



Water Resources Division
Nunavut Regional Office
Iqaluit, NU
X0A 0H0

NWB File: 3BM-PEL0712
CIDMS #: 431758

Oct 22, 2010

**Re: 3BM-PEL0712 – Wetland Treatment Area Assessment Report -
Hamlet of Kugaaruk**

Please be advised that Indian and Northern Affairs Canada (INAC) has completed a review of the Wetland Treatment Area Assessment Report prepared by Dillion Consulting for The Government of Nunavut – Community and Government Services (GN-CGS) on behalf of the Hamlet of Kugaaruk for water license 3BM-PEL0712. The NWB circulated the Wetland Treatment Area Assessment Report for comments on September 22, 2010. All documents related to the application posted on the NWB ftp site under 3BM-PEL0712 were included in my review (See attached Technical Review Memo).

Should you have any questions or comments, please do not hesitate to contact me at (867) 975-4282 or by email at Ian.Parsons@inac.gc.ca.

Sincerely,

Original signed by

Ian Parsons
Regional Coordinator

Cc. Lou-Ann Cornacchio, Manager of Water Resources – Indian and Northern Affairs Canada, Nunavut Regional Office



Technical Review Memorandum

To: Phyllis Beaulieu – Manager of Licensing, Nunavut Water Board

From: Ian Parsons – Water Resources Technician, Indian & Northern Affairs Canada.

**Re: 3BM-PEL0712 – Wetland Treatment Area Assessment Report -
Hamlet of Kugaaruk**

Background

On November 24, 2009 the NWB sent the Hamlet of Kugaaruk correspondence acknowledging that it had received the Wetland Treatment Area Assessment Report. This correspondence also stated where the report was deficient and that the report would not be sent out for comments until Dillion Consulting provided the NWB with the required documentation.

On December 11, 2009 the NWB was provided the additional documentation, by Dillion Consulting Ltd., to address the outstanding issues associated with the report.

On September 22, 2010 the NWB distributed the Wetland Treatment Area Assessment Report for comments from interested parties.

Recommendations/Comments

A wetland is an area of land whose soil is saturated with moisture either permanently or seasonally, wetlands include swamps, marshes, and bogs, among others. This area is neither a natural or constructed wetland, however, is generally accepted as a wetland treatment area.

This area was never intended to be part of the treatment process and was only incorporated into the new water license as a result of the leaks incurred to the old system that spilled onto this part of the tundra/land. Thus it is now part of the sewage treatment system.



INAC recommends that Dillion Consulting Ltd. provide to the NWB an updated digital photograph or map of the new sewage lagoon system including the treatment area and associated monitoring program sampling points. The map submitted in the above referenced document not only has no detail but is a visual image of the old lagoon that does not match the as-built drawings.

INAC recommends that if the wetland area is to be used as part of the sewage treatment system it should have a defined area with restricted public access.

INAC notes that the preliminary results submitted in the wetland assessment report for sampling point PEL-3 exceeded the water license parameters. INAC notes that these exceedences were a result of the effluent being discharged directly into the smaller holding cell and having very little retention time while the current lagoon was being built.

Given that the results are based on a limited data set of two samples taken presumably right after the lagoon was commissioned, it may be prudent to consider monitoring data from 2008-2010 before assessing the efficacy (and compliance) of the lagoon system.

To this INAC recommends that the Monitoring Program outlined in Part H of the Water License be strictly adhered to. This has been problematic in previous years. INAC recommends that the Hamlet of Kugaaruk to become more diligent in their monitoring program practices.

INAC also recommends, as a result of the treatment area not being an engineered wetland, that the proponent clearly identify the flow path through the wetland treatment area and provide assurances that the treatment of effluent through the wetland is not diminishing over time through a possible changing of the flow path and also give the NWB assurances that the sampling points reflect this path or any changes to it.

Cc. Lou-Ann Cornacchio, Manager of Water Resources – Indian and Northern Affairs Canada, Nunavut Regional Office
Peter Kusugak, District Manager – Indian and Northern Affairs Canada, Nunavut Regional Office