Indian and Northern Affairs Canada
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Nunavut District Office
P.O. Box 100
Iqaluit, NU
X0A 0H0

Tel.: (867) 975-4298
Fax.:(867) 979-6445

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N7L4-1526

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November 29, 2002

John Holland
Senior Administrative Officer (SAO)
Hamlet of Kugluktuk
P.O. Box 271
Kugluktuk, NU X0B 0E0

RE: August 20, 2002 Municipal Water Use Inspection - Report

The Water Resources Officer (WRO) appreciate the assistance provided during the tour of the Hamlet's water use and waste disposal facilities. Enclosed for your records is a copy of the Municipal Water Use Inspection Report performed on August 20, 2002. During the inspection the following observations were noted.

☐ **Water Supply:** The Water Intake Facility at the Coppermine River was locked and not accessible at the time of inspection (Photo 1). A gas powered pump was located within the water reservoir fence, no spill protection or spill equipment was located in the vicinity of the transfer pump (Photo 5). The Water Treatment Plant filtration system reportedly did not remove silt from the drinking water (Photo 3). The saline detector did not shut off the water pump when programed to do so. The chlorination system was operational at the time of inspection (Photo 4). The water tank at the Water Treatment Plant has considerable bracing on it (Photo 6). Analysis of samples taken at (SNP) 1526-1 the Water Intake Facility (Photo 1), are not available at this time due to damage incurred in the transportation of samples to the laboratory. Arraignments will be made to obtain water samples at the Water intake Facility. Analysis of these samples will be forwarded, once received by the Water Resources Officer.

☐ **Sewage Disposal:** At the time of inspection, the sewage lagoon had recently undergone some expansion and reinforcement to the berm (Photo 9 & 10). The sewage effluent travels through a wetland area to a creek that discharges to the ocean (Photo 9 & 11). Enclosed analysis of sewage effluent from the Sewage Lagoon (SNP) 1526-2, indicate that Total Suspended Solids (20 mg/L vs 120

mg/L) and Total Phosphorous (0.197 mg/L vs 10 mg/L)are within the *Municipal Wastewater Effluent Quality Guidelines.*

☐ **Solid Waste Disposal**: The totally fenced Solid Waste Treatment Facility, seemed well managed at the time of inspection. Burning of refuse is practiced on a regular basis at the dump (Photo 12). Although short, the dump perimeter fence seems to work fairly well at reducing the amount of wind blown garbage at the Solid Waste Disposal Facility. Contaminated soil is remediated at the Land Farm. It appears that contaminated soil is placed on a liner, some soil is covered with a poly material to reduce water infiltration (Photo 7).

☐ **Bulky Metal Waste Disposal Site:** The bulky metal dump is located across the roads from the garbage dump (Photo 13). Hazardous materials (waste batteries) were noticed mixed in with general scrap, at the bulky metal dump (Photo 14). The hamlet was in the process of reorganizing the bulky metal dump at the time of inspection.

☐ **Fuel Storage:** At the time of inspection, the steel berm surrounding the Tank Farm appeared to be in good condition with no leaks. The area within the tank farm berm was mostly dry with no staining fuel or oil (Photo 8).

☐ **Non-Compliance of Licence:** Waste batteries and waste oil should be stored in an area with spill protection. No Annual Reports have been submitted for 1997, 1998, 1999,2000 & 2001. The Hamlet of Kugluktuk had not submitted plans for construction at the Sewage Lagoon or relocation of the Water Intake Facility conveyance line as required under the *Nunavut Land Claims Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*.

If there are any concerns or questions in regards to this inspection, please contact me at (867) 975 4298 or bodykevichc@inac.gc.ca.

Sincerely,

Constantine Bodykevich
Water Resources Officer (WRO)
INAC, Nunavut District

cc. -Nunavut Water Board, Gjoa Haven (Jim Wall)
-CG&T, Rankin Inlet (Don Forsyth)
- Keewatin Health & Social Services, Rankin Inlet (Robert Phillips)
- EC Environmental Protection, Yellowknife (Anne Wilson)
- INAC Water Management, Iqaluit (Michelle Mc Christie)

MUNICIPAL WATER USE INSPECTION REPORT

Date: August 20, 2002 **Licensee Rep. (Name/Title):** John Holland / SAO

Licensee: Hamlet of Kugluktuk **Licence No.: N7L4-1526**

WATER SUPPLY

Source(s): Coppermine River / Reservoir **Quantity used:** meter at truck

Owner:/Operator: Hamlet of Kugluktuk / Government of Nunavut

Indicate: **A** - Acceptable **U** - Unacceptable **NA** - Not Applicable **NI** - Not Inspected

Intake Facilities: A **Storage Structure:** A **Treatment Systems:** A **Chemical Storage:** A

Flow Meas. Device: NA **Conveyance Lines:** NA **Pumping Stations:** A

Comments: The conveyance line from the Coppermine River Water Intake Facility to the Water Treatment Plant is being relocated. The fenced Water Resiviour berm and liner are in good condition. There was a gas powered pump located within the resiviour berm. There was no furl spill equipment located in the vicinity of the gas pump. It was brought to the Inspectors attention that the water filtration system is not affective at reducing silt in the drinking water. Chlorination system is operational, saline detector seems not to be operational.

WASTE DISPOSAL

Sewage: **Sewage Treatment System** (Prim./Sec/Ter.): secondary in stream to ocean.

Natural Water Body: X **Continuous Discharge** (land or water): water

Seasonal Discharge: **Wetlands Treatment:** **Trench:**

Solid Waste: **Owner/Operator:** Hamlet of Kugluktuk

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: NIL **Dyke Inspection:** NA **Seepages:** A

Dams, Dykes: NA **Freeboard:** A **Spills:** NIL

Construction: NA **O&M Plan:** NA **A&R Plan:** NA

Periods of Discharge: A **Effluent Discharge Rate:** Not Measured

Comments: The sewage lagoon effluent flows through a wetland prior to discharge to ocean. The Solid Waste Facility is totally fenced with little wind blown refuge noted. Regular burning of refuge noted. Segregation of most batteries and waste oil. Bulky metal dump undergoing waste segregation.

FUEL STORAGE

Owner/Operator:

Indicate: **A** - Acceptable **U** - Unacceptable **NA** - Not Applicable **NI** - Not Inspected

Berms & Liners: A **Water within Berms:** A **Evidence of Leaks:** A

Drainage Pipes: A **Pump Station & Catchment Berm:** NIL

Pipeline Condition: NA **Not Applicable:** **Condition of Tanks:** NI

SURVEILLANCE NETWORK PROGRAM (SNP)

Samples Collected **Hamlet:** NIL

INAC: potable water, sewage effluent

Signs Posted **SNP:** NIL **Warning:** Not Observed

Records & Reporting: No Annual Reports for 1997,1998,1999, 2000 & 2001

Geotechnical Inspection: Not Applicable

Non-Compliance of Act or Licence: No Annual Reports have been submitted for 1997, 1998, 1999,2000 & 2001. No authorization was given by the Nunavut Water Board for the construction at the Sewage Lagoon, and the relocation of the conveyance line from the Coppermine River Water Intake Facility .

Constantine Bodykevich
Inspector's Name

Inspector's Signature

Kugluktuk Inspection pictures 2002.

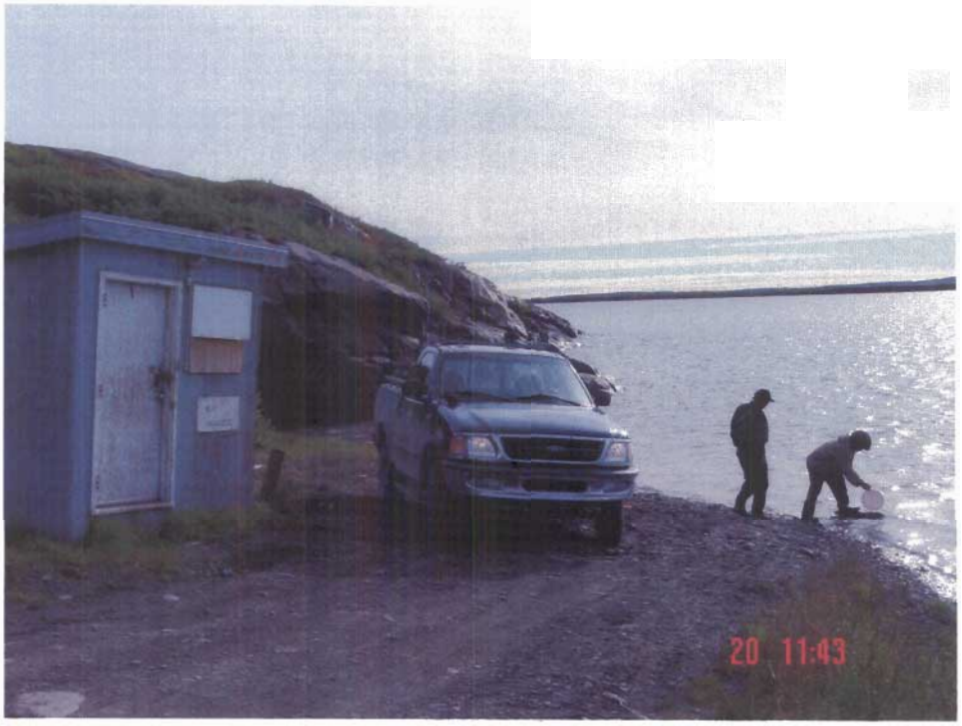

Photo # 1 Potable water supply Coppermine River intake pumphouse. Intake about 150 feet off shoar.

Photo # 2 Water reservoir at Kugluktuk located by Water Treatment Plant. Reservoir holds about 10 days supply for community.

Photo # 3 Filtration system shown in Water Treatment Plant. Filters unable to remove silt from drinking water.

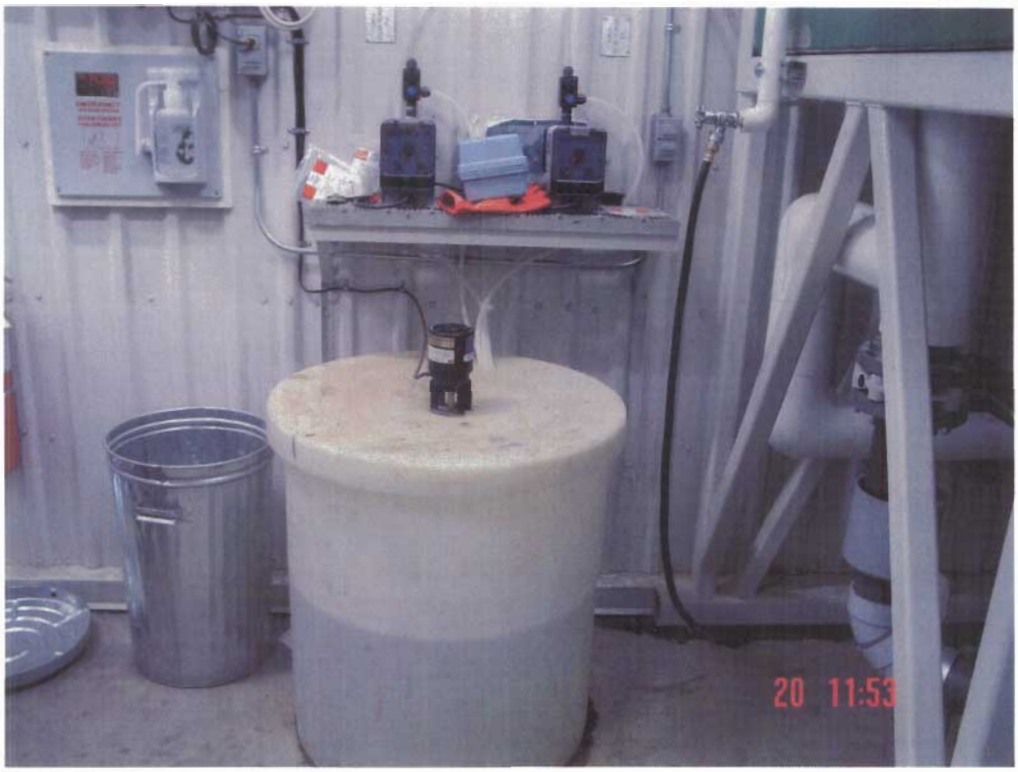

Photo # 4 Chlorination system in use at Water Treatment Plant. No formula found for concentrated chlorine mixture; Log book up to date.

Photo # 5 Hoses shown filling water reservoir. Fuel containers shown within reservoir fenced area.

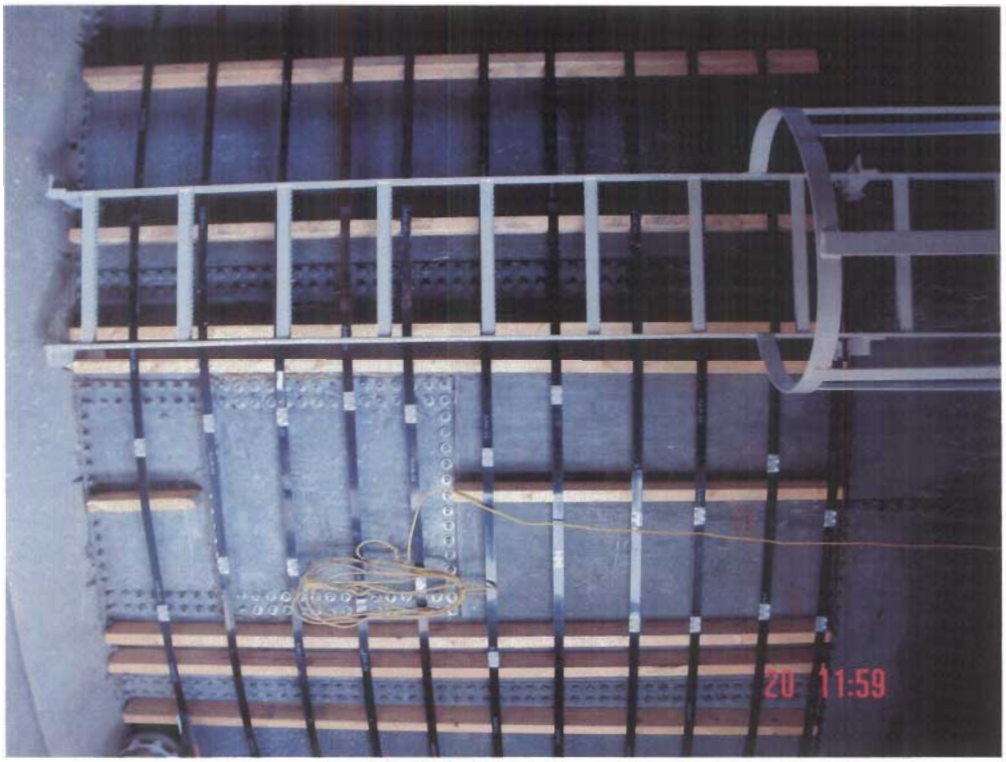

Photo # 6 Storage tank shown adjacent water treatment facility.

Photo # 7 Waste oil storage area shown next to contaminated soil remediation area.

Photo # 8 Tank farm shown with metal berms no leakage noted; tank farm within 50 metres of water reservoir.

Photo # 9 Construction shown at Sewage Treatment Facility.

Photo # 10 Sewage truck discharge structure at sewage treatment facility; seepage berm shown to the right.

Photo # 11 Location of sewage sample; 50 metres from ocean.

Photo # 12 Solid Waste Disposal Facility; fence in good condition but appears to be low.

Photo # 13 Segregation of waste in progress at bulky metal.

Photo # 14 Hazardous material (batteries) shown not segregated from bulky metal wastes.

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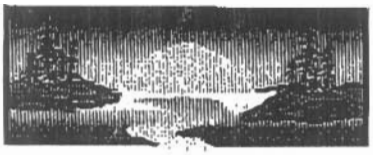
Global Positioning System Coordinates for the Municipality of Kugluktuk

Kugluktuk-01 Kugluktuk Pot Water-01	N67.49118 W115.04582
Kugluktuk-02 Kugluktuk Sewage Lagoon-02	N67.48518 W115.11386
Kugluktuk-03 Kugluktuk Dump-03	N67.49307 W115.10028



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 Nunavut District Office *Attn:* Constantine Bodykevi

Sample ID: Kugkuktuk sewage **Taiga Sample ID:** 222512

Client Project: **Sample Type:** sewage **Received Date:** 26-Aug-02

Location: **Sampling Date:** 19-Aug-02

Report Status: **Preliminary** ***Approved by:*** _____

Test Parameter	Result	Units	Detection Limit	Analysis Date
Physicals				
Solids, Total Dissolved	4420	mg/L	10	14-Sep-02
Solids, Total Suspended	20	mg/L	3	14-Sep-02
Turbidity	3.0	NTU	0.1	17-Sep-02
Nutrients				
Ammonia as N	9.80	mg/L	0.005	02-Sep-02
Nitrate+Nitrite as N	494	mg/L	0.008	05-Sep-02
Organic Carbon, Dissolved	11.0	mg/L	0.5	07-Oct-02
Organic Carbon, Total		mg/L		
Phosphorous, Total	0.197	mg/L	0.004	04-Sep-02