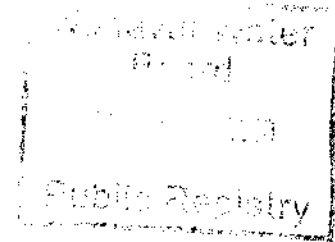


**Environment Environnement
Canada Canada**

Environmental Protection Operations
Qimugjuk Building 969
P.O. Box 1870
Iqaluit, NU X0A 0H0
Tel: (867) 975-4639
Fax: (867) 975-4645



23 April 2010

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU
X0B 1J0

EC file: 4703 003 041
NWB file: 8BR-KRK0609

via e-mail: licensing@nunavutwaterboard.org

RE: 8BR-KRK0609 Renewal Type "B" – GN-CGS- Kitikmeot Region – Request for review and comments

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

The Government of Nunavut's Department of Community and Government Services is proposing to continue activities associated with a landfarm in the hamlet of Kugaaruk. The landfarm was developed in response to a 2001 soil contamination study of the hamlet's bulk fuel storage facility area to treat 3,500 m³ of sandy gravel for hydrocarbon contamination. The landfarm has been in operation since 2005, and is planned to continue until 2013. Project activities will include the continued operation of the landfarm and associated activities of treatment, monitoring, and disposal of contaminated soil.

EC provides the following comments and recommendations for the Nunavut Water Board's consideration:

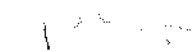
- EC has available the Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils. Science Applications International Corporation (SAIC Canada), March, 2006. Information in this document addresses design, operation, monitoring, sampling, analytical methods, decommissioning/closure, record keeping and reporting requirements for landfarming projects. It is recommended that the consultant refer to this document as it relates to the future operations of the landfarming project.
- As indicated in the project summary, it is expected that one more year of treatment will reduce the contaminant level in the soil to the point where the soil can be removed. Soil testing is planned in 2010 to confirm the contaminant levels. Given that the bioremediation process (micro-organism activity) may have peaked it may be necessary to consider nutrient amendment for the last treatment year(s). Ensuring that micro-organisms have nutritional requirements in the optimal range will increase the treatment efficiency in the end range of the bioremediation process. PH maintenance, moisture content monitoring, and microbial population density monitoring are

Canada

- Water in the retention cell was pumped out in 2008 and 2009 without completing water quality analysis. For the remainder of the project it is recommended that water sampling and the necessary water treatment occur before water is discharged from the retention cell. This intent is indicated in the Kugaaruk Landfarm Facility Operations and Maintenance 2010 document. It is also recommended that the area where the un-tested water was discharged be sampled for soil and groundwater contamination annually and after the project life. It is noted that the Kugaaruk Landfarm Facility Operations and Maintenance document intends to carry out ongoing site monitoring during the life of the project and two years after.

Comments previously submitted by EC, as attached, would also still apply to this file. 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 me with any questions or comments with regards to the foregoing at (867) 975-4631 or by email at Paula.C.Smith@ec.gc.ca.

Yours truly,



Paula C. Smith
Environmental Assessment Coordinator

cc: Carcy Ogilvie (Head, Environmental Assessment-North, EPO, Yellowknife, NT)
Jody Klasson (Head, Contaminated Sites, EPO, Edmonton, AB)
Ron Bujold (Environmental Assessment Technician, EPO, Yellowknife, NT)