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Affairs Canada
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Water Resources
Nunavut Regional Office
P.O. Box 2200
Iqaluit, NU, X0A 0H0
Tel. (867) 975-4555
Fax. (867) 975-4585

Your file - Votre référence
NWB3CAP

Our file - Notre référence
#80011 / 9545-3-3CAPG

June 27, 2006

Richard Dwyer
Licensing Trainee
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0
Tel. (867) 3606338 ext. 20
Fax. (867) 360-6369
Email: licensingtrainee@nwb.nunavut.ca

Via Email

**Re: NWB3CAP - Dillon Consulting Ltd. - Cape Dorset Sewage Lagoon
Amendment - Response to June 2, 2006 Information Submission**

On behalf of Indian and Northern Affairs Canada (INAC) I have reviewed the above-mentioned application. The following specialist advice has been provided pursuant to INAC's mandated responsibilities for the enforcement of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NW&NSRT), *Arctic Waters Pollution Prevention Act* (AWPPA), and the *Department of Indian Affairs and Northern Development Act* (DIAND Act).

Indian and Northern Affairs Canada is appreciative of Dillon Consulting Ltd.'s (Dillon) June 2, 2006 written response to comments submitted by interveners who reviewed its "P-Lake Area Sewage Lagoon System Final Design Report and Complete Construction Tender." The proponent is commended for its participation in this regulatory review process and it is anticipated that through cooperation, open communication, and sincere respect for the welfare of Cape Dorset residents, a competent sewage treatment system will be established in the near future.

Indian and Northern Affairs Canada is concerned that proponents' intention to not place an impermeable liner placed on the lagoon's base may result in an ineffective waste management facility. The proponent argues that the AMEC geotechnical investigation of the sewage lagoon site (October 13, 2005) indicates that permafrost will extend into the berms, creating a permafrost boundary around the lagoon. In theory, this permafrost boundary will contain contaminated groundwater. Having reviewed the information submitted in this document and given critical thought to the implications of having an unlined sewage lagoon, no confidence can be placed in this argument. AMEC constructed a geothermal

model which demonstrated that the thickness of the unfrozen zone under the lagoon increased with time, while the ground temperature under the dyke decreased down to -5 degrees Celsius, provided that the dyke effectively contains groundwater within the active surface layer. AMEC did not make any claims that the proposed synthetic liner placement within the dyke will be sufficient. Indian and Northern Affairs Canada recommends that careful consideration be given to the impact of the sewage lagoon on the active layer of ground in the project area and the capacity of the dyke to contain sewage effluent.

Indian and Northern Affairs Canada is supportive of the comments made by Hartmaier of BGC Engineering Incorporated and Grainger of Associated Engineering Alberta Limited. Detailed responses to the information requests submitted by these individuals will add clarity and a better understanding of the competency of the proposed sewage lagoon.

Indian and Northern Affairs Canada requests notification of any changes in the proposed project, as further review may be necessary. Please do not hesitate to contact me if you have any questions or comments with regards to the foregoing by telephone (867) 975-4555 or by email via abernethyd@inac-ainc.gc.ca.

Sincerely,

Original signed

David W. Abernethy
Water Resources Coordinator

cc. Jim Rogers - Manager of Water Resources, Indian and Northern Affairs Canada, Iqaluit