



## ***FISHERIES ACT AUTHORIZATION***

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### **Authorization issued to:**

Hope Bay Mining Ltd.  
300-889 Harbourside Drive  
North Vancouver, British Columbia  
V7P 3S1

Phone: (604) 985-2572  
Fax: (604) 980-0731

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### **Location of Proposed Development**

The dam at the outflow of the Tail Lake tailings facility, associated with the Hope Bay Mining Ltd. underground gold mine ("Doris North Project") is located at the north end of Tail Lake in the West Kitikmeot Region of Nunavut. (68° 7'25.8" north latitude and 106° 33'31.2" west longitude). Fish habitat compensation involves the creation of two (2) rock shoals located near the north shore of Windy Lake located approximately 5km southwest of the project.

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### **Valid Authorization Period for Impacts to Fish Habitat**

The valid period of this Authorization for the harmful alteration, disruption or destruction of fish habitat pursuant to subsection 35(2) of the *Fisheries Act* includes:

From  
Date of Issuance

To  
December 31, 2013.

The valid authorization periods for other conditions of this Authorization are set out below as **Conditions of Authorization**.

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### **Description of Proposed Development**

The proposed development impacting on fish and fish habitat involves the construction of a dam at the outflow of Tail Lake to create a Tailings Impoundment Area (TIA) for the subaqueous disposal of mine tailings. Tail Lake was added to Schedule 2 of the *Metal Mining Effluent Regulations*, SOR/2002-222 on June 19, 2008 pursuant to SOR/2008-216.

### **Description of Authorized Impacts to Fish Habitat**

Authorized impacts to fish habitat resulting from the works, undertakings, operations or activities associated with the proposed development described above include:

- The infilling of approximately 150m of the Tail Lake outflow stream within the dam footprint and the dewatering of the remaining 450m of stream channel between the dam and Doris Lake resulting in the loss of 270 square metres of low sensitivity habitat utilized by ninespine stickleback (*Pungitius pungitius*).

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### **Conditions of Authorization**

#### **1.0 Conditions that relate to the Proponent Plan:**

- 1.1 The conditions of this Authorization notwithstanding, should the above authorized impacts to fish and fish habitat in the opinion of the Fisheries and Oceans Canada (DFO) be greater than previously assessed, then DFO may suspend any works, undertakings, activities and/or operations associated with the proposed development, to avoid or mitigate adverse impacts to fish and fish habitat. DFO may also direct the Proponent and its agents, and contractors, to carry out at the Proponent's expense any modifications, works or activities deemed necessary by DFO to avoid or mitigate further adverse impacts to fish and fish habitat. In circumstances where DFO is of the view that greater impacts may occur than were contemplated by the parties, DFO may also modify or rescind this Authorization. If the Authorization is to be changed, the Proponent will be given an opportunity to discuss any proposed modifications or rescission.
- 1.2 The Proponent confirms that all plans and specifications relating to this Authorization have been duly prepared and reviewed by appropriate professionals working on behalf of the Proponent and acknowledges that they are solely responsible for all design, safety and workmanship aspects of all the works associated with this Authorization.

- 1.3 The works, undertakings, activities and operations must comply with the means and conditions as identified within this Authorization. Impacts to fish and fish habitat other than that specifically identified within this Authorization are not permitted.
  - 1.4 Works shall be conducted following the practices outlined in the following reports, hereafter referred to as the "Proponent Plan":
    - 1.4.1. *Doris North Project "No-Net-Loss" Plan (NNLP), Revision 6, December 2007 Final Report*, prepared by Golder Associates Limited, dated December 20, 2007.
    - 1.4.2. *Hope Bay Belt Project, Updates to the Doris North No Net Loss Plan for the Tail Outflow*, prepared by Rescan Environmental Services Ltd., dated September 2010.
    - 1.4.3. *Hope Bay Belt Project, Tail Lake Fish-Out Work Plan*, prepared by Rescan Environmental Services Ltd., dated August 2010.
    - 1.4.4. *Request for Review under the Fish Habitat Protection Provisions of the Fisheries Act*, submitted by Chris Hanks, Hope Bay Mining Ltd., September 10, 2010.
    - 1.4.5 *Cost of Tail Lake Compensation*, submitted by Chris Hanks, Hope Bay Mining Ltd., September 16, 2010.
  - 1.4.6 Where contradictions exist, the most recent version shall apply.
- 2.0 Conditions that relate to the **mitigation** of potential impacts to fish and fish habitat:
- 2.1 A qualified biologist or environmental inspector shall be on site during all in-water construction, compensation and restoration works to ensure implementation of the designs as intended in the Proponent Plan and conditions of this Authorization.
  - 2.2 All materials and equipment used for the purpose of all work phases shall be operated and stored in a manner that prevents any deleterious substance (e.g. petroleum products, silt, debris, etc.) from entering the water.
    - 2.2.1 Any stockpiled materials shall be stored and stabilized above the ordinary high water mark of any water body.
    - 2.2.2 Vehicle and equipment re-fuelling and maintenance shall be conducted above the ordinary high water mark of any water body.
    - 2.2.3 Any part of equipment entering the water shall be free of fluid leaks and externally cleaned/degreased to prevent any deleterious substance from entering the water.

- 2.3 Only clean, competent, certified non-acid generating rock and material free of fine particulate matter shall be placed in the water or on the ice.
- 2.4 Material used for habitat compensation features shall not be taken from below the ordinary high water mark or shoreline of any water body.
- 2.5 Sediment and erosion control measures shall be implemented prior to work, and maintained during the work phases, to mitigate impacts to fish and fish habitat.
  - 2.5.1 All disturbed areas shall be stabilized upon completion of work and restored to a pre-disturbed state or better.
  - 2.5.2 Sediment and erosion control measures shall be left in place and maintained until all disturbed areas have been stabilized.

3.0 Conditions that relate to **monitoring and reporting of Authorization conditions:**

- 3.1 The Proponent shall undertake monitoring and report to DFO, by the earlier of **December 31, 2013 or within six months of completion of dam construction**, whether works, undertakings, activities or operations for the mitigation of potential impacts to fish and fish habitat were conducted according to the conditions of this Authorization, by:
  - 3.1.1 Providing dated photographs and inspection reports to demonstrate effective implementation and functioning of mitigation works undertakings, activities or operations described above as mitigation conditions.
  - 3.1.2 Providing details of any contingency measures that were followed to prevent impacts greater than allowed by this Authorization in the event that mitigation measures did not function as described in the Proponent Plan.

4.0 Conditions that relate to the **compensation** for the authorized impacts to fish habitat:

- 4.1 1736 square metres of compensatory habitat shall be constructed as two (2) rock shoals measuring 696 square metres and 1040 square metres, respectively, in the nearshore area of the north end of Windy Lake.
- 4.2 All fish habitat compensatory works shall be completed according to the Proponent Plan on or before May 31, 2013.
  - 4.2.1 Rock shoals shall be assessed according to the Proponent Plan on or before August 31, 2012 and, if necessary, adjustments shall be made to ensure the shoals are constructed as required.

- 4.3 If at any time during the assessment of the compensatory habitat, it is determined that the criteria being used are not appropriate, DFO and the Proponent will meet to discuss alternative criteria using an adaptive management approach.
- 4.4 The Proponent confirms that they shall leave the compensatory habitat undisturbed. After the compensatory habitat has been created the Proponent shall not carry on any work, undertaking, activity or operation that will adversely disturb or impact the compensatory habitat.

5.0 Conditions that relate to monitoring and reporting of **compensation** (described above):

- 5.1 The Proponent shall conduct monitoring of the compensatory habitat according to the approved Monitoring Plan and criteria below:
  - 5.1.1 The Monitoring Plan shall be implemented during Year One (the first year following construction of the compensatory habitat), Year Two, Three and Five.
  - 5.1.2 The Monitoring Plan shall include, but not be limited to the following:
    - 5.1.1.2 Assessing the stability and successful utilization of all compensation features according to the Monitoring Plan and schedule in 5.1.1 above.
    - 5.1.1.1 Conducting a control-impact study design to compare the compensation shoals with two reference habitat types in the littoral zone of Windy Lake according to the Monitoring Plan and schedule in 5.1.1 above.
    - 5.1.1.2 Conducting the assessment based on density and diversity of benthic invertebrates and periphyton and the number of fish observed or captured according to the Monitoring Plan and schedule in 5.1.1 above.
  - 5.1.3 If at any time during the monitoring period, compensation features are not functioning as intended, measures shall be identified to reduce the risk of future failure and additional compensatory habitat shall be created to meet the No-Net-Loss guiding principle using an adaptive management approach.
  - 5.1.4 A written report summarizing the results of the monitoring shall be submitted to DFO on, or before, **December 31** of each monitoring year, according to the schedule in 5.1.1 above.

6.0 Conditions that relate to the **financial security**:

- 6.1 The Proponent shall deliver, within 15 working days after the Date of Issuance of this Authorization, a Letter of Credit from a Canadian bank in the sum of \$467,408 which renews annually and shall be in a form acceptable to DFO.
  - 6.2 The Letter of Credit will be held by DFO as security for the performance by the Proponent with regards to all of its obligations under this Authorization.
  - 6.3 DFO may withdraw funds from the Letter of Credit to retain an independent contractor to undertake any activity described in the conditions of this Authorization, should these not be completed by the Proponent.
  - 6.4 DFO shall provide the Proponent with at least seven (7) days notice prior to any withdrawal of funds from the Letter of Credit.
  - 6.5 To the extent not prohibited by law, the Proponent shall have the right to audit, from time to time with reasonable notice to DFO and at the Proponent's expense, any expenditure of funds withdrawn by DFO.
  - 6.6 The Letter of Credit shall be returned to the bank for cancellation upon satisfactory completion of the above noted habitat compensation works and monitoring program.
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### **Authorization Limitations and Application Conditions**

The holder of this Authorization is hereby authorized under the authority of subsection 35(2) of the *Fisheries Act*. R.S.C., 1985, c.F. 14 to carry out the works, undertakings, activities and/or operations as described herein. This Authorization is valid only with respect to fish habitat and for no other purposes. It 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 except under conditions that can only be authorized by regulations made by Governor in Council.

At the date of issuance of this authorization, no aquatic SARA listed species were identified. In the event that a SARA species is identified or an aquatic species becomes listed under SARA, this authorization does not permit harm, harassment or killing of any species at risk (SARA section 32), the damage or destruction of residence (SARA section 33) or the destruction of critical habitat (SARA section 58).

Failure to comply with any condition of this Authorization may result in charges being laid under the *Fisheries Act*.

This Authorization should be held on site and work crews should be made familiar with the conditions attached.

The Proponent shall advise DFO in advance if the ownership or responsibility for the conditions of this Authorization changes.

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Date of Issuance: January 19, 2011

Approved by:

A handwritten signature in blue ink, appearing to read "P. Asher", is written over the "Approved by:" text.

Regional Director General  
Central & Arctic Region  
Fisheries and Oceans Canada

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