



Water Resources
Nunavut Regional Office
P.O. Box 100
Iqaluit, NU, X0A 0H0

April 27, 2015

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU, X0A 1J0

Your file - Votre référence
Licence # 2BE-COP1416
Our file - Notre référence
CIDM# 909897

Re: 2BE-COP1416 – Coppermine Project – Tundra Copper Corporation – Amendment Application

Dear Ms. Beaulieu:

Aboriginal Affairs and Northern Development Canada (AANDC) Water Resources Division conducted a review of Tundra Copper Corporation's application to amend their Type 'B' Water Licence 2BE-COP1416.

The following advice has been provided pursuant to AANDC's mandated responsibilities for the enforcement of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*. In conducting our review, AANDC Water Resources referred to documents on the FTP site relating to 2BE-COP1416.

Should you have any questions or comments, please do not hesitate to contact me at (867) 975-4550 or by e-mail at andrew.keim@aandc-aadnc.gc.ca.

Sincerely,

Andrew Keim
A/Manager of Water Resources

Enclosures (2)
Technical Review Memorandum
Water Licence Conditions Review

cc. Erik Allain, Manager of Field Operations, AANDC

Technical Review Memorandum

To: Phyllis Beaulieu – Manager of Licensing, Nunavut Water Board

From: Jean Allen – Water Management Specialist, Water Resources, AANDC

Re: 2BE-COP1416 – Coppermine Project – Tundra Copper Corporation – Amendment Application

A. BACKGROUND

Tundra Copper Corporation (TCC) was issued a Type 'B' water licence 2BE-COP1416 on August 28, 2014 for the use of water and deposit of waste in association with the Coppermine Project to explore minerals (copper, nickel, silver, and platinum) in the Coppermine River area.

On March 26, 2015, the Nunavut Water Board (the NWB) provided notification of an amendment application to amend the extent of the project to include new drilling locations. There are no proposed changes to camp or drilling operations, water use or the deposit of waste.

B. RESULTS OF REVIEW

The AANDC Water Resources Division reviewed TCC's amendment application and have no comments or recommendations for the NWB at this time as there appears to be no major issues with the application and proposed amendments. If there are any changes to the proposed project, further review may be necessary.

The AANDC Field Operations Division reviewed the existing water licence and their recommendations are attached in Appendix A for the NWB's consideration.

APPENDIX A

April 27, 2015

As part of AANDC's program review as conveyed to Mr. Hohnstein on January 30, 2015 through correspondence from Erik Allain, Manager of Field Operations, the Field Operations Unit is reviewing previous conditions within existing water licenses and is making recommendations to the NWB to ensure the jurisdiction of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* applies to all terms and conditions and to maintain the integrity of the program delivery.

At this time AANDC is providing comments to the NWB on water licence applications where there appears to lack a clear connection between water use, waste deposit to water, or appurtenant undertakings related to water use and/or deposit of waste to water, subject to the act and regulations.

AANDC would like to bring to the attention of the NWB the following conditions that were part of the water licence 2BE-COP1416 that have been considered during this review and the subsequent recommendations of Field Operations Unit.

Review Findings

The following conditions do not appear to have a clear connection between water use, waste deposit to water, or appurtenant undertakings related to water use and/or deposit of waste to water, subject to the act and regulations. Field Operations would like to propose the following recommendations for the Board's consideration to ensure all terms and conditions reflect AANDC's jurisdictional ability to enforce.

Part B: General Conditions

Item 2(a): Recommend Change

Existing text: A summary of waste disposal activities.

Proposed text: A summary of waste disposal activities related to water use, deposit of waste to water or the appurtenant undertaking.

Item 2(d): Recommend Change

Existing text: A description of progressive and/or final reclamation work undertaken, including photographic records of site conditions before, during and after completion of operations;

Proposed text: A description of progressive and/ or final licensed reclamation work undertaken, including photographic records of site conditions before, during, and after completion.

Item 5: Recommend Change

Existing text: The Licensee shall, for all plans submitted under this licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objective and will notify the Licensee in writing of acceptance, or rejection or alterations of the Plan.

Proposed text: The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board or an Inspector may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan. The Inspector will notify the Board of any alteration or modification. Conditions and clauses within all plans manuals will be enforced where there is a clear connection between water use, waste deposit to water, or appurtenant undertakings related to water use and/or deposit of waste to water, subject to the act and regulations.

Part C: Conditions Applying to Water Use

Item 5: Recommend Change

Existing text: The Licensee shall not remove any material from below the ordinary High Water Mark of any Water body unless authorized.

Proposed text: The Licensee shall not conduct work below the ordinary high water mark of any water body unless authorized.

Items 6 and 7: Recommend removal of conditions under Water Use regarding erosion and sediment control measures and include under subsequent sections: likely *Camps, Infrastructure, and Operations*.

Part D: Conditions Applying to Waste Disposal

Item 2: Recommend Change

Existing text: The Licensee shall not practice on-site land filling of domestic waste, unless otherwise approved by the Board in writing.

Proposed text: The Licensee shall not practice on-site landfilling of domestic waste that will impact groundwater, unless otherwise approved by the Board in writing.

Item 3: Recommend Removal

Existing text: The Licensee is authorized to dispose of all acceptable food waste, paper waste and untreated wood products in an incinerator.

Proposed Change: Item will be recommended by AANDC for inclusion under the land authorization.

Item 4: Recommend Change

General Comment on Open Burning: Items related to open burning will be recommended by AANDC for inclusion under the land authorization.

Existing text: The Licensee shall not open burn plastics, wood treated with preservatives, electric wire, Styrofoam, asbestos or painted wood to prevent the deposition of waste materials of incomplete combustion and/or leachate from contaminated ash residual, from impacting any surrounding waters, unless otherwise approved by the Board in writing.

Proposed text: The Licensee shall not allow deposition of waste materials from combustion and/or leachate from contaminated ash residual, from impacting any surrounding waters, unless otherwise approved by Board in writing.

Item 5: Recommend Removal

General Comment on Items 5-7: AANDC will discuss terms related to waste management with the GN DOE.

Reasoning: AANDC lacks the legislation and jurisdiction to track and control the shipping of hazardous wastes, waste oil and non-combustible waste generated by a proponent in Nunavut. AANDC can only tell a proponent that such waste cannot be deposited to Inland water or Arctic waters. This issue can be address by the GN-Environmental Protection Act/Regulations or through municipal by-laws.

Existing text: The Licensee shall provide to the Board documented authorization from all communities in Nunavut receiving wastes from the Coppermine Project prior to any backhauling and disposal of wastes to those communities.

Proposed Change: Recommend removal of condition.

Item 6: Recommend Removal

Existing text: The Licensee shall backhaul and dispose of all hazardous wastes, waste oil and non-combustible waste generated through the course of the operation at a licensed waste disposal site.

Proposed Change: Recommend removal of condition.

Item 7: Recommend Removal

Existing text: The Licensee shall maintain records of all waste backhauled and records of confirmation of proper disposal of backhauled waste. These records shall be made available to an Inspector upon request.

Proposed Change: Recommend removal of condition.

Item 9: Recommend Change

Existing text: The Licensee shall contain all toilet Wastes in latrine pits or use incineration, chemical, portable or composting toilets. Latrine pits shall be located at a distance of at least thirty one (31) metres above the ordinary High Water Mark of any Water body, treated with lime and covered with native material to achieve the pre-existing natural contours of the land prior to abandonment.

Proposed text: The Licensee shall dispose of all Toilet Wastes in such a manner as to prevent impacts to surrounding waters, unless otherwise approved by the Board in writing.

Item 10: Recommend Change

Existing text: The Licensee shall confirm that the trenching waste rock is free of contaminants and is non-acid generating and is non-metal leaching prior to disposal in accordance with the approved abandonment and restoration plan.

Proposed text: The Licensee shall dispose of all waste rock at a distance of at least 31 metres from the ordinary high water mark of any adjacent water body, where direct flow into a water body is not possible and no additional impacts are created.

Item 11: Recommend Change

Existing text: The Licensee shall direct all Water accumulated in blasted or excavated trenches to a Trench Water Containment to allow for sampling prior to release. Water collected in hand-dug trenches shall be directed to a natural depression sump, as required by Part D, Item 1.

Proposed text: The Licensee shall direct all water accumulated in blasted or excavated trenches to a lined containment area to allow for sampling prior to release. Water collected in hand-dug trenches shall be directed to a sump and as required by Part D Item 1.

Item 13: Recommend Change

Existing text: All Effluent discharged from the Trench Water Containment shall be carried out in accordance with Part D, Item 1, directed to a natural depression where direct flow into a water body is not possible and no additional impacts are created.

Proposed text: All Effluent discharged from the Trench Water Containment shall be directed to a natural depression where direct flow into a water body is not possible and no additional impacts are created, and carried out in accordance with Part D, Item 1.

Part E: Conditions for Camps, Access Infrastructures And Operations

Item 3: Recommend Change

Existing text: The Licensee shall construct all winter lake and stream crossings, including ice bridges, entirely of water, ice or snow. The Licensee shall minimize disturbance by locating ice bridges in an area that requires the minimum approach grading and the shortest crossing route. Stream crossings shall be removed or the ice notched prior to spring break-up.

Proposed text: The Licensee shall construct all winter lake and stream crossings, including ice bridges, entirely of water, ice or snow. The Licensee shall minimize erosion and sediment deposition to the water body, and construct crossings by the shortest crossing route practicable. Stream crossings shall be removed or the ice notched prior to spring break-up.

Item 4: Recommend Change

Existing text: With respect to access road, pad construction or other earthworks, the deposition of debris or sediment into or onto any water body is prohibited. These materials shall be disposed at a distance of at least thirty one (31) metres from the ordinary high water mark in such a fashion that they do not enter the water.

Proposed text: Sediment and erosion measures must be used to mitigate the deposition of debris and sediment into or onto any water body during the construction and operation. These materials shall be disposed at a distance of at least 31 metres from the ordinary high water mark in such a fashion that they do not enter water.

Item 5: Recommend Removal

Existing text: The Licensee shall not move any equipment or vehicles unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel of equipment or vehicles must be suspended if rutting occurs.

Proposed Change: Item will be recommended by AANDC for inclusion under the land authorization.

Part F: Conditions Applying to Drilling and Trenching Operations

Item 2: Recommend Change

Existing text: The Licensee shall dispose of all drill waste, including water, chips, muds and salts (CaCl₂) in any quantity or concentration, from land-based and on-ice drilling, in a properly constructed sump or an appropriate natural depression located at a distance of at least thirty one (31) metres from the ordinary high water mark of any adjacent water body, where direct flow into a water body is not possible and no additional impacts are created.

Proposed text: The Licensee shall dispose of all drill wastes at a distance of at least 31 metres from the ordinary high water mark of any adjacent water body, where direct flow into a water body is not possible and no additional impacts are created.

Part G: Conditions Applying to Modifications

Item 1: Recommend Change

Existing text: The Licensee may, without written consent from the Board, carry out Modifications to the Water Supply Facilities and Waste Disposal Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:

- a. the Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
- b. such Modifications do not place the Licensee in contravention of the Licence or the Act;
- c. such Modifications are consistent with the NIRB Screening Decision;
- d. the Board has not, during the sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and
- e. the Board has not rejected the proposed Modifications.

Proposed text: The Licensee may, without written approval from the Board, carry out modifications to the Water Supply and Waste Disposal Facilities provided that such modifications are consistent with the conditions of this Licence and within the scope of the water licence application. The Licensee is required to provide a 30 day notification to the Inspector and the Board prior to the modifications.

Part H: Conditions Applying to Spill Contingency Planning

Item 6: Recommend Change

Existing text: The Licensee shall, in addition to Part H, Item 5, regardless of the quantity of releases of harmful substances, report to the NWT/NU Spill Line if the release is near or into a Water body.

Proposed text: The Licensee shall, in addition to Part H, Item 5, regardless of the quantity of releases of harmful substances, report to the NWT/NU Spill Line and to the Inspector if the release is near or into a Water body.

Part I: Conditions Applying to Abandonment and Restoration or Temporary Closing

Item 2: Recommend Change

Existing text: The Licensee shall complete all restoration work prior to the expiry of the Licence.

Proposed text: The Licensee shall complete all restoration work related to use of water, deposit of waste and appurtenant undertaking subject to the Act and its Regulations, prior to the expiry of the licence.

Item 3: Recommend Change

Existing text: The License shall carry out progressive reclamation of any components of the project no longer required for the Licensee's operations.

Proposed text: The License shall carry out progressive reclamation of any licensed components of the project no longer required for the Licensee's operations related to water use, deposition of waste to water and/or appurtenant undertakings, subject to the Act and Regulations.

Item 4: Recommend Removal

Existing text: The Licensee shall backfill and restore all sumps to the pre-existing natural contours of the land.

Proposed Change: Item will be recommended by AANDC for inclusion under the land authorization.

Item 5: Recommend Removal

Existing text: The Licensee shall remove from the site, all infrastructure and site materials, including all fuel caches, drums, barrels, buildings and contents, docks, water pumps and lines, material and equipment prior to the expiry of this Licence.

Proposed Change: Item will be recommended by AANDC for inclusion under the land authorization.

Item 6: Recommend Change

Existing text: All roads and airstrips, if any, shall be re-graded to match natural contours to reduce erosion.

Proposed text: All roads and airstrips, if any, shall be re-graded to reduce erosion and sedimentation to water.

Item 8: Recommend Removal

Existing text: In order to promote growth of vegetation and the needed microclimate for seed deposition, all disturbed surfaces shall be prepared by ripping, grading, or scarifying the surface to conform to the natural topography.

Proposed Change: Item will be recommended by AANDC for inclusion under the land authorization.

Item 9: Recommend Removal

Existing text: Areas that have been contaminated by hydrocarbons from normal fuel transfer procedures shall be reclaimed to meet objectives as outlined in the Government of Nunavut's Environmental Guideline for Site Remediation, 2010. The use of reclaimed soils for the purpose of back fill or general site grading may be carried out only upon consultation and approval by the Government of Nunavut, Department of Environment and an Inspector.

Proposed Change: Item will be recommended by AANDC for inclusion under the land authorization.

Item 10: Recommend Removal

Existing text: The Licensee shall restore all drill holes and disturbed areas to natural conditions immediately upon completion of the drilling. The restoration of drill holes must include the removal of any drill casing materials and the capping of holes with a permanent seal.

Proposed Change: Item will be recommended by AANDC for inclusion under the land authorization.

Item 12: Recommend Removal

Existing text: The Licensee shall stockpile all overburden and vegetation materials removed during trenching activities for later use in reclamation/re-contouring once trenching activities are completed. Erosion prevention measures shall be provided as required by Part C, Item 7.

Proposed Change: Item will be recommended by AANDC for inclusion under the land authorization.

Item 14: Recommend Change

Existing text: The Licensee shall contour and stabilize all disturbed areas to a pre-disturbed state upon completion of work.

Proposed text: The Licensee shall contour and stabilize all disturbed areas to reduce erosion and sedimentation to water.

Part J: Conditions Applying to the Monitoring Program

Item 2: Recommend Change

Existing text: The Licensee shall determine the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where Wastes associated with camp operations and drilling operations are deposited.

Proposed text: The Licensee shall provide the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where Wastes associated with camp, trenching, and drilling operations are deposited.

Items 3 and 4: Recommend Change

Note: AANDC proposes changes to modify Part J. Item 3 & 4 to better capture the intent and remove any possible confusion that may lead to non-compliance. AANDC would also like to propose changes so the licensee is not limited by techniques for water sampling that may be requested from an accredited lab and following a specific methodology.

Existing text:

All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board in writing.

Proposed change:

All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by a laboratory certified by the Canadian Association of Environmental Analytical Laboratories (CAEAL).

Review submitted by:

Eva Paul

Water Resources Officer | Agent des ressources en eau
Aboriginal Affairs and Northern Development Canada | Affaires autochtones et Développement
du Nord Canada
Nunavut Regional Office | Bureau régional du Nunavut
Building 969, PO Box 2200 | Édifice 969, CP 2200
Iqaluit, NU X0A 0H0

Phone | Tél. : 867-975-4548

Cell | Mobile: 867-222-6490

Fax | Téléc. : 867-979-6445

Eva.Paul@aandc-aadnc.gc.ca