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NWB File: 1AR-NAN0914

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**RE: Decommissioning Plan for the Tank Farm Nanisivik Mine**

On behalf of Environment Canada (EC), I have reviewed the information of the above-mentioned plan on behalf of Environment Canada (EC). 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*.

CanZinco Ltd. has submitted the *Abandonment and Reclamation Plan, Fuel Tank Farm, Former Nanisivik Mine Site, Nunavut*, to the Nunavut Water Board (Board) as a condition of the water license 1AR-NAN0914 issued on April 1, 2009. Environment Canada provides the following comments and recommendations for the Board's consideration.

- Background soil quality samples are proposed to be collected from the area occupied by the soil remediation facility. EC recommends that a different area be sampled in addition to the proposed area, since the proposed treatment area is located just off of the access road and may potentially have some level of contamination from previous vehicle use.
- The proposed landfarm is going to be approximately 130 m from the Twin Lakes Creek and 320 m from Strathcona Sound. However, the *Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils* (2006) recommends for landfarm facilities to be a minimum of **500 m** from permanent surface water bodies.
- Stantec describes a biotreatability study of the soil that will be conducted to determine microorganism and nutrient levels in order to develop optimal nutrient and moisture conditions for the soil, but the desired nutrient content is not mentioned. The typical and recommended optimal nutrient ratio of carbon : nitrogen : phosphorus ranges between 100:10:1 to 100:10:0.5. While moisture content should be between 40 and 85% of field capacity. Additional guidance on optimal soil conditions for biopiles and land farms can be found in the *Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils* (2006).

**References**

SAIC Canada. 2006. *Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils*. Prepared for Environment Canada. August, 2005.

Thank-you for the opportunity to comment on the Abandonment and Reclamation Plan, Fuel Tank Farm for the Nanisivik Mine. If there are any changes in the proposed project, EC should be notified, as further review may be necessary. Please do not hesitate to contact Carrie Spavor with any questions or comments with regards to the foregoing at (867) 975-4631 or by email at [carrie.spavor@ec.gc.ca](mailto:carrie.spavor@ec.gc.ca).

Yours truly,

*Original signed by*

Carrie Spavor  
Environmental Assessment Coordinator

cc: Carey Ogilvie (Head, EA North, Environment Canada, Yellowknife, NWT)  
Mirey Lopez (Contaminated Sites Officer, Environment Canada, Calgary, AB)