Indian and Northern Affairs Canada
www.inac.gc.ca

Affaires indiennes et du Nord Canada
www.ainc.gc.ca

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

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

Your file - Votre référence

Our file - Notre référence

November 29, 2002

Unlicenced

Quinn Taggart
Senior Administrative Officer (SAO)
Hamlet of Kugaaruk
General Delivery
Kugaaruk, NU X0B 1K0

RE: August 23, 2002 Municipal Water Use Inspection - Report

The Water Resources Officer (WRO) appreciates 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 23, 2002. During the inspection the following observations were noted.

☐ **Water Supply:** It was noted during the inspection that there was an oil leak at the Water Intake Facility at the Kugurdjuk River (Photo 1). There was oil absorbent (floor dry) spread over the floor in the Water Intake Facility generator room to absorb the leak (Photo 3). The chlorination system was operational at the time of inspection (Photo 2). Attached analysis of samples taken at the Water Intake Facility indicate that Colour (5 TCU vs 15 TCU), pH (7.46 vs 6.5-8.5) and Nitrate + Nitrite (< 0.008 mg/l vs 3.2 mg/L) *Guidelines for Canadian Drinking Water* Quality.

☐ **Sewage Disposal:** There was sufficient freeboard at the Sewage Lagoon. The sewage truck discharge structure appeared to control erosion at the Sewage Lagoon (Photo 8). Considerable seepage was noted emitting from the berm at the east end of the Sewage Lagoon. The sewage effluent flows from the Sewage Lagoon over land to the ocean. Enclosed analysis of sewage effluent from the Sewage Lagoon indicate that Total Suspended Solids (92 mg/L vs 120), pH (7.44 vs 6.5-9.0) and Total Phosphorous (9.6 mg/L vs 10 mg/L) are within the *Municipal Wastewater Effluent Quality Guidelines*. However analysis for Total Ammonia indicate that (69.4 mg/L vs 2.2 mg) exceed the *Municipal Wastewater Effluent Quality Guidelines*.

☐ **Solid Waste Disposal**: The Solid Waste Disposal Facility had no fencing but it was surrounded on 3 sides by rock hills. The surrounding hills help to reduce the wind blown garbage. The Solid Waste Disposal Facility appeared to have little burning or burrowing of waste practiced (Photo 6) The tipping face appeared to extend the entire length of the dump (Photo 5). Waste oil was stored by the entrance to the Solid Waste Disposal Facility (Photo 9). Consolidation of waste oil drums is required at the waste oil storage area.

☐ **Bulky Metal Waste Disposal Site:** The bulky metal dump is located adjacent to the Solid Waste Disposal Facility. There is little segregation of waste at the bulky metal. dump. Hazardous materials waste (batteries) were seen scattered throughout the dump (Photo 10). Enclosed analysis of seepage from the Bulky Metal Waste Dump (Photo 7) indicate that Total Ammonia (<0.005 vs 2.3 mg/L), Nitrate + Nitrite (0.105 mg/L vs 3.2 mg/L) and Total Phosphorous (0.1 mg/L vs 10 mg/L) are within the *Municipal Wastewater Effluent Quality Guidelines*. However attached analysis of Metal Dump seepage indicate that Total Suspended Solids (148 mg/L vs 100 mg/L) is in excess of *Municipal Wastewater Effluent Quality Guidelines* Maximum Concentrations.

☐ **Non-Compliance of Licence**: Samples taken at the bulky metal dump indicate that Total Suspended Solids are in excess of *Municipal Wastewater Effluent Quality Guidelines*.

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)

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MUNICIPAL WATER USE INSPECTION REPORT

Date: August 23, 2002 **Licensee Rep. (Name/Title):** Quinn Ttaggart/ SAO

Licensee: Hamlet of Kugaaruk **Licence No.: Unlicenced**

WATER SUPPLY

Source(s): Kugurdjuk River **Quantity used:** recorded at truck

Owner:/Operator: Hamlet of Kugaaruk

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

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

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

Comments: Water Intake Facility was operating properly. The generator room floor was covered with oil absorbent material because there was a oil or fuel leak in the generator room. It was noted that there was garbage associated with fishing around the Water Intake Facility, fishing should be discouraged in the vicinity of the Water Intake Facility.

WASTE DISPOSAL

Sewage: **Sewage Treatment System** (Prim./Sec/Ter.): Secondary; over land to ocean.

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

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

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

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: A **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 is decanted by seepage through the berm on the east side of the Lagoon. The sewage effluent then flows over land to the ocean. The Solid Waste Disposal Facility is partially fenced. Most of the dump is contained by hills that assist in reducing the wind blown garbage. A perimeter fence would reduce the amount of wind blown garbage observed at the site. Most of the bulky metal waste is taken to the metal waste dump. Hazardous materials (waste batteries) are not segregated from the general metal waste. The waste oil is stored by the entrance to the Solid Waste Disposal Facility, this area requires consolidation.

FUEL STORAGE

Owner/Operator:

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

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

Drainage Pipes: NI **Pump Station & Catchment Berm:** NI

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

SURVEILLANCE NETWORK PROGRAM (SNP)

Samples Collected **Hamlet:** NIL

INAC: potable water, sewage effluent

Signs Posted **SNP:** NIL **Warning:** None Observed

Records & Reporting: Not Applicable

Geotechnical Inspection: Not Applicable

Non-Compliance of Act or Licence: At the time of inspection the Hamlet of Kugaaruk did not hold a Water Licence as required under both *Nunavut Land Claims Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* for the use of water and disposal of waste.

Constantine Bodykevich
Inspector's Name

Inspector's Signature

Your file - Votre référence

Global Positioning System Coordinates for the Hamlet of Kugaaruk

Our file - Notre référence

Kugaaruk-01
Kugarruk Pot Water Sample-01 N68.32422 W89.43104

Kugaaruk-02
Kugaaruk Drums by Airport Ditch-02 N68.32184 W89.47163

Kugaaruk-03
Kugaaruk metal Dump-03 N68.30581 W89.49147

Kugaaruk-04
Kugaaruk Metal Dump Sample-04 N68.30597 W89.49109

Kugaaruk-05
Kugaaruk Sewafe Lagoon Sample-05 N68.31155 W89.50015

Kugaaruk Inspection Pictures 2002

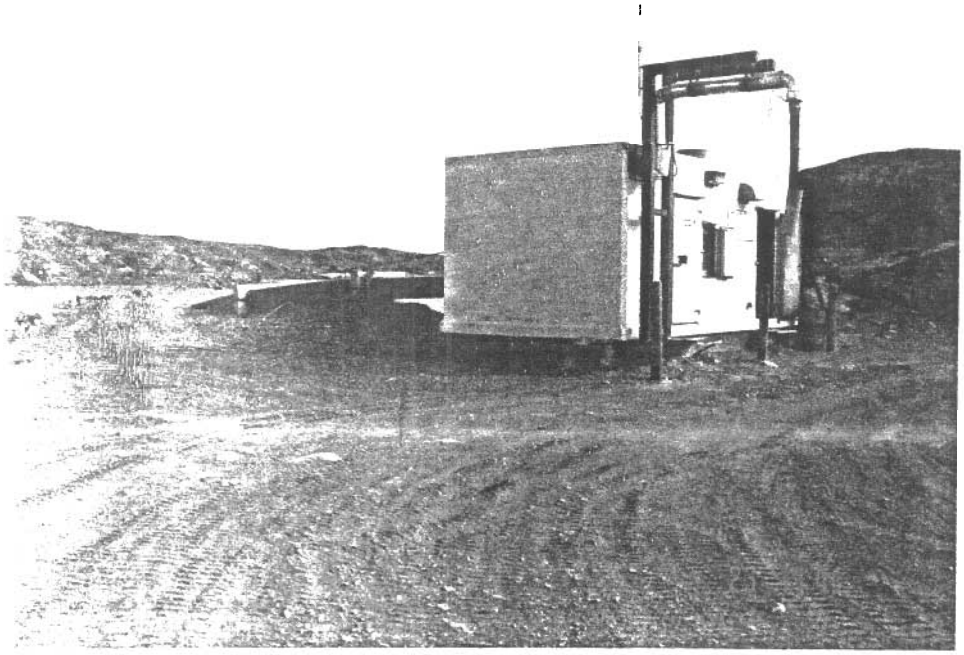


Photo # 1 Water intake Facility at the Kugurdjuk River.

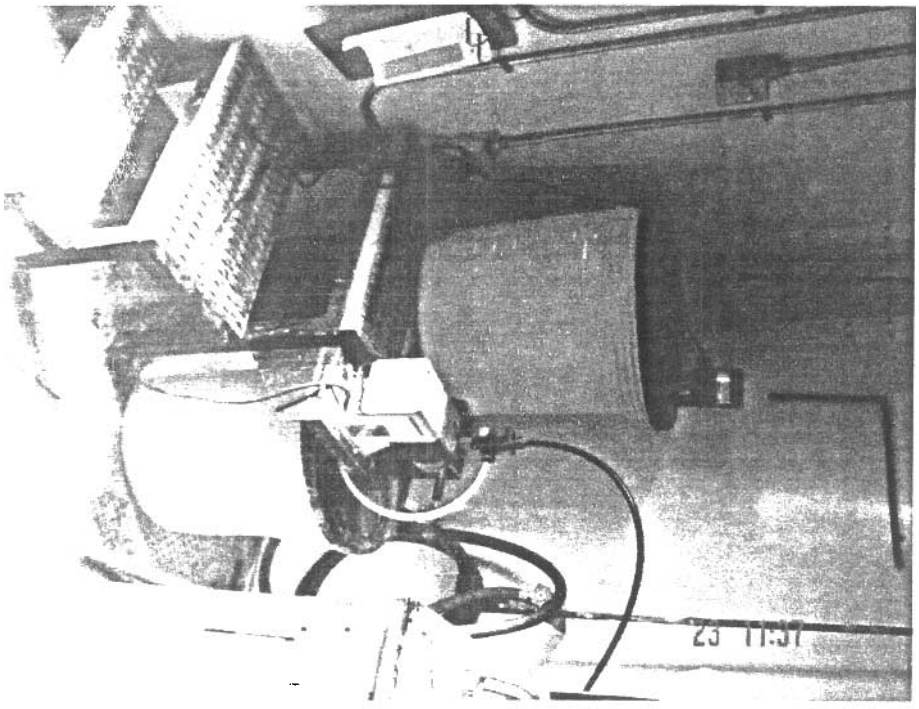


Photo # 2 Chlorination system at Water Intake Facility.

Photo # 3 Spilled or leaking oil in generator room at Water Intake Facility.

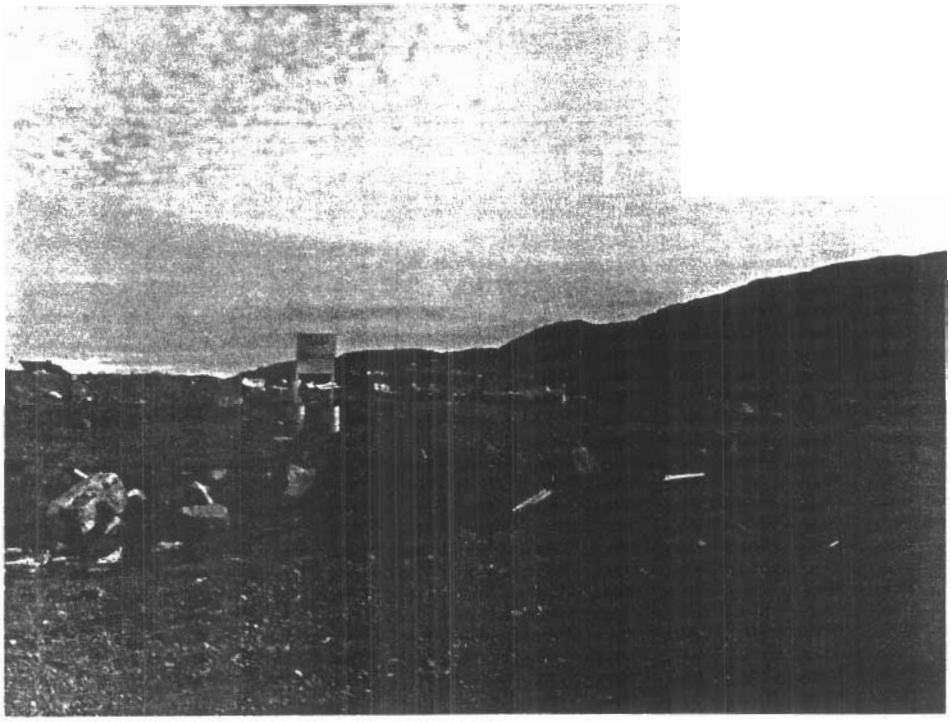


Photo # 4 Sign posted at the Bulky Metal Dump.

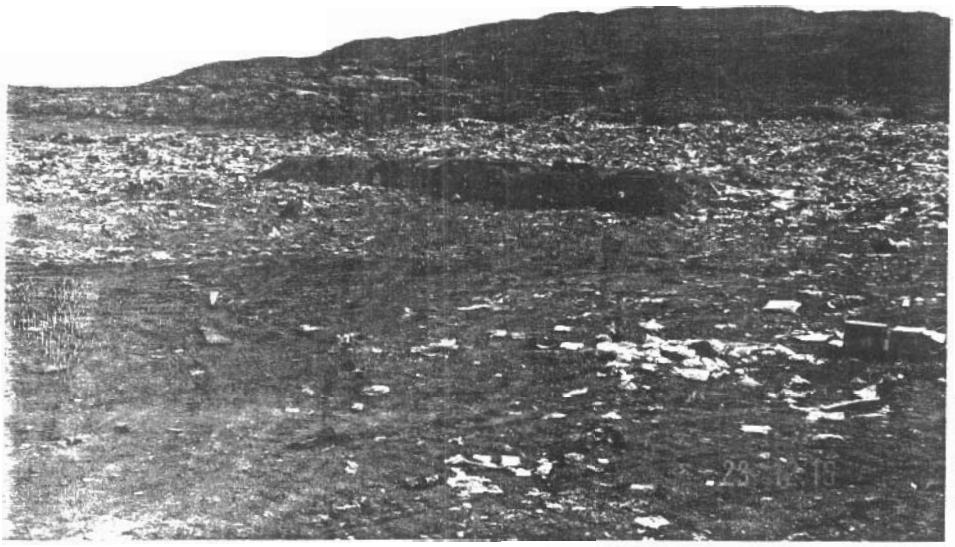


Photo # 5 Solid Waste Disposal Facility tipping face.

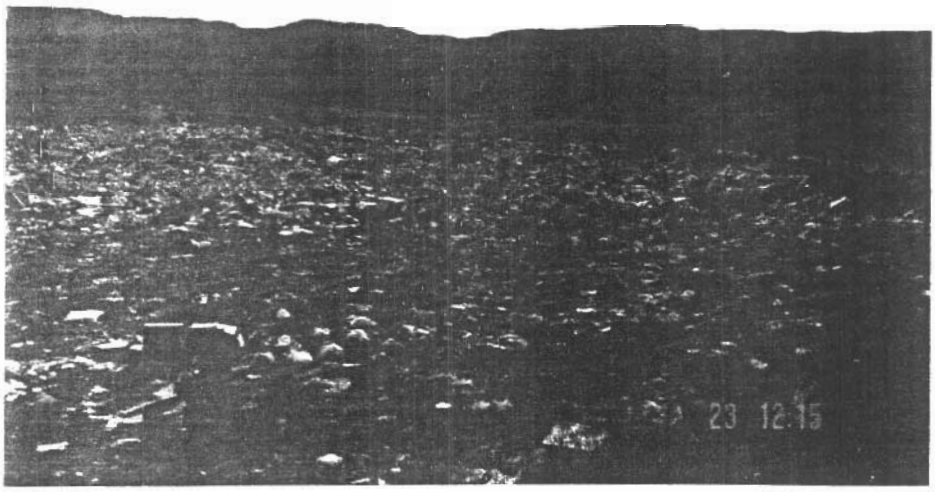


Photo # 6 Solid Waste Disposal Facility.

Photo # 7 Bulky Metal Waste Dump. Location of Metal Dump water sample.

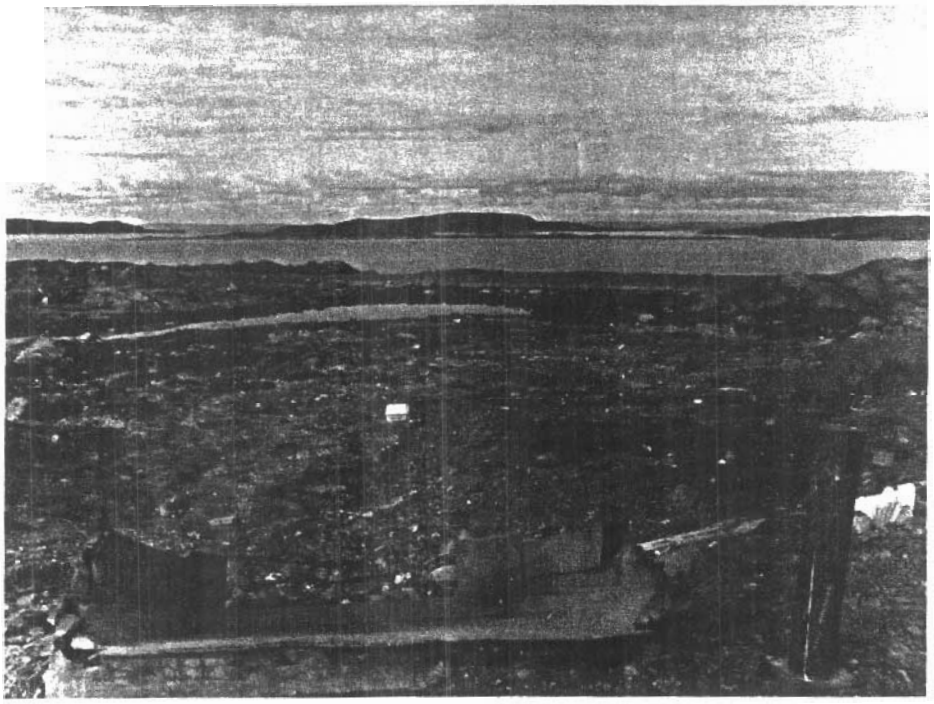


Photo # 8 Sewage truck discharge structure at the Sewage Lagoon.

Photo # 9 Waste oil storage area, at entrance to Solid Waste Disposal Facility.

Photo # 10 Waste batteries scattered throughout the Bulky Metal Waste Dump.

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

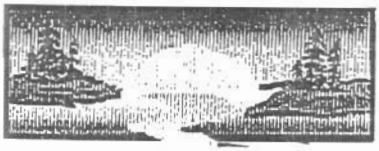
Sample ID: Pelly Bay **Taiga Sample ID:** 222520

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

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

Report Status: **Final** ***Approved by:*** _____

Test Parameter	Result	Units	Detection Limit	Analysis Date	Data Qualifier
Physicals					
Alkalinity	38.5	mg/L	0.3	16-Sep-02	
Colour	5		5	16-Sep-02	
Conductivity, Specific	113	µS/cm	0.3	16-Sep-02	
pH	7.46	pH units	0.05	16-Sep-02	
Solids, Total Dissolved	84	mg/L	10	16-Sep-02	
Solids, Total Suspended	<3	mg/L	3	16-Sep-02	
Nutrients					
Ammonia as N	<0.005	mg/L	0.005	02-Sep-02	
Nitrate+Nitrite as N	<0.008	mg/L	0.008	05-Sep-02	
Organic Carbon, Total	5.4	mg/L	0.5	07-Oct-02	
Phosphorous, Total	0.060	mg/L	0.004	04-Sep-02	
Major Ions					
Calcium	9.93	mg/L	0.05	29-Aug-02	
Chloride	9.7	mg/L	0.2	06-Sep-02	
Hardness as CaCO3	44.1	mg/L	0.17	29-Aug-02	



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- CERTIFICATE OF ANALYSIS -

Prepared For: DIAND Nunavut District Office *Attn:* Constantine Bodykevi

Sample ID: Pelly Bay **Taiga Sample ID: 222520**

Magnesium	4.70	mg/L	0.02	29-Aug-02
Silica, Reactive	0.18	mg/L	0.02	12-Sep-02

Data Qualifier Descriptions:

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- CERTIFICATE OF ANALYSIS -

Prepared For: DIAND Nunavut District Office *Attn:* Constantine Bodykevi

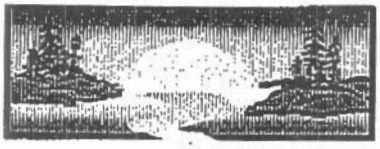
Sample ID: Pelly Bay **Taiga Sample ID:** 222521

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

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

Report Status: Final *Approved by:* _____

Test Parameter	Result	Units	Detection Limit	Analysis Date	Data Qualifier
Physicals					
Alkalinity	416	mg/L	0.3	19-Sep-02	
Colour				16-Sep-02	15
Conductivity, Specific	1180	µS/cm	0.3	16-Sep-02	
pH	7.44	pH units	0.05	16-Sep-02	
Solids, Total Dissolved	516	mg/L	10	16-Sep-02	
Solids, Total Suspended	92	mg/L	3	16-Sep-02	
Nutrients					
Ammonia as N	69.4	mg/L	0.005	02-Sep-02	
Nitrate+Nitrite as N	0.041	mg/L	0.008	05-Sep-02	
Organic Carbon, Total	63	mg/L	0.5	07-Oct-02	
Phosphorous, Total	9.60	mg/L	0.004	04-Sep-02	
Major Ions					
Calcium	25.7	mg/L	0.05	29-Aug-02	
Chloride	70.0	mg/L	0.2	06-Sep-02	
Hardness as CaCO3	104	mg/L	0.17	29-Aug-02	



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- CERTIFICATE OF ANALYSIS -

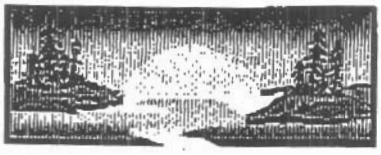
Prepared For: DIAND Nunavut District Office *Attn:* Constantine Bodykevi

Sample ID: Pelly Bay **Taiga Sample ID:** 222521

Magnesium	9.75	mg/L	0.02	29-Aug-02
Silica, Reactive	16.3	mg/L	0.02	12-Sep-02

Data Qualifier Descriptions:

15 Matrix interference, unable to report value



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Fax: (867)-669-2718

- CERTIFICATE OF ANALYSIS -

Prepared For: DIAND Nunavut District Office Attn: Constantine Bodykevi

Sample ID: Pelly Bay **Taiga Sample ID:** 222522

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

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

Report Status: Final *Approved by:* _____

Test Parameter	Result	Units	Detection Limit	Analysis Date	Data Qualifier
Physicals					
Solids, Total Dissolved	128	mg/L	10	16-Sep-02	
Solids, Total Suspended	148	mg/L	3	16 Sep 02	
Turbidity	59.7	NTU	0.1	17 Sep-02	
Nutrients					
Ammonia as N	< 0.005	mg/L	0.005	02-Sep-02	
Nitrate+Nitrite as N	0.105	mg/L	0.008	05-Sep-02	
Organic Carbon, Total	2.8	mg/L	0.5	07-Oct-02	
Phosphorous, Total	0.100	mg/L	0.004	04-Sep-02	

Data Qualifier Descriptions: