

Environmental Protection Operations Directorate
Prairie & Northern Region
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ECCC File: 6200 000 008/015
NWB File: 3AM-GRA1624



August 31, 2021

via email at: licensing@nwb-oen.ca

Richard Dwyer,
Manager Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Dear Richard Dwyer

RE: 3AM-GRA1624 – Community and Government Services, Government of Nunavut – Hamlet of Rankin Inlet – Annual Water Licence Report

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Nunavut Water Board (NWB) regarding the above-mentioned annual water licence report. You will find our comments below.

ECCC's specialist advice based on our mandate pursuant to the *Canadian Environmental Protection Act* and the pollution prevention provisions of the *Fisheries Act*.

ECCC provides the following comments:

1. Oil and Grease in Effluent

Reference(s)

- Appendix A : Rankin Inlet 2020 Sampling Summary GRA-3

Comment

Station GRA-3 monitors effluent quality for a wide range of parameters. The September 2, 2020 samples had elevated Oil and Grease levels of 2170 mg/L; this is considerably higher than other monthly sample results (median 24.1). Comparisons to total hydrocarbon concentrations indicate that the source is likely biological lipids. It is unclear whether community education has been done to prevent kitchen grease and oils from entering the wastewater treatment system.

ECCC Recommendation(s)

ECCC recommends that community education be done regarding disposal of kitchen grease and oils. Commercial kitchens should have grease traps or other capture practices, and



alternative disposal methods for these substances.

2. Detection Limits

Reference(s)

- Appendix A : Rankin Inlet 2020 Sampling Summary GRA-6 and GRA-7

Comment

Data for several of the parameters shown for the June 25, 2020 sample from GRA-6 are below the Detection Limits (DL) shown, including total ammonia, Biological Oxygen Demand (BOD), Carbonaceous Biological Oxygen Demand (cBOD), chloride, mercury, nitrate, nitrite, phosphorus, sulphate, arsenic, cadmium, chromium, cobalt, lead, Total Suspended Solids (TSS), and F2 (C10-C16) hydrocarbons. Similarly, for GRA-7, data that are below the DL include total ammonia, BOD and cBOD, chloride, mercury, nitrate, nitrite, sulphate, cadmium, chromium, cobalt, lead, nickel, TSS, and F2 (C10-C16) hydrocarbons. Some of the metals appear to be reported as half the detection limit, and there are similar data replicated for both stations GRA-6 and 7.

ECCC Recommendation(s)

ECCC recommends the proponent clarify the data and confirm results for the parameters which have numerical results reported while being below listed detection limits.

3. QA/QC procedures for GRA-3 and 4

Reference(s)

- Environmental Monitoring Program and Quality Assurance/Quality Control Plan
Section 3.0 Sampling Procedures and Protocols

Comment

In Section 3.0, overarching procedures are described, then the subsections provide direction on specific protocols, with specific details on surface water sampling procedures in subsection 3.5 (applicable to GRA-1 and GRA-6) and flow monitoring procedures in subsection 3.9 (for GRA-5). Similar information on procedures has not been provided for GRA-3 (effluent discharge from the Sewage Treatment Facility) nor for GRA-4 (volume of sludge removed).

ECCC Recommendation(s)

ECCC recommends that the Quality Assurance/Quality Control (QA/QC) manual include all active sampling locations.

4. QA/QC Samples

Reference(s)

- Environmental Monitoring Program and Quality Assurance/Quality Control Plan
Section 4.2 Quality Control

Comment

This section outlines the type of QA/QC samples collected; these include field blanks and replicate or duplicate samples.

ECCC Recommendation(s)

As travel blanks are also typically used as part of a QA/QC program, ECCC recommends that travel blanks be used with the municipal sampling protocols.

If you need more information, please contact Melissa Pinto at (867) 445-5384 or Melissa.Pinto@ec.gc.ca.

Sincerely,

[original signed by]

Melissa Pinto
Senior Environmental Assessment Coordinator

cc: Jody Small, Acting Head, Environmental Assessment North (NT and NU)