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Nunavut District Office
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Your file - Votre référence

Our file - Notre référence

November 29, 2002

B9545-5-S199
(Unlicenced)

Brian Fleming
Senior Administrative Officer
Hamlet of Sanikiluaq
General Delivery
Sanikiluaq, NU X0A 0W0

RE: June 22, 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 July 22, 2002. During the inspection the following observations were noted.

- **Water Supply:** At the time of inspection the Water Intake Facility was locked and not accessible. No concerns were noted with inspection of the exterior and vicinity of the Water Intake Facility. A portion of Sanikiluaq Lake, adjacent to the municipality is fenced. Part of the fence by the Water Intake Facility, has been damaged and should be repaired. Enclosed analysis, of water samples taken at Sanikiluaq Lake adjacent to the Water Intake Facility (Photo 2) indicate that Turbidity (0.9 NTU vs 1 NTU), pH (7.71 vs 6.5-8.5) and Nitrate + Nitrite (<0.008 mg/L vs 3.2 mg/L) meets the *Guidelines for Canadian Drinking Water Quality.*

- **Sewage Disposal:** Of concern during the inspection, the Water Resources Officer (WRO) observed sewage being discharged across the road from the sewage lagoon (Photo 3 & 4). This practice of discharging sewage along the road has caused an accumulation of solid waste (fecal material and associated wastes). This practice should not be allowed to continue. All sewage trucks should be discharging waste in the sewage lagoon. If there are concerns about erosion caused by the sewage truck discharges, then some form of discharge structure could be installed to address this concern. The retention berm seemed to allow for adequate effluent flow. The continuous lagoon discharge provides considerable freeboard in the sewage lagoon (Photo 3). Attached analytical results of effluent from the Sewage Lagoon indicate that Biological Oxygen

Demand (BOD) (28 mg/L vs 100 mg/L), and Total Suspended Solids (TSS) (115 mg/L vs 120 mg/L) are within the *Municipal Wastewater Effluent Quality Guidelines*. However Total Ammonia (29.4 mg/L vs 2.2 mg/L) exceeds the *Municipal Wastewater Effluent Quality Guidelines* Maximum Acceptable Concentration.

☐ **Solid Waste Disposal:** The Solid Waste Disposal facility was surrounded by fencing, however several entrances were noted. These entrances provide for considerable windblown garbage observed at the site. When the fencing was placed, a large portion of the pre-existing dump was not included within the fenced area (Photo 4). It was also noted that it appears that individuals are dumping their garbage outside of the Solid Waste Disposal Facility (Photo 5). A number of dump locations were noted during the inspection of the facility. Some of the refuge was in or near a stream (Photo 8).

☐ **Bulky Metal Dump:** The segregation of large metal waste from the general refuse appears to be practiced. There were a large number of drums along the shore (Photo 9). Analytical results enclosed of samples taken from the creek behind the Solid Waste Disposal Facility, indicate that the concentration of Biological Oxygen Demand (6 mg/L vs 100 mg/L), Total Suspended Solids (<3 mg/L vs 120 mg/L) and Total Ammonia (0.032 mg/L vs 2.2 mg/L) are within the *Municipal Wastewater Effluent Quality Guidelines.*

☐ **Fuel Storage:** The Tank Farm appeared to be in good operational condition at the time of the inspection. The berm surrounding the tanks was in good repair, with the containment membrane not visible (Photo 11 & 12). There was a small amount of water within the berm that raised no operational concerns. A unmanned drainage hose was observed at the time of inspection (Photo 13).

☐ **Non-Compliance of Act:** At the time of inspection, the Hamlet of Sanikiluaq did not hold a Water Licence as required under both *the Nunavut Land Claims Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act,* for the use of water and disposal of waste. A recommendation was given to stop the practice of dumping sewage across the road from the sewage lagoon. Analysis of Sewage Lagoon effluent indicate that the Lagoon effluent exceeds the *Municipal Wastewater Effluent Quality Guidelines* Maximum Acceptable Concentration for Ammonia.

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MUNICIPAL WATER USE INSPECTION REPORT

Date: June 22, 2002 **Licensee Rep. (Name/Title):** Brian Fleming/SAO

Licensee: Hamlet of Sanikiluaq **Licence No.:** File # **B9545-5-S199** (Unlicenced)

WATER SUPPLY

Source(s): Sanikiluaq Lake **Quantity used:** Recorded at truck delivery

Owner:/Operator: GN/ Municipality of Sanikiluaq

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

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

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

Comments: Not able to access Water Intake Facility at time of inspection. Potable water sample taken by Water Intake Facility.

WASTE DISPOSAL

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

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

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

Solid Waste: **Owner/Operator: GN/Municipality of Sanikiluaq**

Landfill: **Burn & Landfill:** X **Other:**

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

Discharge Quality: Sampled **Decant Structure:** A **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: At the time of inspection the sewage truck was observed discharging sewage across the road from the sewage lagoon. Repeated discharges of sewage in this location caused an accumulation of solid material associated with sewage being deposited along side the road. It was noted that considerable dumping of garbage takes place outside of the Solid Waste Disposal Facility.

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: U **Pump Station & Catchment Berm:** NI

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

SURVEILLANCE NETWORK PROGRAM (SNP)

Samples Collected **Hamlet:** NIL

INAC: Potable water, sewage effluent, dump stream effluent

Signs Posted **SNP:** Not Applicable **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 Sanikiluaq 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. The dumping of sewage across the road from Sewage Lagoon should be stopped.

Constantine Bodykevich

Inspector's Name

Inspector's Signature

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

-Nunavut Water Board, Gjoa Haven (Jim Wall)
-CG&T, Iqaluit (Doug Sitland)
-Baffin Health & Social Services, Iqaluit (Shannon Mackie)
-EC Environmental Protection, Yellowknife (Anne Wilson)
-INAC Water Management, Iqaluit (Michael Roy)

Sanikiluaq Inspection Pictures June 22 2002.

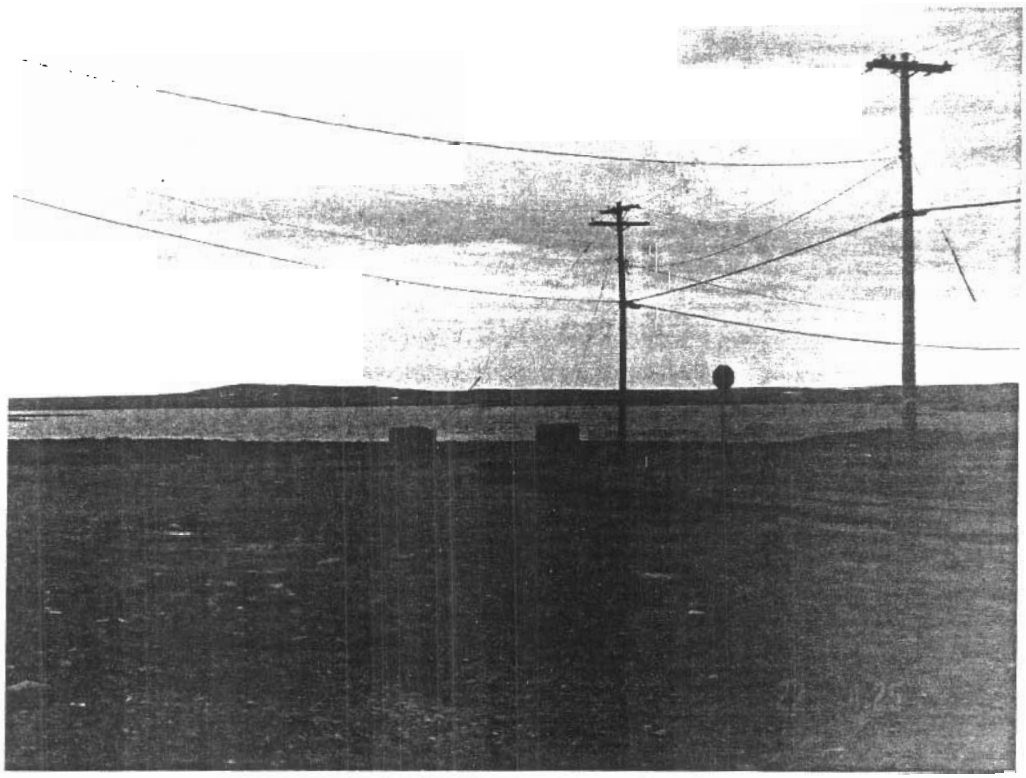


Photo # 1. Drinking Water supply Lake Sanikiluaq on the edge of the municipality.

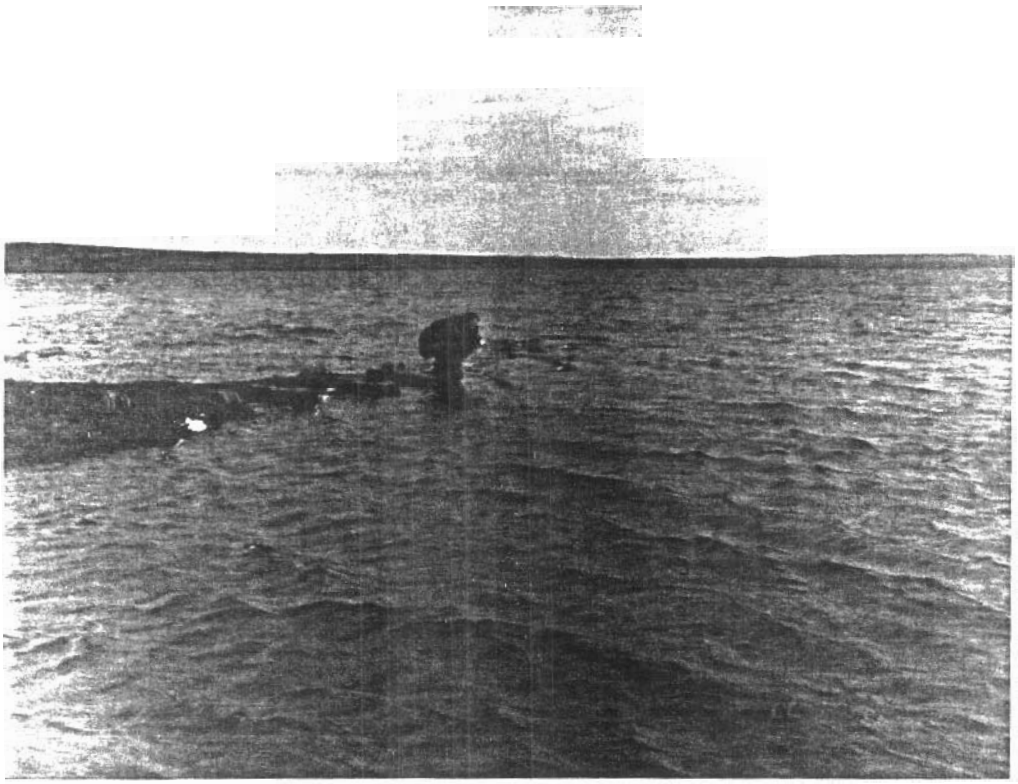


Photo # 2. Potable Water sample from Lake Sanikiluaq by Water Intake Facility.



Photo # 3. Sewage truck observed discharging sewage waste across road from sewage lagoon.



Photo # 4. Solid waste associated with discharge of sewage shown alongside road.

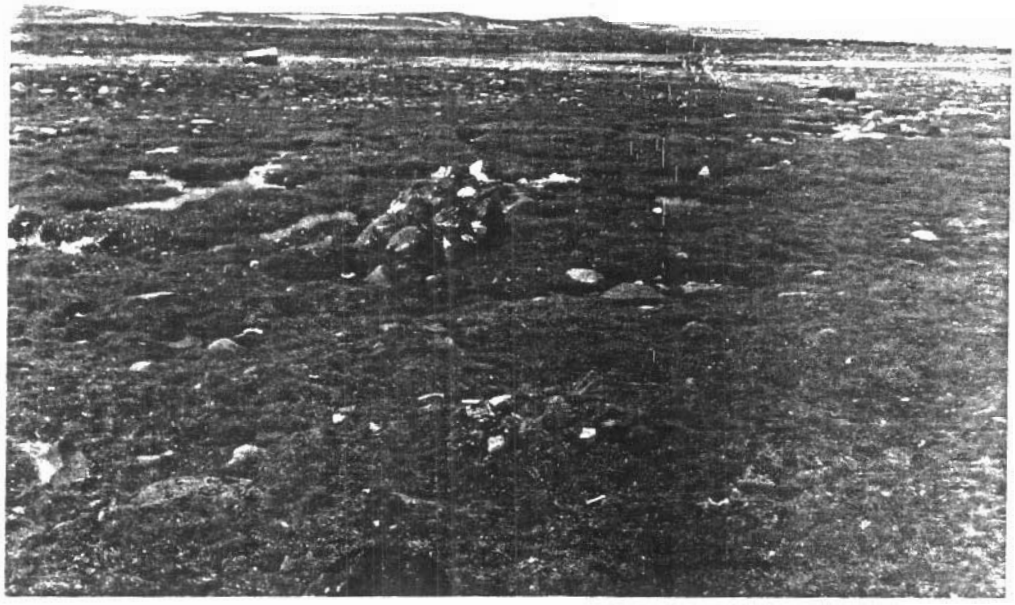


Photo # 5. Garbage dumped outside of Solid Waste Disposal Facility.

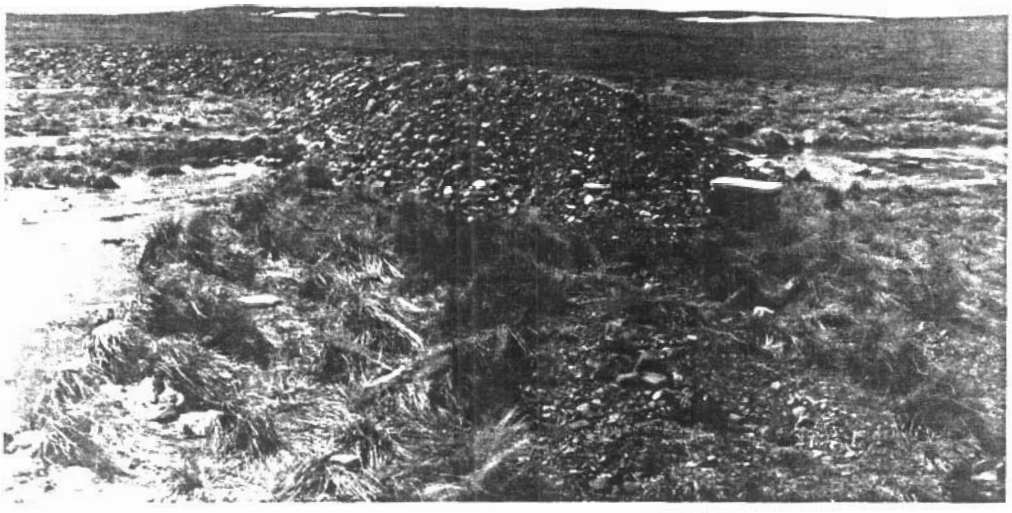


Photo # 6. Retention berm at discharge end of sewage lagoon; effluent sample taken to the right of retention berm

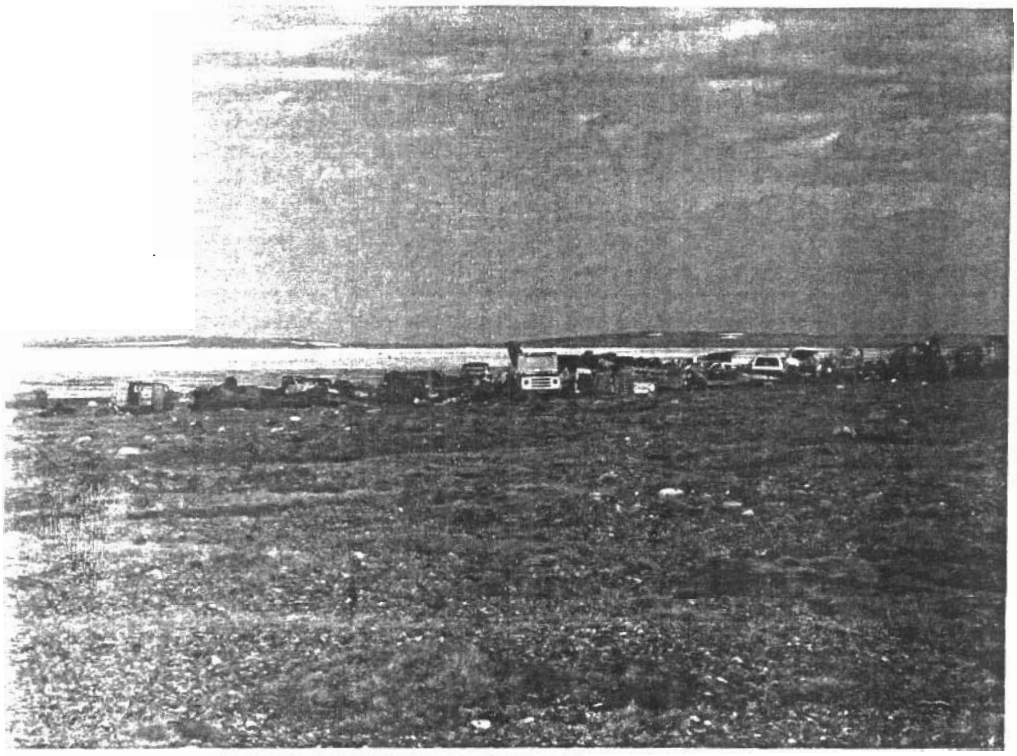


Photo # 7. Bulky metal waste dump located adjacent to Solid Waste Disposal Facility.



Photo # 8. Municipal refuge, animal carcases found in stream behind Solid Waste Disposal Facility.



Photo # 9. Old drum storage area by ocean 200 metres from bulky metal dump.

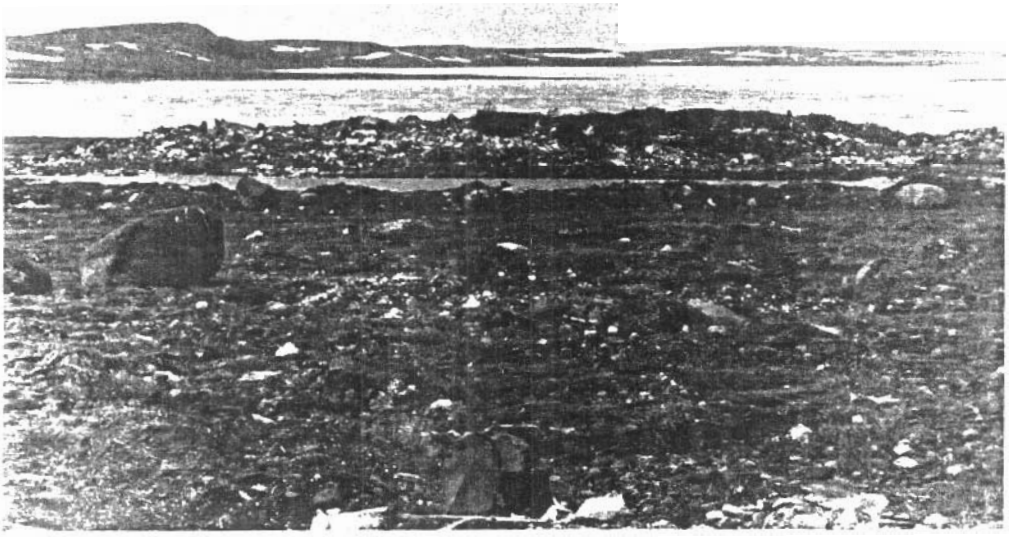


Photo # 10. Solid Waste Disposal Facility, taken from waste drum storage area.

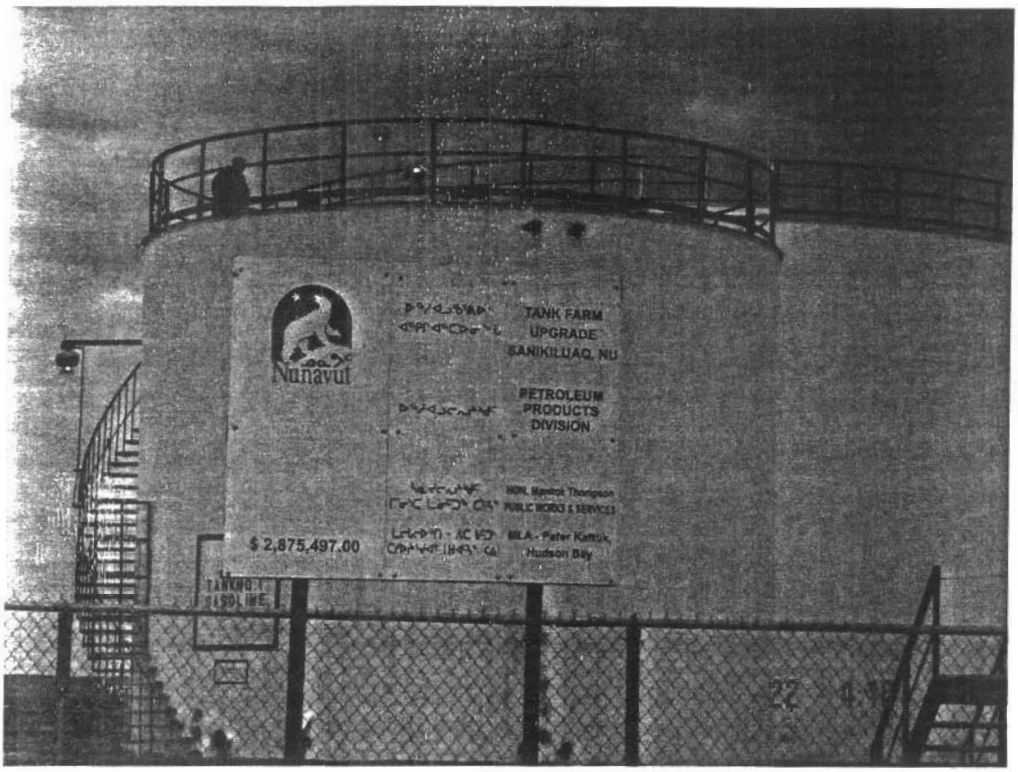


Photo # 11. Sanikiluaq Tank Farm.

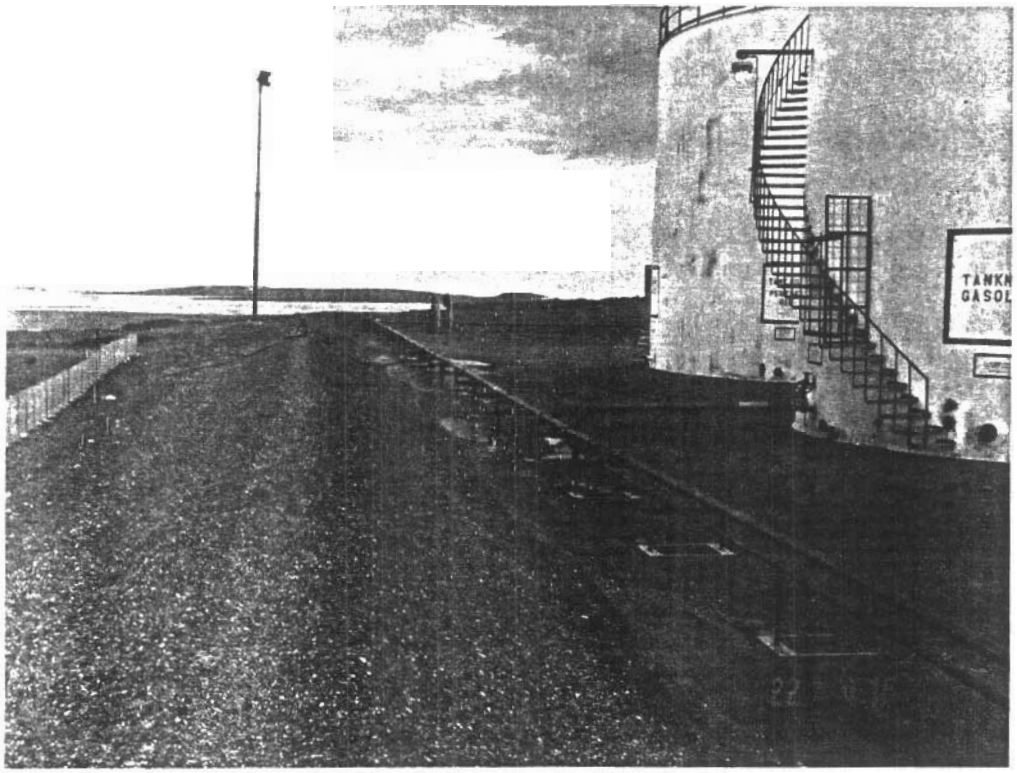


Photo # 12. Drainage hose sheen left at Tank Farm.

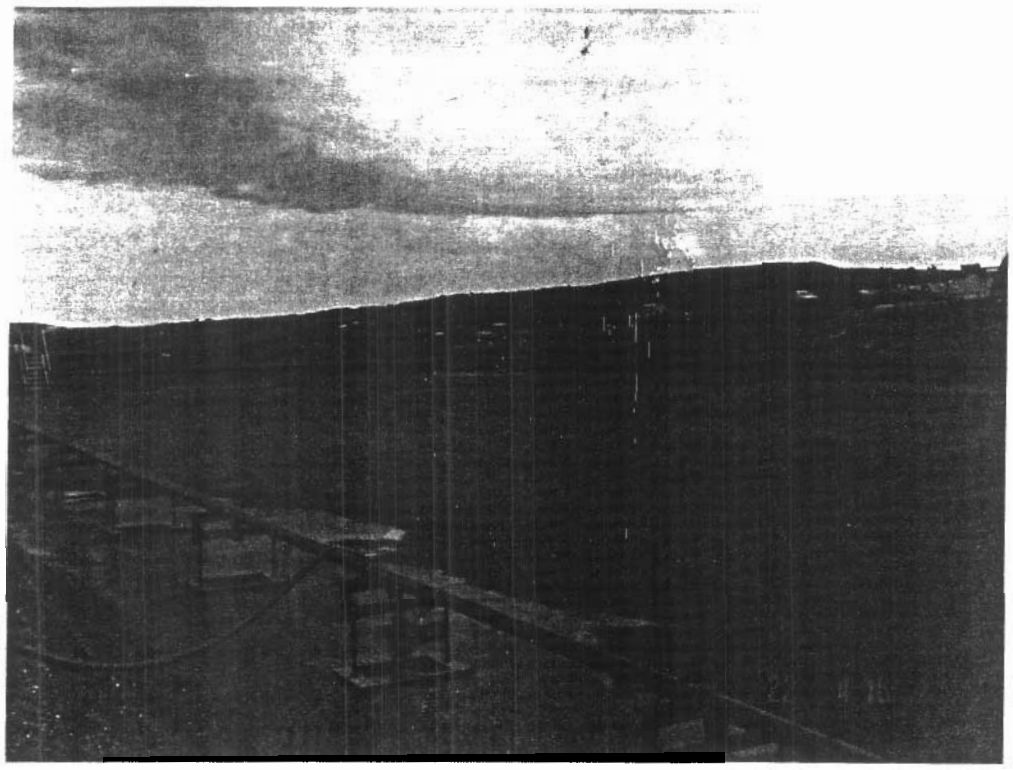


Photo # 13. Intake of drainage hose for Tank Farm shown.

Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
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Fax: (867)-669-2718

- CERTIFICATE OF ANALYSIS -

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

Sample ID: 6 7 Taiga Sample ID: 221777

Client Project: Sample Type: wastewater Received Date: 25-Jun-02

Location: Sanikiluaq Sampling Date: 22-Jun-02

Report Status: Final *Approved by:*

Test Parameter	Result	Units	Detection Limit	Analysis Date
Physicals				
Alkalinity	55.1	mg/L	0.3	03-Jul-02
Colour	10		5	10-Jul-02
Conductivity (Electronic	402	µS/cm	0.3	03-Jul-02
pH	7.71	pH units	0.05	03-Jul-02
Solids, Total Dissolved	238	mg/L	10	28-Jun-02
Solids, Total Suspended	< 3	mg/L	3	28-Jun-02
Turbidity	0.9	NTU	0.1	27-Jun-02
Nutrients				
Ammonia	0.006	mg/L	0.005	03-Jul-02
Biological Oxygen Demand	< 2	mg/L	2	25-Jun-02
Nitrate+Nitrite as N	< 0.008	mg/L	0.008	26-Jun-02
Organic Carbon, Dissolved	3.5	mg/L	0.5	11-Jul-02
Organic Carbon, Total	3.3	mg/L	0.5	11-Jul-02
Phosphorous, Total	0.035	mg/L	0.004	27-Jun-02
Major Ions				

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- CERTIFICATE OF ANALYSIS -

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

Sample ID: 6/7 Potable Water **Taiga Sample ID:** 221777

Calcium	21.8	mg/L	0.05	05-Jul-02
Chloride	75.4	mg/L	0.2	03-Jul-02
Fluoride	0.04	mg/L	0.03	17-Sep-02
Hardness as CaCO3	101	mg/L	0.17	04-Jul-02
Magnesium	11.2	mg/L	0.02	04-Jul-02
Potassium	1.36	mg/L	0.03	04-Jul-02
Silica, Reactive	0.93	mg/L	0.02	02-Jul-02
Sodium	78.7	mg/L	0.02	04-Jul-02
Sulphate	22	mg/L	3	27-Jun-02

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- CERTIFICATE OF ANALYSIS -

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

Sample ID: I 2 **Taiga Sample ID:** 221774

Client Project: **Sample Type:** wastewater **Received Date:** 25-Jun-02

Location: Sanikiluaq **Sampling Date:** 22-Jun-02

Report Status: Final *Approved by:*

Test Parameter	Result	Units	Detection Limit	Analysis Date
Physicals				
Alkalinity	254	mg/L	0.3	03-Jul-02
Colour	50		5	10-Jul-02
Conductivity	981	µS/cm	0.3	03-Jul-02
pH	7.46	pH units	0.05	03-Jul-02
Solids, Total Dissolved	515	mg/L	10	28-Jun-02
Solids, Total Suspended	115	mg/L	3	28-Jun-02
Turbidity	19.6	NTU	0.1	27-Jun-02
Nutrients				
Ammonia as N	29.4	mg/L	0.005	03-Jul-02
Biological Oxygen Demand	28	mg/L	2	25-Jun-02
Nitrate+Nitrite as N	< 0.008	mg/L	0.008	26-Jun-02
Organic Carbon, Dissolved	24.2	mg/L	0.5	11-Jul-02
Organic Carbon, Total	32.8	mg/L	0.5	11-Jul-02
Phosphorous, Total	4.23	mg/L	0.004	27-Jun-02
Major Ions				

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- CERTIFICATE OF ANALYSIS -

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

Sample ID: 3/4 **Taiga Sample ID:** 221775

Client Project: **Sample Type:** wastewater **Received Date:** 25-Jun-02

Location: Sanikiluaq Creek By Dump **Sampling Date:** 22-Jun-02

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

Test Parameter	Result	Units	Detection Limit	Analysis Date
Physicals				
Alkalinity	96.4	mg/L	0.3	03-Jul-02
Colour	30		5	10-Jul-02
Conductivity, Specific	953	µS/cm	0.3	03-Jul-02
pH	7.91	pH units	0.05	03-Jul-02
Solids, Total Dissolved	608	mg/L	10	28-Jun-02
Solids, Total Suspended	<3	mg/L	3	28-Jun-02
Turbidity	0.2	NTU	0.1	27-Jun-02
Nutrients				
Ammonia as N	0.032	mg/L	0.005	03-Jul-02
Biological Oxygen Demand	6	mg/L	2	25-Jun-02
Nitrate+Nitrite as N	0.090	mg/L	0.008	26-Jun-02
Organic Carbon, Dissolved	5.7	mg/L	0.5	11-Jul-02
Organic Carbon, Total	5.8	mg/L	0.5	11-Jul-02
Phosphorous, Total	0.005	mg/L	0.004	27-Jun-02
Major Ions				

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- CERTIFICATE OF ANALYSIS -

Prepared For: DIAND Nunavut District Office

Attn: Constantine Bodykevi

Sample ID: 3/4

Taiga Sample ID: 221775

Calcium	44.2	mg/L	0.05	05-Jul-02
Chloride	204	mg/L	0.2	03-Jul-02
Fluoride	0.07	mg/L	0.03	17-Sep-02
Hardness as CaCO3	180	mg/L	0.17	04-Jul-02
Magnesium	16.8	mg/L	0.02	04-Jul-02
Potassium	2.49	mg/L	0.03	04-Jul-02
Silica, Reactive	2.41	mg/L	0.02	02-Jul-02
Sodium	120	mg/L	0.02	04-Jul-02
Sulphate	54	mg/L	3	27-Jun-02

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- CERTIFICATE OF ANALYSIS -

Prepared For: DIAND Nunavut District Office

Attn: Constantine Bodykevi

Sample ID: 1/2 Sewage Lagoon

Taiga Sample ID: 221774

Calcium	36.9	mg/L	0.05	05-Jul-02
Chloride	136	mg/L	0.2	03-Jul-02
Fluoride	0.07	mg/L	0.03	17-Sep-02
Hardness as CaCO3	156	mg/L	0.17	04-Jul-02
Magnesium	15.5	mg/L	0.02	04-Jul-02
Potassium	14.3	mg/L	0.03	04-Jul-02
Silica, Reactive	8.78	mg/L	0.02	02-Jul-02
Sodium	103	mg/L	0.02	04-Jul-02
Sulphate	31	mg/L	3	27-Jun-02

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- CERTIFICATE OF ANALYSIS -

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

Sample ID: 5 **Taiga Sample ID: 221776**

Client Project: **Sample Type:** wastewater **Received Date:** 25-Jun-02

Location: Sanikiluaq Creek By Dump **Sampling Date:** 22-Jun-02

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

Test Parameter	Result	Units	Detection Limit	Analysis Date
Organic				
Oil and Grease	1.0	mg/L	0.2	26-Jun-02

Report Date: Tuesday, July 02, 2002