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**RE: NWB 2AM-MEA – Cumberland Resources Ltd. – Meadowbank Gold Project
Nunavut Water Board Draft Guidelines for Applicant**

Thank-you for the opportunity to provide input into the Nunavut Water Board's (NWB) draft guidelines for the completion of the water license application for the Meadowbank Gold project. The following specialist advice has been provided pursuant to Environment Canada's mandated responsibilities for the enforcement of the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

Environment Canada understands that the NWB plans on meeting with the proponent to discuss water license information requirements, and that this meeting will be guide the development of the detailed Table of Contents (Annex A). However, without the benefit of Annex A, it is difficult at this time to evaluate whether the guidelines would provide adequate direction to the proponent to develop a water license application that would fulfill the requirements of the NWB and address EC's concerns. The guidelines seem to contain much of the same text that was included in the guidelines for the Doris North Project. However, given the deficiencies notes in the Doris North water license application, EC anticipates that Annex A will be comprehensive and include sufficient detail to assist Cumberland Resources Ltd. in preparing a water license application that meets the expectations of the NWB.

The current guidelines refer to the proponent as "Cumberland Resources Ltd." However, Cumberland Resources Ltd. submitted documentation to the Nunavut Impact Review Board during the environmental assessment process requesting that the Project Certificate be issued to Meadowbank Mining Corporation, a wholly-owned subsidiary of Cumberland Resources Ltd. Environment Canada recommends that the NWB direct the proponent to apply for the license under the name of the appropriate company.

The following comments have been organized using the numbering system from the draft guidelines for ease of comparison:

- **Section 2.0**
 - Page 4 - The second paragraph of Section 2.0 seems to refer to a list of information and/or plans that is not contained in the document. Given that a list of plans required to be submitted is not included in the guidelines at this time, EC recommends that this sentence be reworded.
 - Page 5 - The second paragraph on page 5 contains a typographic error. The sentence should be corrected to read "With this in mind...water management plans beyond the conceptual..."
 - Page 5 – The third paragraph on page 5 requires the proponent to submit a *curriculum vita* (CV) for each professional that is a signatory to a report included in the water license application. While EC understands the need to provide CVs for individuals providing evidence at public hearings due to their quasi-judicial nature, it is unclear as to why the NWB is

requesting qualifications from report authors. What would the NWB do with this information? Does the NWB intend on reviewing the qualifications of report authors? Environment Canada is of the opinion that this requirement is excessive at this stage and that the responsibility for hiring qualified individuals rests with the proponent and their consultants.

- Page 6 – Environment Canada is unclear regarding what is meant by the sentence “Additionally, mitigation and contingency plans should also consider the concept of Adaptive Management to delineate when mitigation and contingency are to be implemented.” The NWB should clarify the intent of this statement.
 - Page 7 – Item xiii refers to ore stockpiles and recovery reject materials. The term “recovery reject” is specific to the diamond mining industry in reference to kimberlite ore, and should be removed from the guidelines.
 - Page 8 – The guidelines require that the proponent file a “declaration of application completeness”, authored and signed by the Chief Executive Officer of the company, indicating that the application is considered complete and that the guidelines have been consulted. Environment Canada is unclear as to the purpose of this declaration. Given that the NWB has stated that it will not process an application that it deems to be incomplete, this declaration seems to be redundant. Environment Canada respectfully suggests that this declaration is not required.
 - Page 9 – The guidelines present conflicting information regarding the degree to which the application documents must stand alone. Page 9 of the guidelines state that the “proponent shall understand that the water license application must be a stand alone document”. However, Page 4 states that the “the submitted application should appropriately guide the NWB...through NIRB materials that carry over and are to be considered in the water license application.” Section 2.0 goes further to state that the proponent should cross-reference any NIRB submitted documents. The NWB should clarify to extent to which the proponent can utilize information submitted during the NIRB process in their NWB application.
- **Section 3.0**
 - The list of standards/guidelines/legislation makes reference to both the GN *Spill Contingency Planning and Reporting Regulations*, as well as the GNWT/GN *Spill Contingency Planning and Reporting Regulations*. The duplicative reference should be removed.
 - Depending on the scope of the water licensing process, which will be outlined in Annex A, additional items may need to be added to the list to reflect a broader scope, such as guidelines, legislation and regulations regarding air quality, etc... If required, EC can provide information to the NWB and the proponent regarding standards/guidelines/ legislation regarding air quality.

In the absence of Annex A, EC recommends that the water license application also include the following information that was identified as lacking during EC’s review of the environmental impact statement. These items are specifically requested in addition to the typical information regarding use of water and deposits of waste that EC anticipates the NWB will include in Annex A.

Water Quality

- Results of the assessment of the permeability of any faults beneath the northwest arm of Second Portage Lake (i.e. the tailings impoundment area);
- Mitigation measures that can be undertaken if groundwater monitoring around the Second Portage tailings facility demonstrates that contamination from tailings has occurred through the fault;
- Results of the re-sampling of the existing groundwater monitoring wells, which was to occur as soon as possible upon reopening the camp in 2007;
- Revised estimates of the quality of the groundwater that will flow into the open pits, using existing groundwater data from both rounds of sampling (i.e. 2003 and 2004);
- Revised site water quality model using the updated estimates of the quality of groundwater flowing to the pits, and additional groundwater quality data collected on site. The revised water quality

model should be used to assess the impacts of pit water discharges on the environment and to develop mitigation measures for disposing of pit water of poor quality;

- Detailed contingency plans for the treatment of turbid water during dewatering activities and/or increased suspended solids during operations (i.e. rewatering);
- Detailed information regarding the disposal of lake bottom sediments;
- Detailed water treatment plans for discharges from the Tailings Impoundment Area, as well as the Vault Pit attenuation pond (on a contingency basis). Water treatment plans should include estimates of treatment efficiency for each parameter of concern and a description of pH adjustment methods;
- Details regarding treatment of camp sewage, including the type of treatment system and the expected treatment capabilities;
- The NIRB Project Certificate requires the establishment of “receiving environment discharge criteria” for discharges into Wally Lake and Third Portage Lake. The water license application should clearly outline the proposed discharge criteria, how the criteria were developed, and how these criteria will be used to prevent ecological effects in the receiving environment as a result of reconnecting the pit lakes to the watershed (especially in regards to contaminants, major ions and nutrients);
- Details regarding the effluent outfall configuration;
- Predictions for the likely behaviour of the discharge plume;
- Bathymetric information for Wally Lake;
- Detailed treatment plans for the treatment of effluent from attenuation pond and/or reclaim pond prior to transfer to the Goose Pit;
- Discussion of the consequences of long-term stratification in the pit lakes and associated contingency plans; and
- Monitoring plan for the Baker Lake collection sump, including parameters to be sampled, sampling frequency and sampling locations.

Spill Contingency Plan

- Detailed Spill Contingency Plan for the mine site, the all-weather road, and the marine components. The Spill Plan should include, but not be limited to, the following information:
 - Identification, description and evaluation of the potential impacts of all project-related accidents and malfunctions (i.e. types, sources, threat-risk assessment, worst-case scenarios, etc.) that may occur during each phase of the project, including, but not limited to:
 - Spills of petroleum hydrocarbons, hazardous materials, and other contaminants of concern onto land, ice, and into marine waters (i.e. ocean/sea/salt waters), freshwaters, ground waters, and potable water supplies;
 - Explosions;
 - Fires;
 - Transportation accidents involving aircraft, marine vessels and barges, and land-based motor vehicles, including any hazardous material cargoes for all modes.
 - Description of emergency response plans and procedures for the accidents, and malfunctions, including: the level of preparedness; safety; response capacity; and technological capability and any deficiencies or shortcomings in this regard, and indicate how the latter will be addressed. Plans should incorporate sufficient detail to understand and assess emergency preparedness and response capability; ensure emergency response plans will work; and, determine how and when plans will work.
 - Identification of communities, organizations, agencies, boards, and regulators (and their regulatory requirements) involved in preparing programs and identify opportunities for partnerships, coordination, and participation
 - Explanation of how the Proponent will ensure project contractors meet the proponents’ due diligence standards with respect to oil and hazardous material spill prevention, preparedness, response, and restoration.
 - A timetable for when the proponent will file the appropriate plans and procedures as required by the regulatory agencies.

Closure and Reclamation Plan

- Details regarding the timing of the removal of dewatering dikes and the implications of this action on water quality; and
- Detailed information regarding the method used to remove/breach the dewater dykes, including details of any mitigation measures for any adverse impacts.

Air Quality

- Monitoring plan for incinerator emissions (including, but not limited to, stack testing and annual reporting);
- Detailed waste management plan; and
- Justification regarding the selection of incinerators in regards to the use of best available economically feasible technologies.

Environment Canada appreciates the opportunity to provide input into the finalization of the water license application guidelines for the Meadowbank Gold project, and EC looks forward to continuing to work with both the NWB and Cumberland Resources Ltd. during the water licensing process. Environment Canada would appreciate the opportunity to review Annex A once developed to ensure that the water license application will incorporate our needs as well. Please do not hesitate to contact me with any questions or comments with regards to the foregoing at (867) 975-4639 or by email at colette.spagnuolo@ec.gc.ca.

Yours truly,

Original signed by

Colette Spagnuolo
Environmental Assessment / Contaminated Sites Specialist

cc: (Carey Ogilvie, Head, Assessment and Monitoring, Environment Canada, Yellowknife)