

July 5, 2004

NWB File:
NWB3PON0409

Mrs. Phyllis Beaulieu
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Nunavut Water Board
P.O. Box 119
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via Email to:
licensing@nwb.nunavut.ca

Dear Mrs. Beaulieu:

Re: NWB3PON0409 – Design Modification Sewage Lagoon Project – Pond Inlet, Nunavut.

The Department of Environment (DOE), Government of Nunavut has reviewed the document entitled “Notification of Design Modification, Water License NWB3PON0308, Sewage Lagoon Project, Pond Inlet, Nunavut”, submitted by Anjan Joshi, Project Officer, Dept. of Community and Government Services, Government of Nunavut.

The aforementioned document presents the proposed modifications on design and construction (not treatment) of the sewage lagoon in Pond Inlet. The modifications are needed due groundwater accumulation on the bottom of the lagoon.

The comments from our review are as follows:

- According to the attached report from Golder Associates (Oct. 29, 2003, pp.2) it states that cobbly gravel and sand will be put onto the existing pond base, that is over the pond sludge and the active layer of permafrost. It also states that there are difficulties in compacting the gravel layer due to the “*persistent water seepage from the underlying active layer of permafrost*”. The existing pond sludge and added gravel layer will be below the granular material (sand) and geosynthetic clay liner (GCL).
The document (pp. 3, 7th paragraph), also states that “*Golder report indicates that **some amount of seepage** out of the base of the lagoon liner system, and through the sub-soils should be expected as part of the operation of the system*”. We find this last statement troublesome, and in contravention of Section 5 of the Nunavut Environmental Protection Act (“no person shall discharge or permit the discharge of contaminant into the environment”).

We recommend that the proponent review and assess the potential environmental impact of seepage (pond sludge from the layer below the GCL being washed out by the groundwater flow on the permafrost active layer), and prepare a monitoring and contingency plan.

- In view of the complicated situation on stabilizing the sewage lagoon bottom, and the associated potential for GCL failure. We recommend that the proponent review the possibility of relocating the lagoon (as also proposed by Golder Associates report, Option 6) taking into consideration the costs of operation, maintenance, as well as environmental clean up and impact.

We thank the NWB for giving us the opportunity to review this Report. Please contact me if you have any further questions or comments.

Sincerely,

Original signed by

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cc. Doug Sitland
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