure for the proposed exploration activities.
- Recommended that additional baseline water and sediment quality should be collected to characterize the freshwater environment around the proposed exploration area to determine whether exploration activities have impacted the water quality within the project area.
- Noted a lack of information on the groundwater and the potential groundwater inflows into the underground workings as follows:
  - The depth of the underground workings area could encounter the Whale Tail Lake talik,
  - Shape of the talik under Whale Tail Lake,
  - Location of any vent raise,
  - Projected water flow rates;
  - Details on how much of the Meadowbank data which is used as the template for the Amaruq Gold Project, is real and how much is a projection to the depths of the proposed Amaruq underground workings in determining the total dissolved solids projection;
  - Potential saline content of any groundwater encountered; and
  - Depth of Whale Tail Lake versus the depth of the underground workings.

### **Government of Nunavut (GN):**

- Noted concern that the proposal could increase the amount of dust generated at the project site with the potential to damage the surrounding vegetation through mechanical damage and loss of sunlight through smothering. Additionally, the GN noted concerns that noise pollution produced by proposed activities could have negative impacts on wildlife including caribou, birds, and carnivores.
- The GN recommended that the Proponent:
  - Conduct appropriate dust suppression and monitoring utilized to assess if additional mitigation measures would be needed, and
  - Provide an updated Wildlife Mitigation and Monitoring Plan with details about restrictions on blasting and drilling activities including cessation of activities while wildlife are in the vicinity.

### **Environment and Climate Change Canada (ECCC):**

- Noted that the proposal has yet to trigger the *Metal Mining Effluent Regulations* (MMER) and as such, the Project is subject to the prohibitions of the *Fisheries Act* section 36(6). Therefore, it is not appropriate to use the MMER limits or its equivalent at this time as the compliance criteria. Further, ECCC stated the Project is subject to the prohibitions of the *Fisheries Act* section 36(3).
- Any rock or construction material that shows potential for metal leaching or produce acid rock drainage should not be used for construction. Additionally, ECCC recommended Proponent avoid using any material that has potential to leach metals or produce Acid Rock Drainage (ARD). Moreover, rock closer to the deposit and used in the development of the ramp should be not only analysed for arsenic, but include other metals of concern.
- Recommended that the Proponent ensure all rock materials used for construction are characterized to confirm that they are NPAG, and that the bulk greywacke rock unit analysed for ARD potential be managed as PAG or uncertain because of the higher number of samples that are designated as PAG.

### **Indigenous and Northern Affairs Canada (INAC):**

- The project would likely result in increased vehicular traffic on the road leading to Meadowbank from Baker Lake, as well as the road between Amaruq and Meadowbank.
- Recommended the Proponent continues to meet its commitments to mitigate and monitor dust levels and effects, and considers the concerns raised by community members while developing its plan.
- Could not comment on the likelihood of the proposed activities to arouse significant public concern as it is unclear from the submitted record of public consultation to what extent the meetings listed covered the scope of works for this proposal.
- Insufficient detail in the application material provided and the potential effects of the project could not be fully assessed until more information is provided on the following:
  - Several water management gaps were identified with no details provided that demonstrated that the Proponent will be adequately prepared to control water, and if necessary, treat it to meet discharge guidelines.
  - More information regarding waste rock and quarry management is required.
  - No plan was provided to manage PAG rock or rock with potential metal leaching (e.g., quarry and pads).

- Listing of management plans that would be applied when carrying out the proposed activities.
- Follow up is required on the following items and full discussion was provided by INAC in its submission:
  - Clarification of management plans and potential updates required;
  - Assessment of cumulative effects;
  - Geotechnical information related to overburden use in pad construction was not provided; and
  - Recommendations for closure planning.

## **5. Comments and Concerns with respect to Inuit Qaujimaningit**

No concerns or comments were received with respect to Inuit Qaujimaningit in relation to the proposed project.

## **6. Proponent's Response to Public Comments and Concerns**

The following is a summary of the Proponent's response to concerns as received on September 8, 2016:

- Agnico Eagle acknowledged the concerns expressed and stated it believed that this type of project has no significant adverse environmental impacts. Further Agnico Eagle outlined that given the scale of the project, impacts would be predictable, and it could mitigate them by keeping the site footprint small, utilize current infrastructure at Amaruq, apply best known technologies, as well as use best management practices and other proven technology.
- Agnico Eagle stated that recommendations or comments related to water management and waste rock acid rock drainage/metal leaching (ARD-ML) would be addressed during the NWB's Type "B" water licence amendment process.
- Agnico Eagle reiterated that the proposed activities in the amendment were within the current footprint of the KIA exploration lease.
- Agnico Eagle did not note significant concerns regarding the future advanced exploration activities during consultation meetings.
- Agnico Eagle outlined its water management strategy for the proposed amendment outlining sources of water withdrawal throughout the life of the amendment. Agnico Eagle also provided a table describing the predicted impacts to the environment and the mitigation it was proposing to use.
- Agnico Eagle reiterated its adherence to the effluent quality limit as described in its Type "B" water licence.
- Agnico Eagle has collected additional baseline data for water and sediment quality in surrounding lakes and this was included in its Whale Tail Pit project proposal (NIRB File No. 16MN056).
- Agnico Eagle predicted that the underground workings would intercept the talik at approximately 250 metres (m) below the surface and noted that the underground workings would be about 210 m below the bottom of Whale Tail Lake.
- Agnico Eagle noted it had included projected underground flow rates in its application received by the NIRB and that it had installed three (3) groundwater wells in the areas most likely to encounter the talik zone between 180 m and 255 m. Due to the low

permeability of the rock formation in the talik zone inflows were very low and not representative of the natural groundwater quality or froze. Therefore, in 2015 hydrogeological data was collected to provide estimates of inflows and total dissolved solids in support of the ramp development. Further, this data was used to predict the potential saline content of the ground water which was modeled as total dissolved solids.

- Agnico Eagle agrees to expand the geochemical data set of kinetic and static testing to better determine the extent and significance of leachable metals within representative rock types and noted that the ramp was designed to be within geotechnical stable, NPAG, non-metal leaching materials. Additionally, Agnico Eagle noted that the samples collected meet standard statistical approach for selected analysis.

#### FACTORS FOR DETERMINING SIGNIFICANCE OF IMPACTS

In determining whether a review of the project is required, the Board considered whether the project proposal had a 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 NuPPAA. The Board took particular attention to take into account traditional knowledge and Inuit Qaujimaningit 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 (km<sup>2</sup>) 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 3 km<sup>2</sup>, plus the footprint of the Meadowbank to Amaruq access road. The additional project components associated with the "Amaruq Exploration – Portal/Ramp, Quarry and Advanced Underground Exploration and Bulk Sample" project would be conducted above and below ground, and located in proximity to the existing Amaruq Exploration camp and development area. Therefore, the size of the geographic area likely to be affected by impacts from the bulk sample, transportation of personnel and equipment, and quarrying would be within the 408 km<sup>2</sup> of the mineral leases, and concentrated around the 3 km<sup>2</sup> Amaruq Exploration camp plus the access road. The proposed activities would also take place within the habitats of many local far-ranging wildlife species, such as Lorillard, Wager Bay, and Qamanirjuaq caribou herds; muskox; wolves; and migratory birds.

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 noted that important wildlife occur within the spatial and temporal boundaries of the proposed project



within the ranges of the 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. The Amaruq site has been progressively explored since 2008 and the project components of the bulk sample are located within the previously explored areas. Should the project be approved to proceed, the Proponent is required to contact the Government of Nunavut - Department of Culture and Heritage, follow applicable legislation, and conduct the appropriate archaeological studies with certified personnel.

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

The proposed project would occur approximately 150 km north of the Hamlet of Baker Lake, the nearest community, and approximately 50 km northwest of the Meadowbank Mine. As a result of the project being located within the habitats of several far ranging species identified as important to the community (i.e., caribou and other terrestrial wildlife, fish, and birds), the animal populations in proximity to the proposed project activities could be disturbed, displaced, or attracted to the site by the operations of a portal/ramp. 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 is not in close proximity to the community of Baker Lake (150 km southeast), population 1,872, 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 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 “Amaruq Exploration – Portal/Ramp, Quarry and Advanced Underground Exploration and Bulk Sample” project is a proposed mineral exploration project, the nature of potential impacts is considered to be well-known, with potential for infrequent, localized impacts to

the biophysical environment that are temporary in nature, reversible and mitigable with due care.

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.*

There are three (3) mineral developments or exploration projects which are proposed or currently located within 100 kilometres of the proposed “Amaruq Exploration – Portal/Ramp, Quarry and Advanced Underground Exploration and Bulk Sample” project. First, Agnico Eagle’s proposed “Whale Tail Pit” gold mining operation, (NIRB File No. 16MN056) which is located within the Amaruq exploration area and is currently undergoing a Review by the Board under Part 3 of the NuPPAA. Second, Agnico Eagle is conducting ongoing exploration at the “Amaruq, Meadowbank and Whitehills” Project, (NIRB File No. 15EN050) approximately halfway between Baker Lake and Meadowbank. Finally, Agnico Eagle continues operations at the “Meadowbank Gold Mine” Project (NIRB File No. 03MN107) approximately 50 km southeast as approved under NIRB Project Certificate No. 004, recently amended to include the Vault Pit Expansion Project. Potential for cumulative impacts to wildlife and migratory birds resulting from increased noise and dust from the development and operations of the portal/ramp and transportation of equipment and supplies were identified, and considered in development of the recommended mitigation measures set out in the following section.

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

No other specific factors have been identified as relevant to the assessment of this project proposal.

In considering the factors as set out above in the screening of the project proposal, the NIRB has identified a number of issues and provides the following views regarding whether or not the proposed project has the potential to result in significant impacts, and has proposed terms and conditions that would mitigate the potential adverse impacts identified.

#### **Administrative Conditions:**

To encourage compliance with applicable regulatory requirements and assist the Board and responsible authorities with compliance and effects monitoring for project activities, the Board has previously recommended terms and conditions 1 through 4, and 67 which continue to apply to the current project proposal. The Board is also recommending term and condition 70 to ensure complete reference to applicable regulatory requirements.

#### **Ecosystem, wildlife habitat and Inuit harvesting activities:**

**Issue 1:** Potential adverse impacts to caribou and caribou habitats (Lorillard, Wager Bay, and Qamanirjuaq herds) from noise of the bulk sample activities, associated infrastructure

development, development of a quarry, and transportation of personnel and equipment to the site via airplane or along the haul road.

Board views: As discussed above in the assessment of factors, the potential for impacts is primarily focused around the 3 km<sup>2</sup> Amaruq Exploration camp plus the haul road, in addition to a zone of influence surrounding areas of project activities and components. The proposed timing of the potential impacts is considered to be intermittent during periods of construction and closure while considered to be continuous during periods of operation. Caribou data from the Government of Nunavut-Department of Environment identified that the proposed amendment spatially and temporally overlaps the range of both the Lorillard and Wager Bay caribou herds and is at the edge of the Qamanirjuaq caribou herd's range which incorporated monitoring data. 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 in turn impact the cultural identity of the area.

In its response to comments, the Proponent noted that a bulk sample was a typical development step in the exploration of deposits. Bulk samples are a standard practice and are limited in scale, activities on site are known, and therefore impacts are predictable and mitigable. Agnico Eagle has proposed the following mitigation to limit the impacts of the proposed project: a small project footprint, use of existing infrastructure at Amaruq, application of best-known and proven technologies to conduct the activities, and use best management practices.

Recommended Mitigation Measures: It is recommended that the potential adverse impacts may be mitigated by measures such as requiring the Proponent to maintain minimum flight altitudes and seasonal restrictions. Further, the Proponent has committed to updating its wildlife management plan to include concerns expressed during the comment period. The Board has previously recommended terms and conditions to mitigate potential adverse impacts to caribou and caribou habitats, specifically: 16 through 18, 20 through 27, 31, 34, 49, 60, 66 through 69 which continue to apply to the current project proposal. In addition, the Board also recommends the following additional terms and conditions are recommended to mitigate the potential adverse impacts: 74 and 75.

**Issue 2:** Potential adverse impacts to wildlife, wildlife habitat and migratory birds and their habitat from dust and disturbance associated with the bulk sampling activities, infrastructure development, quarrying, as well as transportation of personnel, equipment, and fuel to the site via airplane or along the haul road.

Board views: As discussed above in the assessment of factors, the potential for impacts is primarily focused around the 3 km<sup>2</sup> Amaruq Exploration camp plus footprint for the haul road, in addition to a zone of influence surrounding areas of project activities and components. The timing of the potential impacts would be intermittent during periods of construction and closure, and continuous during periods of operation. The primary

effects of the proposed project on wildlife and migratory birds would result from the loss of habitat from flooding and disturbance. Some bird-nesting habitat would be lost near the shoreline of Whale Tail Lake (south basin) due to flooding, while denning sites may be lost due to the use of eskers to build the road. In addition, dust deposition from construction and operation activities may increase the footprint of the disturbed or avoided areas.

**Recommended Mitigation Measures:** The Board previously issued terms and conditions to reduce impacts to wildlife and wildlife habitat from project operations, specifically term and conditions 19 through 23, 57 through 63, and 66 through 69 which continue to apply to the project activities. As a result of additional adverse impacts potentially created by project activities of the current project proposal, the Board recommends additional mitigations measures, including maintaining minimum flight altitudes and seasonal restrictions on operations. The following additional term and condition is recommended: 73.

**Issue 3:** Potential adverse impacts to the land, vegetation, and water quality from dust, noise, equipment, and fuel/chemical spill hazards resulting from development of the Amaruq camp, as well as fuel use, storage, and transportation associated with the bulk sampling activities.

**Board views:** The potential for adverse impacts from the entire exploration program would be within a small portion of the 408 km<sup>2</sup> lease area, with impacts from the bulk sample concentrated around the 3 km<sup>2</sup> comprising the Amaruq camp. The probability of impacts occurring would be moderate, with potential adverse effects anticipated to be low in magnitude, infrequent in occurrence, and reversible with due care as the Proponent has provided several operational plans to mitigate the negative impacts and reduce risk of spills.

The Proponent would require a water licence from the Nunavut Water Board for the water usage activities and fuel storage. In addition, the Proponent would also be required to follow the *Fisheries Act*, the *Transportation of Dangerous Goods Regulations*, *Transportation of Dangerous Goods Act* and the *Canadian Environmental Protection Act* (see Regulatory Requirements section).

**Recommended Mitigation Measures:** The Board previously issued terms and conditions to reduce adverse impacts from dust, noise, equipment, and fuel/chemical spill hazards resulting from development of the Amaruq camp by issuing terms and conditions 8 through 15, and 56 which continue to apply to the project. In addition, the following terms and conditions are recommended to mitigate the potential adverse impacts from fuel use, storage, and transportation associated with the bulk sampling activities: 71 and 72.

**Issue 4:** Potential adverse impacts to public and traditional land use activities in the area due to transportation of personnel and equipment to the Amaruq site, use of aircraft as well as bulk sampling activities.

**Board Views:** Terms and conditions have been recommended 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.

**Recommended Mitigation Measures:** The Board previously issued term and condition 16 through 27 to minimize potential interference with the movement of birds and wildlife, and 51 to mitigate impacts to public and traditional land use activities from project activities; these conditions continues to apply to the current project proposal. In addition, the Board also recommends term and condition 76 to ensure that the affected communities and organizations are informed about the project proposal and term and condition 77 to ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities in the area.

**Issue 5:** Potential adverse impacts to traditional land use activities in the area due to transportation of personnel and equipment to and from camp facility and use of aircrafts.

**Board Views:** The project areas identified for the proposed bulk sample and for the haul road have been noted as a travel corridor between Baker Lake and Back River for traditional land use activities. Community members have identified the Amaruq area as having significant cultural importance, important for undertaking traditional land use activities, and containing historical sites (see NIRB File Nos. 03MN107 Public Hearing Report and 11EN010).<sup>1 2</sup> 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 affect personal enjoyment of the land, and the social and cultural activities practiced in the region.

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.

**Recommended Mitigation Measures:** New term and condition 77 has been recommended to ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities in the area.

### **Socio-economic effects on northerners:**

**Issue 6:** Potential adverse impacts to historical, cultural, and archaeological sites from bulk sampling activities.

**Board Views:** The Proponent would not be working in an area of known historical significance and has confirmed this during its archaeological surveys that were conducted on site.

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

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

The Proponent would be required to contact the Government of Nunavut-Department of Culture and Heritage if it encountered any historical sites (see Regulatory Requirements section).

The Proponent is also required to follow the *Nunavut Act* (as recommended in Regulatory Requirements section).

Recommended Mitigation Measures: The Board previously issued term and condition 51 to address adverse impacts to historical, cultural, and archaeological sites from the exploration project, which continues to apply to the current project proposal. In addition, term and condition 76 is recommended to ensure that available Inuit Qaujimaningit can inform project activities, and reduce the potential for negative impacts occurring to any additional historical sites.

**Significant public concern:**

**Issue 7:** No significant public concern was expressed during the public commenting period for this file.

Board Views: Follow up consultation and involvement of local community members is expected to mitigate any potential for public concern resulting from project activities. Further, it is noted that the Proponent has committed to consult with local community members on the results of the bulk sample. In addition, it is recommended that the Proponent consider hiring local people for the project activities.

Recommended Mitigation Measures: Term and condition 50, previously issued by the Board, is recommended to apply to the current project proposal to ensure that the affected community and organizations are informed about the project activities, and to provide the Proponent with an opportunity to proactively address or mitigate concerns that may arise from the project activities findings. Previously issued term and condition 51 is also noted to apply to the Amaruq bulk sample project to ensure that the Proponent provide community members with information to ensure a successful local hiring opportunity.

**Technological innovations for which the effects are unknown:**

No specific issues have been identified associated with this project proposal.

In considering the above factors and subject to the Proponent's compliance with the terms and conditions necessary to mitigate against the potential adverse environmental and social effects, the Board is of the view that the proposed project is unlikely to cause significant public concern and its adverse ecosystemic and socioeconomic impacts are unlikely to be significant, or are highly predictable and can be adequately mitigated by known technologies.

## RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS

The following terms and conditions were previously issued by the Board for File No. **11EN010** in Screening Decision Reports, **and continue to apply to the Amarug Exploration project:**

### General

1. Agnico-Eagle Mines Ltd. (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times.
2. The Proponent shall forward copies of all permits obtained and required for this project to the Nunavut Impact Review Board (NIRB) prior to the commencement of the project.
3. The Proponent shall operate in accordance with all commitments stated in correspondence provided to NIRB (*NIRB Part 1 and 2 Forms*, February 11, 2011; *Non-Technical Summary*, February 11, 2011) and to other authorizing agencies and government departments (*KIA Right of Way Application*, January 10, 2011; *INAC LUP Application*, March 15, 2011; *Letter of Response to GN-CLEY Comments*, April 8, 2011).
4. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.

### Water Use

5. The Proponent shall not extract water from any fish-bearing waterbody unless the water intake hose is equipped with a screen of appropriate mesh size to ensure that there is no entrapment of fish. Small lakes or streams should not be used for water withdrawal unless approved by the Nunavut Water Board.
6. The Proponent shall not use water, including constructing or disturbing any stream, lakebed or the banks of any definable water course unless approved by the Nunavut Water Board.

### Waste Disposal

7. The Proponent shall keep all garbage and debris in bags placed in a covered metal container or equivalent until disposed of at an approved facility. All such wastes shall be kept inaccessible to wildlife at all times.

### Fuel and Chemical Storage

8. The Proponent shall locate all fuel and other hazardous materials a minimum of thirty-one (31) metres away from the high water mark of any water body and in such a manner as to prevent their release into the environment.
9. The Proponent shall ensure that re-fuelling of all equipment occurs a minimum of thirty-one (31) metres away from the high water mark of any water body.
10. The Proponent shall store all fuel and chemicals in such a manner that they are inaccessible to wildlife
11. The Proponent shall use adequate secondary containment or a surface liner (e.g. self-supporting insta-berms and fold-a-tanks), when storing barreled fuel and chemicals at all locations.

12. The Proponent shall use adequate secondary containment or a surface liner (e.g. self-supporting insta-berms and fold-a-tanks) at all refueling stations. Appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) must be readily available during any transfer of fuel or hazardous substances, as well as at vehicle-maintenance areas and at drill sites.
13. The Proponent shall inspect and document the condition of all fuel caches on a weekly basis. All fuel and chemical storage containers must be clearly marked with the Proponent's name and examined for leaks immediately upon delivery.
14. The Proponent shall remove and treat hydrocarbon contaminated soils on site or transport them to an approved disposal site for treatment.
15. The Proponent shall ensure that all personnel are properly trained in fuel and hazardous waste handling procedures, as well as spill response procedures. All spills of fuel or other deleterious materials of any amount must be reported immediately to the 24 hour Spill Line at (867) 920-8130.

### **Wildlife**

16. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.
17. The Proponent shall not harass wildlife. This includes persistently worrying or chasing animals, or disturbing large groups of animals. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
18. The Proponent shall ensure that all project personnel are made aware of the measures to protect wildlife and are provided with training and/or advice on how to implement these measures.
19. The Proponent shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, the Proponent shall take precaution to avoid further interaction and or disturbance (e.g., a 100 metre buffer around the nests). If active nests of any birds are discovered (i.e. with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have left the nest.
20. The Proponent shall restrict aircraft/helicopter activity related to the project to a minimum altitude of 610 metres above ground level unless there is a specific requirement for low-level flying, which does not disturb wildlife and migratory birds.
21. The Proponent shall ensure that aircraft maintain a vertical distance of 1000 metres and a horizontal distance of 1500 metres from any observed groups (colonies) of migratory birds. Aircraft should avoid critical and sensitive wildlife areas at all times by choosing alternate flight corridors.
22. The Proponent shall ensure that aircraft/helicopter do not, unless for emergency, touch-down in areas where wildlife are present.
23. The Proponent shall advise all pilots of relevant flight restrictions and enforce their application over the project area, including flight paths to/from the project area.
24. The Proponent shall cease activities that may interfere with the migration or calving of caribou or muskox, until the caribou or muskox have passed or left the area.



25. The Proponent shall not block or cause any diversion to caribou migration, and shall cease activities likely to interfere with migration such as airborne geophysics surveys, drilling or movement of equipment or personnel until such time as the caribou have passed.
26. The Proponent shall not construct or operate any camp, cache any fuel or conduct blasting within 10 km, or conduct any drilling operation within 5 km of any paths or crossings known to be frequented by (e.g. designated caribou crossings).
27. During the period of May 1 to July 15, when caribou are observed within 1 km of project operations, the Proponent shall suspend all operations, including low-level over flights, blasting, and use of snowmobiles and overland vehicles outside the immediate vicinity of the camps. Following July 15, if caribou cows or calves are observed within 1 km of project operations, the Proponent shall also suspend all operations in the vicinity, including low-level over flights, blasting, and use of overland vehicles, until caribou are no longer in the immediate area.

### **Drilling on Land**

28. The Proponent shall not conduct any land based drilling or mechanized clearing within thirty-one (31) metres of the normal high water mark of a water body.
29. The Proponent shall not allow any drilling wastes to spread to the surrounding lands or water bodies.
30. If an artesian flow is encountered, the Proponent shall ensure the drill hole is immediately plugged and permanently sealed.
31. The Proponent shall ensure that all drill areas are constructed to facilitate minimizing the environmental footprint of the project area. Drill areas should be kept orderly with garbage removed daily to an approved disposal site.
32. The Proponent shall ensure that all sump/depression capacities are sufficient to accommodate the volume of waste water and any fines that are produced. The sumps shall only be used for inert drilling fluids, and not any other materials or substances.
33. The Proponent shall not locate any sump within thirty-one (31) metres of the normal high water mark of any water body. Sumps and areas designated for waste disposal shall be sufficiently bermed or otherwise contained to ensure that substances do not enter a waterway unless otherwise authorized.
34. The Proponent shall ensure all drill holes are backfilled or capped prior to the end of each field season. All sumps must be backfilled and restored to original or stable profile prior to the end of each field season.

### **Drilling on Ice**

35. If drilling is conducted on lake ice, the Proponent shall ensure that any return water is non-toxic, and will not result in an increase in total suspended solids in the immediate receiving waters above the Canadian Council of Ministers for the Environment (CCME) Guidelines for the Protection of Freshwater Aquatic Life (i.e. 10 mg/L for lakes with background levels under 100 mg/L, or 10% for those above 100 mg/L).

36. The Proponent shall ensure that drill muds and additives are not used in connection with holes drilled through lake ice unless they are re-circulated or contained such that they do not enter the water, or are demonstrated to be non-toxic.
37. The Proponent shall ensure that all drill cuttings are removed from ice surfaces daily.

### **Winter Road/Trail**

38. The Proponent shall select a winter route that maximizes the use of frozen water bodies.
39. The Proponent shall ensure that no disturbance of the stream bed or banks of any definable watercourse be permitted.
40. The Proponent shall not move any equipment or vehicles without prior testing the thickness of the ice to ensure the lake is in a state capable of fully supporting the equipment or vehicles.
41. The Proponent shall not move any equipment or vehicles unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging.
42. The Proponent shall suspend overland travel of equipment or vehicles if rutting occurs. Likewise, upon spring break up, or at such a time as the shorelines of frozen water bodies begin to thaw, the Proponent shall suspend all travel over water bodies if disturbance to the banks or shorelines of any definable water body occurs.
43. The Proponent shall implement suitable erosion and sediment suppression measures on disturbed areas before, during and after construction in order to prevent sediment from entering any water body.
44. The Proponent shall ensure that winter lake/stream crossings are located to minimize approach grades and constructed entirely of ice and snow materials. Ice or snow free of sediment should be the only materials used to construct temporary crossings over any ice-covered watercourse.
45. The Proponent shall ensure that bank disturbances are avoided, and no mechanized clearing carried out immediately adjacent to any watercourse.
46. The Proponent shall ensure that stream crossings and/or temporary crossings constructed from ice and snow, which may cause jams, flooding or impede fish passage and or water flow, are removed or notched prior to spring break-up.
47. The Proponent shall avoid disturbance on slopes prone to natural erosion, and alternative locations shall be utilized.
48. The Proponent shall implement sediment and erosion control measures prior to, and during operations to prevent sediment entry into the water during the spring thaw. This includes ensuring that a sufficient thickness of snow and ice is present on the winter road to prevent unnecessary erosion of the underlying ground surface and impact on underneath vegetation.
49. The Proponent shall implement a clean-up and reclamation stabilization plan which should include, but is not limited to, re-vegetation and/or stabilization of exposed soil in road bed.
50. The Proponent shall remove any trail markers, grease, and oil marks upon restoration of winter road, and shall make a note of any areas where damage to vegetation has occurred as a result of the winter road.

## **Other**

51. The Proponent should, to the extent possible, hire local people and to consult with local residents regarding their activities in the region.
52. Any activity related to this application, and outside the original scope of the project as described in the application, will be considered a new project and should be submitted to the NIRB for Screening.

## **Waste Incineration**

53. The Proponent shall incinerate all combustible wastes daily and remove the ash from incineration activities to an approved facility for disposal or dispose of ash by burial beneath no less than one (1) metre of compacted soil. Non-combustible wastes shall be removed from the project site to an approved facility for disposal.
54. The Proponent shall ensure that the incineration of combustible camp wastes comply with the *Canadian Wide Standards for Dioxins and Furans*, and the *Canadian Wide Standards for Mercury*.
55. The Proponent shall ensure that no waste oil/grease is incinerated on site.

## **Fuel Storage**

56. The Proponent shall inspect and document the condition of all large fuel tanks on a weekly basis. All fuel storage containers must be clearly marked with the Proponent's name and examined for leaks immediately upon delivery.

## **Establishment of New Quarries**

57. The Proponent shall use water or other non-toxic and biodegradable additives for dust suppression as necessary to maintain ambient air quality without causing water to pool or runoff.
58. The Proponent shall clearly stake and flag pit and quarry boundaries so they remain visible to other land users.
59. The Proponent shall locate quarry/pit facilities so as to avoid all recreational sites and public use areas, and to protect unique geographical features and natural aesthetics.
60. The Proponent shall ensure there is no obstruction of natural drainage, flooding or channel diversion from quarry/pit access, stockpiles, or other structures or facilities.
61. The Proponent shall ensure that silt fences/curtains are installed down gradient of any quarry activities.
62. The Proponent shall maintain an undisturbed buffer zone between the periphery of quarry sites and the high water mark of any water body that is of an adequate distance to ensure erosion control.
63. The Proponent shall locate screening and crushing equipment on stable ground, at a location with ready access to stockpiles.

## **Temporary Camps**

64. The Proponent shall ensure that all camps are located on gravel, sand or other durable land.

65. The Proponent shall not erect camps or store material on the surface ice of lakes or streams unless otherwise authorized by the Nunavut Water Board.

#### **Other**

66. The Proponent shall take appropriate dust suppression measures on all gravel roads, including airstrip.

#### **General**

67. The Proponent shall operate in accordance with all commitments stated in correspondence provided to NIRB (*NIRB Part 1 and 2 Forms*, November 20, 2014, March 18, 2015; *Non-Technical Summary*, November 20, 2014, March 18, 2015) and to other authorizing agencies and government departments (*KIA Access to Inuit Owned Lands*, November 24, 2014, July 20, 2015; *AANDC LUP Application*, October 29, 2014, April 24, 2015; and, *NWB Amendment to Type B Licence Application*, November 20, 2014, March 16, 2015).

#### **Dust Suppression**

68. The Proponent shall use water or other non-toxic and biodegradable additives for dust suppression as necessary to maintain ambient air quality without causing water to pool or runoff. Dust suppression measures shall take place at all quarry locations, gravel roads, the airstrip and the all-weather road.
69. Proponent implements all available best management practices to avoid and mitigate *serious harm to fish* as a result of water crossings construction, operation and decommission. This includes, but is not limited to, minimizing infilling, appropriate design of water crossings to facilitate fish passage at both high and low flows, adherence to timing windows that incorporate spawning, incubation and hatch times for all species using watercourses and the development and implementation of sediment and erosion control plan.

***In addition to the previously issued terms and conditions, the Board recommends the following additional project-specific terms and conditions:***

#### **General**

70. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (Application to Determine Conformity, May 12, 2016) and the NIRB (Online Application Form, June 2, 2016 and Proponent's Response to Comments, September 8, 2016).

#### **Fuel and Chemical Storage**

71. Unless otherwise authorized by the Nunavut Water Board, the Proponent shall locate all fuel and other hazardous materials a minimum of thirty-one (31) metres away from the high water mark of any water body and in such a manner as to prevent their release into the environment.
72. The Proponent shall ensure that re-fueling of all equipment occurs a minimum of thirty-one (31) metres away from the high water mark of any water body, unless otherwise authorized by the Nunavut Water Board.

### **Migratory Birds and Raptors Disturbance**

73. The Proponent shall minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting.

### **Restoration of Disturbed Areas**

74. The Proponent shall remove all garbage, fuel and equipment upon abandonment.
75. The Proponent shall complete all clean-up and restoration of the lands used prior to the end of each field season and/or upon abandonment of site.

### **Other**

76. The Proponent should consult with local residents regarding their activities in the area and solicit available Inuit Qaujimaningit and information that can inform project activities.
77. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.

## **MONITORING AND REPORTING REQUIREMENTS**

***The Board has previously recommended the following on April 21, 2011 and February 10, 2015, which continues to apply to the current proposal:***

### **Annual Reporting**

1. The Proponent shall include within its annual report for the Meadowbank Gold Project (NIRB 03MN107), a summary of activities undertaken as authorized by the Board for File No. 11EN010. This summary is expected to include a map showing approximate locations of drill sites and routing of winter trails.
2. The Proponent shall submit updated monitoring plans, which include all newly proposed activities prior to construction and/or undertaking activities, specifically:
  - Conceptual Closure and Reclamation Plan and RECLAIM Estimates (to include quarry, gravel roads and pads, and airstrip components),
  - Wildlife Management Plan; and
  - Waste Management Plan (to include management of greywater and sewage).

***The Board has previously recommended the following on November 4, 2015, which continues to apply to the current proposal:***

### **Annual Reporting**

1. The Proponent shall include within its annual report for the Meadowbank Gold Project (NIRB File No. 03MN107), a comprehensive annual report of the activities undertaken as authorized by the Board for File No. 11EN010 to date. The annual report must contain at least the following information:
  - a. A summary of activities undertaken for the year, including:
    - i. a map showing the approximate location of drill sites;

- ii. a map showing the location of the fuel cache;
  - iii. site photos;
- b. A work plan for the following year, including any progressive reclamation work undertaken;
- c. A summary of community consultations undertaken throughout the year, providing copy of materials presented to community members, a description of issues and concerns raised, discussions with community members and advice offered to the company as well as any follow-up actions that were required or taken to resolve any concerns expressed about the project proposal;
- d. Summary of the consultation conducted with Government of Nunavut biologists if any and any relevant outcomes including revisions or alterations to the timing of project activities;
- e. Summary of follow-up consultation with Fisheries and Oceans Canada (DFO) regarding the final construction designs and documents requested by DFO and any recommendations issued by DFO. The summary should include a summary of all available best management practices.
- f. A discussion of issues related to wildlife and environmental monitoring, including the number of cease-work orders required as a result of proximity to caribou;
- g. An analysis of the effectiveness of mitigation measures for wildlife;
- h. A brief summary of Wildlife Monitoring and Mitigation Plan (WMMP) results including the wildlife log and record of observations as well as any mitigation actions that were undertaken;
- i. Summary of any heritage sites encountered during the project activities and any follow-up action or reporting required as a result. The summary should include a map noting the sites encountered; and,
- j. A summary of how the Proponent has complied with conditions contained within this Screening Decision, and all conditions as required by other authorizations associated with the project proposal.

***The Board is recommending the following modification to the Monitoring and Reporting Requirements:***

- k. Summary of traffic travelling via the road between Meadowbank and Amaruq.

#### OTHER NIRB CONCERNS AND RECOMMENDATIONS

***In addition to the project-specific terms and conditions, the Board has previously recommended the following on April 21, 2011 and February 10, 2015, which continues to apply to the current proposal:***

#### **Bear and Carnivore Safety**

1. The Proponent should review the bear/carnivore detection and deterrent techniques outlined in “Safety in Grizzly and Black Bear Country” which can be downloaded from this link:

[http://www.enr.gov.nt.ca/live/documents/content/Bear\\_Safety.pdf](http://www.enr.gov.nt.ca/live/documents/content/Bear_Safety.pdf). Note that some recommendations in this manual are also relevant to polar bears. There is a DVD about polar bears and safety available from Nunavut Parks at the following link <http://www.nunavutparks.com/english/visitor-information/suggested-resources.html> and a “Safety in Polar Bear Country” pamphlet from Parks Canada at the following link <http://www.pc.gc.ca/eng/pn-np/nu/auyuittuq/visit/visit6/d/i.aspx>.

2. The Proponent should ensure that any problem wildlife or any interaction with carnivores should be reported immediately to the local Government of Nunavut, Department of Environment Conservation Office (Biologist, Kivalliq Region, Mitch Campbell, phone: 867-857-2828, email: [mcampbell@gov.nu.ca](mailto:mcampbell@gov.nu.ca)).

### **Species at Risk**

3. The Proponent should review Environment Canada’s “Environment Assessment Best Practice Guide for Wildlife at Risk in Canada”, available at the following link: <http://www.ec.gc.ca/Publications/default.asp?lang=En&xml=5407909E-10F6-4AFE-ACDF-75B9E820B4A1>. The guide provides information to the Proponent on what is required when Wildlife at Risk, including *Species at Risk*, are encountered or affected by the project.

### **Change in Project Scope**

4. All Authorizing Agencies shall notify the NIRB of any changes in operating plans or conditions associated with this project prior to any such change.

### **Incineration of Wastes**

5. The Proponent review Environment Canada’s “Technical Document for Batch Waste Incineration”, available at the following link: <http://www.ec.gc.ca/gdd-mw/default.asp?lang=En&n=F53EDE13-1>. The technical document provides information on appropriate incineration technologies, best management and operational practices, monitoring and reporting.

***On November 4, 2015 the Board also recommending the following, which continues to apply to the current proposal:***

### **Bear and Carnivore Safety**

1. *(updated)* The Proponent review the bear/carnivore detection and deterrent techniques outlined in “Safety in Grizzly and Black Bear Country” which can be down-loaded from this link: [http://www.enr.gov.nt.ca/sites/default/files/web\\_pdf\\_wd\\_bear\\_safety\\_brochure\\_1\\_may\\_2015.pdf](http://www.enr.gov.nt.ca/sites/default/files/web_pdf_wd_bear_safety_brochure_1_may_2015.pdf). There are polar bear and grizzly bear safety resources available from the Government of Nunavut at the following link: <http://env.gov.nu.ca/wildlife/resources/polarbearsafety> and a “You are in Polar Bear Country” pamphlet from Parks Canada at the following link <http://www.pc.gc.ca/eng/lhn-nhs/mb/prince/securite-safety/ours-bear.asp> following link <http://www.pc.gc.ca/eng/pn-np/nu/auyuittuq/visit/visit6/d/i.aspx>.

## Species at Risk

2. (*updated*) The Proponent review Environment Canada's "Environment Assessment Best Practice Guide for Wildlife at Risk in Canada", available at the following link: [http://epe.lac-bac.gc.ca/100/200/301/environment\\_can/cws-scf/environmental\\_assessment-ef/ea\\_best\\_practices\\_2004\\_e.pdf](http://epe.lac-bac.gc.ca/100/200/301/environment_can/cws-scf/environmental_assessment-ef/ea_best_practices_2004_e.pdf). The guide provides information to the Proponent on what is required when Wildlife at Risk, including *Species at Risk*, are encountered or affected by the project.

## Migratory Birds

3. The Proponent review Canadian Wildlife Services' "Key migratory bird terrestrial habitat sites in the Northwest Territories and Nunavut", available at the following link: <http://publications.gc.ca/site/eng/317630/publication.html> and "Key marine habitat sites for migratory birds in Nunavut and the Northwest Territories", available at the following link: <http://publications.gc.ca/site/eng/392824/publication.html>. The guide provides information to the Proponent on key terrestrial and marine habitat areas that are essential to the welfare of various migratory bird species in Canada.
4. For further information on how to protect migratory birds, their nests and eggs when planning or carrying out project activities, consult Environment Canada's Incidental Take web page and the fact sheet "Planning Ahead to Reduce the Risk of Detrimental Effects to Migratory Birds, and their Nests and Eggs" available at <http://www.ec.gc.ca/paom-itmb/>.

## Caribou Management

5. Territorial and federal government agencies in Nunavut should work together with Regional Inuit Associations, co-management boards and industry to develop an action plan to identify and mitigate potential cumulative effects of human land use activities, including mineral exploration, on barren-ground caribou. This assessment of cumulative effects should occur at a regional scale (i.e., larger than individual project areas).
6. Territorial and federal government agencies update the Caribou Protection Map with updated data and information from the Beverly Qamanirjuaq Caribou Management Board (BQCMB).

## Aboriginal Affairs and Northern Development Canada

7. Aboriginal Affairs and Northern Development Canada (AANDC) impose mitigation measures, conditions and monitoring requirements pursuant to the Federal Land Use Permit, which require the Proponent to respect the sensitivities and importance of the area. These mitigation measures, conditions and monitoring requirements should be in regard to the location and area; type, location, capacity and operation of facilities; use, storage, handling and disposal of chemical or toxic material; wildlife and fisheries habitat; and petroleum fuel storage.
8. AANDC consider the importance of conducting regular Land Use Inspections, pursuant to the authority of the Federal Land Use Permit, while the project is in operation. The Land Use Inspections should be focused on ensuring the Proponent is in compliance with the conditions imposed through the Federal Land Use Permit.



9. AANDC forward to the NIRB copies of any decisions by Inspectors which allow project activities to continue in areas of caribou presence between dates indicating work stoppages are necessary (exemptions from Caribou Protection Measures).

### **Kivalliq Inuit Association**

10. The Kivalliq Inuit Association (KIA) impose strict mitigation measures and/or conditions upon the Proponent pursuant to the Inuit Owned Lands License in regard to fuel and chemical storage, drilling, water conditions, ground disturbance and wildlife on Inuit owned land.

### **Nunavut Water Board**

11. The Nunavut Water Board (NWB) impose mitigation measures, conditions and monitoring requirements pursuant to the Water Licence, which require the Proponent to respect the sensitivities and importance of water in the area. These mitigation measures, conditions and monitoring requirements should be in regard to use of water, snow and ice; waste disposal; access infrastructure and operation for camps; drilling operations; spill contingency planning; abandonment and restoration planning; and monitoring programs.

### **Aboriginal Affairs and Northern Development Canada – Water Resources Division**

12. AANDC – Water Resources Division should consider the importance of conducting regular inspections, pursuant to the authority of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, while the project is in operation. Inspectors should focus on ensuring the Proponent is in compliance with the conditions imposed through the Water Licence.

***The Board is currently also recommending the following for the proposed “Amaruq Exploration – Portal/Ramp, Quarry and Advanced Underground Exploration and Bulk Sample” project:***

### **Change in Project Scope**

13. (*updated*) Responsible authorities or Proponent shall notify the Nunavut Planning Commission (NPC) and the NIRB of any changes in operating plans or conditions, including phase advancement, associated with this project prior to any such change.

### **Bear and Carnivore Safety**

14. (*updated*) The Proponent should review the Government of Nunavut’s booklet on Bear Safety, which can be downloaded from this link: [http://gov.nu.ca/sites/default/files/bear\\_safety\\_-\\_reducing\\_bear-people\\_conflicts\\_in\\_nunavut.pdf](http://gov.nu.ca/sites/default/files/bear_safety_-_reducing_bear-people_conflicts_in_nunavut.pdf). Further information on bear/carnivore detection and deterrent techniques can be found in the “*Safety in Grizzly and Black Bear Country*” pamphlet, which can be downloaded from this link: [http://www.enr.gov.nt.ca/sites/default/files/web\\_pdf\\_wd\\_bear\\_safety\\_brochure\\_1\\_may\\_2015.pdf](http://www.enr.gov.nt.ca/sites/default/files/web_pdf_wd_bear_safety_brochure_1_may_2015.pdf).
15. There are polar bear and grizzly bear safety resources available from the Bear Smart Society with videos on polar bear safety available in English, French and Inuktitut at <http://www.bearsmart.com/play/safety-in-polar-bear-country/>. Information can also be obtained from Parks Canada’s website on bear safety at the following link:

<http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/d.aspx> or in reviewing the “Safety in Polar Bear Country” pamphlet, which can be downloaded from the following link: [http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/~media/pn-np/nu/auyuittuq/pdf/shared/PolarBearSafety\\_English.ashx](http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/~media/pn-np/nu/auyuittuq/pdf/shared/PolarBearSafety_English.ashx).

16. Any problem wildlife or any interaction with carnivores should be reported immediately to the local Government of Nunavut, Department of Environment Conservation Office (Conservation Officer of Baker Lake, phone: (867) 793-2940).

## **Species at Risk**

17. (*updated*) The Proponent review Environment and Climate Change Canada’s “Environment Assessment Best Practice Guide for Wildlife at Risk in Canada”, available at the following link: [http://www.sararegistry.gc.ca/virtual\\_sara/files/policies/EA%20Best%20Practices%202004.pdf](http://www.sararegistry.gc.ca/virtual_sara/files/policies/EA%20Best%20Practices%202004.pdf). The guide provides information to the Proponent on what is required when Wildlife at Risk, including *Species at Risk*, are encountered or affected by the project.

## **Migratory Birds**

18. (*updated*) The Proponent review Canadian Wildlife Services’ “Key migratory bird terrestrial habitat sites in the Northwest Territories and Nunavut”, available at the following link: <http://publications.gc.ca/site/eng/317630/publication.html> and “Key marine habitat sites for migratory birds in Nunavut and the Northwest Territories”, available at the following link: <http://publications.gc.ca/site/eng/392824/publication.html>. The guide provides information to the Proponent on key terrestrial and marine habitat areas that are essential to the welfare of various migratory bird species in Canada.
19. (*updated*) For further information on how to protect migratory birds, their nests and eggs when planning or carrying out project activities, consult Environment and Climate Change Canada’s Incidental Take web page and the fact sheet “Planning Ahead to Reduce the Risk of Detrimental Effects to Migratory Birds, and their Nests and Eggs” available at <http://www.ec.gc.ca/paom-itmb/>.

## **Transport of Waste/Dangerous Goods and Waste Management**

20. Environment and Climate Change Canada recommends that all hazardous wastes, including waste oil, receive proper treatment and disposal at an approved facility.
21. The Proponent shall ensure that a waste manifest or the appropriate transportation of dangerous goods (TDG) documentation accompany all potential hazardous samples and/or materials that are transported off site. Further, the Proponent shall ensure that the shipment of waste is registered with the Government of Nunavut Department of Environment (GN-DoE). Contact the Manager of Pollution Control and Air Quality at (867) 975-7748 to obtain a manifest if hazardous waste will be generated during project activities.

## **Caribou Management**

22. (*updated*) Territorial and federal government agencies in Nunavut should work together with Regional Inuit Associations, co-management boards and industry to develop an

action plan to identify and mitigate potential cumulative effects of human land use activities, including mineral exploration, on barren-ground caribou. This assessment of cumulative effects should occur at a regional scale (i.e., larger than individual project areas).

23. (*updated*) Territorial and federal government agencies update the Caribou Protection Map with updated data and information from the Beverly Qamanirjuaq Caribou Management Board.
24. As a result of expressed concerns regarding mineral exploration and the associated potential for cumulative effects on caribou and caribou habitat within the Kivalliq region, the NPC, territorial and federal government agencies should work together with Regional Inuit Associations, co-management boards, the public, and industry to develop a plan that identifies appropriate land use in these areas prior to potential mineral exploration. The plan should identify and mitigate potential cumulative effects of human land use activities on barren-ground caribou on both localized and regional scales.
25. The NPC should be aware of the public concerns regarding a perceived lack of protection for caribou and caribou habitat within the Kivalliq region of Nunavut. In developing a Nunavut-wide land use plan, the NPC may wish to consider formalized protection of important caribou habitat, and seasonal restrictions on potentially disruptive activities in these areas to minimize disturbance to caribou lifecycles and Inuit harvesting activities.

#### **Indigenous and Northern Affairs Canada**

26. (*updated*) Indigenous and Northern Affairs Canada (INAC) impose mitigation measures, conditions and monitoring requirements pursuant to the Federal Land Use Permit, which require the Proponent to respect the sensitivities and importance of the area. These mitigation measures, conditions and monitoring requirements should be in regard to the location and area; type, location, capacity and operation of facilities; use, storage, handling and disposal of chemical or toxic material; wildlife and fisheries habitat; and petroleum fuel storage.
27. (*updated*) INAC consider the importance of conducting regular Land Use Inspections, pursuant to the authority of the Federal Land Use Permit, while the project is in operation. The Land Use Inspections should be focused on ensuring the Proponent is in compliance with the conditions imposed through the Federal Land Use Permit.
28. (*updated*) INAC forward to the NIRB copies of any decisions by Inspectors which allow project activities to continue in areas of caribou presence between dates indicating work stoppages are necessary (exemptions from Caribou Protection Measures).

#### **Indigenous and Northern Affairs Canada – Water Resources Division**

29. (*updated*) INAC – Water Resources Division should consider the importance of conducting regular inspections, pursuant to the authority of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, while the project is in operation. Inspectors should focus on ensuring the Proponent complies with the conditions imposed through the Water Licence.

*The Board previously recommended in the April 21, 2011, February 10, 2015, and November 4, 2015 Screening Decision Reports for the Amaruq Exploration project the following legislation, which continues to apply to the current proposal:*

### **Acts and Regulations**

1. The *Fisheries Act* (<http://laws.justice.gc.ca/en/showtdm/cs/F-14///en>).
2. The *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (<http://www.canlii.org/ca/sta/n-28.8/whole.html>).
3. The *Migratory Birds Convention Act* and *Migratory Birds Regulations* (<http://laws.justice.gc.ca/en/showtdm/cs/M-7.01>).
4. The *Species at Risk Act* (<http://laws.justice.gc.ca/en/showtdm/cs/S-15.3>). Attached in **Appendix B** is a list of Species at Risk in Nunavut.
5. The *Nunavut Wildlife Act* which contains provisions to protect and conserve wildlife and wildlife habitat, including specific protection measures for wildlife habitat and species at risk.
6. The *Nunavut Act* (<http://laws.justice.gc.ca/en/showtdm/cs/N-28.6>). The Proponent must comply with the proposed terms and conditions listed in the attached **Appendix C**.
7. The *Navigable Waters Protection Act (NWPA)* (<http://laws.justice.gc.ca/en/N-22/index.html>).
8. The Proponent is advised that the *Canadian Environmental Protection Act* (<http://laws.justice.gc.ca/en/C-15.31/>) lists calcium chloride (CaCl) as a toxic substance. The Proponent should assess alternatives to the use of CaCl as a drill additive, including biodegradable and non-toxic additives.
9. The *Aeronautics Act* (<http://laws-lois.justice.gc.ca/eng/acts/A-2/>).
10. The Proponent shall undertake quarrying in accordance with the *Nunavut Mining Safety Ordinance* and the *Territorial Quarrying Regulations* (<http://www.canlii.org/en/ca/laws/regu/crc-c-1527/latest/crc-c-1527.html>) or equivalent.
11. The *CEPA Storage Tank System for Petroleum Products and Allied Petroleum Products Regulations* ([www.ec.gc.ca/st-rs](http://www.ec.gc.ca/st-rs)). The Proponent must identify their tank system to Environment Canada and installation of new systems must comply with the regulations' design requirements.
12. The Proponent shall practice progressive reclamation in accordance with the restoration guidelines outlined in Aboriginal Affairs and Northern Development Canada's *Northern Land Use Guidelines Pits and Quarries* (<http://www.aadnc-aandc.gc.ca/eng/1100100023585>).
13. The *Transportation of Dangerous Goods Regulations, Transportation of Dangerous Goods Act* (<http://www.tc.gc.ca/eng/tdg/safety-menu.htm>), and the *Canadian Environmental Protection Act* (<http://laws-lois.justice.gc.ca/eng/acts/C-15.31/>). The Proponent must ensure that proper shipping documents accompany all movements of dangerous goods. The

Proponent must register with the Government of Nunavut, Department of Environment Manager of Pollution Control and Air Quality at 867-975-7748.

**Other Applicable Guidelines**

14. The Proponent shall follow the Fisheries and Oceans Canada's (DFO) *Guidelines for the use of Explosives in or near Canadian Fisheries Waters* (<http://publications.gc.ca/site/eng/82558/publication.html>) and shall not conduct blasting if wildlife is within sight or hearing distance of the project area.

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to Agnico Eagle's "Amaruq Exploration – Portal/Ramp, Quarry and Advanced Underground Exploration and Bulk Sample".

Dated October 5, 2016 at Arviat, NU.



Elizabeth Copland, Chairperson

Attachments:   Appendix A: Previously-Screened Project Proposal  
                      Appendix B: Species at Risk in Nunavut  
                      Appendix C: Archaeological and Palaeontological Resources Terms and Conditions for Land Use  
                      Permit Holders

## APPENDIX A: PREVIOUSLY-SCREENED PROJECT PROPOSAL

As previously screened by the NIRB (File No. 11EN010), Agnico Eagle's original "Pipe Dream Winter Road and Mining Exploration" project was located within the Kivalliq region, on two 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 conduct 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 NLCA.

The activities and/or components associated with the original proposal screened under the original 11EN010, included:

- 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.

The proposal was screened by the Board in accordance with Part 4, Article 12 of the NLCA and on April 21, 2011 the NIRB issued a NLCA 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.

Additional authorization and extension requests associated with the "Amaruq 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 NLCA 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 activities and components associated with the previous August 10, 2011 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 kilometres northwest and up to 20 kilometres 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 exploration areas to the licence: “IVR Exploration” and “south Meadowbank area”.

The Proponent requested a two 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 additional activities and components:

- Development and operation of a winter access road, approximately 53 kilometres 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 activities and components:

- 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 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 m<sup>3</sup>/day for all project related activities (including camp and drill activities).
  - Additional water consumption of 30 cubic metres per day (m<sup>3</sup>/day) to be used for drilling activities for a total 280 m<sup>3</sup>/day; and
  - Additional water consumption for domestic use of 10 m<sup>3</sup>/day to be used for a total of 19 m<sup>3</sup>/day.
- The new Commercial Lease with the KIA (No. KVCL314C01) included the following 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 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 activities and components:

- 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 6 of the 7 eskers to be used for borrow pits;
- Development of pullouts approximately every  $400 \pm 50$  m to accommodate two 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.

## **Appendix B:** **Species at Risk in Nunavut**

Due to the requirements of Section 79(2) of the Species At Risk Act (SARA), and the potential for project-specific adverse effects on listed wildlife species and its critical habitat, measures should be taken as appropriate to avoid or lessen those effects, and the effects need to be monitored. Project effects could include species disturbance, attraction to operations and destruction of habitat. This section applies to all species listed on Schedule 1 of SARA, as listed in the table below, or have been assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), which may be encountered in the project area. This list may not include all species identified as at risk by the Territorial Government. The following points provide clarification on the applicability of the species outlined in the table.

- Schedule 1 is the official legal list of Species at Risk for SARA. SARA applies to all species on Schedule 1. The term “listed” species refers to species on Schedule 1.
- Schedule 2 and 3 of SARA identify species that were designated at risk by the COSEWIC prior to October 1999 and must be reassessed using revised criteria before they can be considered for addition to Schedule 1.
- Some species identified at risk by COSEWIC are “pending” addition to Schedule 1 of SARA. These species are under consideration for addition to Schedule 1, subject to further consultation or assessment.

If species at risk are encountered or affected, the primary mitigation measure should be avoidance. The Proponent should avoid contact with or disturbance to each species, its habitat and/or its residence. All direct, indirect, and cumulative effects should be considered. Refer to species status reports and other information on the species at risk Registry at <http://www.sararegistry.gc.ca> for information on specific species.

Monitoring should be undertaken by the Proponent to determine the effectiveness of mitigation and/or identify where further mitigation is required. As a minimum, this monitoring should include recording the locations and dates of any observations of species at risk, behaviour or actions taken by the animals when project activities were encountered, and any actions taken by the proponent to avoid contact or disturbance to the species, its habitat, and/or its residence. This information should be submitted to the appropriate regulators and organizations with management responsibility for that species, as requested.

For species primarily managed by the Territorial Government, the Territorial Government should be consulted to identify other appropriate mitigation and/or monitoring measures to minimize effects to these species from the project.

Mitigation and monitoring measures must be undertaken in a way that is consistent with applicable recovery strategies and action/management plans.

Schedules of SARA are amended on a regular basis so it is important to check the SARA registry ([www.sararegistry.gc.ca](http://www.sararegistry.gc.ca)) to get the current status of a species.

Updated: June 2015

| Species at Risk <sup>1</sup>                                   | COSEWIC Designation   | Schedule of SARA  | Government Organization with Primary Management Responsibility <sup>2</sup> |
|--|---|---|---|
| Eskimo Curlew  | Endangered  | Schedule 1  | EC  |
| Ivory Gull   | Endangered  | Schedule 1  | EC  |
| Ross's Gull  | Threatened  | Schedule 1  | EC  |
| Harlequin Duck (Eastern population)                            | Special Concern   | Schedule 1  | EC  |
| Rusty Blackbird  | Special Concern   | Schedule 1  | GN  |
| Peregrine Falcon   | Special Concern ( <i>anatum-tundrius</i> complex <sup>3</sup> ) | Schedule 1 - Threatened ( <i>anatum</i> )<br>Schedule 3 – Special Concern ( <i>tundrius</i> ) | GN  |
| Short-eared Owl  | Special Concern   | Schedule 3  | GN  |
| Red Knot ( <i>rufa</i> subspecies)                             | Endangered  | Schedule 1  | EC  |
| Red Knot ( <i>islandica</i> subspecies)                        | Special Concern   | Schedule 1  | EC  |
| Horned Grebe (Western population)                              | Special Concern   | Pending   | EC  |
| Red-necked Phalarope   | Special concern   | Pending   | EC  |
| Buff-breasted Sandpiper  | Special concern   | Pending   | EC  |
| Felt-leaf Willow   | Special Concern   | Schedule 1  | GN  |
| Porsild's Bryum  | Threatened  | Schedule 1  | GN  |
| Peary Caribou  | Endangered  | Schedule 1  | GN  |
| Barren-ground Caribou (Dolphin and Union population)           | Special Concern   | Schedule 1  | GN  |
| Polar Bear   | Special Concern   | Schedule 1  | GN/DFO  |
| Grizzly Bear   | Special Concern   | Pending   | GN  |
| Wolverine  | Special Concern   | Pending   | GN  |
| Atlantic Cod, Arctic Lakes                                     | Special Concern   | Pending   | DFO   |
| Atlantic Walrus  | Special Concern   | Pending   | DFO   |
| Beluga Whale (Cumberland Sound population)                     | Threatened  | Schedule 2  | DFO   |
| Beluga Whale (Eastern Hudson Bay population)                   | Endangered  | Pending   | DFO   |
| Beluga Whale (Western Hudson Bay population)                   | Special Concern   | Pending   | DFO   |
| Beluga Whale (Eastern High Arctic – Baffin Bay population)     | Special Concern   | Pending   | DFO   |
| Bowhead Whale (Eastern Canada – West Greenland population)     | Special Concern   | Pending   | DFO   |
| Bowhead Whale (Eastern Arctic population)                      |   | Schedule 2  | DFO   |
| Killer Whale (Northwest Atlantic / Eastern Arctic populations) | Special Concern   | Pending   | DFO   |
| Narwhal  | Special Concern   | Pending   | DFO   |

Note: DFO: Fisheries and Oceans Canada; EC: Environment Canada; GN: Government of Nunavut

<sup>1</sup> The Department of Fisheries and Oceans has responsibility for aquatic species.

<sup>2</sup> Environment Canada (EC) has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the Migratory Birds Convention Act (MBCA). Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Populations that exist in National Parks are also managed under the authority of the Parks Canada Agency.

<sup>3</sup> The *anatum* subspecies of Peregrine Falcon is listed on Schedule 1 of SARA as threatened. The *anatum* and *tundrius* subspecies of Peregrine Falcon were reassessed by COSEWIC in 2007 and combined into one subpopulation complex. This subpopulation complex was assessed by COSEWIC as Special Concern.

**Appendix C:**  
Archaeological and Palaeontological Resources Terms and Conditions for Land Use Permit Holders



INTRODUCTION

The Department of Culture and Heritage (CH) routinely reviews land use applications sent to the Nunavut Water Board, Nunavut Impact Review Board and the Indigenous and Northern Affairs Canada. These terms and conditions provide general direction to the permittee/proponent regarding the appropriate actions to be taken to ensure the permittee/proponent carries out its role in the protection of Nunavut's archaeological and palaeontological resources.

TERMS AND CONDITIONS

- 1) The permittee/proponent shall have a professional archaeologist and/or palaeontologist perform the following **Functions** associated with the **Types of Development** listed below or similar development activities:

|    | <b>Types of Development</b><br>(See Guidelines below)   | <b>Function</b><br>(See Guidelines below)                              |
|----|---|--|
| a) | Large scale prospecting   | Archaeological/Palaeontological Overview Assessment                    |
| b) | Diamond drilling for exploration or geotechnical purpose or planning of linear disturbances                                 | Archaeological/ Palaeontological Inventory                             |
| c) | Construction of linear disturbances, Extractive disturbances, Impounding disturbances and other land disturbance activities | Archaeological/ Palaeontological Inventory or Assessment or Mitigation |

Note that the above-mentioned functions require either a Nunavut Archaeologist Permit or a Nunavut Palaeontologist Permit. CH is authorized by way of the *Nunavut and Archaeological and Palaeontological Site Regulations*<sup>3</sup> to issue such permits.

- 2) The permittee/proponent shall not operate any vehicle over a known or suspected archaeological or palaeontological site.

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<sup>3</sup> P.C. 2001-1111 14 June, 2001

- 3) The permittee/proponent shall not remove, disturb, or displace any archaeological artifact or site, or any fossil or palaeontological site.
- 4) The permittee/proponent shall immediately contact CH at (867) 934-2046 or (867) 975-5500 should an archaeological site or specimen, or a palaeontological site or fossil, be encountered or disturbed by any land use activity.
- 5) The permittee/proponent shall immediately cease any activity that disturbs an archaeological or palaeontological site encountered during the course of a land use operation until permitted to proceed with the authorization of CH.
- 6) The permittee/proponent shall follow the direction of CH in restoring disturbed archaeological or palaeontological sites to an acceptable condition. If these conditions are attached to either a Class A or B Permit under the Territorial Lands Act Indigenous and Northern Affairs Canada directions will also be followed.
- 7) The permittee/proponent shall provide all information requested by CH concerning all archaeological sites or artifacts and all palaeontological sites and fossils encountered in the course of any land use activity.
- 8) The permittee/proponent shall make best efforts to ensure that all persons working under its authority are aware of these conditions concerning archaeological sites and artifacts and palaeontological sites and fossils.
- 9) If a list of recorded archaeological and/or palaeontological sites is provided to the permittee/proponent by CH as part of the review of the land use application the permittee/proponent shall avoid the archaeological and/or palaeontological sites listed.
- 10) Should a list of recorded sites be provided to the permittee/proponent, the information is provided solely for the purpose of the proponent's land use activities as described in the land use application, and must otherwise be treated confidentially by the proponent.

### Legal Framework

As stated in Article 33 of the *Nunavut Land Claims Agreement*:

*Where an application is made for a land use permit in the Nunavut Settlement Area, and there are reasonable grounds to believe that there could be sites of archaeological importance on the lands affected, no land use permit shall be issued without written consent of the Designated Agency. Such consent shall not be unreasonably withheld. [33.5.12]*

*Each land use permit referred to in Section 33.5.12 shall specify the plans and methods of archeological site protection and restoration to be followed by the permit holder, and any other conditions the Designated Agency may deem fit. [33.5.13]*

### Palaeontology and Archaeology

Under the *Nunavut Act*<sup>4</sup>, the federal government can make regulations for the protection, care and preservation of palaeontological and archaeological sites and specimens in Nunavut. Under

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<sup>4</sup> s. 51(1)

the *Nunavut Archaeological and Palaeontological Sites Regulations*<sup>5</sup>, it is illegal to alter or disturb any palaeontological or archaeological site in Nunavut unless permission is first granted through the permitting process.

## Definitions

As defined in the *Nunavut Archaeological and Palaeontological Sites Regulations*, the following definitions apply:

*“archaeological site” means a place where an archaeological artifact is found.*

*“archaeological artifact” means any tangible evidence of human activity that is more than 50 years old and in respect of which an unbroken chain of possession or regular pattern of usage cannot be demonstrated, and includes a Denesuline archaeological specimen referred to in section 40.4.9 of the Nunavut Land Claims Agreement.*

*“palaeontological site” means a site where a fossil is found.*

*“fossil” includes:*

*Fossil means the hardened or preserved remains or impression of previously living organisms or vegetation and includes:*

- (a) natural casts;*
- (b) preserved tracks, coprolites and plant remains; and*
- (c) the preserved shells and exoskeletons of invertebrates and the preserved eggs, teeth and bones of vertebrates.*

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<sup>5</sup> P.C. 2001-1111 14 June, 2001

## *Guidelines for Developers for the Protection of Archaeological Resources in the Nunavut Territory*

(Note: Partial document only, complete document at: [www.ch.gov.nu.ca/en/Archaeology.aspx](http://www.ch.gov.nu.ca/en/Archaeology.aspx))

### **Introduction**

The following guidelines have been formulated to ensure that the impacts of proposed developments upon heritage resources are assessed and mitigated before ground surface altering activities occur. Heritage resources are defined as, but not limited to, archaeological and historical sites, burial grounds, palaeontological sites, historic buildings and cairns. Effective collaboration between the developer, the Department of Culture, Language, Elders and Youth (CH), and the contract archaeologist(s) will ensure proper preservation of heritage resources in the Nunavut Territory. The roles of each are briefly described.

CH is the Nunavut Government agency which oversees the protection and management of heritage resources in Nunavut, in partnership with land claim authorities, regulatory agencies, and the federal government. Its role in mitigating impacts of developments on heritage resources is as follows: to identify the need for an impact assessment and make recommendations to the appropriate regulatory agency; set the terms of reference for the study depending upon the scope of the development; suggest the names of qualified individuals prepared to undertake the study to the developer; issue an archaeologist or palaeontologist permit authorizing field work; assess the completeness of the study and its recommendations; and ensure that the developer complies with the recommendations.

The primary regulatory agencies that CH provides information and assistance to are the Nunavut Impact Review Board, for development activities proposed for Inuit Owned Lands (as defined in Section 1.1.1 of the Nunavut Land Claims Agreement), and the Indigenous and Northern Affairs Canada, for development activities proposed for federal Crown Lands.

A developer is the initiator of a land use activity. It is the obligation of the developer to ensure that a qualified archaeologist or palaeontologist is hired to perform the required study and that provisions of the contract with the archaeologist or palaeontologist allow permit requirements to be met; i.e. fieldwork, collections management, artifact and specimen conservation, and report preparation. On the recommendation of the contract archaeologist or palaeontologist in the field and the Government of Nunavut, the developer shall implement avoidance or mitigative measures to protect heritage resources or to salvage the information they contain through excavation, analysis, and report writing. The developer assumes all costs associated with the study in its entirety.

Through his or her active participation and supervision of the study, the contract archaeologist or palaeontologist is accountable for the quality of work undertaken and the quality of the report produced. Facilities to conduct fieldwork, analysis, and report preparation should be available to this individual through institutional, agency, or company affiliations. Responsibility for the curation of objects recovered during field work while under study and for documents generated in the course of the study as well as remittance of artifacts, specimens and documents to the repository specified on the permit accrue to the contract archaeologist or palaeontologist. This individual is also bound by the legal requirements of the *Nunavut Archaeological and*



## **Types of Development**

In general, those developments that cause concern for the safety of heritage resources will include one or more of the following kinds of surface disturbances. These categories, in combination, are comprehensive of the major kinds of developments commonly proposed in Nunavut. For any single development proposal, several kinds of these disturbances may be involved

- *Linear disturbances: including the construction of highways, roads, winter roads, transmission lines, and pipelines;*
- *Extractive disturbances: including mining, gravel removal, quarrying, and land filling;*
- *Impoundment disturbances: including dams, reservoirs, and tailings ponds;*
- *Intensive land use disturbances: including industrial, residential, commercial, recreational, and land reclamation work, and use of heritage resources as tourist developments.*
- *Mineral, oil and gas exploration: establishment of camps, temporary airstrips, access routes, well sites, or quarries all have potential for impacting heritage resources.*

## **Types of Studies Undertaken to Preserve Heritage Resources**

**Overview:** An overview study of heritage resources should be conducted at the same time as the development project is being designed or its feasibility addressed. They usually lack specificity with regard to the exact location(s) and form(s) of impact and involve limited, if any, field surveys. Their main aim is to accumulate, evaluate, and synthesize the existing knowledge of the heritage of the known area of impact. The overview study provides managers with baseline data from which recommendations for future research and forecasts of potential impacts can be made. A Class I Permit is required for this type of study if field surveys are undertaken.

**Reconnaissance:** This is done to provide a judgmental appraisal of a region sufficient to provide the developer, the consultant, and government managers with recommendations for further development planning. This study may be implemented as a preliminary step to inventory and assessment investigations except in cases where a reconnaissance may indicate a very low or negligible heritage resource potential. Alternately, in the case of small-scale or linear developments, an inventory study may be recommended and obviate the need for a reconnaissance.

The main goal of a reconnaissance study is to provide baseline data for the verification of the presence of potential heritage resources, the determination of impacts to these resources, the generation of terms of reference for further studies and, if required, the advancement of preliminary mitigative and compensatory plans. The results of reconnaissance studies are primarily useful for the selection of alternatives and secondarily as a means of identifying impacts that must be mitigated after the final siting and design of the development project.

Depending on the scope of the study, a Class 1 or Class 2 Permit is required for this type of investigation.

**Inventory:** A resource inventory is generally conducted at that stage in a project's development at which the geographical area(s) likely to sustain direct, indirect, and perceived impacts can be well defined. This requires systematic and intensive fieldwork to ascertain the effects of all possible and alternate construction components on heritage resources. All heritage sites must be recorded on Government of Nunavut Site Survey forms. Sufficient information must be amassed from field, library and archival components of the study to generate a predictive model of the heritage resource base that will:

- allow the identification of research and conservation opportunities;
- enable the developer to make planning decisions and recognize their likely effects on the known or predicted resources; and
- make the developer aware of the expenditures, which may be required for subsequent studies and mitigation. A Class 1 or 2 permit is required.

**Assessment:** At this stage, sufficient information concerning the numbers and locations of heritage resources will be available, as well as data to predict the forms and magnitude of impacts. Assessments provide information on the size, volume, complexity and content of a heritage resource, which is used to rank the values of different sites or site types given current archaeological knowledge. As this information will shape subsequent mitigation program(s), great care is necessary during this phase.

**Mitigation:** This refers to the amelioration of adverse impacts to heritage resources and involves the avoidance of impact through the redesign or relocation of a development or its components; the protection of the resource by constructing physical facilities; or, the scientific investigation and recovery of information from the resource by excavation or other method. The type(s) of appropriate mitigative measures are dictated by their viability in the context of the development project. Mitigation strategies must be developed in consultation with, and approved by, the Department of Culture and Heritage. It is important to note that mitigation activities should be initiated as far in advance of the construction of the development as possible.

**Surveillance and monitoring:** These may be required as part of the mitigation program.

*Surveillance* may be conducted during the construction phase of a project to ensure that the developer has complied with the recommendations.

*Monitoring* involves identification and inspection of residual and long-term impacts of a development (i.e. shoreline stability of a reservoir); or the use of impacts to disclose the presence of heritage resources, for example, the uncovering of buried sites during the construction of a pipeline.