



MUNICIPAL WATER USE INSPECTION FORM

Date: 2001-07-12 Licensee Rep. (Name/Title): Brian Martin / SAO
Licensee: Municipality of Hall Beach Licence No.: unlicensed

WATER SUPPLY

Source(s): Water Lake / Reservoir Quantity used: meter @ 65 911 800 ;
Owner/Operator: DND-GN/Municipality

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

Comments: No concerns noted in regards to the truckfill station at the recently-built reservoir. Abundant spring runoff brought on breaches of secondary water impoundment structures; may be impossible to recharge the water reservoir this year. Chlorination issue. Filtration system no longer operated since malfunction; outside resources required to correct the problem.

WASTE DISPOSAL

Sewage: Sewage Treatment System (Prim./Sec/Ter.): primary; discharge overland to ocean

Natural Water Body: Continuous Discharge (land or water):
Seasonal Discharge: x Wetlands Treatment: Trench:

Solid Waste: Owner/Operator: GN/Municipality

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: U
Dams, Dykes: A Freeboard: U Spills: none reported
Construction: NA O&M Plan: NA A&R Plan: NA
Periods of Discharge: A Effluent Discharge Rate: not measured

Comments: Sewage lagoon cells almost completely dried out; retention time apparently minimal. Abundant seepage noted; effluent flow bypasses drainage ditch. Partly-fenced solid waste disposal facility appears well managed; wastepile burnt regularly, covered on annual basis. Bulky metal wastes are segregated; old site along the shoreline and active site near the solid waste disposal facility. No particular storage/disposal area for hazardous materials, batteries and waste oil drums present in various areas. Significant volume of runoff flows along the toe of the solid waste disposal facility.

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: raw water, sewage discharge, dump leachate

Signs Posted SNP: not applicable Warning: none

Records & Reporting: none required

Geotechnical Inspection: none required; may be warranted due to excessive seepage from the lagoon cells

Non-Compliance of Act or Licence: Community is unlicensed, but application process has been initiated; awaiting assistance from governmental agencies to complete the required questionnaires.

Philippe Lavallée
Inspector's Name

Inspector's Signature



figure 1. Decant station at outlet of Water Lake; 2001/07/12



figure 2. Breachd berm along western face of the 'outer' lake; 2001/07/12.



figure 3. Breachd berm along the northern face of the 'inner' lake; 2001/07/12.



figure 4. Water reservoir, with truckfill station in background; 2001/07/12.

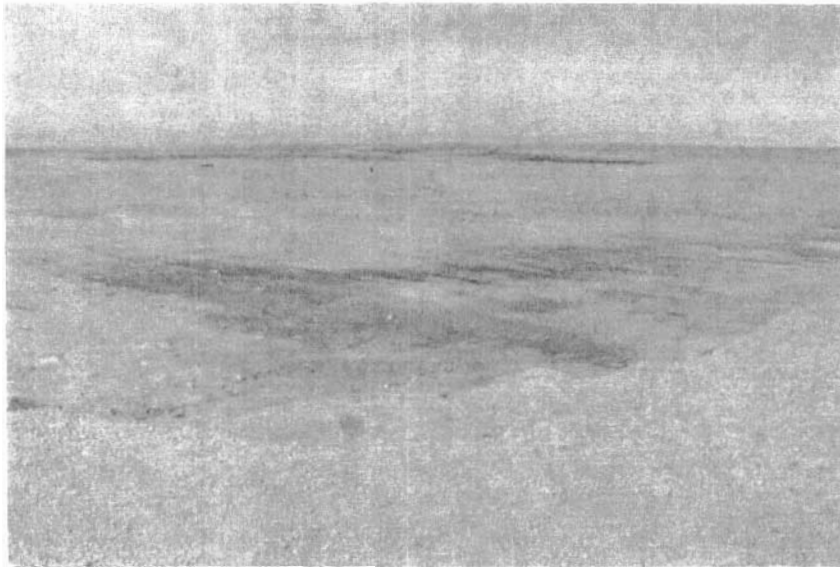


figure 5. Sewage lagoon cell 2; 2001/07/12.

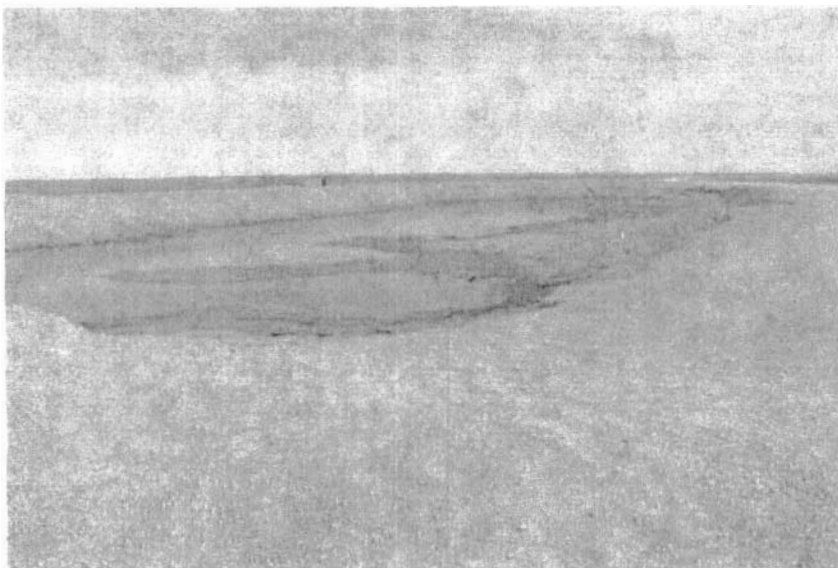


figure 6. Sewage lagoon cell 1; 2001/07/12.

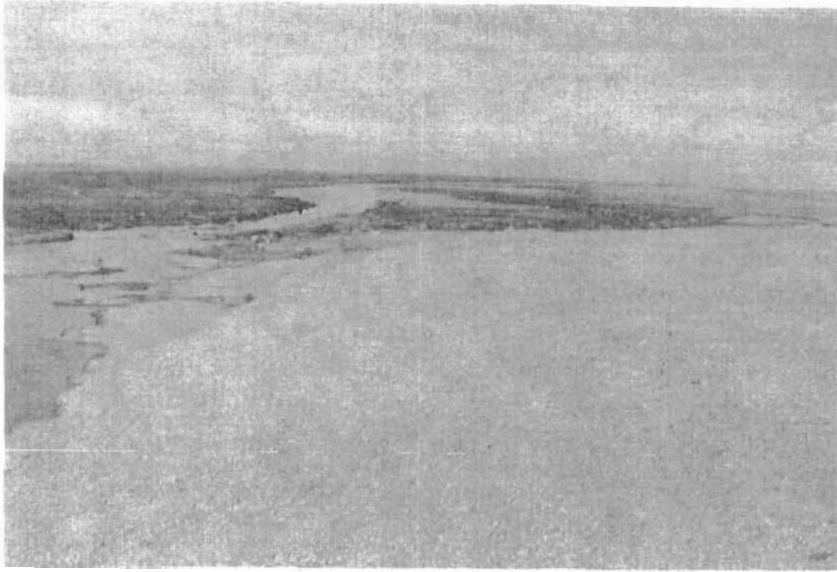


figure 7. Path of effluent discharge from the sewage disposal facility: 2001/07/12.

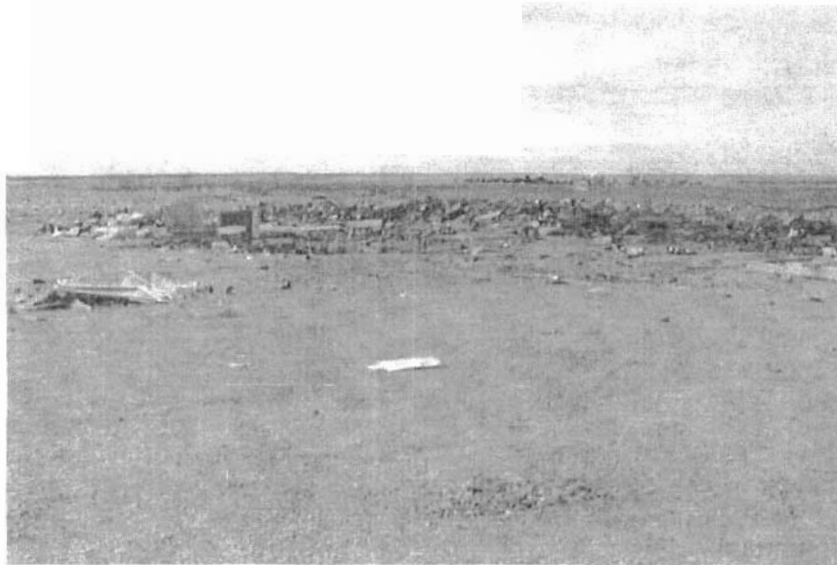


figure 8. Solid waste disposal facility, with bulky wastes in background: 2001/07/12.



figure 9. Runoff flowing along the toe of the solid waste disposal site: 2001/07/12.



Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT, X1A 2R3

Tel: (867)-669-2788
Fax: (867)-669-2718

- CERTIFICATE OF ANALYSIS -

Prepared For: DIAND District Office - Nunavut DIAND Operations

Attn: Philippe Lavallee

Sample ID: Hall Beach Raw Water

Taiga Sample ID: 211511

Client Project:

Sample Type: Sewage

Received Date: 13-Jul-01

Location: Hall Beach

Sampling Date: 12-Jul-01

Report Status: Final

Approved by:

Lab Section	Test Parameter	Result	Units	Detection Limit	Analysis Date
Major Ions	Chloride	11.2	mg/L	0.2	21-Jul-01
	Sodium	6.80	mg/L	0.02	20-Jul-01
	Sulphate	3	mg/L	3	07-Aug-01
Microbiology	Coliforms, Fecal	<1	CFU/100mL	1	13-Jul-01
Nutrients	Ammonia as N	0.013	mg/L	0.005	17-Jul-01
	Biological Oxygen Demand	3	mg/L	2	13-Jul-01
	Nitrate+Nitrite as N	<0.008	mg/L	0.008	31-Jul-01
Physicals	Colour	<5		5	16-Jul-01
	Solids, Total Dissolved	102	mg/L	10	25-Jul-01
	Turbidity	0.5	NTU	1	16-Jul-01
Total Metals	Arsenic	1.3	µg/L	1.0	30-Jul-01
	Cadmium	<0.3	µg/L	0.3	19-Jul-01
	Chromium	<3	µg/L	3	19-Jul-01

Report Date: August 9, 2001

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Prepared For: DIAND District Office : Nunavut DIAND Operations

Attn: Philippe Lavallee

Sample ID: Hall Beach Raw Water

Taiga Sample ID: 211511

Total Metals	Cobalt	<1	µg/L	1	19-Jul-01
	Copper	4	µg/L	2	19-Jul-01
	Iron	202	µg/L	3	27-Jul-01
	Lead	<1	µg/L		19-Jul-01
	Manganese	1	µg/L		19-Jul-01
	Mercury	<0.01	µg/L	0.01	03-Aug-01
	Nickel	<1	µg/L	1	19-Jul-01
	Zinc	217	µg/L	10	19-Jul-01

Field Data (01/07/12) raw water

Temperature: 14.5 °C

Conductivity: 163 µS/cm

pH: 8.8

Time: 14:26

Report Date: August 9, 2001

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- CERTIFICATE OF ANALYSIS -

Prepared For: DIAND District Office : Nunavut DIAND Operations

Attn: Philippe Lavallee

Sample ID: Hall Beach Lagoon Discharge

Taiga Sample ID: 211513

Client Project:

Sample Type: sewage

Received Date: 13-Jul-01

Location: Hall Beach

Sampling Date: 12-Jul-01

Report Status: Final

Approved by:

Lab Section	Test Parameter	Result	Units	Detection Limit	Analysis Date	Data Qualifier
Microbiology	Coliforms, Fecal	15000	CFU/100mL	1	13-Jul-01	
Nutrients	Ammonia as N	61.7	mg/L	0.005	17-Jul-01	
	Biological Oxygen Demand	108	mg/L	2	13-Jul-01	
	Phosphorous, Total	2.86	mg/L	0.004	17-Jul-01	
Organic	Phenols	40	µg/L	2	19-Jul-01	
Physicals	Solids, Total Suspended		mg/L	3	25-Jul-01	14

Data Qualifier Descriptions:

- 14 Insufficient sample to perform analysis

Field Data (01.07/12) lagoon
Temperature: 14.0 °C
Conductivity: 1 805 µS/cm
pH: 7.9 Time: 15:42

Report Date: Friday, July 27, 2001

REPORT OF TOXICITY USING MICROTOX

COMPANY/LOCATION: Hall Beach Lagoon Discharge

Sample Collected By: Philippe Lavallee

Date/Time Sampled: July 12, 2001

Date/Time Received: N/A

Date/Time Test Start: July 17, 2001

Sample Type: Elutriate

Sampling Method: Grab

Method: Environment Canada Laboratories SOP#830.0 Revision 1, for Microtox Testing in Compliance with November 1992: Biological Test Method: Toxicity Test Using Luminescent Bacteria Photobacterium phosphoreum, November 1992, EPS 1/RM/24.

RESULTS: TOXIC - IC₅₀ Concentration: 47.6% (Toxic 0 to 50%) (Slightly Toxic 50 to 90%)

TEST ORGANISMS:

Species: Vibrio fischeri (Photobacterium phosphoreum)

Test Apparatus: Model 500 Analyzer

TEST SUBSTANCE/CONDITIONS

pH of Sample: 8.5 (No pH adjustment)

Sample Appearance: Clear, no colour adjustment

Lot # of OAS: OSA007
(Osmotic Adjusting Solution)

Lot # of Reconstitution Solution: RSN099Y

Lot # of Diluent: DIL034L

TEST METHODS AND CONDITIONS

Test Start Date/Time: July 17, 2001 / 12:33 PM

Test Method: Basic 45% Test, 15 minute incubation.

QUALITY CONTROL

Reference Toxicant: Zinc Sulfate Standard

Analyst: RB

Date of Test: July 17, 2001

Reagent Lot #: ACV022

IC₅₀ - 15 minutes mg/l: 3.1 mg/l

IC₅₀ Confidence Range: 2.4 to 4.0 mg/l

TEST ANALYST: Ron Bujoid

INITIAL: RB



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- CERTIFICATE OF ANALYSIS -

Prepared For: DIAND District Office : Nunavut DIAND Operations

Attn: Philippe Lavallee

Sample ID: Hall Beach Dump Leachate

Taiga Sample ID: 211512

Client Project:

Sample Type: sewage

Received Date: 13-Jul-01

Location: Hall Beach

Sampling Date: 12-Jul-01

Report Status: Final

Approved by:

Lab Section	Test Parameter	Result	Units	Detection Limit	Analysis Date	Data Qualifier
Nutrients	Ammonia as N	1.44	mg/l	0.005	17-Jul-01	
Organic	Oil and Grease	1.0	mg/l	0.2	30-Jul-01	
Physicals	Solids, Total Suspended		mg/l	1	25-Jul-01	14
Total Metals	Arsenic	0.14	µg/L	1.0	30-Jul-01	
	Cadmium	0.1	µg/L	0.1	19-Jul-01	
	Chromium		µg/L	1	19-Jul-01	
	Cobalt	1	µg/L	1	19-Jul-01	
	Copper	10	µg/L	2	19-Jul-01	
	Iron	1060	µg/L	30	27-Jul-01	
	Lead		µg/L	1	19-Jul-01	
	Manganese	18	µg/L	1	19-Jul-01	
	Mercury	<0.01	µg/L	0.01	03-Aug-01	
	Nickel	3	µg/L	1	19-Jul-01	

Report Date: August 9, 2001

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- CERTIFICATE OF ANALYSIS -

Prepared For: DIAND District Office - Nunavut DIAND Operations

Attn: Philippe Lavallee

Sample ID: Hall Beach Dump Leachate

Taiga Sample ID: 211512

Total Metals	Zinc	24	µg/l	10	19-Jul-01
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Qualifier Descriptions

Insufficient sample to perform analysis

Field Data (01/07/12) dump

Temperature: 16.5 °C

Conductivity: 587 µS/cm

pH: 8.0

Time: 15:14

Report Date: August 9, 2001

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REPORT OF TOXICITY USING MICROTOX

COMPANY/LOCATION: Hall Beach Dump Leachate

Sample Collected By: Philippe Lavallee

Date/Time Sampled: July 12, 2001

Date/Time Received: N/A

Date/Time Test Start: July 17, 2001

Sample Type: Elutriate

Sampling Method: Grab

Method: *Environment Canada Laboratories SOP#830.0 Revision 1, for Microtox Testing in Compliance with November 1992: Biological Test Method: Toxicity Test Using Luminescent Bacteria Photobacterium phosphoreum), November 1992, EPS 1/RM/24.*

RESULTS: NON TOXIC at 45% Concentration

TEST ORGANISMS:

Species: Vibrio fischeri (Photobacterium phosphoreum)

Test Apparatus: Model 500 Analyzer

TEST SUBSTANCE/CONDITIONS

pH of Sample: 6.5 (No pH adjustment)

Sample Appearance: Clear, no colour adjustment

Lot # of OAS: OSA007
(Osmotic Adjusting Solution)

Lot # of Reconstitution Solution: RSN099Y

Lot # of Diluent: DIL034L

TEST METHODS AND CONDITIONS

Test Start Date/Time: July 17, 2001 / 12:52 PM

Test Method: Basic 45% Test, 15 minute incubation.

QUALITY CONTROL

Reference Toxicant: Zinc Sulfate Standard

Analyst: RB

Date of Test: July 17, 2001

Reagent Lot #: ACV022-2

IC₅₀ - 15 minutes mg/L: 3.1 mg/L

IC₅₀ Confidence Range: 2.4 to 4.0 mg/L

TEST ANALYST Ron Bujold

INITIAL: R.B.