File No: NWB4EUR9904

August 18, 2000

Dave Law
Chief Atmospheric Monitoring Division
123 Main St., Suite 150
Winnipeg, Manitoba
R3C 4W2

Re: Study of the Wastewater and Water Supply Systems at the Eureka Weather Station - Part C, Item 6 and Part D, Item 8

Dear Mr. Law:

The Nunavut Water Board has reviewed the document titled "**Study of the Wastewater and Water Supply Systems at the Eureka Weather Station**" received April 20, 2000 submitted as required under Part C, Item 6 and Part D, Item 8 of your current water licence. Conditional approval of the plan is given provided that the following recommended improvements are made:

i. General Comments:

a. Overall, this study does not provide enough information to meet the licence requirements.

b. Section V, Item 1, p.16: Although justification is given for the existing system, no alternative to the current method of diversion are proposed.

c. The method used to fill the reservoir every summer injects large amounts of suspended solids into Station Creek and at the creek's discharge point to Slidre Fiord in a short period of time. If Slidre Fiordis considered fish bearing waters, then this practice is in violation of the *Fisheries Act* and therefore unacceptable. Should this method continue to be used to fill the reservoir, steps must be taken to minimize the potential for elevated TSS levels during diversion, and degredation of the region between Station Creek and the reservoir.

d. On p. 14 of this report, three options are proposed for improved wastewater treatment: increase lagoon capacity, install a RBC in the wastewater holding tank room, or install a RBC between the tank and the lagoon. In the Conclusions and Recommendations section (p.17) it is determined that although no change to the current system is needed because the water licence limits are being met, the quality could be improved by adding a primary settling cell, removing the existing sewage sludge, or increasing the holding time of the effluent. Nowhere in this report are the proposed alternatives subject to any clear evaluation. The

accompanying letter to this study does not identify which alternative will be pursued by Environment Canada. The preferred option for improving effluent quality should be identified and criteria provided for the choice made.

e. Water Use Rate section, p.3: This report estimates the total volume of the wastewater lagoon to be 2090 cubic meters, whereas the water licence application for Eureka estimated the total volume of 3400 cubic meters, with a discharge of 3000 cubic meters. This inconsistency should be clarified by properly measuring the discharge. As it stands now, a single large "slug" of raw sewage effluent is discharged in a matter of hours. If the lagoon were equipped with a discharge pipe/valve, then the impact could be lessened by discharging sewage effluent over a extended period of days in the open water season.

The revised plan should be submitted as soon as possible. Should you require clarification or additional information please do not hesitate to contact me at 867-360-6338 or by fax at 867-360-6369.

Sincerely,

Roger LeBlanc
Technical Advisor

cc: Roxanne Beavers, DIAND