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22 September 2003

Sameh El-Sayed, P. Eng.
Regional Engineer, Baffin Region
Department of Community Government and Transportation
P.O. Box 330
Cape Dorset, NU X0A 0C0

Sir:

Thank you for your recent correspondence regarding the proposed decommissioning of the sewage treatment lagoon at Hall Beach, referenced in your letter of 11 July 2003. Further to that letter, and our recent discussions regarding the decommissioning of the old sewage treatment lagoon in Hall Beach, I am pleased to offer the following comments.

As outlined in the terms and conditions of NWB water license NWB3HAL0308, there are several requirements of the current water license that would be applicable in this case. I would draw your attention to the following:

1. Part E, Item 1 of the existing water license states that the Licensee is required to submit to the NWB "*design drawings stamped by a qualified engineer registered in Nunavut prior to the construction of any dams, dykes, or structures intended to contain, withhold, divert or retain water or wastes.*" The proposed cover and containment of the sludge in an abandoned sewage treatment facility would therefore require said documents to be submitted to, and approved by, the Board prior to initiation of any such activities.
2. Part G, Item 1 of NWB3HAL0508 outlines the information to be included by the Licensee in a complete abandonment and reclamation (A&R) plan. The Board will require the following supplemental information in the associated sections of Part G, Item 1 to assess any A&R plan for the decommissioning of the Hall Beach Sewage Lagoon submitted to the Board:
 - iv. The proposed A&R Plan shall identify any sites in the vicinity of the lagoon that have been affected by waste spills, the remediation that has previously occurred at each of these sites, and plans for the

completion of any outstanding remediation activities to accompany the final lagoon decommissioning being proposed.

- v. The proposed A&R Plan shall provide a description of the potential for leachate generation occurring at the site, including the modeling of anticipated sludge freezing dynamics and of anticipated volumes of water drainage into and out of the lagoon prior to the complete incorporation of sludge into permafrost.
- viii. The proposed A&R Plan shall provide engineered drawings and plans which describe surface and subsurface drainage patterns for the decommissioned lagoon site, and include designs for the contouring of the cover material, containment berm thickness, monitoring well locations (if applicable) and any liners which are proposed. These Plans shall be stamped by a Professional Engineer licensed to practice in Nunavut.
- ix. The proposed A&R Plan shall provide the type and source of cover material, to aid in assessing the effectiveness of the proposed waste containment options proposed;
- xi. The proposed A&R Plan shall contain a comprehensive assessment of the potential for the presence of hazardous materials in the decommissioned lagoon site. This should include a characterization of the sludge contained in the lagoon for potentially hazardous constituents including but not limited to: hydrocarbons, chlorinated organics, and metals. Such analysis should include sampling throughout the lagoon and through vertical cores of sludge to identify the degree and extent of archival contamination. In these analyses the total depth, and consequently volume, of sludge should be determined and the total hazardous material load calculated.

Once again, thank you for your efforts in assisting the Hamlet of Hall Beach as they move forward with the remediation of their surplus sewage treatment facility. I look forward to receiving the Plan which we have been discussing. If I can be of any assistance to you, or if you require further clarification on developing this Plan, please do not hesitate to contact me. Additionally, and to assist you, please find contained in this envelop a copy of the “*Guidelines for the Abandonment and Reclamation of Sewage Lagoons in the Northwest Territories*” (1999).

Sincerely,

Jim Wall, Technical Advisor, Nunavut Water Board