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NUNAVUT WATER BOARD NUNAVUT IMALIRIYIN KATIMAYINGI

Item: NWB1NAN0208/Part G/Item 16

January 6, 2004

via regular mail and email

Mr. Robert Carreau Corporate Manager, Environmental Affairs Breakwater Resources Ltd. Suite 2000, 95 Wellington Street West Toronto, ON M5J 2N7

Subject: Request for further information regarding CanZinco Limited's Waste Disposal Plan

Dear Mr. Carreau:

The Nunavut Water Board ("NWB") has completed its review of CanZinco Limited's ("the Licensee") report entitled, *Nanisivik Mine Waste Disposal Plan* ("Plan"), submitted August 1, 2003. To facilitate the review, submissions on the Plan were received from Indian and Northern Affairs Canada ("INAC"), Acres International (Consultant for the NWB), the Nunavut Department of Justice, Environment Canada and EBA Engineering Consultants Limited (Consultants for INAC and the Government of Nunavut).

While the Plan adequately addresses many of the areas required of it under Part G, Item 16 of License NWB1NAN0208 ("License"), there are, however, several items which require further clarification or revision in order for the NWB to be confident in its approval of the Plan. Therefore the Licensee is requested to revise the Plan in accordance with the following items identified in its review.

- 1. That, given the pending submission of the revised Environmental Site Assessment for the Nanisivik Mine, as well as the NWB's recent acceptance of the Licensee's proposed Soil Quality Remedial Objectives, the Licensee should now be able to provide the approximate volumes of contaminated soil requiring storage underground.
- 2. That the Licensee should revise its estimates for the quantity of materials being disposed of underground in light of its recent agreement with Wolfden Resources to have certain industrial assets dismantled and removed from the mine site.
- 3. That the Licensee revises the Plan to account for the following components, which appear to have been omitted in the Plan: ANFO facility; landfarm material; storage shipping containers; end user tanks.
- 4. That the Licensee provides more detail as to when hazardous materials will be shipped off site and what materials will be sent out, other than the batteries and antifreeze that have already been mentioned in the text.
- 5. That the Licensee provides greater detail as to how pipelines and vehicles will be drained of hazardous fluids.

- 6. That the Licensee revises the Plan to ensure that materials posing the greatest risk to humans and the environment are stored in the deepest, most inaccessible underground areas.
- 7. That the Licensee revises the Plan's Operating Procedures Flow Chart (Part 4) to include soil co-contaminated with both metals and hydrocarbons.
- 8. That the Licensee revises the Plan's Operating Procedures Flow Chart (Part 4) to include more detailed information as to where each type of material is to be stored.
- 9. That the Licensee include in the Plan, a complete materials balance table which describes the type and quantity of material being stored, as well as the location and availability of underground storage space. As part of this request, the Licensee is advised to re-examine and evaluate the values presented in the Plan.
- 10. That, although the Waste Rock Disposal Plan is to be submitted separately under Part G, Item 8 of the License, the Licensee should include in the Plan information regarding the quantities and destination of waste rock that are intended for underground storage.
- 11. That the Licensee is requested, as part of the revised Plan, to present details on existing or predicted subsidence over the mine workings.
- 12. That the Licensee provides more information as to why certain underground storage areas have been selected. This should also include the geotechnical criteria for designating certain areas for contaminated material disposal.
- 13. That the Licensee include, in the revised Plan, improved underground site maps showing the proposed storage locations and estimated quantities of waste material to be stored for each location. The maps must provide a scale, legend, areas of contaminated and non-contaminated clear demarcation between underground or aboveground storage areas.
- 14. That the Licensee provides specific detail on the locations where material will be disposed of underground, including block areas; pit numbers; portal areas.
- 15. That the Licensee provides more clarification as to why it intends to utilize open pits and surface areas for solid waste disposal when there appears to be ample underground space. If conditions exist that prevent underground storage of certain materials, the reasons should be given, and subsequent to this fact, engineering schematics will be required that detail the pits as waste disposal facilities.
- 16. That the Licensee present in the revised Plan, a method for documenting waste disposal that includes: a schedule identifying time line and method of placement for each type of waste material; the submission of engineering maps that illustrate the location and placement of materials deposited at the end of disposal activities; the provision of a list of photo documentation; and the material disposal records to be kept on file by the Licensee, as well as those submitted to the regulators.
- 17. That the Licensee, as was noted in several of the external reviews, strives to locate alternate uses for material slated for disposal, particularly vehicles, before their disposal underground.
- 18. That the Licensee is reminded that all activities regarding waste disposal at Nanisivik must be performed in compliance with the Government of Nunavut's Mine Health and Safety Regulations.

The revised Plan, which will incorporate the above-mentioned items, should be received by the NWB no later than 60 days from the issuance of this letter. In addition to the above-listed Planspecific comments, external reviewers noted the following items that the Licensee must consider for its pending Final Closure and Reclamation Plan ("Final C&R Plan") for the Nanisivik Mine.

1. That the Licensee develop a plan for the decommissioning of open pits which would address the following items: identification of which pits are to be used, recontouring pits, erosion prevention, water pooling, long-term stability (current and future), monitoring, ARD concerns of exposed pit walls and a full accounting of water flow into and out of pit areas (open and reclaimed).

- 2. That the Licensee should note INAC's disagreement with the concept of leaving concrete foundations in place as proposed in the Waste Disposal Plan. If the Licensee intends to leave the concrete foundations in place, then it is requested to test concrete samples and soil core samples, below and surrounding the concrete pads, for contaminants. Engineering drawings that depict the concrete and surrounding soils that are to be aggraded into the permafrost will be required. Technical data will be required to prove that covering the concrete slabs with fill will cause permafrost migration which will cause contaminants under the slabs to become inert. The Licensee must provide evidence that there will be no water flow to or away from the concrete foundations or surrounding soils.
- 3. That the Licensee ensures that in the Final C&R Plan that the contouring of waste disposal areas to prevent water pooling and erosion is addressed.
- 4. That the Licensee ensure that the Final C&R Plan provides details about the recontouring of areas where contaminant-impacted soil will be excavated; including if these areas will be returned to original grade, and if so, what the proposed fill source is.
- 5. That the Licensee provides detail in the Final C&R Plan about possible ground water contamination in the active layer underneath tank farm. If significant contamination exists, the Licensee should identify the extent and severity of contamination and predict the future direction and rate of plume movement. A method to mitigate and remediate this problem will be required.
- 6. That the Licensee must provide engineering drawings which depict the method by which access paths to the underground workings will be sealed.

Should you have any questions on this matter, do not hesitate to contact Patrick Duxbury, NWB Mine Reclamation Coordinator, or myself.

Yours truly,

Original signed by:

Philippe diPizzo Chief Administrative Officer

Cc: Technical Distribution List