



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

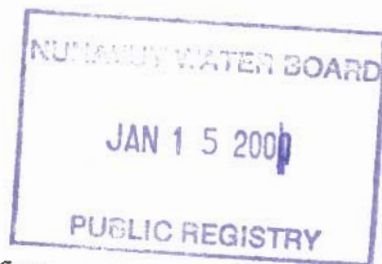
tel.: (867) 975-4275  
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Your file    Votre référence

Our file    Notre référence

N6L4-1538 (expired)

January 5, 2001.

Darren Ridder  
Senior Administrative Officer  
Hamlet of Chesterfield Inlet  
P.O. Box 10  
Chesterfield Inlet, NU      X0C 0B0



INTERNAL	
PC	
LA	
OM	
TA	
BS	
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CEO	
BRD	
Dandy 4K 01/02/01	

**August 30, 2000 Municipal Water Use Inspection - Report**

Firstly, I wish to thank yourself for the much appreciated time and assistance provided during the tour of the Hamlet's water use and waste disposal facilities. 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 satisfactory manner, several issues of an administrative nature must be addressed. Overall, the following considerations were noted:

- **Sewage disposal:** No concerns were observed, as the extensive wetlands along the discharge from the sewage disposal facility (figure 1) seem to provide adequate effluent treatment. Indeed, the attached analytical results relating to the discharge from the sewage disposal facility reveal that the notably low concentrations of tested parameters lie well within licenced thresholds. Moreover, the Microtox sample, which constitutes a reliable indicator of the biological toxicity attributed to an associated discharge, came in negative.
- **Solid waste disposal:** As a sizeable portion of the solid waste disposal facility was recently capped with fill material, only a relatively small amount of exposed waste could be observed at the time of the inspection (figures 2-3). Further, metal wastes are segregated to an adjacent disposal area. However, the Hamlet recognizes that the bulky metal wastes disposal area is fairly scattered (figure 4-5), and is accordingly considering to cleanup/compact the site. In parallel, although no form of containment for hazardous materials is currently available at the solid waste disposal facility, the Hamlet acknowledges the need for one and was planning to look into the matter.

In regards to waste oil management, the current storage practices are inadequate. Indeed, spillage and hydrocarbon-contaminated soil are evident in the waste oil storage area (figure 6). Consequently, the Hamlet must ensure that waste oil is stored/disposed of in a way that prevents waste from being discharged into waters.

This being said, the attached analytical results relating to the discharge from the solid waste disposal facility indicate that while the relevant Microtox sample once again came in negative, levels of ammonia, cadmium, copper, iron, lead, phenols, and zinc lie above the standards put forward under the *Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life*.

- **Operation and Maintenance (O&M) plan:** As has been repeatedly underlined in the past, an O&M plan for the sewage and solid waste disposal facilities was due by 1994/02/01. Although the Inspector acknowledges that the Hamlet may require outside expertise for the completion of this document, it is also the Inspector's belief that the Hamlet's failure to submit the O&M plan over the entire duration of its now expired Water licence is nonetheless unacceptable. Thus, INAC and/or other implicated agencies can, should it be required, provide assistance to ensure the prompt completion of the plan.
- **Abandonment and Restoration (A&R) plan:** Under Water licence N6L4-1538, an assessment of the abandoned waste disposal sites (Part D, Item 9) was due by 1994/08/01. Further, a related clause (Part D, Item 11) held the Hamlet to report to the NWB before reclamation work on existing or abandoned waste disposal sites was undertaken. However, neither of these terms were upheld by the Hamlet. In light of the potential long-term impacts of abandoned or inadequately reclaimed waste disposal sites on receiving waters, the Inspector reiterates the need for Nunavut Water Board (NWB) approval in these matters.
- **Records & Reporting:** The Hamlet has omitted to produce, as per licence conditions (Part B, Item 1), Annual Reports pertaining to 1996 and 1997. In addition, since little information has been forthcoming from the Hamlet, it would also appear that the collection of samples required under the Surveillance Network Program (SNP) have not been conducted.

Furthermore, Water licence N6L4-1538 has been allowed to lapse into expiry since 1998/07/31. While a partial application was produced in August 1998, and an application form was provided at the time of this summer's inspection, the Inspector is not aware of the Hamlet thus far submitting a complete water licence application to the NWB. This being said, the Inspector hereby reminds the Hamlet that a Water licence is not a mere paperwork formality, but constitutes a legal requirement under both the *Northwest Territories Waters Act* and the *Nunavut Land Claims Agreement*. Accordingly, the Inspector directs the Hamlet to the attached NWB November 17, 1999 memo for details concerning the deficient information. In parallel, the Inspector requests that Community Government and Transportation (GC&T) provide the Hamlet with the assistance/resources it requires to adequately complete the task.

Please feel free to contact me at (867) 975-4298 or [lavallcep@inac.gc.ca](mailto:lavallcep@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)



Indian and Northern Affairs Canada  
Affaires Indiennes et du Nord Canada

## MUNICIPAL WATER USE INSPECTION FORM

Date: 2000/08/30 Licensee Rep. (Name/Title): Darren Ridder / Senior Administrative Officer  
Licensee: Hamlet of Chesterfield Inlet Licence No.: N6L4-1538 (expired)

### WATER SUPPLY

Source(s): First Lake / Reservoir Quantity used: meter @ 877 660  
Owner:/Operator: Hamlet

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

Comments: No concerns noted with well-kept facility.

### WASTE DISPOSAL

Sewage: Sewage Treatment System (Prim./Sec/Ter.): secondary; discharge overland to ocean  
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: none reported  
Construction: NA O&M Plan: U A&R Plan: U  
Periods of Discharge: A Effluent Discharge Rate: not measured

Comments: No concerns noted with the sewage disposal facility. Very little accumulated material at the recently covered solid waste disposal facility. Metal waste is diverted to the bulky wastes disposal area, but site is notably spread out. Spillage evident in the waste oil storage area. No containment structure for hazardous materials. Overdue Operation and Maintenance (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: none  
INAC: sewage discharge (1538-4), dump leachate (1538-5)  
Signs Posted SNP: yes Warning: yes  
Records & Reporting: overdue 1996-1997 Annual Reports, expired licence; renewal application pending  
Geotechnical Inspection: none required

Non-Compliance of Act or Licence: O&M plan not submitted; due by 1994/02/01. No A&R documents provided regarding abandoned solid waste disposal facilities. Annual Reports for 1996 and 1997 also overdue; should have respectively been submitted by 1997/03/01 and 1998/03/01. Water licence N6L4-1538 expired on 1998/07/31; no complete renewal application yet submitted. Improper waste oil management can potentially translate into an unauthorized discharge of waste into water. Sampling required under the Surveillance Network Program (SNP) apparently not undertaken.

Philippe Lavallée

Inspector's Name

Inspector's Signature





**figure 1.** Path of discharge from the sewage disposal facility; 2000/08/30.



**figure 2.** Solid waste disposal facility; 2000/08/30.



**figure 3.** Solid waste disposal facility; 2000/08/30.





**figure 4.** Bulky metal wastes disposal site; 2000/08/30.



**figure 5.** Bulky metal wastes disposal site; 2000/08/30.



**figure 6.** Waste oil storage area; 2000/08/30.

**TAIGA ENVIRONMENTAL LABORATORY**

Dept. Indian Affairs &amp; 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# 201827

**SAMPLE INFORMATION**

Our Lab#: 201827

Your Sample ID: 1538-4 sewage

Sample Matrix: discharge

**Collection:**

Location: Chesterfield Inlet

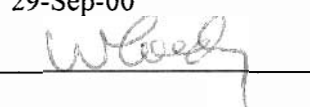
Date: 8/30/00

By: Philippe Lavallee

**PROJECT:**

Received Date: 9/1/00

Report Date: 29-Sep-00

Approved By: **- SAMPLE ANALYSIS REPORT -**

Lab#	Test	Result	Units	Detection Limit	Analysis Date	Analytical Method
201827	Tot-Suspended-Solids	20	mg/L	3	9/01/2000	EC10406
	NO3-N+NO2-N	1.90	mg/L	0.008	9/15/2000	07110
	Ammonia-N	2.73	mg/L	0.005	9/13/2000	EC7557
	T-Phosphorous	0.729	mg/L	0.004	9/12/2000	EC15411
	Bio-Oxy-Demand	18	mg/L	2	9/01/2000	08208
	Faecal_Coliform	2100	CFU/dL	1	9/02/2000	036014

**Field Data (00/08/30) 1538-4**

Temperature: 7.5 °C

Conductivity: 464 µS

pH: 7.7

Time: 11:35

MICROTOX DATA REPORT  
Basic Test

FILE: 00091304.K15

Chesterfield Inlet Sewage Discharge - collected Aug 30/00 @ 11:34

Test Time: 15 minutes

Osmotic Adjustment: OAS

NUMBER	IO/IT	CONC.	CR/GAMMA	% EFFECT
-----	-----	-----	-----	-----
Control	98.54/164.81	0.0	1.6705 #	
1	96.65/ 92.43	5.6250	0.717 #	42.8
2	98.05/ 93.60	11.2500	0.750 #	42.9
3	83.85/ 79.12	22.5000	0.770 #	43.5
4	94.08/ 81.92	45.0000	0.918 #	47.9

CR = Control Ratio

CORRECTION FACTOR = 1.6705

# Used for calculations

EC50 IS GREATER THAN HIGHEST CONCENTRATION

*ufomando*  
SEP 13/00

PH 7.4



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To: NUNAVUT

Operations Directorate, DIAND

BOX 100

IQALUIT

X0A 0H0

Att'n: Philippe Lavallee

LAB# 201828

**SAMPLE INFORMATION**

Our Lab#: 201828

Your Sample ID: 1538-5 dump leachate

Sample Matrix: leachate

**Collection:**

Location: Chesterfield Inlet

Date: 8/30/00

By: Philippe Lavallee

PROJECT:

Received Date: 9/1/00

Report Date: 02-Nov-00

Approved By: W. Lavallee

RECEIVED

NOV 14 2000

DIAND  
YELLOWKNIFE, NT**- SAMPLE ANALYSIS REPORT -**

Lab#	Test	Result	Units	Detection Limit	Analysis Date	Analytical Method
201828	Calcium	62.4	mg/L	0.05	9/05/2000	EC20003
	Magnesium	42.4	mg/L	0.01	9/05/2000	012102
	Sodium	156	mg/L	0.02	9/03/2000	011102
	Potassium	42.7	mg/L	0.03	9/03/2000	EC19102
	Sulphate	111	mg/L	3	9/27/2000	016306
	Tot-Suspended-Solids	38	mg/L	3	9/01/2000	EC10406
	NO3-N+NO2-N	10.9	mg/L	0.008	9/15/2000	07110
	Ammonia-N	18.1	mg/L	0.005	9/13/2000	EC7557
	T-Phosphorous	0.597	mg/L	0.004	9/12/2000	EC15411
	Total Arsenic(w)-GFAA	2	ug/L	1	9/06/2000	GFAA
	Tot-Cadmium(ICP-MS)	0.9	ug/L	.3	8/09/2000	ICP-MS
	Tot-Cobalt(ICP-MS)	5	ug/L	1	8/09/2000	ICP-MS
	Tot-Chromium(ICP-MS) <	3	ug/L	3	8/09/2000	ICP-MS
	Tot-Copper(ICP/MS)	141	ug/L	2	8/09/2000	ICP-MS

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X0A 0H0

Att'n: Philippe Lavallee

**LAB#** 201828

Tot-Iron(AA)	5.07	mg/L	0.03	9/07/2000	ICP-MS
Tot-Manganese(ICP-MS)	906	ug/L	1	8/09/2000	ICP-MS
Tot-Nickel(ICP-MS)	16	ug/L	1	8/09/2000	ICP-MS
Tot-Lead(ICP-MS)	18	ug/L	1	8/09/2000	ICP-MS
Tot-Zinc(ICP-MS)	942	ug/L	10	8/09/2000	ICP-MS
Tot-Mercury(water)	<	0.01	ug/L	0.01	9/08/2000 080314
Phenols	17.6	ug/L	2.00	10/20/2000	006536

**Field Data (00/08/30) 1538-5**

Temperature: 8.0 °C

Conductivity: 1930 µS

pH: 7.4

Time: 11:25

MICROTOX DATA REPORT  
Basic Test

FILE: 00091303.K15

Chesterfield Inlet Dump Leachate - collected Aug 30/00 @ 11:16

Test Time: 15 minutes

Osmotic Adjustment: OAS

NUMBER	IO/IT	CONC.	CR/GAMMA	% EFFECT
Control	94.88/ 88.50	0.0	0.9328 #	
1	96.98/ 96.09	5.6250	-0.059 *	
2	99.63/ 95.56	11.2500	-0.028 *	
3	106.91/ 94.67	22.5000	0.053	0.0
4	104.07/ 87.64	45.0000	0.108	0.0

CR = Control Ratio

CORRECTION FACTOR = 0.9328

\* Invalid data or controls

EC50 IS GREATER THAN HIGHEST CONCENTRATION

Signature *Informants*TEST DATE: SEPT 13/00  
TIME: \_\_\_\_\_

PH 7.0





P.O. Box 119  
GLIDA HAVEN, NT X0E 1J0  
TEL: (867) 360-6338  
FAX: (867) 360-6369

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NUNAVUT WATER BOARD  
NUNAVUT IMALIRIYIN KATIMAYINGI

**NWB File No: N6L4-1538**

November 17, 1999

Mr. Paul Sammurtok  
Senior Administrative Office  
Hamlet of chesterfield Inlet  
P.O. Box 10  
Chesterfield Inlet, NU X0C 0B0

Subject: Water Licence N6L4-1538 for renewal

This is a reminder that the above water licence expired on July 31, 1998. An application for renewal was received on August 28, 1998, but couldn't be processed because no application fee was received and the supplementary questionnaire wasn't complete.

We had previously received indications that the Department of Health at Rankin Inlet and MACA (now Community Government and Transportation) would complete the questionnaire. On July 26, 1999 we received a form from the Department of Health, but to date nothing has been received from Community Government.

Before your application can be processed, the Nunavut Water Board requires:

- a \$30.00 cheque payable to the Receiver General for Canada to cover the application fee
- completed questionnaire from Community Government
- Executive Summary in English and Inuktitut

Please contact our office if you have questions.

Sincerely,

Rita Becker  
Licensing Administrator

cc. Bill Ridout, Regional Health Board  
Don Forsyth, Community Government  
Shannon Pagotto, DIAND-Water Resources  
Carey Ogilvie, EC  
Chris Nichols, DSD