



SCREENING DECISION REPORT NIRB FILE No.: 15EN049

NPC File No.: 148439

April 21, 2017

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.'s "Parker Lake Temporary Exploration Camp and Airstrip and Cone Hill Exploration Project" 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) accepts this Screening Decision Report.

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REGULATORY FRAMEWORK

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

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

These objectives are confirmed under section 23 of the NuPPAA.

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

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

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

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

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

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

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 January 23, 2017 the Nunavut Impact Review Board (NIRB or Board) received a referral to screen Agnico Eagle Mines Ltd.’s “Parker Lake Temporary Exploration Camp and Airstrip and Cone Hill Exploration Project” proposal from the Nunavut Planning Commission (NPC or Commission), with an accompanying positive conformity determination with the Keewatin Regional Land Use Plan. The NPC noted that the previous conformity determinations issued on October 21, 2015 and September 9, 2016 for the activities associated with the current proposal

continues to apply and determined that the project proposal is a significant modification to the project because of the proposed new camp and airstrip.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the Nunavut Agreement and section 87 of 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 15EN049, the NIRB viewed this project proposal as an amendment to the previously screened project and assigned this proposal with this previous file number.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Project Scope

The proposed “Parker Lake Temporary Exploration Camp and Airstrip and Cone Hill Exploration Project” is located within the Kivalliq region, approximately 88 kilometres east of Baker Lake. The Proponent intends to establish an exploration camp and airstrips at the Parker Lake exploration site and commence exploration for gold mineralization at the Cone Hill exploration site. The project is proposed to take place from May 2017 to September 2021. The scope of activities previously approved for these ongoing exploration activities (NIRB File No. 15EN049) has been included within **Appendix A**.

As required under subsection 86(1) of the NuPPAA, the Board accepts the scope of the “Parker Lake Temporary Exploration Camp and Airstrip and Cone Hill Exploration Project” project as set out by Agnico Eagle Mines Ltd. in the proposal. The scope of the project proposal includes the following undertakings, works, or activities:

- Mobilization of 20 personnel to the Parker Lake and Cone Hill project site(s);
- Establishment of a temporary 20-person tent camp and associated facilities at the Parker Lake to support exploration activities;
- Use of generator sets for camp electricity;
- Daily withdrawal of water from proximal lakes, rivers, and ponds to support exploration activities;
- Transportation, drummed-storage, and use of up to 41,000 litres (L) of diesel, 41,000 L of aviation fuel, and 2050 L of gasoline;
- Construction and operation of an ice airstrip on a lake and a land-based airstrip on an esker near the Parker Lake exploration site;
- Initiation of prospecting, geophysical surveys, and diamond drilling at the Cone Hill exploration site;
- Use of helicopters and T-Otter planes to transport personnel, material and equipment from the Meliadine Gold Project site (NIRB File No. 11MN034) to the exploration site(s);
- Use of snowmobiles, all-terrain vehicles, and tracked tractors to support exploration activities;
- Use of portable toilets for human waste;
- Use of a multiple-chamber incineration of domestic waste;
- Disposal of camp greywater in natural depressions; and
- Transportation of hazardous, combustible, and non-combustible wastes to approved facilities for disposal.

2. Inclusion or Exclusion to Scoping List

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
January 23, 2017	Receipt of project proposal and positive conformity determination (Keewatin Regional Land Use Plan) from the NPC
January 23, 2017	Scoping pursuant to subsection 86(1) of the NuPPAA
January 30, 2017	Public engagement and comment request
February 20, 2017	Receipt of public comments
March 3, 2017	Receipt of additional comments, following NIRB extension
March 23, 2017	Proponent responded to comments/concerns raised by public
March 8, 2017	Ministerial extension requested from the Minister of Indigenous and Northern Affairs, Government of Canada

4. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on January 30, 2017 to community organizations in Arviat, Whale Cove, Rankin Inlet, Chesterfield Inlet, Baker Lake, and Nauyasat, as well as to relevant federal and territorial government agencies, Inuit organizations, and other parties. The NIRB requested that interested parties review the proposal and provide the Board with any comments or concerns by February 20, 2017 regarding:

- Whether the project proposal is likely to arouse significant public concern; and if so, why;
- Whether the project proposal is likely to cause significant adverse eco-systemic or socio-economic effects; and if so, why;
- Whether the project proposal is likely to cause significant adverse impacts on wildlife habitat or Inuit harvest activities; if so, why;
- Whether the project proposal is of a type where the potential adverse effects are highly predictable and mitigable with known technology, (please provide any recommended mitigation measures); and
- Any matter of importance to the Party related to the project proposal.

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

Kivalliq Inuit Association (KIA)

- Noted concerns regarding potential impacts to terrain, wildlife and their habitat, and Inuit harvesting activities.
- Recommended that the Proponent mitigate potential impacts to wildlife migration and hunting activities due to the proximity of the project to caribou calving grounds.
- Requested information on the number of tents/structures to be established on site and the heating source for each tent.

- Indicated that caribou, muskoxen, and wolf habitat overlap the project area, and recommended wildlife management plans be implemented to mitigate potential impacts to wildlife.
- Indicated that it was in support of the project.

Environment and Climate Change Canada (ECCC)

- Noted that conflicting information was presented in the application regarding location and methods of waste incineration, and requested clarification on location of incineration, the types of wastes to be incinerated, and the model of the incinerator(s) to be used.
- Noted that the application did not include information on the number of drill targets, the types of drills to be used, and the timing of operations at the Cone Hill exploration site to allow reviewers to assess potential impacts to migratory birds; and recommended that if drilling is proposed over waterbodies during winter, the Proponent should implement reverse circulation drilling to prevent deleterious substances entering water bodies.
- Requested that the Proponent's Wildlife Protection and Response Plan be updated to include:
 - The following statement to be in line with the *Migratory Birds Convention Act*: "The destruction or disruption of wildlife nests, eggs, dens, burrows, and the like, is prohibited at all times"
 - A list of species at risk that may be encountered in the project area as noted in the *Species at Risk Act*.
 - Mitigation measures related to potential impacts to wildlife in the area.

Indigenous and Northern Affairs Canada (INAC)

- Noted that information was not provided on records of community engagement/consultation activities undertaken by the Proponent to discuss community concerns regarding the proposed activities. Recommended that the Proponent conduct community consultation prior to the start of the new activities.
- Noted that an assessment of potential cumulative impacts of the proposed project was not presented in the application. Recommended that an assessment be completed to address potential cumulative impacts, and that the assessment should include the current project proposal and other past and reasonably foreseeable projects in the area.

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

The following is a summary of the comments and concerns received with respect to Inuit Qaujimaningit, traditional and community knowledge:

Kivalliq Inuit Association (KIA):

- Indicated that the proposed project area is in proximity to caribou calving grounds and habitat for muskoxen and wolves.
- Recommended that the Proponent mitigate potential impacts to wildlife and hunting practices in the area.

6. Proponent's Response to Public Comments and Concerns

The following is a summary of the Proponent's response to concerns as received on March 23, 2017:

- In response to concerns regarding potential impacts of the project on caribou, muskoxen, and wolves, as well as wildlife hunting practices in proximity to the area, the Proponent indicated that it plans to mitigate impacts to wildlife by measures such as giving the right-of-way to wildlife, prohibiting feeding and harassment of wildlife, prohibiting destruction of nests, eggs, dens, and burrows, and prohibiting hunting and fishing by project personnel on site. The Proponent committed to implementing a Wildlife Protection and Response Plan, which includes caribou and muskoxen protocols such as suspending field work when 10 or more muskoxen or 50 or more caribou are migrating through or in proximity to the project area, and only commencing off-site drilling and/or helicopter activities when caribou or muskoxen herds are at least 5 kilometres from the location of such field activities.
- In response to requests for additional information on tents/structures to be established on site, the Proponent confirmed that it proposes to establish nine (9) tents at the project site, including a core shack, a core splitting room, a medical room, a dry room, a kitchen, dormitories and a sanitary tent. The Proponent indicated that it plans to use a combination of furnaces and electric heating for the tents, and that all fuel tanks and drums will be installed in high-density polyethylene-lined secondary containment.
- In response to requests for clarification on methods proposed for waste incineration and the siting of incinerators, the Proponent indicated that it plans to install a double chamber incinerator at the Parker Lake camp to manage domestic waste, and may also use the existing waste management facilities at the Meliadine site, if needed. The Proponent committed to updating its Waste Management Plan to include the waste management modifications, including incineration, related to the proposed project prior to commencement of field operations.
- In response to requests for additional information on numbers, types and locations of drills to be used for the project, the Proponent indicated that 20 drill sites are planned at the Cone Hill exploration area in the summer months, and that it does not plan to drill on frozen water bodies during the winter months. The Proponent also stated that it plans to use standard drilling equipment on ice, and that it does not anticipate additional environmental risks with the use of this equipment considering the environmental management measures to be implemented for operations.
- In response to requests that the proposed Wildlife Protection and Response Plan be updated with recommended wording for the protection of wildlife habitat, a list of species at risk under the *Species at Risk Act*, and additional measures to protect wildlife in the project area, the Proponent indicated that:
 - The Wildlife Protection and Response Plan has been revised with appropriate wording on the protection of wildlife habitat such as nests, dens, and burrows;
 - A list of species at risk has been included in the Wildlife Protection and Response Plan; and
 - Potential impacts to wildlife are expected to be low with the implementation of the Wildlife Protection and Response Plan.

- In response to a request for a record of community engagement and details on planned additional community consultation, the Proponent indicated that they held meetings with Rankin Inlet Hunters and Trappers Organization on May 5, 2016, with the public in Rankin Inlet on June 6, 2016, and with the public in Baker Lake on June 7, 2016 to discuss planned exploration activities and the Wildlife Protection and Response Plan. The Proponent also committed to holding additional public meetings with potentially impacted communities regarding its exploration projects in the region.
- In response to a request for an assessment of potential cumulative impacts associated with the project, the Proponent indicated that, based on the limited equipment quantity, workers, and project duration, the activities associated with the project are expected to result in low scale impacts. The Proponent further stated that their proposed mitigation measures will reduce the potential impacts to the environment, and that potential impacts of any future development, e.g., a mine, would be assessed in an Environmental Impact Statement.

FACTORS FOR DETERMINING SIGNIFICANCE OF IMPACTS

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

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

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

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

The proposed exploration activities for gold mineralization will occur in an area approximately 88 kilometres (km) east of Baker Lake. The total area of the mineral claims to be explored is approximately 400 square kilometres, and will include a twenty-person temporary exploration camp and two (2) airstrips. The project footprint also includes helicopter and aeroplane-assisted travel routes from the existing Meliadine Gold Mine Project site to the proposed Parker Lake camp and to prospecting areas and drill sites on the mineral claims. The proposed project activities may take place within habitat for caribou, muskox, wolf, wolverine, Arctic fox, Arctic hare, migratory and non-migratory birds, fish, and Species at Risk such as Polar Bear, as identified by the Proponent and mapping sources. The project may potentially affect animal migratory patterns.

2. *The ecosystemic sensitivity of that area.*

The proposed project may occur in an area with ecosystemic sensitivity, including the potential for overlap of portions of the project footprint with habitat for caribou and other

wildlife. Specifically, the footprint of the proposed project may overlap areas identified as having value and priority to local communities for:

- i. Abundance of caribou, muskox, wolves, and wolverine;
- ii. Caribou migration routes; and
- iii. Arctic char and lake trout.

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

The Proponent has indicated that there are a number of known areas of archaeological significance in the vicinity of the project area. Should the project be approved to proceed, the Proponent has committed to avoiding identified archaeological resources in the vicinity of the project area and would be required to contact the Government of Nunavut-Department of Culture and Heritage if any additional sites of historical, cultural or archaeological significance are encountered.

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

The proposed project would occur at locations approximately 88 km from Baker Lake, the nearest community; as such, no human populations are likely to be affected by project impacts. However, there is the potential for impacts to community members in the Kivalliq region that may use areas in proximity to the proposed project area for traditional activities such as hunting, fishing and camping activities.

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 “Parker Lake Temporary Exploration Camp and Airstrip and Cone Hill Exploration Project” is a proposed exploration program for gold mineralization involving prospecting, geophysical surveys and use of conventional drilling equipment, the nature of potential impacts is considered to be well-known. Potential adverse impacts are likely to be localized, of medium magnitude, and restricted to the period of project activities (a total of 150 days from 2017 to 2021). Due to the proximity of portions of the mineral claims to caribou habitat, specific mitigation measures for the protection of critical life stages of caribou herds in the area may be necessary. Based on past evidence of similar scope of activities, potential adverse impacts will be 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.*

The proposed project would take place within a 100 kilometre (km) radius of other projects that have been or are being assessed by the Board. These projects include “Parker, Peter and Fox Lakes Exploration” and “Parker, Peter and Fox Lakes Winter Access” (NIRB File No. 15EN049) adjacent to or overlapping the area proposed for the proposed project; “Right of Way” (NIRB File No. 15RN010) adjacent to and/or overlapping the area of the proposed

project; “Gibson-MacQuoid Project” (NIRB File No. 17EN029) adjacent to mineral claims associated with the proposed project; and “Meliadine Bulk Sample” (NIRB File No. 10EA018), “Meliadine River – Mining Exploration” (NIRB File No. 10EN006), “Meliadine East Exploration” (NIRB File No. 08EN043) and the “Meliadine Gold Mine” (NIRB Project Certificate No. 006), which are in proximity to the proposed project area.

However, it is noted that this project is not likely to result in significant residual cumulative impacts. The potential for cumulative impacts to terrestrial wildlife and habitat, fish and fish habitat, water quality and quantity, cultural and archaeological resources, ground stability, soil quality, and traditional wildlife harvesting pursuits from the proposed mineral exploration project activities and other projects occurring in the region has been identified and considered in the development of the NIRB’s recommendations. Terms and conditions recommended for each of these projects are expected to reduce any residual impacts, and as such would limit or reduce the potential for cumulative effects to occur.

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.

Although no significant public concerns were raised during the public commenting period, the NIRB notes that the proximity of the proposed activities to the communities of Baker Lake and Rankin Inlet, and areas used by residents for recreational/traditional pursuits could potentially contribute to public concern developing. A term and condition has been recommended to direct engagement with the community, hunters and trappers organization and interested parties, as well as the posting of public notices to ensure residents are aware of the mineral exploration activities being or to be conducted.

VIEWS OF THE BOARD

In considering the factors as set out above in the screening of the project proposal, the NIRB has identified a number of issues below and respectfully provide the following views regarding whether or not the proposed project has the potential to result in significant impacts. In addition, the NIRB 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 44 which continue to apply to the current project proposal. The Board is also recommending term and condition 54 to ensure complete reference to applicable regulatory requirements.

The Board would also note that, as justified in its previous decisions (NIRB File No. 15EN049 dated January 18, 2016 and December 23, 2016), terms and conditions 46 through 53 remain applicable to the proposed project, and the “Peter, Fox, and Parker Lakes” and “Parker, Peter and

Fox Lakes Winter Access” projects, while the additional impacts identified for the new components of the “Parker Lake Temporary Exploration Camp and Airstrip and Cone Hill Exploration Project” warrant mitigation measures as justified below.

Ecosystem, wildlife habitat and Inuit harvesting activities:

Issue 1: Potential adverse impacts to caribou and caribou habitat from noise and traffic generated by the proposed prospecting, exploration drilling, and associated overland travel and flights to/from the camp and exploration sites, and on-site buildup of waste.

Board views: The activities associated with the project involve operation of a camp, helicopter-assisted travel, or overland travel to conduct prospecting and exploration drilling activities. Although some components of proposed project activities may be in proximity to habitat of importance to caribou (including migration routes and calving grounds), the potential impacts caribou are considered to be restricted to the duration of project activities (a total of 150 days from 2017 to 2021). The Proponent has committed to implementing a Wildlife Protection and Response Plan, including protocols for the suspension of field activities to avoid impacts to caribou. The Proponent also intends to implement a Waste Management Plan at the Parker Lake camp to manage domestic waste. As a result of the mitigation measures presented by the Proponent, the adverse impacts to caribou and caribou habitat are considered to be infrequent and reversible.

The Proponent would also be required to follow the *Nunavut Wildlife Act* (see Regulatory Requirements section).

Noted Inuit Qaujimaningit, traditional or community knowledge: The Kivalliq Inuit Association indicated that the proposed project area is in proximity to caribou calving grounds and that the Proponent should mitigate potential impacts to wildlife and hunting practices in the area.

Recommended Mitigation Measures: It is recommended that the potential adverse impacts to caribou may be mitigated by measures such as requiring the Proponent to cease activities that may interfere with the migration or calving of caribou until the caribou have left the area. The Board has previously recommended terms and conditions to mitigate potential adverse impacts to caribou and caribou habitat, specifically: 24 through 27, which continue to apply to the current project proposal. In addition, the NIRB also recommends the following terms and conditions to mitigate potential adverse impacts to caribou from proposed incineration activities: 55 through 58.

Issue 2: Potential adverse impacts to terrestrial wildlife and birds from noise associated with geophysical surveys, transport of personnel to and from the camp and exploration drill sites, fuel spills or leaks, disturbance to nests, and air pollution from the incineration of wastes.

Board views: There is potential for disturbance of terrestrial wildlife, including muskoxen and wolves, and migratory and non-migratory birds from air and on-land transport of field

personnel, and drilling and waste disposal activities. However, the potential adverse impact(s) of the project to terrestrial wildlife and birds is considered to be of medium magnitude due to the scale and duration (a total of 150 days from 2017 to 2021) of the exploration program. The Proponent has committed to implementing a Wildlife Protection and Response Plan, including protocols for suspension of field activities to avoid impacts to muskoxen and field surveys to identify nesting bird sites prior commencement of drilling activities. The Proponent also intends to use a double chamber incinerator at the Parker Lake camp to reduce the potential for emission of dioxins and furans from incomplete combustion of waste. As a result of the mitigation measures proposed by the Proponent, the adverse impacts to terrestrial wildlife, including muskoxen and birds are considered to be of medium magnitude and reversible.

The Proponent would be required to follow the *Nunavut Wildlife Act*, the *Migratory Birds Convention Act*, *Transportation of Dangerous Goods Act* and the *Canadian Environmental Protection Act* (see Regulatory Requirements section).

Noted Inuit Qaujimaningit, traditional or community knowledge: The Kivalliq Inuit Association indicated that the proposed project area is in proximity to habitat for wolves and muskoxen.

Recommended Mitigation Measures: It is recommended that the potential adverse impacts to terrestrial wildlife and birds may be mitigated by measures such as minimizing activities when birds are particularly sensitive to disturbance especially during migration, nesting and moulting. The Board has previously recommended terms and conditions to mitigate potential adverse impacts to terrestrial wildlife, specifically: 7, 10, and 14 through 27, which continue to apply to the current project proposal. In addition, the NIRB also recommends the following terms and conditions to mitigate potential adverse impacts to terrestrial wildlife from proposed incineration activities: 55 through 58.

Issue 3: Potential adverse impacts on fish and fish habitat, including water quality and quantity, from exploration activities, including water withdrawal for camp operations, drilling works with the use of drill salts and deposition of drill cuttings, as well as possible accidents or malfunctions resulting in fuel, salts, or chemical spills.

Board views: The project may adversely impact water quality and quantity, and fish and fish habitat from water withdrawal, fuel and hazardous material spills, erosion, and deposition of contaminated soil into or in proximity to the aquatic environment, including fish-bearing waterbodies. However, the potential for adverse impacts on fish and fish habitat, including water quality and quantity from drilling, deposition of drill cuttings, and water withdrawal are likely to be limited to the footprint of the proposed temporary camp and locations for exploration drilling. The Proponent has committed to implementing a Spill Contingency Plan for the project and to storing all fuel storage containers in high-density polyethylene-lined secondary containment structures to prevent the spread of any fuel spill incidents. As a result, the potential adverse impacts

to water quality, fish and fish habitat are considered to be of low magnitude and reversible.

The Proponent would require a water licence from the Nunavut Water Board for the water use 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: It is recommended that the potential adverse impacts to surface water quality and quantity, fish and fish habitat may be mitigated by measures such as requiring the Proponent to ensure all project personnel are properly trained in fuel and hazardous waste handling procedures, as well as spill response and waste management. The Board previously recommended the following terms and conditions to mitigate potential impacts to surface water quality and fish and fish habitat: 5, 6, 9, 12, 13, 28, 29, 45, 47, and 49 through 51, which continue to apply to the current project proposal.

Issue 4: Potential adverse impacts to ground stability and soil quality from the establishment of a temporary camp, airstrips and fuel caches, and from exploration drilling activities.

Board Views: The activities proposed for the project, including establishment of temporary camp and fuel caches, airstrips, and the exploration drilling activities, may result in degradation of permafrost which would negatively affect ground stability. Also, buildup of waste from field operations on site may have adverse impacts to soil quality. However, the potential for impacts is limited to the footprint of drill sites, camp area, airstrips, and fuel caches, which are also temporary in nature. To mitigate potential impacts to soil quality and ground stability, the Proponent has committed to using sections of winter access located on ice or snow to avoid dozing or scrapping of exposed soil with heavy equipment. The Proponent has also committed to implementing a Waste Management Plan and removing all materials brought to the site upon demobilization. The potential adverse impacts to ground stability and soil quality are considered to be of low magnitude, short-term and reversible.

The Proponent would also be required to follow the *Transportation of Dangerous Goods Regulations*, *Transportation of Dangerous Goods Act*, and the *Canadian Environmental Protection Act*.

Recommended Mitigation Measures: It is recommended that potential adverse impacts to ground stability and soil quality be mitigated by such measures as requiring the Proponent to 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. The Board has previously recommended the following terms and conditions to mitigate potential impacts to ground stability and soil quality: 12, 28, 29, 40, 41, 45, 46, 48, and 50 through 52, which continue to apply to the current project proposal.

Issue 5: Potential adverse impacts to public and traditional land use pursuits from noise associated with exploration drilling and aircraft use.

Board Views: The Proponent is proposing to work in an area in proximity to caribou habitat for migration, and calving and post-calving. There is potential for disruption of these critical caribou events as a result of noise generated from activities associated with the project proposal, which may reduce local caribou populations and availability of caribou as country food. The Proponent has committed to holding additional public meetings with potentially impacted communities regarding its exploration projects in the region to seek further community input. Such additional community engagement may help identify potential resource use conflicts and inform the execution of the project. As a result of concerns raised during the public commenting period regarding disturbance to caribou habitat and caribou movement, the NIRB has included recommendations that the Proponent conduct the operations outside of May 15 to July 15 in project areas in proximity to natural ranges for caribou calving and post-calving. In addition, terms and conditions have been recommended to plan operations to avoid disturbance to key wildlife, birds, and humans, and to minimize negative impacts to traditional land use activities by ensuring ongoing consultation with the community and community organizations.

Noted Inuit Qaujimaningit, traditional or community knowledge: The Kivalliq Inuit Association recommended that the Proponent should mitigate potential impacts to wildlife and hunting practices that occur in the project area.

Recommended Mitigation Measures: The Board previously issued term and condition 17 through 27 to minimize potential interference with the movement of birds and wildlife; 43 to mitigate impacts to public and traditional land use activities from project activities; 42 to ensure that affected communities and organizations are informed about the project proposal; and 53 to mitigate the potential adverse impacts from noise to migratory birds and terrestrial wildlife of importance to traditional and recreational pursuits. These terms and conditions continue to apply to the current project proposal.

Socio-economic effects on northerners:

Issue 6: Potential adverse impacts to historical, cultural, and archaeological sites from ground disturbance associated with overland travel and drilling activities.

Board Views: The Proponent is proposing to work in an area of known archaeological importance, which may result in adverse impacts to these resources. To mitigate potential adverse impacts to archaeological resources in the project area, the Proponent has committed to establishing protection buffers around archaeological sites identified in the project area to avoid disturbance of these resources.

The Proponent is required to follow the *Nunavut Act* (as recommended in the Regulatory Requirements section) and would be required to contact the Government of

Nunavut-Department of Culture and Heritage if sites of historical, cultural and archaeological importance are encountered.

Recommended Mitigation Measures: The Board previously issued term and condition 42, to ensure that the affected communities and organizations are informed about the project proposal and that available Inuit Qaujimaningit can inform project activities and reduce the potential for adverse impacts occurring to any additional historical, cultural, and archaeological sites. This term and condition continues to apply to the current project proposal.

Significant public concern:

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

Board Views: It is noted that there is potential for public concern developing due to the location of the proposed activities in proximity to areas that may be used for traditional activities, such as hunting and camping, by communities in the Kivalliq region. Follow up consultation and involvement of the local communities in the Kivalliq region, including Rankin Inlet and Baker Lake, is expected to mitigate any potential for public concern resulting from project activities. The Proponent has committed to holding additional public meetings with potentially impacted communities regarding its exploration projects in the region to seek further community input.

Recommended Mitigation Measures: The Board previously recommended term and condition 42 to ensure that the affected communities and organizations are informed about the project proposal and to provide the Proponent with an opportunity to proactively address or mitigate any concerns that may arise from the project activities. This term and condition continues to apply to the current project proposal.

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 NIRB in the January 18, 2016 and the December 23, 2016 Screening Decision Reports for File No. 15EN049, **and continue to apply to the "Parker Lake Temporary Exploration Camp and Airstrip and Cone Hill 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 the Nunavut Planning Commission (Application to Determine Conformity, October 21, 2015), to the NIRB (NIRB Part 1 form, non-technical summary and PSIR on September 30, 2015; additional information submitted November 12, 2015 including NIRB Part 1 form in Inuktitut, Spill Contingency Plan and Waste Management Plan), the Indigenous and Northern Affairs Canada (Application for Class B Land Use Permit), and to the Nunavut Water Board Application (application for a new Water Licence, September 30, 2015).
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. *Modified* Unless otherwise authorized by the Nunavut Water Board, or as necessary for temporary winter access transport, 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, unless otherwise authorized by the Nunavut Water Board.
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 barrelled fuel and chemicals at all locations.

12. The Proponent shall use drip pans or other equivalent device when refuelling equipment on-site. 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.
13. 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 - General

14. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.
15. 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.
16. 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.

Migratory Birds and Raptors Disturbance

17. 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.
18. The Proponent shall minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting.
19. The Proponent shall ensure its aircraft avoid excessive hovering or circling over areas where bird presence is likely.

Aircraft Flight Restrictions

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.

Caribou and Muskoxen Disturbance

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 kilometre (km), or conduct any drilling operation within 5 km of any paths or crossings known to be frequented by caribou (e.g. designated caribou crossings).
27. During the period of May 15 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 snow mobiles and all-terrain 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 snow mobiles and all-terrain vehicles, until caribou are no longer in the immediate area.

Ground Disturbance

28. 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. Overland travel of equipment or vehicles must be suspended if rutting occurs.
29. 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 waterbody.

Drilling on Land

30. 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.
31. The Proponent shall not allow any drilling wastes to spread to the surrounding lands or water bodies.
32. If an artesian flow is encountered, the Proponent shall ensure the drill hole is immediately plugged and permanently sealed.
33. 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.
34. 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.
35. 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.

36. 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

37. 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).
38. 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.
39. The Proponent shall ensure that all drill cuttings are removed from ice surfaces daily.

Restoration of Disturbed Areas

40. The Proponent shall remove all garbage, fuel and equipment upon abandonment.
41. 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

42. The Proponent should, to the extent possible, hire local people and consult with local residents regarding their activities in the area and available Inuit Qaujimaningit that can inform project activities.
43. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.

The Board recommended the following additional project-specific terms and conditions for the “Parker, Peter and Fox Lakes Winter Access” project:

General

44. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (Application to Determine Conformity, September 9, 2016) and the NIRB (Online Application Form, October 13, 2016; Proponent’s supplementary application information, October 17, 2016; and Proponent’s Response to Interested Parties’ Comments, November 24, 2016).

Fuel and Chemical Storage

45. The Proponent shall remove and treat hydrocarbon contaminated snow or soils on site and along the route or transport them to an approved disposal site for treatment.

Winter Road/Trail

46. The Proponent shall select a winter route that maximizes the use of frozen water bodies.
47. The Proponent shall ensure that no disturbance of the stream bed or banks of any definable watercourse be permitted, except where deemed necessary for maintaining project-specific

operational commitments or by a responsible authority in cases of spill management. Likewise, the Proponent shall suspend all travel over waterbodies if disturbance to the banks or shorelines of any definable waterbody occurs.

48. The Proponent shall not move any equipment or vehicles without prior testing of the thickness of the ice to ensure the lake is in a state capable of fully supporting the equipment or vehicles.
49. 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.
50. The Proponent shall ensure that bank disturbances are avoided, and no mechanized clearing carried out immediately adjacent to any watercourse.
51. The Proponent shall avoid disturbance on slopes prone to natural erosion, and alternative locations shall be utilized.
52. 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.

Noise

53. All construction and road vehicles must be fitted with standard and well-maintained noise suppression devices and engine idling is to be minimized.

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

General

54. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (Application to Determine Conformity, January 23, 2017) and the NIRB (Online Application Form, January 24, 2017; Proponent's supplementary application information, January 30, 2017; and Proponent's Response to Interested Parties' Comments, March 23, 2017).

Waste Disposal/Incineration

55. The Proponent shall incinerate all combustible wastes daily, and remove the ash from incineration activities and non-combustible wastes from the project site to an approved facility for disposal.
56. The Proponent shall incinerate all combustible wastes daily and 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.
57. 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*.
58. The Proponent shall ensure that no waste oil/grease is incinerated on site.

The Board has previously recommended the following on January 18, 2016 and December 23, 2016:

Community Consultation Report

- 1) The Proponent shall submit a public consultation report prior to the commencement of project activities. The report shall include a copy of materials presented to community members, a description of issues and concerns raised, 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.

Annual Report

- 2) The Proponent shall submit a comprehensive annual report with copies provided to the Nunavut Impact Review Board and Government of Nunavut – Department of Environment, by March 31st of each year of permitted activities beginning March 31, 2017. 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 caches;
 - iii) a description of local hires, contracting opportunities and initiatives;
 - iv) flight altitudes, frequency of flights and anticipated flight routes;
 - v) site photos;
 - b) A summary of the overview assessment conducted of the exploration areas;
 - c) A work plan for the following year, including any progressive reclamation work undertaken;
 - d) 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;
 - e) A log of instances in which community residents occupy or transit through the project area for the purpose of traditional land use or harvesting. This log should include the location and number of people encountered, activity being undertaken (e.g. berry picking, fishing, hunting, camping, etc.), date and time; and any mitigation measures or adaptive management undertaken to prevent disturbance;
 - 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) A brief summary of Wildlife Monitoring and Mitigation Plan (WMMP) results as well as any mitigation actions that were undertaken. In addition, the Proponent shall maintain a record of wildlife observations while operating within the project area and include it as part of the summary report. The summary report based on wildlife observations should include the following:
 - (1) Locations (i.e., latitude and longitude), species, number of animals, a description of the animal activity, and a description of the gender and age of animals if possible.

- (2) Prior to conducting project activities, the Proponent should map the location of any sensitive wildlife sites such as denning sites, calving areas, caribou crossing sites, and raptor nests in the project area, and identify the timing of critical life history events (i.e., calving, mating, denning and nesting).
- (3) Additionally, the Proponent should indicate potential impacts from the project, and ensure that operational activities are managed and modified to avoid impacts on wildlife and sensitive sites.
- h) An analysis of the effectiveness of mitigation measures for wildlife as proposed in the WMMP;
- i) Summary of any heritage sites encountered during the exploration activities, any follow-up action or reporting required as a result and how project activities were modified to mitigate impacts on the heritage sites;
- j) Summary of its knowledge of Inuit land use in/near the project area and explain how project activities were modified to mitigate impacts on Inuit land use; and
- k) 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 recommended the following additional project-specific monitoring and reporting requirements for the “Parker, Peter and Fox Lakes Winter Access” project:

Annual Report

- 3) In addition to annual reporting requirements previously recommended on January 18, 2016 the Proponent shall include the following information in its annual report:
 - a) A record of wildlife-vehicle collisions and wildlife mortality along the winter access.
 - b) A summary measures taken to mitigate, monitor and/or analyze impacts to wildlife including any seasonal alterations to the winter access route implemented to avoid wildlife denning sites.

In addition to the previously recommended monitoring and reporting requirements, the Board is recommending the following:

Annual Report

- 4) In addition to annual reporting requirements previously recommended on January 18, 2016 and on December 23, 2016 the Proponent shall include the following information in its annual report:
 - a) A summary of mitigation measures undertaken to protect archaeological resources in the project area.
 - b) A summary of incineration activities for waste and results of stack tests conducted.
 - c) A summary of community consultation conducted specific to the “Parker Lake Temporary Exploration Camp and Airstrip and Cone Hill Exploration Project”.

Wildlife Protection and Response Plan

- 5) Prior to the commencement of field activities, the Proponent shall submit an updated Wildlife Protection and Response Plan to the Nunavut Impact Review Board, Government of Nunavut Department of Environment, Environment and Climate Change Canada, and the Kivalliq Inuit Association. The revised Plan should include:

- a) the following statement in line with the *Migratory Birds Convention Act*: “The destruction or disruption of wildlife nests, eggs, dens, burrows, and the like, is prohibited at all times”; and
- b) a list of species at risk that may be encountered in the project area as noted in the *Species at Risk Act*.

OTHER NIRB CONCERNS AND RECOMMENDATIONS

In addition to the project-specific terms and conditions, the Board has previously recommended the following on January 18, 2016 and December 23, 2016:

Bear and Carnivore Safety

1. *(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. 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.

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.

2. 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 Rankin Inlet, phone: 867-645-8084; Conservation Officer for Baker Lake, phone: 867-793-2944).

Species at Risk

3. *(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. 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

4. 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.

5. 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/>.

Change in Project Scope

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

Caribou Management

7. 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).
8. Territorial and federal government agencies update the Caribou Protection Map with updated data and information from the Beverly Qamanirjuaq Caribou Management Board (BQCMB).
9. 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 Nunavut Planning Commission, 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.
10. The Nunavut Planning Commission 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 Nunavut Planning Commission 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

11. 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.
12. 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.

Kivalliq Inuit Association

13. 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

14. 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.

Transport of Waste/Dangerous Goods

15. The Proponent shall ensure that a waste manifest accompanies the shipment of all waste oil/grease and 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.
16. The Proponent shall ensure that an export manifest or the appropriate transportation of dangerous goods (TDG) documentation accompany all potential hazardous samples and/or materials that are transported off site.

Winter Roads/Trails

17. If ice bridges are constructed, the Proponent follow the mitigation measures outlined in Fisheries and Oceans Canada's (DFO) Operational Statement for Ice Bridges, available at the following internet address: <http://www.dfo-mpo.gc.ca/regions/central/habitat/os-eo/provinces-territoires-territoires/nu/index-eng.htm>

The Board is currently also recommending the following:

Incineration of Wastes

18. The Proponent review Environment and Climate Change 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.

Indigenous and Northern Affairs Canada – Water Resources Division

19. 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 is in compliance with the conditions imposed through the Water Licence.

The Board previously recommended in the January 18, 2016 and the December 23, 2016 Screening Decision Reports for the “Peter, Fox, and Parker Lakes” and “Parker, Peter and Fox Lakes Winter Access” projects the following legislation, which continues to apply to the “Parker Lake Temporary Exploration Camp and Airstrip and Cone Hill Exploration Project” proposal:

Acts and Regulations

1. 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.
2. The *Fisheries Act* (<http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html>).
3. The *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (<http://www.canlii.org/ca/sta/n-28.8/whole.html>).
4. The *Migratory Birds Convention Act* and *Migratory Birds Regulations* (<http://laws-lois.justice.gc.ca/eng/acts/M-7.01/>).
5. The *Species at Risk Act* (<http://laws-lois.justice.gc.ca/eng/acts/S-15.3/index.html>). Attached in **Appendix B** is a list of Species at Risk in Nunavut.
6. The *Wildlife Act* (<http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html>) which contains provisions to protect and conserve wildlife and wildlife habitat, including specific protection measures for wildlife habitat and species at risk.
7. The *Nunavut Act* (<http://laws-lois.justice.gc.ca/eng/acts/N-28.6/>). The Proponent must comply with the proposed terms and conditions listed in the attached **Appendix C**.
8. 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.
9. The *Aeronautics Act* (<http://laws-lois.justice.gc.ca/eng/acts/A-2/>).

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Agnico Eagle Mines Ltd.'s "Parker Lake Temporary Exploration Camp and Airstrip and Cone Hill Exploration Project". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated April 21, 2017 at Whale Cove, NU



Elizabeth Copland, Chairperson

Attachments: Appendix A: Previously-Screened Project Proposals
 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 PROPOSALS

The original proposal (NIRB File No. 15EN049) was received by the NIRB from the Nunavut Planning Commission on October 21, 2015 and was screened by the Board pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada* (Nunavut Agreement) and Section 87 of the *Nunavut Planning and Project Assessment Act* (NuPPAA). On January 18, 2016 the NIRB issued a Screening Decision Report to the Minister of Indigenous and Northern Affairs, pursuant to paragraph 92(1)(a) of the NuPPAA, which indicated that the proposed project could proceed subject to the NIRB's recommended project-specific terms and conditions.

Agnico Eagle Mines Ltd.'s (the Proponent) original "Peter, Fox, and Parker Lakes" project proposal was located in the Kivalliq region, between 40 and 140 kilometres northwest of Rankin Inlet. The Proponent indicated that it intended to conduct exploration activities for gold mineralization. The project was proposed to take place annually from May to November 2016 through 2021.

As set out in the project proposal, the scope of the previously screened project included the following undertakings, works, or activities:

- Exploration activities proposed to be typically conducted between May to November to include ground or aerial geophysical survey, prospecting and diamond drilling (on-land and on-ice drilling activities);
- Use of existing facilities at Meliadine site for the approximately 10 staff for approximately 30 days a year;
- Use of helicopters to move drills, fuel, equipment and workers;
- Drilling approximately 30 holes per year between a depth of 150 to 250 metres on average. The number of drill holes and depth could be adjusted depending on the results obtained during the drilling program;
- Use of water from local ponds or lakes for drilling activities;
- Use and storage of fuel from the existing Meliadine site for drilling activities with up to 40 litres (L) of gasoline, 3600 L of diesel, 2050 L of jet fuel and 200 pounds of propane stored at each active drill site;
- Use and storage of hazardous materials and chemicals including drilling additives with the associated wastes (hazardous and non-hazardous) returned to the Meliadine camp daily for proper disposal; and
- Completion of ongoing archaeological investigations within the planned exploration area.

On September 9, 2016 the NIRB commenced the screening of the Proponent's "Parker, Peter and Fox Lakes Winter Access" project proposal. Due to the proposal containing activities that were sufficiently related to previously assessed activities under NIRB File No. 15EN049, the NIRB viewed this project proposal as an amendment to the previously screened project. Following screening, the NIRB confirmed that the project proposal remained subject to the terms and conditions recommended in the original January 18, 2016 Screening Decision Report along with additional terms and conditions as issued on December 23, 2016.

The Proponent's "Parker, Peter and Fox Lakes Winter Access" project was located within the Kivalliq region, between Baker Lake and the approved Meliadine Gold Mine Project site. The Proponent intended to transport materials between Baker Lake and the Meliadine Gold Mine Project site to the Parker, Peter and Fox lakes exploration sites to support exploration activities. The program was proposed to take place annually from January to May, 2017 through 2022.

The scope of the previously screened project associated with the September 9, 2016 amendment application included the following undertakings, works or activities:

- Completion of approximately thirty (30) overland trips annually from either Baker Lake or Meliadine Gold Mine Project site;
- Overland trips to utilize portions of the main access route previously authorized to M&T Enterprises Ltd. for transport of Agnico Eagle materials (NIRB File No. 15RN010), with the addition of new spur connections to the specified exploration project drop off points;
- Use of three (3) 45,000 pound (lb) tracked tractors (Challenger) and 13,230 lbs steel sleds, with each tractor having a payload capacity of 66,000 lbs;
- Transportation and use of up to 1800 litres (L) of diesel, up to 75 L each of hydraulic oil motor oil, and glycol, for operation of the tractors;
- Transportation of drills, core boxes, snow cats, pick-up trucks, and miscellaneous travel supplies;
- Collection of grey water incurred on the road and disposal at the nearest approved disposal location, either Baker Lake or the Meliadine Gold Mine Project site;
- Collection of garbage produced on the road and disposal at the nearest approved disposal location, either Baker Lake or the Meliadine Gold Mine Project site; and
- Use of one (1) helicopter and two (2) snowmobiles to transport personnel to and from either Baker Lake or the Meliadine Gold Mine Project site, and the Parker, Peter, Fox exploration camps.

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) to get the current status of a species.

Updated: October 2016

Species at Risk ¹	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility ²
Migratory Birds			
Eskimo Curlew	Endangered	Schedule 1	ECCC
Buff-breasted Sandpiper	Special concern	Pending	ECCC
Ivory Gull	Endangered	Schedule 1	ECCC
Ross's Gull	Threatened	Schedule 1	ECCC
Harlequin Duck (Eastern population)	Special Concern	Schedule 1	ECCC
Rusty Blackbird	Special Concern	Schedule 1	GN
Peregrine Falcon	Special Concern (<i>anatum-tundrius</i> complex ³)	Schedule 1 - Threatened (<i>anatum</i>) 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	ECCC
Red Knot (<i>islandica</i> subspecies)	Special Concern	Schedule 1	ECCC
Horned Grebe (Western population)	Special Concern	Pending	ECCC
Red-necked Phalarope	Special concern	Pending	ECCC
Vegetation			
Felt-leaf Willow	Special Concern	Schedule 1	GN
Blanket-leafed Willow	Special Concern	Schedule 1	GN
Porsild's Bryum	Threatened	Schedule 1	GN
Terrestrial Wildlife			
Peary Caribou	Endangered	Schedule 1	GN
Peary Caribou (High Arctic Population)	Endangered	Schedule 2	GN
Peary Caribou (Low Arctic Population)	Threatened	Schedule 2	GN
Barren-ground Caribou (Dolphin and Union population)	Special Concern	Schedule 1	GN
Marine Wildlife			
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	Pending	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)	Special Concern	Schedule 2	DFO
Killer Whale (Northwest Atlantic / Eastern Arctic populations)	Special Concern	Pending	DFO
Grey Whale (Eastern North Pacific population)	Special Concern	Schedule 1	DFO

Species at Risk ¹	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility ²
Humpback Whale (Western North Atlantic population)	Special Concern	Schedule 3	DFO
Narwhal	Special Concern	Pending	DFO
Fish			
Northern Wolffish	Threatened	Schedule 1	DFO
Atlantic Wolffish	Special Concern	Schedule 1	DFO
Bering Wolffish	Special Concern	Schedule 3	DFO
Fourhorn Sculpin	Special Concern	Schedule 3	DFO
Roundnose Grenadier	Endangered	Pending	DFO
Spotted Wolffish	Threatened	Schedule 1	DFO
Thorny Skate	Special Concern	Pending	DFO
Atlantic Cod, Arctic Lakes	Special Concern	Pending	DFO
Blackline Prickleback	Special Concern	Schedule 3	DFO

Notes: DFO: Fisheries and Oceans Canada; ECCC: Environment and Climate Change Canada; GN: Government of Nunavut

¹The Department of Fisheries and Oceans has responsibility for aquatic species.

²Environment and Climate Change Canada 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.

³The *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:

	Types of Development (See Guidelines below)	Function (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*¹ to issue such permits.

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

¹ 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 *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut 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*², the federal government can make regulations for the protection, care and preservation of palaeontological and archaeological sites and specimens in Nunavut. Under

² s. 51(1)

the *Nunavut Archaeological and Palaeontological Sites Regulations*³, 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 Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut 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.*

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)

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, and Heritage (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

³ P.C. 2001-1111 14 June, 2001

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 *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut 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 Palaeontological Sites Regulations*.

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.