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August 26, 2003

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**Nunavut Water
Board**

APR 23 2004

Public Registry

RE: August 5, 2003 Municipal Water Licence Report

The Water Resources Officer (WRO) appreciates the assistance provided during the tour of the Hamlet's Water use and Waste Disposal Facilities. Enclosed for your records is a copy of the Municipal Water Use Inspection Report performed on August 5, 2003. During the inspection the following observations were noted.

Part B: General Conditions

The Licencee has failed to provide a Annual Water Licence Report as required under the conditions of their Water Licence. As a condition of the Water Licence the Municipality of Kugaaruk is required to submit a Annual Report detailing all Water Supply and Waste Disposal Facility modifications, a summary of all data generated under the Monitoring Program and any other information as described in Part B: General Conditions of the Licence. Installation of a meter at the Water Intake Facility will assist in tabulating community monthly and annual water consumption as required for the Annual Report. Although there was no evidence of disposal of industrial waste (waste oil, solvent and fuel). The Municipality of Kugaaruk has submitted a Spill Report (03-489) for the breach at the Sewage Lagoon. The Inspector has informed the SAO that currently Kugaaruk is not authorized under it's Water Licence to store hazardous waste from any commercial sources, to do so would be in direct violation of the Water Licence and *Nunavut Water and Nunavut Surface Rights Tribunal Act*.

Part C: Conditions Applying to Water Use

The Licencee appears to be obtaining all drinking water from Kugurdjuk River using Water Supply Facilities in place (photo 1 & 3). The generator room appeared dirty with spilled oil and spill absorbent on the floor (photo 2). The leak in the generator room should be fixed as soon as possible to prevent contamination to the drinking water supply. The Water Intake Facility chlorination system was in good condition (photo 4). It would be of benefit to the operation of the Water Intake Facility to have instructions on

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would be of benefit to the operation of the Water Intake Facility to have instructions on the wall for mixing up the concentrated chlorine and the settings needed on the pump to achieve proper chlorination of the drinking water. There was a coil of old heat trace abandon at the back of the Water Intake Facility(photo 5). This garbage should be removed, if this heat tape is reusable then it should be appropriately stored. Signs of fishing,(waste fishing line) was observed at the Water Intake Facility intake (photo 6). Signs should be placed around the Water Supply Facility to request that no fishing to be allowed around intake facility.

Part D: Conditions Applying to Waste Disposal

The Solid Waste Disposal Facility is a burn and bury operation. The tipping face extends the entire length of the dump(photo 7 & 8). There is little segregation of garbage practised at Kugaaruk. The dump has limited fencing around the east side of the facility. The rest of the dump is some what contained by the natural hills. Waste oil is being relocated from the dump (photo 9) to adjacent to the metal dump (Photo 10). The metal dump is poorly organized, very little segregation of waste was observed (photo 12). Waste batteries were noted scattered throughout the metal dump (11). The Sewage Truck Discharge structure requires some maintenance with regards to the bumper guards (photo 13). The home made sewage discharge structure seems to be working well. The Sewage Lagoon was very low at the time of Inspection (photo 14). The Municipality has had work preformed to the existing lagoon berms and has had a road/ berm installed at the discharge end of the Lagoon (photo 17). The lagoon main berm still allows considerable flow through it (photo 18). It appears that the work done to the main berm has not assisted in reducing effluent flow. The road /berm at the back of the lagoon appears to be containing the sewage effluent well. No seepage was observed emitting from the second (berm/road) (photo 15 & 16).

Part E: Conditions Applying to Modifications

The Municipality is required to submit a proposal for any modifications to the Water Supply or Waste Disposal Facilities 60 days prior to beginning any modifications. No submission has been made to the NWB for the modifications to the Sewage lagoon and Waste Oil storage area at the Solid Waste Disposal Facility. The Licencee shall submit to the NWB plans detailing relocation of waste oil drums from within the Solid Waste Disposal Facility to the metal dump this plan shall include the reclamation of any contaminated soil at the waste oil storage area. All contaminated soil will be land farmed or contained within DOT drums as approved by the NWB.

Part F: Conditions Applying to Construction

The Licencee is required to provide plans/drawings for all berms recently placed at the Sewage Disposal Facility. All plans shall be submitted to the NWB by a engineer registered in Nunavut 60 days prior to the commencement of any modifications

Part G: Conditions Applying to Operation and Maintenance

The Licencee is required to submit a Sewage and Solid Waste Disposal Facility Operational and Maintenance plan before May 1, 1999. This plan shall be in accordance with *Guidelines of preparing an Operational and Maintenance Manual for the Sewage and Solid Waste Facilities* (October 1996). The Municipality of Kugaaruk has submitted a Spill Report (03-489) for the breach to the Sewage Lagoon berm. However, the Licencee has not submitted a follow up detailed report for Spill (03-489).

Part H: Conditions Applying to Abandonment and Restoration

The Municipality of Kugaaruk shall submit an Abandonment and Restoration plan detailing the operations involved in relocating the waste oil storage area from the Municipal Solid Waste Disposal Facility to adjacent to the metal dump. This plan shall include the removal of all contaminated soil, land farming of all contaminated soil and any other requirements in Part H: of the Water Licence or as required by the NWB.

Surveillance Network Program

A: Location of Surveillance Stations

PEL-1	Kugurdjuk River Water Intake Facility
PEL-2	Runoff from Solid Waste Disposal Facility
PEL-3	Effluent from Sewage Treatment Facility

B: Sampling and Analysis Requirements

The following parameters shall be analysed during periods of flow from PEL-2: pH, Total Suspended Solids, Nitrate-Nitrite, Total Phenols, Conductivity, Ammonia Nitrogen, Oil and Grease, Sodium, Sulphate, Magnesium, Potassium, Total Arsenic, Calcium, Total Copper, Total Cadmium, Total Iron, Total Chromium, Total Mercury, Total Lead, Total Nickel, Total Zinc.

The following parameters shall be analysed during periods of flow from PEL-3: BOD, Faecal Coliform, pH, Conductivity, Total Suspended Solids, Ammonia Nitrogen, Nitrate-Nitrite, Oil and Grease, Total Phenols, Sulphate, Sodium, Potassium, Magnesium, Calcium.

C: Flow and Volume Measurement Requirements

The Licencee has not provided any information with regards to domestic water pumped from PEL-1. No annual quantities of sewage solids removed from the Sewage Lagoon have been forthcoming by the Licencee since 1998.

D: Reports

The Municipality of Kugaaruk has failed to submit an Annual Water Licence Report, and any Surveillance Network Program information as required under the conditions of this Licence from 1998 to 2002 inclusive.

E: Modifications to the Surveillance Network Program

No modifications to the Surveillance Network Program have been requested by the Inspector or the Licencee since the Licence came into effect on November 1, 1998.

Non-Compliance of Act or Licence

At the time of Inspection the Hamlet of Kimmirut was in breach of the Nunavut Waters and Nunavut Surface Rights Tribunal Act for the disposal of waste. Part D: Conditions Applying to Waste Disposal Item 6; the Licencee shall maintain the Sewage Disposal Facilities to the satisfaction of the Inspector. Part B: General Conditions Item 7; the Licencee shall ensure a copy of the Water Licence is maintained at the municipal office at all times.

If there are any concerns or questions in regards to this inspection please contact me at (867) 975 4298 or bodykevichc@inac.gc.ca

Sincerely,



Constantine Bodykevich
Water Resources Officer (WRO)
INAC, Nunavut District

cc. -Nunavut Water Board, Gjoa Haven (Jim Wall)
-CG&T, Iqaluit (Doug Sitland)
- Baffin Health & Social Services, Iqaluit (Bruce Trotter)
- EC Environmental Protection, Yellowknife (Anne Wilson)
- INAC Water Management, Iqaluit (Michelle Mc Christie)