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May 30, 2003

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Sent by email to:

nwblic@polarnet.ca

RE: Application for a Water Licence

On May 8, 2003, the Nunavut Water Board (NWB) issued a letter stating that the application for a water licence by Cumberland Resources Ltd. for their Meadowbank Gold Project was incomplete and did not contain sufficient information to proceed with the application. In that letter, the NWB also asked interested parties to identify deficiencies noted in the water licence application so as to better direct the proponent in what must be submitted. Therefore, on behalf of Indian and Northern Affairs Canada (INAC) Water Resources division, please accept the following comments with respect to deficiencies noted in the water licence application.

First, we would like to clarify to the proponent the role that the water licence would have for their Meadowbank Project. On page 1-3, section 1-4 of their project description, it indicates that a water licence will be needed for the authorization of domestic water use, sewage treatment and disposal. Although those aspects are certainly part of a water licence, a water licence is needed for many more aspects of the proposed mine. As per the legislation, a water licence is required for the authorization of the use of water, as well as for the deposit of waste into water.

The deposit of waste into water essentially covers any aspect of the project in which waste or other contaminants could potentially impact water quality. For instance, waste rock and tailing areas, in which acid rock drainage (ARD) or metal leaching may have an impact on water quality, would also fall under the jurisdiction of a water licence. Likewise, any landfill that may produce leachates also requires authorization from the NWB. For the Meadowbank project, the various water retention dykes can also affect the quality of water, and thus also require authorization in a water licence and approval by the NWB.

It is mainly in these additional aspects of the mine that the proponent is lacking in details required for their water licence application. For example, approval of the dykes require detailed engineered designs of the proposed dykes, while approval of the method of deposition of the tailings and waste rock require information on the ARD capacity of the

tailings and waste rock. It appears that many of the deficient information will be presented in the future submission of the Feasibility Study report and the Environmental Impact Statement report. INAC recommends that the water licence application should not proceed until the all the deficient information related to water licencing has been provided to the NWB.

In addition, please accept this list, in no particular order, of aspects of the project that we believe require more detailed descriptions for the purposes of a water licence application. We hope that these issues will be addressed in the future reports.

- **Quantity of Water Used:** Include the amount of water that will be used by the construction crew during the construction phase, and the anticipated amount of water use during the actual operation of the mine. This should include the source of all water, as well as the discharge point(s) of all water released. A complete water balance model, including the expected impacts of the mine, should be provided.
- **Sewage Treatment:** Additional details on proposed RBC sewage treatment facility, include maximum sewage capacity, expected effluent quality, specific location at the site, and final discharge point back into the receiving environment. Designs would be appreciated.
- **Solid Waste Disposal:** Indicate the location of solid waste disposal area (i.e. landfill) and provide designs. Although it is mentioned that solid waste will be incinerated, where will the ashes be disposed of? Where will the bulky or non-combustible waste be disposed of? INAC assumes some sort of landfill will be created for this.
- **Tailings:** The specific location and dimensions of the disposal of tailings area. The project currently mentions two possibilities; underwater or surface deposition. The exact location of these alternatives are required for a proper evaluation. Also required is the expected geochemistry of the tailings, expected ARD and metal leaching issues and specific mitigation measures, engineered design of retention dykes, as well as proposed methods of long-term closure and restoration of the tailing area at the end of the mine life. With respect to tailings, the final milling process is also important as it can influence the expected chemicals (and their concentrations) that may be found within the tailings.
- **Waste Rock:** The exact location of waste rock areas, proposed specific means of mitigating of ARD and metal leaching issues, as well as proposed means of abandonment and restoration of the waste rock areas at the end of the mine life.
- **Roads:** The location of all roads on site, with respect to stream crossings and their effects on the normal flow of water on the site. Also, what materials will the road be made of, including ARD and metal leaching potential of those materials.

- **Winter Road:** The exact route that will be used by the winter road, including an appropriately scaled map to assess what rivers and watersheds will potentially be affected by the traffic. This should also include a spill contingency plan in case of any spills that occur during the shipment of chemicals, fuel, or supplies that may affect water quality.
- **Contingency Plans:** This should include spill clean-up procedures, total dyke failures, spills along the winter road, sewage treatment system malfunction, tailing line breach, and hydrocarbon spills. This contingency plan should include contingency options during the construction phase, and not just the operation phase of the mine. As part of a contingency plan, a list of all potentially hazardous materials should be provided.
- **De-watering:** Where will all the water from the dyked areas of the lakes be pumped to? It is mentioned that the water will be pumped into the tailings circuit. Does the volume required match the volume to be pumped? If there is excess water, where will it go, and how will it be treated?
- **Monitoring Plan:** Where does the proponent plan on sampling for water quality with respect to the effects that the mine are having on the water?
- **Liability Cost Estimates:** For the purpose of determining appropriate security.

As a general comment, each of the questions within the NWB's supplementary questionnaire for mines with respect to the water licence application form should be directly answered. Deferral to a future report is usually insufficient.

Finally, these comments refer specifically to deficiencies for the water licence application, and do not necessarily note any deficiencies that may arise for broader reviews and applications, such as for a Fisheries Authorization, or a Nunavut Impact Review Board environmental assessment.

If you have any concerns or questions, please feel free to contact me.

Sincerely,

Original Signed By: Michael Roy

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