



INAC, Nunavut District
P.O. Box 100
Iqaluit, NU
X0A 0H0

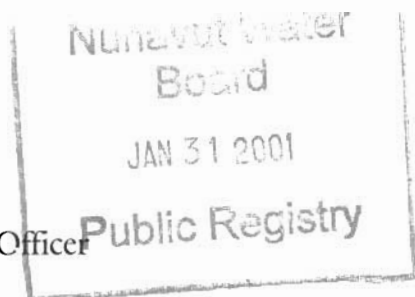
tel.: (867) 975-4275
fax.: (867) 979-6445
Your file Votre référence

Our file Notre référence

NWB3BAK9904

January 9, 2001.

Dennis Zettler
Senior Administrative Officer
Hamlet of Baker Lake
P.O. Box 149
Baker Lake, NU X0C 0A0



INTERNAL	
PC	
LA	
OM	
TA	Copy
RS	
ED	
CEO	
BRD	
DSP DEF	
JUR	

Feb 02/01

August 30, 2000 Water Licence Inspection - Report

Attached for your records is the Municipal Water Use Inspection Report pertaining to the August 30, 2000 inspection; while the facilities are generally managed in a most efficient manner, various issues of a more administrative nature will need to be addressed by the Licensee. Overall, the following considerations were noted:

- **Sewage disposal:** No concerns were noted with the sewage disposal facility (figure 1). In fact, the presence of extensive wetlands along the path of discharge from the sewage disposal facility strongly suggests that adequate effluent treatment is provided.
- **Solid waste disposal:** While pooled water was present immediately downslope from the solid waste disposal facility (figure 2), no active leaching from the site was observed. The facility appears quite adequately overseen, as combustible waste is burned regularly and other types of waste are further segregated (figure 3). However, some concerns were noted regarding waste oil management. Indeed, notable leakage and ground staining were apparent in the new waste oil drum storage area (figure 4). In addition, signs of ongoing dumping at the partly reclaimed waste oil pit were evident (figure 5). Accordingly, the Inspector recommends that the Licensee attempt to direct all incoming waste oil to the new storage site, and further ensure that waste oil is stored/disposed of in a manner which prevents waste oil from being discharged into waters.

This being said, the attached analytical results relating to the discharge downstream from the waste disposal facilities (figure 6) indicate that tested parameters lie within both the Water licence's effluent quality thresholds and the *Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life*. Moreover, the Microtox sample, which constitutes a reliable indicator of the biological toxicity attributed to an associated discharge, came in negative.

- **Spills:** The submission to the Nunavut Water Board (NWB) of a Spill Contingency plan (Part H, Item 1) was due by 2000/04/01, yet the Licensee has not so far filed such a plan. Nonetheless, the Inspector acknowledges that several requirements of an administrative nature were due during the first year of issuance of Water licence NWB3BAK9904. In this regards, INAC and/or other implicated agencies can, should it be required, provide assistance for the completion of this, and other, licence conditions.
- **Operation and Maintenance (O&M) plan:** As per Water licence conditions (Part G, Item 1), the Licensee was also required to submit to the NWB an O&M plan for the sewage and solid waste disposal facilities by 2000/02/01. While a draft O&M plan was produced in November 1998, NWB's July 13, 1999 memo presented comments towards the approval of a final version of the O&M plan. This revised document is still outstanding.
- **Abandonment and Restoration (A&R) plan:** Under current Water licence conditions (Part I, Item 1), the Licensee is held to report to the NWB before reclamation work on existing or abandoned waste disposal sites is undertaken. As such, the NWB should have been advised before reclamation work was initiated on the waste oil pit. Furthermore, a related clause (Part I, Item 5) requires the Licensee to submit an assessment of the existing abandoned water supply and waste disposal facilities by 2001/01/31. Consequently, should additional time and/or assistance be required for the completion of the task, the Inspector recommends that the Licensee file an extension request with the NWB rather than let another deadline slip.
- **Records & Reporting:** The Licensee has omitted to produce a 1999 Annual Report. As annual reports constitute essential pieces of information to INAC and other implicated agencies, the Inspector prompts the Licensee to submit the overdue report in a timely manner.

Please feel free to contact me at (867) 975-4298 or lavallecp@inac.gc.ca should any questions/comments arise.

Sincerely,



Philippe Lavallée
Water Resources Officer
INAC, Nunavut District

- c.c. - Nunavut Water Board, Gjoa Haven
 - CG&T, Rankin Inlet (Don Forsyth)
 - Keewatin Health & Social Services, Rankin Inlet (Wanda Poirier)
 - EC Environmental Protection, Yellowknife (Anne Wilson)



MUNICIPAL WATER USE INSPECTION FORM

Date: 2000/08/30 Licensee Rep. (Name/Title): Silas Kenalugak / Foreman
Licensee: Hamlet of Baker Lake Licence No.: NWB3BAK9904

WATER SUPPLY

Source(s): Baker Lake Quantity used: meter 1 @ 2 686 799
Owner:/Operator: Hamlet meter 2 @ 239 621

Indicate: A - Acceptable U - Unacceptable NA - Not Applicable NI - Not Inspected
Intake Facilities: A Storage Structure: NA Treatment Systems: A Chemical Storage: A
Flow Meas. Device: A Convey. Lines: NA Pumping Stations: A

Comments: Well-kept facility; no concerns noted. Chlorination in use.

WASTE DISPOSAL

Sewage: Sewage Treatment System (Prim./Sec/Ter.): secondary; discharge overland to freshwater body
Natural Water Body: Continuous Discharge (land or water):
Seasonal Discharge: x Wetlands Treatment: x Trench:
Solid Waste: Owner/Operator: Hamlet
Landfill: Burn & Landfill: x Other:

Indicate: A - Acceptable U - Unacceptable NA - Not Applicable NI - Not Inspected
Discharge Quality: sampled Decant Structure: NA Erosion: A
Discharge Meas. Device: none Dyke Inspection: NA Seepages: A
Dams, Dykes: NA Freeboard: NA Spills: U
Construction: NA O&M Plan: U A&R Plan: U
Periods of Discharge: A Effluent Discharge Rate: not measured

Comments: No noteworthy concerns with truck discharge chutes and initial sewage holding cell. Fenced solid waste disposal facility well managed. Combustible wastes are burned regularly, while other types of waste are further segregated. Pooled water present immediately downslope of the facility, but no active leaching observed. Leakage and staining noted at both new and old waste oil storage areas. Overdue Spill Contingency, Operation and Management (O&M), and Abandonment and Restoration (A&R) plans.

FUEL STORAGE

Owner/Operator:
Indicate: A - Acceptable U - Unacceptable NA - Not Applicable NI - Not Inspected
Berms & Liners: Water within Berms: Evidence of Leaks:
Drainage Pipes: Pump Station & Catchment Berm:
Pipeline Condition: Not Applicable: x Condition of Tanks:

SURVEILLANCE NETWORK PROGRAM (SNP)

Samples Collected Hamlet: to be taken later in the summer
INAC: BAK-3 (discharge from waste disposal facilities @ Airplane Lake outlet)
Signs Posted SNP: yes Warning: yes
Records & Reporting: overdue 1999 Annual Report
Geotechnical Inspection: none required

Non-Compliance of Act or Licence: 1999 Annual Report, O&M and Spill Contingency plans not yet submitted; respectively due by 2000/03/31, 2000/02/01, and 2000/04/01. Old waste oil pit reclaimed without an approved A&R plan.

Philippe Lavallée
Inspector's Name


Inspector's Signature



figure 1. Initial holding cell, sewage disposal facility; 2000/08/30.



figure 2. Pooled water downslope from the solid waste disposal site; 2000/08/30.



figure 3. Waste segregation at the solid waste disposal facility; 2000/08/30.



figure 4. New waste oil storage site; 2000/08/30.



figure 5. Partly abandoned and reclaimed waste oil storage site; 2000/08/30.



figure 6. Discharge from the waste disposal facilities, Airplane Lake outlet; 2000/08/30.

YIGA ENVIRONMENTAL LABORATORY

Dept. Indian Affairs & Northern Development

4601-52 nd Ave., Box 1500

Yellowknife, NT. X1A 2R3

Tel. (867) 669-2788

Fax: (867) 669-2718

To: NUNAVUT

Operations Directorate, DIAND

BOX 100

IQALUIT

X0A 0H0

Att'n: Philippe Lavallee

LAB# 201825

SAMPLE INFORMATION

Our Lab#: 201825

Your Sample ID: BAK-2

Sample Matrix: water

Collection:

Location: Baker Lake

Date: 8/30/00

By: Philippe Lavallee

PROJECT:

Received Date: 9/1/00

Report Date: 06-Oct-00

Approved By: W. Lavallee

RECEIVED

OCT 27 2000

D.I.A.N.D.

IQALUIT, NT

- SAMPLE ANALYSIS REPORT -

Lab#	Test	Result	Units	Detection Limit	Analysis Date	Analytical Method
201825	Calcium	3.63	mg/L	0.05	9/05/2000	EC20003
	Magnesium	1.25	mg/L	0.01	9/05/2000	012102
	Sodium	4.60	mg/L	0.02	9/03/2000	011102
	Potassium	0.98	mg/L	0.03	9/03/2000	EC19102
	Sulphate	32	mg/L	3	9/27/2000	016306
	Tot-Suspended-Solids	< 3	mg/L	3	9/01/2000	EC10406
	NO3-N+NO2-N	0.138	mg/L	0.008	9/15/2000	07110
	Ammonia-N	0.008	mg/L	0.005	9/13/2000	EC7557
	Bio-Oxy-Demand	4	mg/L	2	9/01/2000	08208
	Faecal_Coliform	4	CFU/dL	4	9/01/2000	036014
	Total Arsenic(w)-GFAA	< 1	ug/L	1	9/06/2000	GFAA
	Tot-Cadmium(ICP-MS)	< 0.3	ug/L	.3	8/09/2000	ICP-MS
	Tot-Cobalt(ICP-MS)	< 1	ug/L	1	8/09/2000	ICP-MS
	Tot-Chromium(ICP-MS)	< 3	ug/L	3	8/09/2000	ICP-MS

TAIGA ENVIRONMENTAL LABORATORY

Dept. Indian Affairs & Northern Development

4601-52 nd Ave., Box 1500

Yellowknife, NT. X1A 2R3

Tel. (867) 669-2788

Fax: (867) 669-2718

To: NUNAVUT

Operations Directorate, DIAND

BOX 100

IQALUIT

X0A 0H0

Att'n: Philippe Lavallee

LAB# 201825

Tot-Copper(ICP/MS)	<	2	ug/L	2	8/09/2000	ICP-MS
Tot-Iron(AA)		0.35	mg/L	0.03	9/07/2000	ICP-MS
Tot-Manganese(ICP-MS)		25	ug/L	1	8/09/2000	ICP-MS
Tot-Nickel(ICP-MS)	<	1	ug/L	1	8/09/2000	ICP-MS
Tot-Lead(ICP-MS)	<	1	ug/L	1	8/09/2000	ICP-MS
Tot-Zinc(ICP-MS)	<	10	ug/L	10	8/09/2000	ICP-MS
Tot-Mercury(water)	<	0.01	ug/L	0.01	9/08/2000	080314
Phenols	<	2.00	ug/L	2.00	9/20/2000	006536

Field Data (00/08/30) BAK-2

Temperature: 9.0 °C

Conductivity: 68 µS

pH: 7.4

Time: 15:40

MICROTOX DATA REPORT
Basic Test

FILE: 00091302.K13

Baker Lake Sewage Runoff - collected Aug 20/00 @ 15:28

Test Time: 15 minutes

Osmotic Adjustment: OAS

NUMBER	IO/IT	CONC.	CR/GAMMA	% EFFECT
Control	92.59/ 81.10	0.0	0.8759 #	
1	92.13/ 79.81	5.6250	0.011 *	
2	97.51/ 75.05	11.2500	0.138	0.0
3	96.88/ 81.01	22.5000	0.047 *	
4	90.95/ 75.38	45.0000	0.057	0.0

CR = Control Ratio

CORRECTION FACTOR = 0.8759

* Invalid data or controls

EC50 IS GREATER THAN HIGHEST CONCENTRATION

Signature *W. P. M. A. H.*TEST DATE: SEPT 13/00.
TIME: _____

PH 8.0