



## PARAGRAPH 35(2)(b) *FISHERIES ACT* AUTHORIZATION

### Authorization issued to

*Baffinland Iron Mines Corporation (hereafter referred to as the "Proponent")*

Attention to: Phil Dutoit  
2275 Upper Middle Road East Suite 100  
Oakville, ON  
L6H 0C3

### Location of Proposed Project

The project is located at Milne Port, which is located 134 km southwest of Pond Inlet.

Nearest community (city, town, village): Pond Inlet

Municipality, district, township, county: Baffin Region

Territory: Nunavut

Name of watercourse, waterbody: Milne Inlet

Longitude and latitude, UTM Coordinates: 71.889403°, Longitude: -80.887592°, Zone: 17 W, Easting:  
503900 m E, Northing: 7976600 m N

### Description of Proposed Project

The proposed project is the construction of a Freight dock at the port in Milne Inlet. The work, undertaking or activity authorized is associated with The Mary River Project, an operating iron ore mine located on Baffin Island in the Qikiqtani Region of Nunavut. The Early Revenue Phase of the Mary River Project will involve mining and shipment of iron ore via the port at Milne Inlet. The new freight dock will allow more efficient use of the port for shipping purposes.

### Description of Authorized work(s), undertaking(s) or activity(ies) likely to result in serious harm to fish

The work(s), undertaking(s), or activity(ies) associated with the proposed project described above, that are likely to result in serious harm to fish, are:

The infilling of fish habitat in Milne Inlet resulting from the construction of the freight dock and mooring structures. Construction activities for the Freight Dock include:

- Construction of a rock-fill berm
- Removal of Sea Ice
- Dredging and disposal of dredged material
- Placement of rock/fill
- Vibratory Pile driving

**The serious harm to fish likely to result from the proposed work(s), undertaking(s), or activity(ies), and covered by this authorization includes**

Permanent destruction of 26,449 m<sup>2</sup> ([2,170] Habitat Equivalent Units) of fish habitat in Milne Inlet including:

- 12,829m<sup>2</sup> Intertidal marine habitat
- 12,357m<sup>2</sup> Subtidal marine habitat
- 1,263m<sup>2</sup> Intertidal unnamed stream

**Conditions of Authorization**

The above described work, undertaking or activity that is likely to result in serious harm to fish must be carried on in accordance with the following conditions.

**1. Conditions that relate to the period during which the work, undertaking or activity that will result in serious harm to fish can be carried on**

The work, undertaking or activity that results in serious harm to fish is authorized to be carried on during the following period:

From the date of issuance to June 1, 2020

If the Proponent cannot complete the work, undertaking or activity during this period, Fisheries and Oceans Canada (DFO) must be notified in advance of the expiration of the above time period. DFO may, where appropriate, provide written notice that the period to carry on the work, undertaking or activity has been extended.

The periods during which other conditions of this authorization must be complied with are provided in their respective sections below. DFO may, where appropriate, provide written notice that these periods have been extended, in order to correspond to the extension of the period to carry on a work, undertaking, or activity.

**2. Conditions that relate to measures and standards to avoid and mitigate serious harm to fish**

**2.1 Sediment and erosion control: Sediment and erosion control measures must be in place and shall be upgraded and maintained, such that release of sediment is avoided at the location of the authorized work, undertaking, or activity.**

**2.1.1** Before commencing any works, undertakings and/or activities that have the potential to release sediment into Milne Inlet or the unnamed stream, the Proponent shall prepare and implement site specific sediment and erosion control plans for any near or in-water works under the guidance of a certified Professional in erosion and sediment control (CPESC or equivalent). This plan shall be provided to DFO for review and approval before commencement of construction.

**2.1.2** The erosion and sediment control plans shall include, but not to be limited to, the following:

- Delineation of areas of work;
- Plan for construction staging and storage logistics, including disposal of spoils;
- Anticipated construction schedule and construction duration;
- A description of erosion and sediment control measures to be used during and following construction (purpose, type, location, dimensions and design considerations);
- A description of the inspection and maintenance program and schedule; and
- Areas of the site susceptible to erosion problems

- 2.1.3 Turbidity levels shall be monitored in water adjacent to the work zone as the ice melts to evaluate potential movement of sediments. DFO shall be notified immediately of any exceedances of the current version of the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Aquatic Life for suspended sediment (TSS) levels, temperature, and dissolved oxygen in water released from the site into any fish bearing waterbodies. Monitoring and regular reporting of the incident and corrective actions must be made to DFO until stabilization of the work site and construction areas is completed, and the situation has passed.
  - 2.1.4 A qualified on-site environmental inspector shall be employed by the Proponent and be present throughout construction to ensure adherence to the proper codes of environmentally responsible construction practice. The environmental inspector shall ensure that all mitigation is implemented properly, photograph (with dates) and record construction activities and conduct suspended sediment monitoring. A report detailing the nature of the works or undertakings, the construction methods used, the mitigation measures employed, the effectiveness of the mitigation works, and the results of any monitoring programs undertaken shall be included in the annual report as per Condition 5.
- 2.2 Measures and standards to avoid and mitigate serious harm to fish resulting from the construction of the freight dock shall be implemented prior to the commencement of in or above water works (in the case of on ice work) as described below and as set out in the Proponent's Baffinland Iron Mines Corp. Mary River Project, Floating Freight Dock Application For *Fisheries Act* Authorization, dated February 27, 2019 or any subsequent, DFO approved, versions (hereafter referred to as the "Freight Dock Application"):
  - 2.2.1 All blasting activities shall be conducted following Cott and Hanna's 'Monitoring Explosive-Based Winter Seismic Exploration in Waterbodies, NWT 2000-2002' (2005).
  - 2.2.2 All construction activities shall be undertaken as outlined in the Freight Dock Application to minimize the potential for stress related behaviour or death of fishes and marine mammals
  - 2.2.3 While conducting vibratory pile driving, dredging and infilling, a marine mammal exclusion zone of 200m radius shall be established. The marine mammal exclusion zone will be monitored for marine mammal presence starting 30 minutes prior to the commencement of vibratory pile driving, dredging or infilling activities. All activities shall cease if marine mammals are observed within the exclusion zone and shall not recommence until 30 minutes after the marine mammal was last observed or 30 minutes after the marine mammal is seen leaving the exclusion zone.
  - 2.2.4 Field measurements shall be undertaken to verify that underwater sound pressure and noise levels at the edge of the exclusion zone shall not exceed 100 dB re 1  $\mu$ Pa root-mean-square (rms) sound pressure level (SPL) to prevent auditory injury to marine mammals during construction. If measured underwater noise levels exceed the 100db threshold, the following contingency measures shall be implemented: expansion of the marine mammal exclusion zone and the installation of bubble curtains.
  - 2.2.5 In-air sound levels during the iced-season shall not exceed the in-air acoustic threshold of 100dB re 20 $\mu$ Pa root-mean-square (rms) when pinnipeds are observed on the ice during construction activities.
- 2.3 Works shall be halted if monitoring required in condition 3 and 4 below indicated that the measures and standards to avoid and mitigate serious harm to fish are not successful.
- 2.4 Measures and standards to avoid and mitigate serious harm to fish shall be implemented prior to the commencement of construction.

3. **Conditions that relate to monitoring and reporting of measures and standards to avoid and mitigate serious harm to fish from the ore dock construction**
  - 3.1 The Proponent shall monitor the implementation of avoidance and mitigation measures referred to in section 2 of this authorization and provide a report to DFO, by February 28, 2020, and indicate whether the measures and standards to avoid and mitigate serious harm to fish were conducted according to the conditions of this authorization. This shall be done, by:
    - 3.1.1 Providing inspection reports supported by dated photographs to demonstrate effective implementation and functioning of mitigation measures and standards described above to limit the serious harm to fish to what is covered by this authorization.
    - 3.1.2 Providing details of any contingency measures that were followed, to prevent impacts greater than those covered by this authorization in the event that mitigation measures did not function as described.
4. **Conditions that relate to the offsetting of the serious harm to fish likely to result from the authorized work, undertaking or activity**
  - 4.1 Scale and description of offsetting measures:
    - 4.1.1 Course rock substrate will be placed around the perimeter of the freight dock and moorings at Milne Inlet to provide 2729 HEUs of potential fish habitat
  - 4.2 Contingency measures: If the results of monitoring indicates that the offsetting measures are not completed and/or functioning according to the monitoring criteria as outlined in the approved monitoring plan, as referenced in 5.1.1, the Proponent shall give written notice to DFO and shall implement the contingency measures and associated monitoring measures, as contained within an approved contingency plan, to ensure the implementation of the offsetting measures is completed and/or functioning as required by this authorization. The following conditions relate to the contingency measures:
    - 4.2.1 The Proponent shall submit an updated contingency plan to DFO by February 28, 2020. The updated contingency plan shall be agreed by DFO and shall be informed by Inuit and/or indigenous groups and shall demonstrate viability.
    - 4.2.2 The Proponent shall develop a monitoring plan for the contingency measures. The plan shall be developed specifically for monitoring of contingency measures. The plan shall be submitted to DFO and approved, in writing, by February 28, 2020 and shall be reviewed and approved by DFO, in writing, as required.
  - 4.3 The Proponent shall not carry on any work, undertaking or activity that will adversely disturb or impact the offsetting measures.
5. **Conditions that relate to monitoring and reporting of implementation of offsetting measures (described above in section 4):**
  - 5.1 The Proponent shall conduct monitoring of the implementation of offsetting measures according to the approved timeline and criteria in the Freight Dock Application, Section 9 in addition to an approved updated monitoring plan as follows:
    - 5.1.1 The Proponent shall submit an updated offsetting monitoring plan for the proposed offsetting for review by DFO on or before May 31, 2019. The monitoring plan must satisfy DFO's requirements to demonstrate through clear and measurable criteria, fisheries productivity changes as a result of the offsetting measures. To address uncertainty in the effectiveness of the proposed offsetting measures, the proposed monitoring must have sufficient statistical power to determine if changes to productivity are occurring as a result of the offsetting measures within a defined timeframe, and must employ the most up-to-date and proven methodologies demonstrated to be effective under Arctic conditions.

- 5.1.2 Monitoring of offsetting shall be conducted over ten years, with a five year monitoring program (years 1, 2, 5, 8, 10) as outlined in the Freight Dock Application, Section 8, or as outlined in an updated monitoring plan and/or subsequent versions and as approved by DFO.
- 5.1.3 In addition to the outlined criteria, a digital photographic record of pre-construction, during construction and post-construction conditions using the same vantage points and direction to show that the approved works have been completed in accordance with the Freight Dock Application and subsequent plans approved by DFO
- 5.2 List of reports to be provided to DFO: The Proponent shall report to DFO on whether the offsetting measures were conducted according to the conditions of this authorization by providing the following:
  - 5.2.1 Post-construction evaluation report shall be submitted to the DFO-Yellowknife Office within three months of the completion of the Freight Dock construction.
  - 5.2.2 Monitoring reports shall be submitted to the DFO-Yellowknife Office by March 31 following each monitoring year, as will be outlined in the approved monitoring plan.
- 6. **Conditions that relate to the letter(s) of credit as part of the application for this authorization**
  - 6.1 Letter of credit: DFO may draw upon funds available to DFO as the beneficiary of the letters of credit provided to DFO as part of the application for this authorization, to cover the costs of implementing the offsetting measures required to be implemented under this authorization, including the associated monitoring and reporting measures included in section 6, in instances where the Proponent fails to implement these required measures.
    - 6.1.1 A letter of credit in the amount of \$3,000,000 has been provided to cover the costs of implementing the offsetting measures required to be implemented under this authorization.
    - 6.1.2 A letter of credit in the amount of \$500,000 has been provided to cover the costs of implementing the monitoring required to be implemented under this authorization.
    - 6.1.3 A letter of credit in the amount of \$250,000 has been provided to cover the costs associated with the development and implementation of an adequate offsetting monitoring plan, which will be returned to the Proponent once an approved monitoring plan is finalized and approved in writing by DFO as referenced in section 5.1.1.
    - 6.1.4 A letter of credit in the amount of \$500,000 has been provided to cover the costs of the development and implementation of contingency measures, which includes costs associated with Indigenous consultation. If the Proponent fails to provide a feasible and acceptable contingency plan, this letter of credit shall be used for the cost of DFO to solicit, consult, and hire a consultant to develop a contingency plan. This will be returned to the Proponent once an approved contingency plan is finalized and approved by DFO as referenced in section 4.3.

### **Authorization Limitations and Application Conditions**

The Proponent is solely responsible for plans and specifications relating to this authorization and for all design, safety and workmanship aspects of all the works associated with this authorization.

The holder of this authorization is hereby authorized under the authority of Paragraph 35(2)(b) of the *Fisheries Act*. R.S.C., 1985, c.F. 14 to carry on the work(s), undertaking(s) and/or activity(ies) that are likely to result in serious harm to fish as described herein. This authorization does not purport to release the applicant from any obligation to obtain permission from or to comply with the requirements of any other regulatory agencies.

This authorization does not permit the deposit of a deleterious substance in water frequented by fish. Subsection 36(3) of the *Fisheries Act* prohibits the deposit of any deleterious substances into waters frequented by fish unless authorized by regulations made by Governor in Council.

This authorization does not permit the killing, harming, harassment, capture or taking of individuals of any aquatic species listed under the *Species at Risk Act* (SARA) (s. 32 of the SARA), or the damage or destruction of residence of individuals of such species (s. 33 of the SARA) or the destruction of the critical habitat of any such species (s. 58 of the SARA).]

At the date of issuance of this authorization, no individuals of aquatic species listed under the *Species at Risk Act* (SARA) were identified in the vicinity of the authorized works, undertakings or activities.

The failure to comply with any condition of this authorization constitutes an offence under Paragraph 40(3)(a) of the *Fisheries Act* and may result in charges being laid under the *Fisheries Act*.

This authorization must be held on site and work crews must be made familiar with the conditions attached.

This authorization cannot be transferred or assigned to another party. If the work(s), undertaking(s) or activity(ies) authorized to be conducted pursuant to this authorization are expected to be sold or transferred, or other circumstances arise that are expected to result in a new Proponent taking over the work(s), undertaking(s) or activity(ies), the Proponent named in this authorization shall advise DFO in advance.

Date of Issuance: March 21, 2019

Approved by: 

Scott Gilbert  
A/Regional Director General  
Central and Arctic Region  
Fisheries and Oceans Canada