



Indian and Northern
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Paul Mercredi
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Mackenzie Valley Environmental Impact Review Board
Box 938, 5102-50th Avenue
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By FAX: (867) 766-7074

Dear Mr. Mercredi

Re: Tyhee NWT Corporation Yellowknife Gold Project Description, written comments and issues presented at the Scoping Session October 16 and 17, 2008.

Indian and Northern Affairs Canada (INAC) is pleased to submit the following comments and recommendations regarding Tyhee NWT Corporation – Project Description, Scoping Session workshop.

If you have any questions please contact Lionel Marcinkoski at 669-2591 or email at marcinkoskil@inac.gc.ca.

Sincerely,

David Livingstone
Director, Renewable Resources and Environment
Indian and Northern Affairs Canada

Environmental Concerns:

Indian and Northern Affairs Canada have conducted a preliminary review of the Project Description Report for the Tyhee Yellowknife Gold Project (YGP). The purpose of this review was to broadly identify the main issues with the proposed project. The concerns have been categorized into seven main subjects; General, Water Quality, Tailings Containment Area (TCA), Waste Rock Storage Area (WRSA), Closure and Reclamation, Damage Criteria for the Discovery mine site, and Giauque Lake Tailings.

1. General:

- Considerable lack of detail in the plan is a concern. Very little more than cursory information is provided in regards to mine details; this is particularly true of the Nicholas Lake development.
- Alternatives to proposed mine components should be listed and rationale provided describing why the selected option was chosen. For example, in regards to the TCA and the WRSA, Tyhee should present an explanation justifying why the chosen options are preferred, as well as a section detailing what alternative options were considered and why they were not selected.
- There is a lack of detail provided in the Appendices to the Project Description in regards to hydrogeology, tailings management plan and closure and reclamation reports. These reports are critical in mine planning. It is very difficult to accurately assess the impact of the mine and its components when the ground water characteristics of the area is not well defined or when the final closure methods for the various mine components are unknown.
- A lot of this supplemental information is now pushed back to the Developer's Assessment Report. This is unfortunate because the provision of increased information early in the process often minimizes the need for increased discussions and clarification later in the process.

2. Water Quality:

- Sampling information provided by the company within the project description indicates a potential for acid rock drainage (ARD) from tailings. Details of how potential ARD will be monitored and addressed should be provided.
- Potential for ARD from the waste rock pile is also a concern. Details of how potential ARD from these piles will be monitored and addressed, particularly with regard to collection and seepage, should be provided.
- Information on the settling ponds at the Nicholas Lake Development is not provided, including locations, volumes, discharge routes, and inputs. Consequently, at this time, INAC is unable to fully evaluate the potential environmental impacts of this portion of the project.
- It would be useful to have some information regarding the percentage of cyanide that will be recovered during the milling process, as well as how much and in what chemical form it will be sent to the TCA. This information will assist in evaluating the toxicity of materials entering the TCA.

3. Tailings Containment Area (TCA):

- A detailed Tailings Management Plan is needed in order to adequately evaluate the potential environmental impact related to the tailings facility.
- The proposed dewatering of Winter Lake should be described in greater detail.
- Tyhee has estimated that approximately 12 million tonnes of tailings will be produced and proposes to deposit tailings into a TCA with a capacity of 13.4 million tonnes. Potential environmental conditions and processes that may impact on the capacity of the TCA (e.g. ice lens formation) need to be considered.
- The shallow depth of Winter Lake will likely influence the potential for ARD to develop in the tailings, due to the presence of oxygen. This concern needs to be investigated further. For example what is the proposed closure plan for the TCA? Will it be a rock cap or water cap? How will these choices affect potential for ARD development post closure?
- The treatment and disposal of cyanide waste-product needs to be addressed in greater detail. In particular, it is not clear whether it will be separated from or combined with other tailings in the TCA.
- Annual discharges, from the TCA into the receiving environment are not well discussed. Outstanding issues include, but are not limited to, when and where the discharge will occur, expected effects of the discharge, and monitoring for any impacts from the discharge.
- Greater detail on the outer dams surrounding the TCA is required.

4. Waste Rock Storage Area (WRSA):

- A description of the permafrost conditions in the area of the WRSA is needed. The concern with situating a WRSA on permafrost is associated with the potential for permafrost thaw. Permafrost thaw may comprise the structural integrity of the WR pile due to settlement of the ground. Other residual effects may include alterations to local hydrology as well as local water chemistry.
- Details on the proposed closure method of the WRSA are needed. For example, will it be capped and vegetated or will a portion of the waste rock be placed in the open pit as space becomes available.

5. Closure and Reclamation:

- A preliminary closure and reclamation plan (PCRP) should be submitted. The PCRP should outline the proposed methods of closure for the various mine components. Please refer to the most recent Mine Site Reclamation Guidelines for the Northwest Territories released by Indian and Northern Affairs Canada in January 2007, for details of what should be in a PCRP. INAC recommends that MVEIRB add this document, and the Mine Site Reclamation Policy, to the public registry for this Environment Assessment. These guidelines are available at:

-Mine Site Reclamation Guidelines, 2007 Version (available online at [http://nwt-tno.inac-ainc.gc.ca/pdf/wr/2007_Mine_Site_Closure_and_Reclamation_Guidelines E.pdf](http://nwt-tno.inac-ainc.gc.ca/pdf/wr/2007_Mine_Site_Closure_and_Reclamation_Guidelines_E.pdf))

-Mine Site Reclamation Policy for the Northwest Territories, (2002) (available online at http://www.ainc-inac.gc.ca/ps/nap/recpolnwt_e.pdf)

-Guidelines for Spill Contingency Planning (April 2007) (available online at http://nwt-tno.inac-ainc.gc.ca/pdf/wr/INAC_Spill_guidelines_web.pdf)

6. Damage Criteria Assessment, Discovery Mine Airstrip, Access Road and Apron: Attachment #1

7. Giauque Lake Tailings

-Giauque Lake currently contains the old tailings from Discovery Mine. As part of the reclamation work being done by CARD a water cap is currently in place over these tailings. INAC-Card is concerned that drawdown by Tyhee may expose or compromise the water cap covering the tailings.