



SCREENING DECISION REPORT

NIRB FILE No.: 16EN062

NPC File No.: 148999

Related to NPC File No.: 148356

NWB Licence No.: 2BE-MPP1719

February 28, 2019

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of North Arrow Minerals Inc.'s "Mel Project" is not required pursuant to Article 12, Section 12.4.4(a) of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)* and s. 92(1)(a) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (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 accept this Screening Decision Report.

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REGULATORY FRAMEWORK

The primary objectives of the NIRB are set out in Article 12, Section 12.2.5 of the *Nunavut Agreement* and are confirmed by s. 23 of the *NuPPAA*:

Nunavut Agreement, Article 12, Section 12.2.5: 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.

The purpose of screening is provided for under Article 12, Section 12.4.1 of the *Nunavut Agreement* and s. 88 of the *NuPPAA* which states:

NuPPAA, s. 88: 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 Article 12, Section 12.4.2(a) and (b) of the *Nunavut Agreement* and s. 89(1) of *NuPPAA* which states:

NuPPAA, s. 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 under Article 12, Section 12.4.2(c) and s. 89(2) of the *NuPPAA* provides that the considerations set out in s.89(1)(a) prevail over the considerations set out in s. 89(1)(b) of the *NuPPAA*.

As set out under Article 12, Section 12.4.4 of the *Nunavut Agreement* and s. 92(1) of the *NuPPAA*, upon conclusion of the screening process, the Board must provide its written report the Minister. The contents of the NIRB's report are specified under *NuPPAA*:

NuPPAA, s. 92(1): The Board must submit a written report to the responsible Minister containing a description of the project that specifies its scope and indicating that:

- (a) a review of the project is not required;
- (b) a review of the project is required; or
- (c) the project should be modified or abandoned.

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 pursuant to paragraph 92(2)(a) of *NuPPAA* as follows:

NuPPAA, s. 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 December 24, 2018 the Nunavut Impact Review Board (NIRB or Board) received a referral to screen North Arrow Minerals Inc.'s "Mel Project" project proposal from the Nunavut Planning Commission (NPC or Commission), with an accompanying positive conformity determination with the Keewatin Regional Land Use Plan (KRLUP). The NPC noted that the previous conformity determination issued on October 31, 2016 for the activities associated with the current proposal continues to apply and has determined that the project proposal is a significant modification to the project because of the addition of a waste incinerator may have ecosystemic impacts over a broader area.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Nunavut Agreement* and section 87 of the *NuPPAA* the NIRB has commenced screening this project proposal. Due to the proposal containing activities that are sufficiently related to previously assessed activities under NIRB file number **16EN062**, the NIRB viewed this project proposal as an amendment to the previously screened project and assigned this proposal with this previous file number. A summary of the previously screened project activities can be found in **Appendix A**.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Information Requests

On December 24, 2018 the NIRB requested that the Proponent complete the online application form through the NIRB's public registry system and ensure, pursuant to s. 144(1) of the *NuPPAA*, that the information provided be sufficient to determine the scope of the project activities being proposed and that sufficient information has been provided to commence screening. Following a preliminary completeness check of the proposal as submitted, the NIRB determined that the proposal did not contain the necessary information for the NIRB to carry out its screening and on January 11, 2019 requested that the Proponent provide the Board with the additional information in order to carry out the screening of the project proposal.

On January 24, 2019 the NIRB received the required additional information and commenced the screening pursuant to Part 3 of the *NuPPAA*.

2. Project Scope

All documents received and pertaining to this project proposal can be accessed from the NIRB's online public registry at www.nirb.ca/project/125434.

The “Mel Project” project activities as previously screened by the NIRB (File No. 16EN062) included a seasonal exploration program for diamonds within six (6) mineral claims. A complete description of the scope of activities previously approved has been included within **Appendix A**.

North Arrow Minerals Inc. is currently proposing the “Mel Project” project which would be located in the same area as previously approved and would be located within the Qikiqtani (South Baffin) region and the area of jurisdiction of the KRULP, approximately 150 kilometres (km) south from Hall Beach and 200 km northeast from Nauyasat. The Proponent intends to amend the scope of previously approved activities to include an incinerator and extend the period of operation for the project activities. The program is proposed to take place from 2019 to 2024.

As required under s. 86(1) of the *NuPPAA*, the Board accepts the scope of the amended Mel Project as set out by North Arrow Minerals Inc. in the proposal. The scope of the amended project proposal includes the following additional undertakings, works, or activities:

- Addition of a waste incinerator; and
- Continue to use existing temporary camp to facilitate mineral exploration activities.

3. Inclusion or Exclusion to Scoping List

The NIRB has identified no additional works or activities in relation to the project proposal. As a result, the NIRB proceeded with screening the project based on the scope as described above.

4. Key Stages of the Screening Process

The following key stages were completed:

Date	Stage
December 24, 2018	Receipt of project proposal and positive conformity determination (Keewatin Regional Land Use Plan) from the NPC
December 24, 2018 January 11, 2019 January 17, 2019	Information requests
January 24, 2019	Proponent responded to information requests
January 24, 2019	Scoping pursuant to s. 86(1) of the <i>NuPPAA</i>
January 25, 2019	Public engagement and comment request
February 4, 2019	Receipt of public comments
February 20, 2019	Proponent response to comments

5. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on January 25, 2019 to community organizations in Hall Beach 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 the NIRB's *proposed* project-specific terms and conditions, and provide the Board with any comments or concerns by February 4, 2019 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; and if so, why;
- Whether the project proposal is of a type where the potential adverse effects are highly predictable and mitigable with known technology, (and providing any recommended mitigation measures); and
- Any matter of importance to the Party related to the project proposal.

On or before February 4, 2019 the NIRB received comments from the following interested parties (see Summary of Comments and Concerns section below):

- **Government of Nunavut (GN)**
- **Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)**
- **Environment and Climate Change Canada (ECCC)**
- **Hall Beach Hunters' and Trappers' Association (HTA)**

a. Summary of Public Comments and Concerns Received during the Public comment period of this file

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

Government of Nunavut (GN)

- Provided updated contact information for hazardous waste manifests;
- Recommended that the Proponent conduct a field archeological assessment program prior to any land disturbance activities; and
- Recommended no activities be conducted in the vicinity (50 metre buffer zone) of any archeological or historical sites.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

- Does not have any comments or concerns at this time.

Environment and Climate Change Canada (ECCC)

- Recommended the Proponent correct the contact number for ECCC and the agency name in the Spill Contingency Plan;
- Recommended the Proponent avoid conducting land clearing activities during migratory bird season;
- Recommended the Proponent inform its employees about their responsibilities in regards to mitigating impacts to migratory bird including:

- if nests containing eggs or young of migratory birds are discovered, all disruptive activities in the nesting area should be halted until the nesting is completed;
- any nest found should be protected with a buffer zone appropriate for the species until the young have naturally left the vicinity of the nest;
- if there are migratory birds nests where work is proposed, options like avoiding, adapting, rescheduling or relocating activities that could disturb or destroy the nests should be considered; and
- Recommended the Proponent follow ECCC's technical document for batch waste incineration.

Hall Beach Hunters' and Trappers' Association (HTA)

- The Hall Beach HTA Board was not in support of the proposal as they are uncertain of the kind of impact it would have on their cultural heritage, ancestors, land, animals and Inuit.
- Noted concerns with respect to wildlife and caribou.

b. 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:

- The Hall Beach HTA held a radio program to assist the community to voice their concerns with respect to the proposal as summarized below:
 - Changes to caribou notes as the project located in an area used as hunting grounds;
 - [Caribou] birthing area is located in Inuksukjuaq (land) up to Nagvaa (land);
 - Caribou are limited;
 - Throughout the summer there was no caribou; "They were completely impacted and blocked from entering, they never made it up here this summer and last summer" [had a different pattern];
 - Have to travel farther to catch caribou. Noticing pattern change in the area;
 - Helicopter being heavily used in summer, flying close to grounds; feel animals have been impacted enough;
 - On a direct caribou route, completely blocking the route of the caribou in the summer;
 - Area historically used traditionally by community members as camping area;
 - Lived there at a young age, ancestors lived there, it was their home, have to stay strong; otherwise what do we [Inuit] have left;
 - Members noted that don't want Inuksugjuaq (land) to be impacted;
 - Some community members noted support for Baffinland as it would provide employment for 100 years therefore want proponent to leave Inuksugjuaq (land); and
 - Noted importance of employment for future generations:
 - Kids will need to have jobs, jobs will not be available from our land after 50 years past. What will future generations do later in the future? For our kids, we have to take small steps, not to use all at once.

6. Proponent's Response to Public Comments and Concerns

The following is a summary of the Proponent's response to concerns as received on February 20, 2019:

- Proponent has noted that it has conducted a limited amount of work on Mel Project prior to 2018 and noted:
 - Current land use permits for the MEL Project provide permissions for the exploration camp, diamond drilling, heavy mineral sampling, prospecting and geophysics;
 - Logistics supporting these activities were organized directly through Hall Beach;
 - Local employees were hired with the assistance of the HTA to work at the exploration camp to monitor wildlife and maintenance of the camp;
- Proponent has met multiple times and had informal communications with the Hamlet, HTA and community members and the next meeting is scheduled for April 4, 2019 to provide an update about project activities, review existing agreements/protocols (i.e. wildlife and waste management protocols), discuss potential employment opportunities and community concerns with regards to hunting and caribou;
- With regards to Caribou and Caribou Habitat the Proponent has committed to:
 - Avoid low level flights, except take off and landings;
 - Potential seasonal restrictions on exploration activities and low-level flying in the southwestern most portion of the Mel Project (a designated calving and post-calving ground);
 - Enforce and adhere to a caribou monitoring and mitigation protocol developed with the HTA (2017) that includes:
 - The presence of an HTA approved Hall Beach resident in camp at all times as a wildlife monitor;
 - Helicopter and fixed wing flight restrictions; and
 - Work restrictions related to the presence of caribou.
 - Regular Annual Wildlife Reports and the wildlife logs;
- Updated the Emergency Contact for the Government of Nunavut, Department of Environment, Environmental Protection Division;
- With regards to Archeological Resources the Proponent:
 - Does not feel a detailed archaeological assessment is appropriate at this time;
 - Completed an investigation of the camp location in September 2017 with an HTA and Hamlet Council member with traditional knowledge of the area;
 - Drill sites in 2018 were examined prior to drilling;
 - Has committed to:
 - Future work (drilling) sites will be inspected by a person designated by the Hall Beach HTA and Hamlet Council with traditional knowledge of the area;
 - Any archeological or heritage resources found will be recorded and photographed and a GPS location taken;
 - Land Use activities will not be conducted in the vicinity of 50(m) buffer zone of any archaeological/historical site;
 - No heritage resource will be disturbed in the course of all land use activities; and

- No person shall alter, or otherwise disturb an archeological site, or remove any artifact from an archeological site.
- Updated the ECCC Spill Contingency Emergency Phone Contact as requested;
- With regards to Migratory Birds the Proponent has committed to:
 - Instruct project employees and contractors on their responsibilities regarding mitigating impacts to all wildlife, including migratory birds.
 - Prior to any drilling, proposed sites will be inspected by the project manager, and if bird nests are discovered, a new location will be chosen; and
 - Adhere to the recommended setback distances to minimize disturbance to nests for different nesting bird groups.

ASSESSMENT OF THE PROJECT PROPOSAL IN ACCORDANCE WITH PART 3 OF NUPPAA

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 s. 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:

Factor	Comment
The size of the geographic area, including the size of wildlife habitats, likely to be affected by the impacts.	<ul style="list-style-type: none"> ▪ The proposed project is approximately 150 kilometres (km) south from Hall Beach and 200 km northeast from Naujaat and the incinerator is located within the exploration camp area. ▪ The proposed project activities may take place within habitat for caribou, muskox, wolves, Arctic fox, Arctic hare, migratory birds and non-migratory birds, and Species at Risk such as Polar Bear.
The ecosystemic sensitivity of that area.	<ul style="list-style-type: none"> ▪ From NPC mapping sources the exploration activities are located within a caribou migration corridor and their late summer range.
The historical, cultural and archaeological significance of that area.	<ul style="list-style-type: none"> ▪ No specific areas of historical, cultural and archaeological significance have been identified by the Proponent or by the Government of Nunavut within the physical footprint of the proposed project.
The size of the human and the animal populations likely to be affected by the impacts.	<ul style="list-style-type: none"> ▪ The proposed project is unlikely to result in impacts to local human and animal populations.

Factor	Comment
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.	<ul style="list-style-type: none"> ▪ The impacts from the addition of an incinerator to the camp to support the ongoing exploration program previously approved are considered to be well known. ▪ A zone of influence of up to 50 km from the most potentially-disruptive project activities was selected for the NIRB's assessment. With adherence to the relevant regulatory requirements and application of the mitigation measures recommended by the NIRB, and no significant residual effects are expected to occur.
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.	<ul style="list-style-type: none"> ▪ The mitigation measures recommended by the NIRB have been designed with consideration for the potential for cumulative effects to result from the impacts of the project combined with other past, present and reasonably foreseeable projects.
Any other factor that the Board considers relevant to the assessment of the significance of impacts.	<ul style="list-style-type: none"> ▪ No other relevant factors were identified.

Other past, present and reasonably foreseeable projects considered in this assessment:

There are no other past, present or reasonable foreseeable projects that are within the project area.

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.

The Board would also note that as justified in its previous decision for NIRB File No. 16EN062 (January 10, 2017), all prior terms and conditions remain applicable, while the additional impacts identified for the new components of the incinerator activities proposed warrant additional mitigation measures as justified below.

Ecosystem, wildlife habitat and Inuit harvesting activities:

- Potential negative impacts to air quality, water quality and soil quality from the incinerator activities of waste including potential release of heavy metals, dioxins and furans to the environment would be restricted to a small geographic area in a previously established camp location. The NIRB has proposed terms and conditions 50 through 52 to mitigate the potential negative impacts from the incinerator activities. In addition, the Proponent would be required to follow specific Acts and Regulations (see Regulatory Requirements section) relevant to the proposed project.

Socio-economic effects on northerners:

- The probable significant potential negative impacts to historical, cultural and archaeological sites as a result of the incinerator activities is considered to be low due to the minimal footprint of the incinerator and the temporary twelve-person camp associated with it. 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.

Significant public concern:

- Significant public concern was expressed during the public commenting period for this proposal. Follow up consultation and involvement of local community members has been recommended previously by the Board (see terms and conditions 47 and 49) and would continue to apply.

Technological innovations for which the effects are unknown:

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

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 following project-specific terms and conditions have been recommended: 1-3.

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 10, 2017 Screening Decision Report for File No.16EN062, *and continue to apply to the Mel Project:*

1. North Arrow Mineral Inc. (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. (updated) The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (Application to Determine Conformity, October 31, 2016), and the NIRB (Online Application Form, November, 2, 2016; and the Proponent's supplementary application information, December 15 and 16, 2016). Additionally, the Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.:148999) and the NIRB (Online Application Form, January 17, 2019) and the additional information submitted on January 24, 2019.

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 drilling 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. Unless otherwise authorized by the Nunavut Water Board, the Proponent shall locate all fuel and other hazardous materials a minimum of thirty-one (31) metres away from the high water mark of any water body and in such a manner as to prevent their release into the environment.
9. The Proponent shall ensure that re-fueling of all equipment occurs a minimum of thirty-one (31) metres away from the high water mark of any water body, unless otherwise authorized by the Nunavut Water Board.
10. The Proponent shall store all fuel and chemicals in such a manner that they are inaccessible to wildlife.
11. The Proponent shall use adequate secondary containment or a surface liner (e.g., self-supporting insta-berms and fold-a-tanks) when storing barreled fuel and chemicals.
12. The Proponent shall use drip pans or other equivalent device when refueling equipment. The Proponent shall also use secondary containment or a surface liner (e.g., self-supporting insta-berms and fold-a-tanks) at all refueling stations.
13. The Proponent shall ensure that appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) are readily available during any transfer of fuel or hazardous substances, at all fuel storage sites, at vehicle maintenance areas and at drill sites.
14. The Proponent shall remove and treat hydrocarbon contaminated soils on site or transport them to an approved disposal site for treatment.
15. The Proponent shall ensure that all personnel are properly trained in fuel and hazardous waste handling procedures, as well as spill response procedures. All spills of fuel or other deleterious materials of any amount must be reported immediately to the 24 hour Spill Line at (867) 920-8130.

Wildlife - General

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

17. The Proponent shall not harass wildlife. This includes persistently worrying or chasing animals, or disturbing large groups of animals. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
18. The Proponent shall ensure that all project personnel are made aware of the measures to protect wildlife and are provided with training and/or advice on how to implement these measures.

Migratory Birds and Raptors Disturbance

19. The Proponent shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, the Proponent shall take precaution to avoid further interaction and or disturbance (e.g., a 100 metres buffer around the nests). If active nests of any birds are discovered (i.e., with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have left the nest.
20. The Proponent shall minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting.
21. The Proponent shall ensure its aircraft avoid excessive hovering or circling over areas where bird presence is likely.

Aircraft Flight Restrictions

22. 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.
23. The Proponent shall ensure that aircraft maintain a vertical distance of 1000 metres and a horizontal distance of 1500 metres from any observed groups of wildlife or colonies of migratory birds. Aircraft should avoid critical and sensitive wildlife areas at all times by choosing alternate flight corridors.
24. The Proponent shall ensure that aircraft/helicopter do not, unless for emergency, touch-down in areas where wildlife are present.
25. 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

26. 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.
27. 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.
28. The Proponent shall not construct or operate any camp or cache any fuel within ten (10) kilometres, or conduct any drilling operation within five (5) kilometres of any paths or crossings known to be frequented by caribou (e.g., designated caribou crossings).
29. During the period of May 15 to July 15, when caribou are observed within one (1) kilometre of project operations, the Proponent shall suspend all operations, including low-level over flights, drilling, and use of snowmobiles and all-terrain vehicles outside the immediate vicinity of the camps. Following July 15, if caribou cows or calves are observed within one (1)

kilometre of project operations, the Proponent shall also suspend all operations in the vicinity, including low-level over flights, drilling, and use of snow mobiles and all-terrain vehicles, until caribou are no longer in the immediate area.

Ground Disturbance

30. 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.
31. The Proponent shall implement suitable erosion and sediment suppression measures on all areas before, during and after conducting activities in order to prevent sediment from entering any waterbody.

Drilling on Land

32. 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.
33. The Proponent shall not allow any drilling wastes to spread to the surrounding lands or water bodies.
34. If an artesian flow is encountered, the Proponent shall ensure the drill hole is immediately plugged and permanently sealed.
35. 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.
36. 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.
37. 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.
38. 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

39. 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.
40. 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.
41. The Proponent shall ensure that all drill cuttings are removed from ice surfaces daily.

Temporary Camps

42. The Proponent shall ensure that all camps are located on gravel, sand or other durable land.
43. The Proponent shall not erect camps or store material on the surface ice of lakes or streams.
44. The Proponent shall ensure that the land use area is kept clean and tidy at all times.

Restoration of Disturbed Areas

45. The Proponent shall remove all garbage, fuel and equipment upon abandonment.
46. 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

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

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

Waste Disposal/Incineration

50. 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.
51. 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*.
52. The Proponent shall ensure that no waste oil/grease is incinerated on site.

MONITORING AND REPORTING REQUIREMENTS

The Board has previously recommended the following on January 10, 2017.

Annual Report

1. The Proponent shall submit a comprehensive annual report with copies provided to the Nunavut Impact Review Board by March 31st of each year of permitted activities beginning March 31, 2018. The annual report must contain at least the following information:
 - a) A summary of activities undertaken for the year, including:
 - a map showing the approximate location of drill sites and fuel caches;
 - a description of local hires, contracting opportunities and initiatives;
 - flight altitudes, frequency of flights and anticipated flight routes;
 - site photos;

- b) A work plan for the following year, including any progressive reclamation work undertaken;
- c) A summary of community consultations undertaken throughout the year, providing copy of materials presented to community members, a description of issues and concerns raised, discussions with community members and advice offered to the company as well as any follow-up actions that were required or taken to resolve any concerns expressed about the project proposal;
- d) 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;
- e) 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 and any other wildlife;
- f) A brief summary of wildlife monitoring conducted under the Qilalugaq Project Caribou Monitoring plan, 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 identify in its annual report the potential impacts from the project, and outline what operational activities are proposed to manage these impacts or those that are modified to avoid impacts on wildlife and sensitive sites.
 - 4. An analysis of the effectiveness of mitigation measures for wildlife;
- g) A 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;
- h) A 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
- i) 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.

In addition to the project-specific terms and conditions, the Board has previously recommended the following on January 10, 2017:

Change in Project Scope

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

Bear and Carnivore Safety

2. 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.
3. 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.
4. 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 Hall Beach, phone: (867) 928-8507).

Species at Risk

5. 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

6. 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.

7. For further information on how to protect migratory birds, their nests and eggs when planning or carrying out project activities, consult Environment and Climate Change Canada's Incidental Take web page and the fact sheet "Planning Ahead to Reduce the Risk of Detrimental Effects to Migratory Birds, and their Nests and Eggs" available at <http://www.ec.gc.ca/paom-itmb/>.

Transport of Waste/Dangerous Goods and Waste Management

8. Environment and Climate Change Canada recommends that all hazardous wastes, including waste oil, receive proper treatment and disposal at an approved facility.
9. The Proponent shall ensure that a waste manifest or the appropriate transportation of dangerous goods (TDG) documentation accompany all potential hazardous samples and/or materials that are transported off site. Further, the Proponent shall ensure that the shipment of waste is registered with the Government of Nunavut-Department of Environment (GN-DoE). Contact Environmental Protection Division, Department of Environment Phone (867) 975-7700; e-mail environmentalprotection@gov.nu.ca to obtain a manifest if hazardous waste will be generated during project activities.
10. The Proponent shall provide an authorization or letter of conformation of disposal be obtained from the owner/operator of the landfill to be used for disposal of project-related wastes.

Aircraft Identification

11. The Proponent shall provide the communities of Hall Beach and Nauyasat the planned helicopter activities, including photo(s) of the helicopter to be used, approximate flight paths, plans and times as available prior to commencement of activities to ensure community members are aware of the planned activities.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

12. (updated) Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) 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.
13. (updated) CIRNAC 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.

Qikiqtani Inuit Association

14. The Qikiqtani Inuit Association 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

15. If a Type "B" Water Licence is required for this project proposal, the Nunavut Water Board should 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; and operation for camps; drilling operations; spill contingency planning; abandonment and restoration planning; and monitoring programs.

Crown Indigenous Relations and Northern Affairs Canada – Water Resources Division

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

The Board is currently also recommending the following:

Incineration of Wastes

17. 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.

Although the current activity of adding an incinerator to the camp does not have caribou related concerns there was significant public concern expressed during the commenting period with regards to caribou and the overall project activities, the Board is therefore also recommending the following:

Caribou Management

18. 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).
19. Territorial and federal government agencies update the DIAND Caribou Protection Map with updated data and information from the Government of Nunavut and Beverly Qamanirjuaq Caribou Management Board.
20. As a result of expressed concerns regarding mineral exploration and the associated potential for cumulative effects on caribou and caribou habitat within the Kivalliq and Qikiqtani regions, the NPC, territorial and federal government agencies should work together with Regional Inuit Associations, co-management boards, the public, and industry to ensure the Nunavut-wide Land Use Plan currently under development identifies appropriate land use in these areas prior to potential mineral exploration occurring. The plan should identify and mitigate potential cumulative effects of human land use activities on barren-ground caribou on both localized and regional scales.
21. The NPC should be aware of the public concerns regarding a perceived lack of protection for caribou and caribou habitat within Kivalliq and Qikiqtani regions of Nunavut. In developing a Nunavut-wide Land Use Plan, the NPC may wish to consider formalized protection of

important caribou habitat, and seasonal restrictions on potentially disruptive activities in these areas to minimize disturbance to caribou lifecycles and Inuit harvesting activities.

REGULATORY REQUIREMENTS

The Proponent is also advised that the following legislation may apply to the project:

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://laws-lois.justice.gc.ca/eng/acts/n-28.8/>).
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* (<http://www.tc.gc.ca/eng/tdg/clear-tofc-211.htm>), *Transportation of Dangerous Goods Act* (<http://laws-lois.justice.gc.ca/eng/acts/t-19.01/>), 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/>).

Other Applicable Guidelines

10. Solid Waste Management for Northern and Remote Communities (Environment and Climate Change Canada, 2017) guidance document for best practices of hazardous waste management. <https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/municipal-solid/environment/northern-remote-communities.html>.
11. The Proponent shall practice progressive reclamation in accordance with the restoration guidelines outlined in Indigenous and Northern Affairs Canada's *Northern Land Use Guidelines Pits and Quarries* (<http://www.aadnc-aandc.gc.ca/eng/1100100023585>).

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the North Arrow Minerals Inc. "Mel Project". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated February 28, 2019 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 project proposal (NIRB File No.:16EN062), was received by the Nunavut Impact Review Board (NIRB or Board) from the Nunavut Planning Commission (NPC or Commission) on October 31, 2016, which also noted that it considered this project proposal to be located outside of an area with an approved land use plan in place.

The project proposal was screened by the Board in accordance with Part 4, Article 12 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)* and Section 3 of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*). On January 10, 2017 the NIRB issued a screening decision pursuant to p. 92(2)(a) of the *NuPPAA* to the then Minister of Indigenous and Northern Affairs which indicated that the proposed project could proceed subject to the NIRB's recommended project-specific terms and conditions.

North Arrow Minerals Inc.'s (Proponent) original "Mel Project" project was located in Kivalliq and Qikiqtani (South Baffin) regions, approximately 150 kilometres (km) south from Hall Beach and 200 km northeast from Nauyasat. The Proponent indicated that it intended to conduct a seasonal exploration program for diamonds within six (6) mineral claims. The program is proposed to take place for up to six (6) weeks in either April/May, or July through September from 2017 to 2019

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

- Transportation of up to twelve (12) personnel, equipment, and supplies via helicopter or fixed wing aircraft from Hall Beach or Nauyasat to the exploration site(s);
- Establishment of a temporary twelve-person exploration camp on site;
- Use of up to two (2) snowmobiles to transport field personnel from camp to exploration site(s);
- Conduct prospecting, mapping, till sampling, geophysical surveys, and drilling on land or ice;
- Temporary storage of the following fuels and hazardous materials at the camp site to support exploration activities:
 - i. 10,250 litres of diesel, 60 litres of gasoline, 10,250 litres of aviation fuel, and 12 litres of engine oil;
 - ii. 500 pounds of propane;
 - iii. 125 litres of antifreeze;
 - iv. 40 litres of drilling muds/grease; and
 - v. 20 pounds of salt;
- Withdrawal of up to 50 cubic metres of water daily from surrounding waterbodies for drinking, cooking and cleaning, and drilling activities;
- Generation and disposal of the following wastes associated with the exploration program:
 - i. Greywater to be disposed in sumps and backfilled;
 - ii. Combustible, non-combustible, and hazardous waste to be transported offsite to an approved disposal facility;
 - iii. Drill cuttings and drill water to be contained in a natural depression or hand-dug sump;
 - iv. Sewage to be buried with application of lime; and

- Demobilization and removal of exploration equipment and materials from site on completion of the program.

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: November 2018

Terrestrial Species at Risk¹	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility²
Migratory Birds			
Buff-breasted Sandpiper	Special Concern	Schedule 1	Environment and Climate Change Canada (ECCC)
Common Nighthawk	Threatened	Schedule 1	ECCC
Eskimo Curlew	Endangered	Schedule 1	ECCC
Harlequin Duck	Special Concern	Schedule 1	ECCC
Harris's Sparrow	Special Concern	Schedule 1	ECCC
Horned Grebe	Special Concern	Schedule 1	ECCC
Ivory Gull	Endangered	Schedule 1	ECCC
Olive-sided Flycatcher	Special Concern	Schedule 1	ECCC
Red Knot Islandica Subspecies	Special Concern	Schedule 1	ECCC
Red-necked Phalarope	Special Concern	No Schedule	ECCC
Ross's Gull	Threatened	Schedule 1	ECCC
Rusty Blackbird	Special Concern	Schedule 1	ECCC
Short-eared Owl	Special Concern	Schedule 1	ECCC
Vegetation			
Porsild's Bryum	Threatened	Schedule 1	Government of Nunavut (GN)
Arthropods			
Transverse Lady Beetle	Special Concern	No Schedule	GN
Terrestrial Wildlife			
Caribou (Dolphin and Union Population)	Endangered	Schedule 1	GN
Caribou (Barren-ground Population)	Threatened	No Schedule	GN
Caribou (Torngat Mountains Population)	Endangered	No Schedule	GN
Grizzly Bear (Western Population)	Special Concern	Schedule 1	GN
Peary Caribou	Threatened	Schedule 1	GN
Polar Bear	Special Concern	Schedule 1	GN
Wolverine	Special Concern	Schedule 1	GN
Marine Wildlife			
Atlantic Walrus (High Arctic Population)	Special Concern	No Schedule	Fisheries and Oceans Canada (DFO)
Atlantic Walrus (Central/Low Arctic Population)	Special Concern	No Schedule	DFO
Beluga Whale (Cumberland Sound Population)	Threatened	Schedule 1	DFO
Beluga Whale (Eastern Hudson Bay Population)	Endangered	No Schedule	DFO
Beluga Whale (Eastern High Arctic-Baffin Bay Population)	Special Concern	No Schedule	DFO

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

² Environment and Climate Change Canada (ECCC) 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.

Terrestrial Species at Risk¹	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility²
Beluga Whale (Western Hudson Bay Population)	Special Concern	No Schedule	DFO
Fish			
Atlantic Cod (Arctic Lakes Population)	Special Concern	No Schedule	DFO
Fourhorn Sculpin (Freshwater Form)	Data Deficient	Schedule 3	DFO
Lumpfish	Threatened	No Schedule	DFO
Thorny Skate	Special Concern	No Schedule	DFO

APPENDIX B: ARCHAEOLOGICAL AND PALAEOONTOLOGICAL 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*³ to issue such permits.

³ P.C. 2001-1111 14 June, 2001

- 2) The permittee/proponent shall not operate any vehicle over a known or suspected archaeological or palaeontological site.
- 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*⁴, the federal government can make regulations for the protection, care and preservation of palaeontological and archaeological sites and specimens in Nunavut. Under the *Nunavut Archaeological and Palaeontological Sites Regulations*⁵, 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

⁴ s. 51(1)

⁵ P.C. 2001-1111 14 June, 2001

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

The primary regulatory agencies that CH provides information and assistance to are the Nunavut Impact Review Board, for development activities proposed for Inuit Owned Lands (as defined in Section 1.1.1 of the *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.