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Your file - Votre référence

Our file - Notre référence

November 29, 2002

NWB3-QIK0106

Don Pickle
Senior Administrative Officer
Hamlet of Qikiqtarjuaq
P.O. Box 4
Qikiqtarjuaq, NU X0A 0B0

RE: September 12, 2002 Municipal Water Use Inspection - Report

I would like to thank Don Pickle for his time and assistance 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 September 12, 2002. During the inspection the following observations were noted.

- ☐ **Water Supply:** The Water Intake Facility appeared to be in good operational condition at the time of inspection (Photo 4). The water reservoir is fully fenced (Photo 7). The chlorination system was operational (Photo 3). At the time of the inspection the reservoir was being recharged from the Tulugak River (Photo 5). To assist in raising the water level at the reservoir recharge intake line, a section of geomembrane was placed, forming a partial dam across the Tulugak River (Photo 1 & 2). It is recommended that the fuel storage tank located at the Water Reservoir be provided with a lined berm as spill protection. Enclosed analysis of samples taken at (SNP) QIK-1 the Water Reservoir indicates that Turbidity (1 NTU vs 1 NTU) and Nitrate + Nitrite (0.135 mg/L vs 3.2 mg/L) meets or are equivalent to the *Guidelines for Canadian Drinking Water Quality*. However enclosed analysis of potable water from the Water Reservoir indicate that pH (6.34 vs 6.5-8.5) exceeds the Maximum Acceptable Concentration of the *Guidelines for Canadian Drinking Water Quality*.
- ☐ **Sewage Disposal:** The Sewage Lagoon was being discharged at the time of the inspection (Photo 11). The lagoon appeared to be in good repair (Photo 9 & 10). The discharge valve was operating properly. Analysis of samples taken during the September 12, 2002 inspection at (SNP) QIK-3 Sewage Lagoon discharge indicate that Total Suspended Solids (45 mg/L vs 100 mg/L), pH (7.22 vs 6.5 - 9.0) and are within the *Municipal Wastewater Effluent Quality Guidelines*.

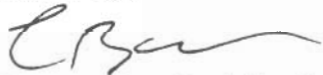
Canada

The enclosed analysis of Total Ammonia (45.7 mg/L vs 2.2 mg/L) exceed *Municipal Wastewater Effluent Quality Guidelines* Maximum Acceptable Concentration.

- ☐ **Solid Waste Disposal:** The Solid Waste Disposal Facility is fully fenced with burning and covering of refuse taking place on a regular basis (Photo 12). No effluent seepage was observed emitting from the toe of the dump. There are a number of creeks that flow next to the Sewage Lagoon and Solid Waste Disposal Facility. A creek flows through a section of the Bulky Metal Disposal area located adjacent to the dump. The segregation of waste batteries and waste oil is practiced. The waste batteries are stored in a sea lift container located at the dump. Drummed waste oil are stored across the road from the Sewage Lagoon (Photo 8). Waste oil is burned in a old truck box (Photo 13). The truck box is cracked and extensive oil staining is present in the burning area (Photo 14). It is recommenced that all drums of waste oil be placed in a lined bermed area to prevent further contamination from waste oil. Any contaminated soil in the oil burning and waste oil storage areas should be removed to the Land Farm or drummed and sent south for destruction. Analysis of samples taken from the creek located below Solid Waste Disposal Facility (SNP) QIK-2 indicate Total Suspended Solids (<3 mg/L vs 100 mg/L), pH (6.02 vs 6.5 - 9.0) and Total Ammonia (<0.005 mg/L vs 2.2 mg/L) are within the *Municipal Wastewater Effluent Quality Guidelines*
- ☐ **Fuel Storage:** The Tank Farm was undergoing expansion at the time of inspection (Photo 16). The expanded area of the Tank Farm is equipped with a synthetic liner. The portion of the Tank Farm berm that was intact, was in good condition with no signs of seepage. There was however, a unmanned drainage hose left in place that should be removed (Photo 15).
- ☐ **Non-Compliance of Licence:** The Licensee has yet to produce an Operational & Maintenance (O&M) plan for it's waste disposal facilities. The burning of waste oil in the leaking old truck box should not be continued.

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, Iqaluit (Doug Sitland)
 - Baffin Health & Social Services, Iqaluit (Shannon Mackie)
 - EC Environmental Protection, Yellowknife (Anne Wilson)
 - INAC Water Management, Iqaluit (Michael Roy)



MUNICIPAL WATER USE INSPECTION REPORT

Date: September 12, 2002 Licensee Rep. (Name/Title): Don Pickle / SAO

Licensee: Hamlet of Qikiqtarjuaq

Licence No.: NWB3QIK0106

WATER SUPPLY

Source(s): Tulugak River / Reservoir

Quantity used: recorded at water truck

Owner:/Operator: Hamlet of Qikiqtarjuaq

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: U

Pumping Stations: A

Comments: The reservoir was being filled at the time of inspection. The intake for the reservoir fill hose was in shallow water.. Water Intake Facility appeared in good operational condition with chlorination system functioning. Reports of excessive silt in the reservoir were reported.

WASTE DISPOSAL

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

Natural Water Body:

Continuous Discharge (land or water): land

Seasonal Discharge: X

Wetlands Treatment: limited

Trench:

Solid Waste:

Owner/Operator: Municipality of Qikiqtarjuaq

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: U

A&R Plan: ???/

Periods of Discharge: A

Effluent Discharge Rate: Not measured

Comments: The Municipal Solid Waste Disposal Facility is fully fenced with no visible signs of seepage. The bulky metal dump is scattered along the side of the slope adjacent to the Solid Waste Disposal Facility. No seepage of leachate was noted emitting from the Solid Waste Disposal Facility. A number of creeks flow by the sewage lagoon and dump, some flowing through the bulky metal disposal area. The waste oil storage area and oil burning area are both heavily stained with spilled oil. All drums with waste oil should be checked to ensure no leakage and that lids and bungs are in place.

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: NA

Pipeline Condition: NI

Not Applicable:

Condition of Tanks: NI

SURVEILLANCE NETWORK PROGRAM (SNP)

Samples Collected

Hamlet: NIL

INAC: potable water, sewage effluent, dump leachate

Signs Posted

SNP: yes

Warning: at potable water and sewage lagoon

Records & Reporting: An Operational & Maintenance plan should be produced for the Waste Disposal Facilities.

Geotechnical Inspection: Not Applicable

Non-Compliance of Act or Licence: The burning of oil in the old truck box should not be continued. All contaminated soil in the area should be removed for remediation. Waste oil should be properly stored and or incinerated.

Constantine Bodykevich

Inspector's Name

Inspector's Signature



Global Positioning System Coordinates for the Municipality of Qikiqtarjuaq

Your file - Votre référence

Our file - Notre référence

Qik-Pot Water

Qikiqtarjuaq Water Reservoir

N67.33127 W63.58098

Qik-Sewage Lagoon

Sewahe Lagoon Qikiqtarjuaq

N67.34000 W63.57563

Qik-Spill-1

Spill at RCMP Res

N67.33192 W64.01525

Qik-Spill-2

Qik-Gas Bar Spill

N67.33204 W64.01577

Qik-Spill-3

Qik- Spill at house 153-A

N67.33255 W64.01596

Qik-Spill-4

Qik-Spill at Airport

N67.33029 W64.01393

Qik-Tank Farm

Qikiqtarjuak Tank Farm

N67.32432 W64.01197

SNP-1

Water Supply Tulugak River

N67.33098 W63.57481

Qikiqtarjuaq Inspection Pictures 2002



Photo # 1 Tulugak River; refilling water reservoir.

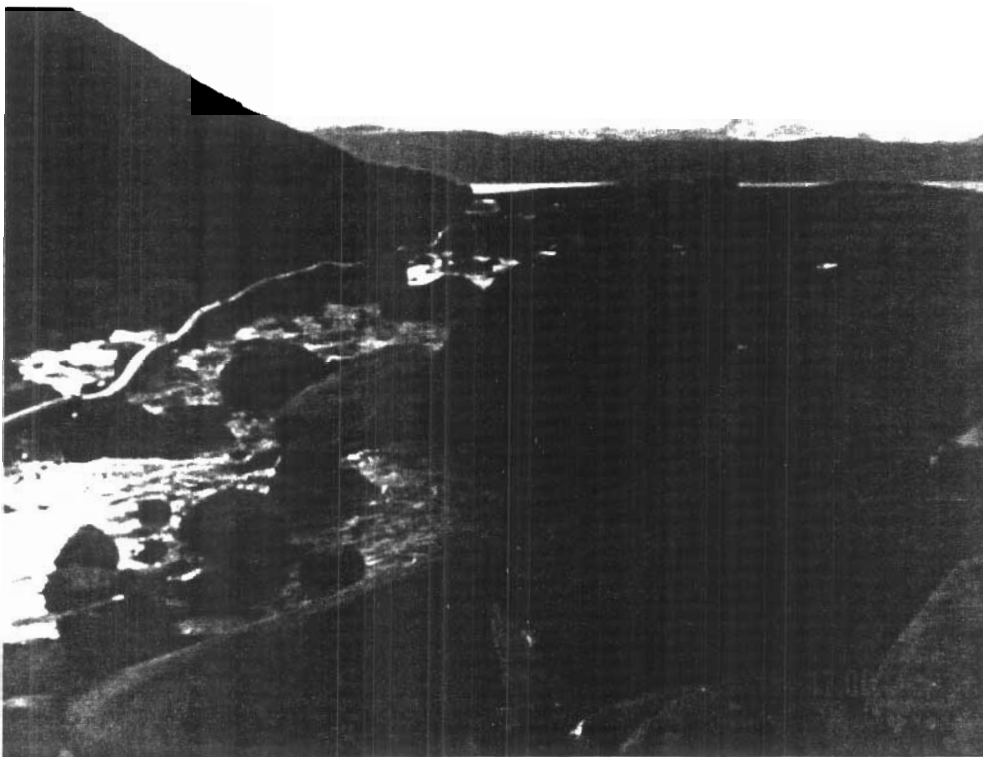


Photo # 2 Recharging line to water supply reservoir.

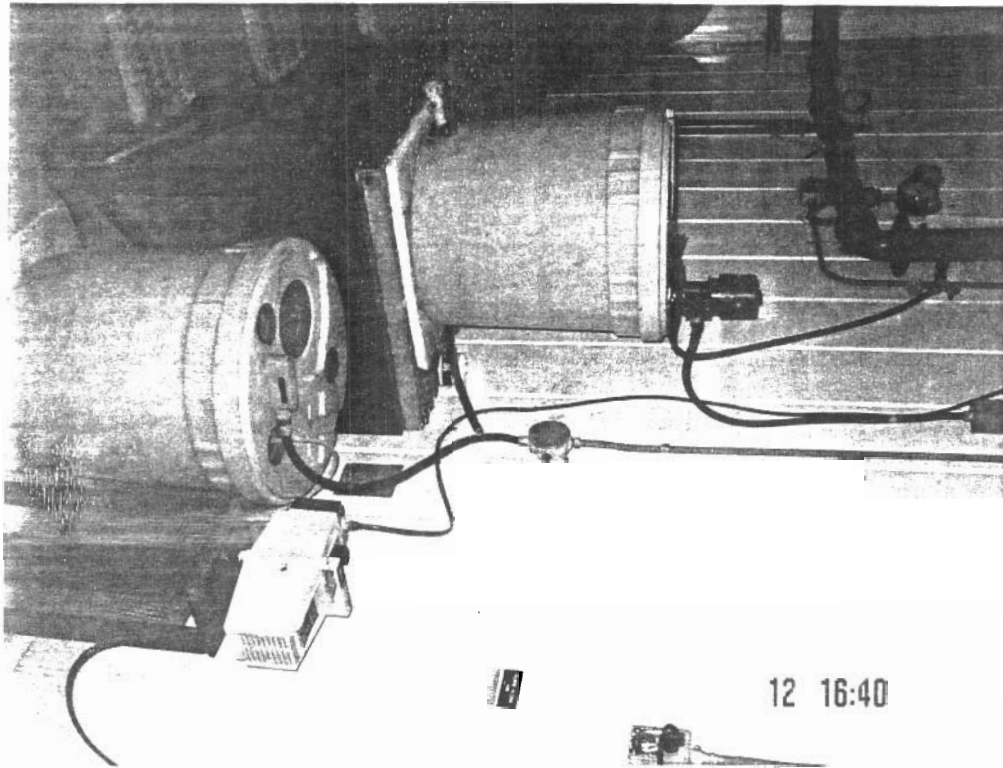


Photo # 3 Chlorination system in Water Intake Facility.

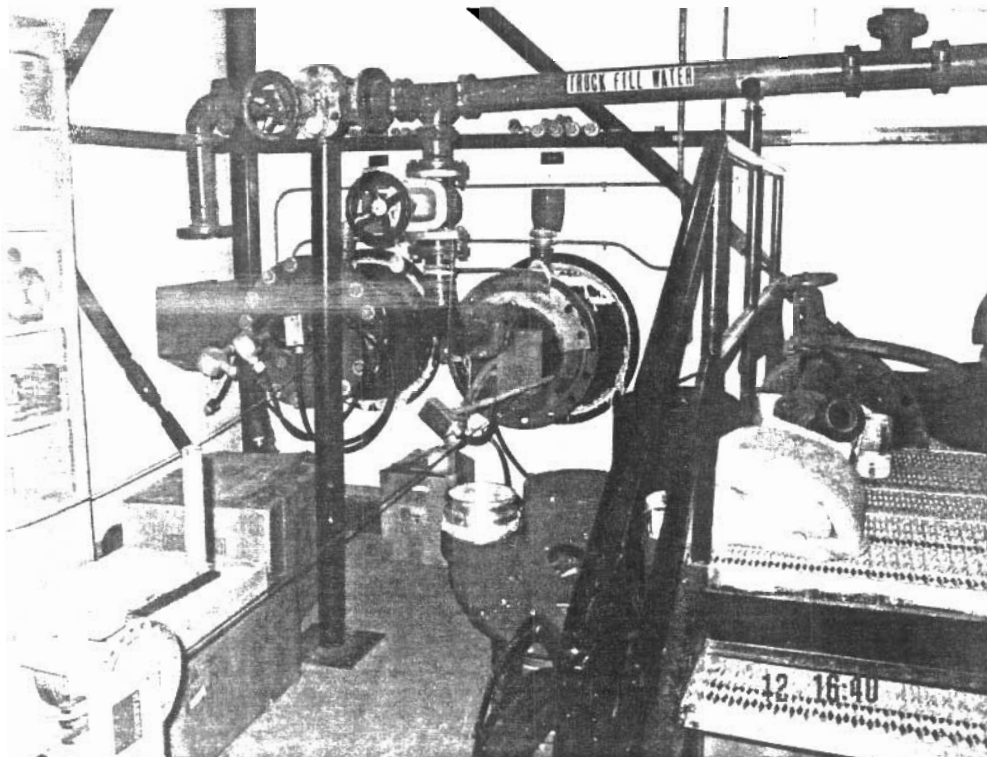


Photo # 4 Submersible pump line at Water Intake Facility.

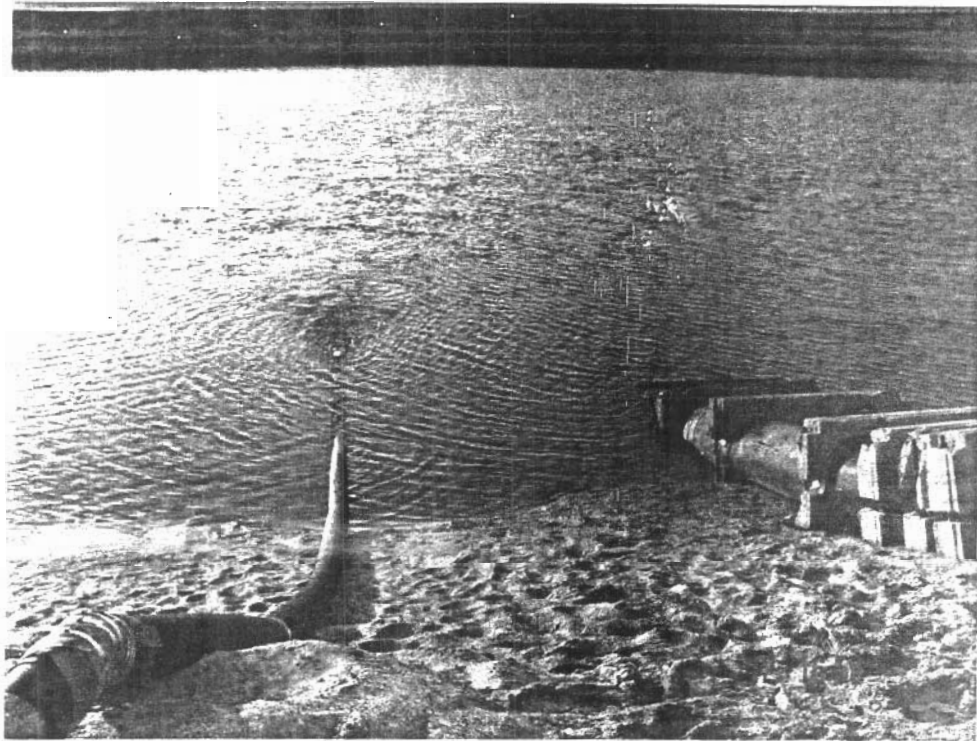


Photo # 5 Recharging of water reservoir from Tulugak River.



12 16:51

Photo # 6 Taking potable water sample at potable Water Reservoir.

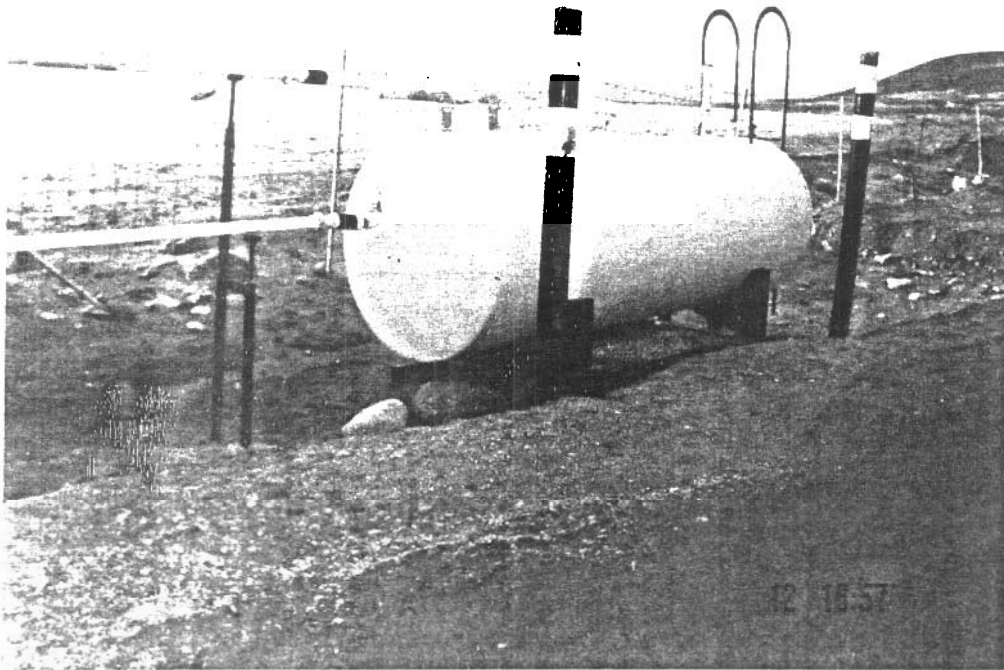


Photo # 7 Fuel storage tank at potable water reservoir; no secondary spill protection provided.



Photo # 8 Storage area for waste oil drums ●

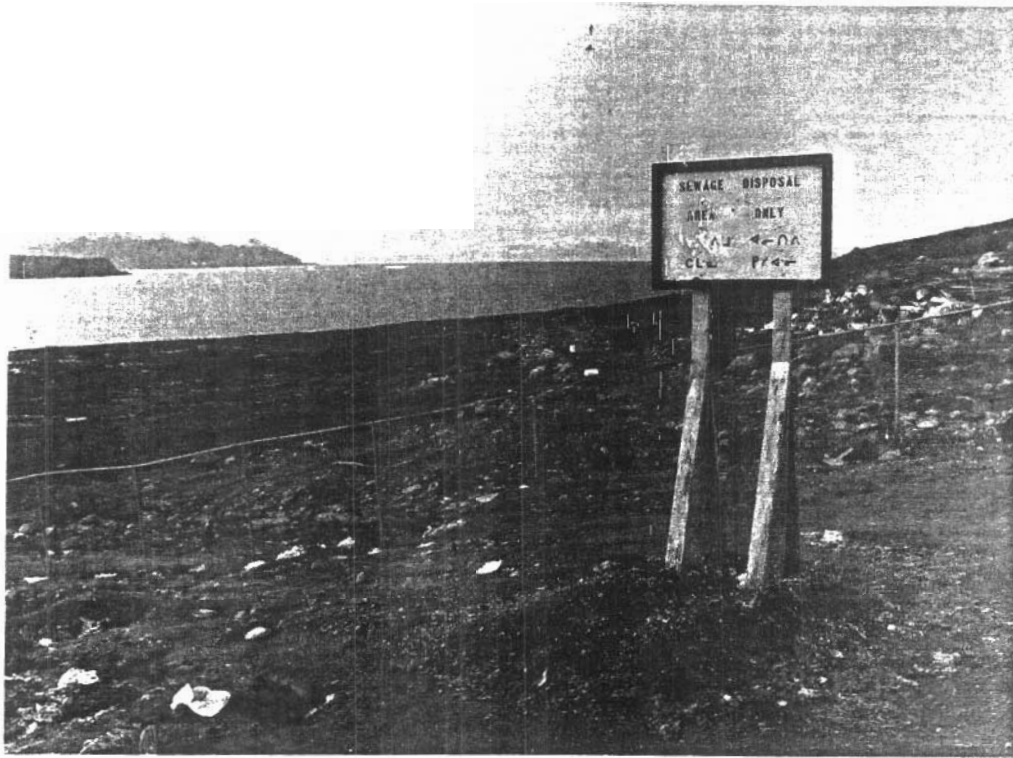


Photo # 9 Signage at Sewage Treatment Facility.



Photo # 10 Sewage truck discharge structure at Sewage Treatment Facility.



Photo # 11 Discharge structure at Sewage Treatment Facility; location of sewage effluent sample.



Photo # 12 Tipping face at Solid Waste Disposal Facility. Municipal Waste Disposal Facility fenced.



Photo # 13 Waste oil burning area.



Photo # 14 Burned waste oil drums. Waste oil burning area has signs of oil contamination.

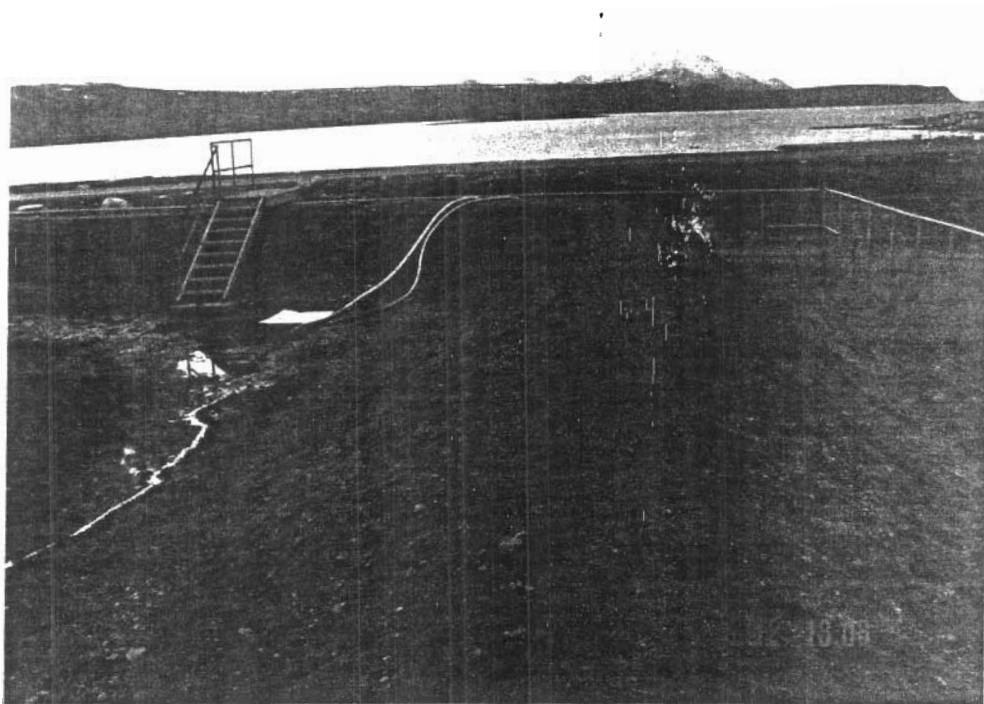


Photo # 15 Tank Farm berm with unmanned drainage hoses left in place.

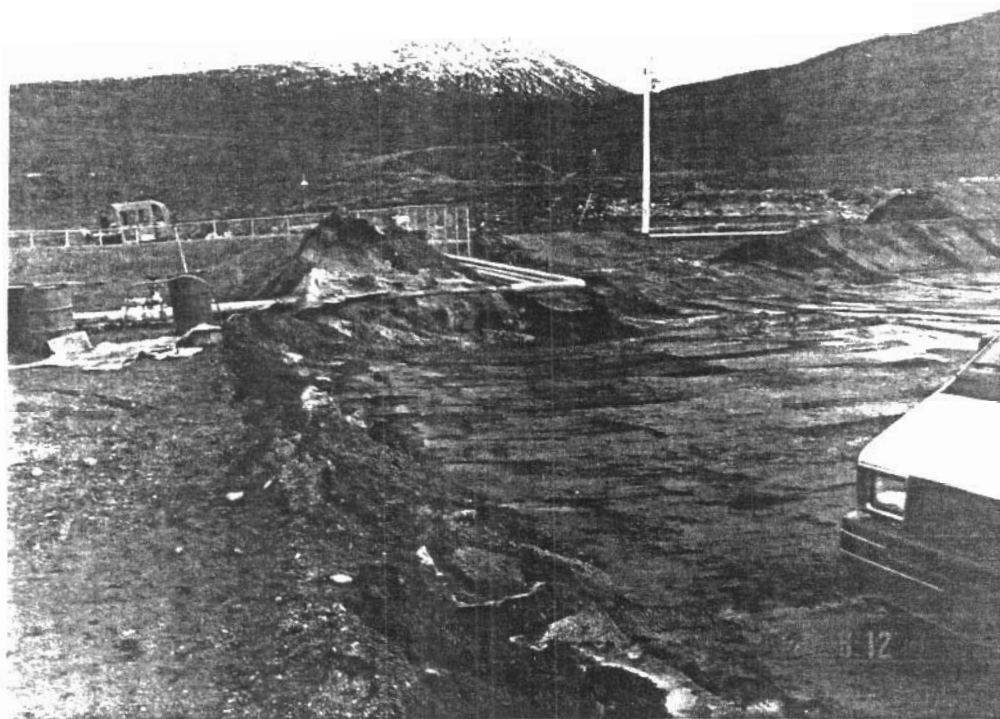


Photo # 16 Expansion of tank farm berm; geotextile membrane liner noted.



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: Nunavut Regional Officer, Opera Indian Affairs and Northern De Attn: Con Bodlykevitch

Sample ID: 001 QIK-1

Taiga Sample ID: 223326

Client Project:

Sample Type: POTABLE

Received Date: 20-Sep-02

Location: Qikitarjuaq

Sampling Date: 12-Sep-02

Report Status: Final

Approved by:

Test Parameter	Result	Units	Detection Limit	Analysis Date	Data Qualifier
<u>Physicals</u>					
Alkalinity	1.0	mg/L	0.3	08-Oct-02	2
Colour	<5		5	07-Oct-02	2
Conductivity, Specific	18.4	µS/cm	0.3	08-Oct-02	2
pH	6.34	pH units	0.05	08-Oct-02	2
Solids, Total Dissolved	34	mg/L	10	05-Nov-02	2
Solids, Total Suspended	3	mg/L	3	05-Nov-02	2
Turbidity	1.0	NTU	0.1	03-Oct-02	2
<u>Nutrients</u>					
Ammonia as N	<0.005	mg/L	0.005	07-Oct-02	2
Nitrate+Nitrite as N	0.135	mg/L	0.008	13-Nov-02	2
Organic Carbon, Dissolved	0.7	mg/L	0.5	11-Oct-02	2
Organic Carbon, Total	0.7	mg/L	0.5	11-Oct-02	2
Ortho-Phosphate as P	<0.002	mg/L	0.002	27-Sep-02	2
Phosphorous, Dissolved	0.055	mg/L	0.004	23-Oct-02	2
Phosphorous, Total	0.045	mg/L	0.004	04-Oct-02	2



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- CERTIFICATE OF ANALYSIS -

Prepared For: Nunavut Regional Officer, Opera Indian Affairs and Northern De Attn: Con Bodykevitch

Sample ID: 001 QIK-1

Taiga Sample ID: 223326

Major Ions

Calcium	0.31	mg/L	0.05	14-Nov-02	2
Chloride	3.1	mg/L	0.2	16-Nov-02	2
Hardness as CaCO ₃	1.97	mg/L	0.17	14-Nov-02	2
Magnesium	0.29	mg/L	0.02	14-Nov-02	2
Potassium	0.92	mg/L	0.03	15-Nov-02	2
Silica, Reactive	3.26	mg/L	0.02	18-Oct-02	2
Sodium	2.27	mg/L	0.02	15-Nov-02	2
Sulphate	<3	mg/L	3	31-Oct-02	2

Data Qualifier Descriptions:

- 2 Holding time exceeded upon receipt of sample



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- CERTIFICATE OF ANALYSIS -

Prepared For: Nunavut Regional Officer, Opera Indian Affairs and Northern De Attn: Con Eodykevitch

Sample ID: 003 *QIK-3*

Taiga Sample ID: 223328

Client Project:

Sample Type: wastewater

Received Date: 20-Sep-02

Location: Qikitarjuaq

Sampling Date: 12-Sep-02

Report Status: Final

Approved by:

[Signature]

Test Parameter	Result	Units	Detection Limit	Analysis Date	Data Qualifier
<u>Physicals</u>					
Alkalinity	240	mg/L	0.3	10-Oct-02	2
Colour	200		5	07-Oct-02	2
Conductivity, Specific	719	µS/cm	0.3	10-Oct-02	2
pH	7.22	pH units	0.05	10-Oct-02	2
Solids, Total Dissolved	315	mg/L	10	05-Nov-02	2
Solids, Total Suspended	45	mg/L	3	05-Nov-02	2
Turbidity	94.5	NTU	0.1	03-Oct-02	2
<u>Nutrients</u>					
Ammonia as N	45.7	mg/L	0.005	07-Oct-02	2
Nitrate+Nitrite as N	0.009	mg/L	0.008	13-Nov-02	2
Organic Carbon, Dissolved	23	mg/L	0.5	11-Oct-02	2
Organic Carbon, Total	47.0	mg/L	0.5	11-Oct-02	2
Ortho-Phosphate as P	3.78	mg/L	0.002	15-Oct-02	
Phosphorous, Dissolved	5.40	mg/L	0.004	23-Oct-02	2
Phosphorous, Total	6.97	mg/L	0.004	04-Oct-02	2



Taiga Environmental Laboratory
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Fax: (867)-669-2718

- CERTIFICATE OF ANALYSIS -

Prepared For: Nunavut Regional Officer, Opera Indian Affairs and Northern De *Attn:* Con Bodykevitch

Sample ID: 003 QTK-3

Taiga Sample ID: 223328

Major Ions

Calcium	5.41	mg/L	0.05	14-Nov-02	2
Chloride	45.4	mg/L	0.2	26-Nov-02	2
Hardness as CaCO ₃	22.4	mg/L	0.17	14-Nov-02	2
Magnesium	2.17	mg/L	0.02	14-Nov-02	2
Potassium	124	mg/L	0.03	15-Nov-02	2
Silica, Reactive	15.0	mg/L	0.02	18-Oct-02	2
Sodium	68.3	mg/L	0.02	15-Nov-02	2
Sulphate	29	mg/L	3	31-Oct-02	2

Data Qualifier Descriptions:

2 Holding time exceeded upon receipt of sample



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- CERTIFICATE OF ANALYSIS -

Prepared For: Nunavut Regional Officer, Opera Indian Affairs and Northern De Attn: Con Bodykevitch

Sample ID: 004 QIK-2

Taiga Sample ID: 223329

Client Project:

Sample Type: wastewater

Received Date: 20-Sep-02

Location: Qikitarjuaq

Sampling Date: 12-Sep-02

Report Status: Final

Approved by:

Test Parameter	Result	Units	Detection Limit	Analysis Date	Data Qualifier
<u>Physicals</u>					
Alkalinity	0.9	mg/L	0.3	10-Oct-02	2
Colour	<5		5	07-Oct-02	2
Conductivity, Specific	16.5	µS/cm	0.3	10-Oct-02	2
pH	6.02	pH units	0.05	10-Oct-02	2
Solids, Total Dissolved	36	mg/L	10	05-Nov-02	2
Solids, Total Suspended	<3	mg/L	3	05-Nov-02	2
Turbidity	0.2	NTU	0.1	03-Oct-02	2
<u>Nutrients</u>					
Ammonia as N	<0.005	mg/L	0.005	07-Oct-02	2
Nitrate+Nitrite as N	0.013	mg/L	0.008	13-Nov-02	2
Organic Carbon, Dissolved	1.0	mg/L	0.5	11-Oct-02	2
Organic Carbon, Total	1.1	mg/L	0.5	11-Oct-02	2
Ortho-Phosphate as P	0.003	mg/L	0.002	08-Oct-02	2
Phosphorous, Dissolved	0.050	mg/L	0.004	23-Oct-02	2
Phosphorous, Total	0.053	mg/L	0.004	04-Oct-02	2



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

- CERTIFICATE OF ANALYSIS -

Prepared For: Nunavut Regional Officer, Opera Indian Affairs and Northern De Attn: Con Ebodykevitch

Sample ID: 004 QIK-2

Taiga Sample ID: 223329

Major Ions

Calcium	1.07	mg/L	0.05	14-Nov-02	2
Chloride	3.0	mg/L	0.2	26-Nov-02	2
Hardness as CaCO ₃	3.95	mg/L	0.17	14-Nov-02	2
Magnesium	0.31	mg/L	0.02	14-Nov-02	2
Potassium	0.06	mg/L	0.03	15-Nov-02	2
Silica, Reactive	3.38	mg/L	0.02	18-Oct-02	2
Sodium	2.06	mg/L	0.02	15-Nov-02	2
Sulphate	<3	mg/L	3	31-Oct-02	2

Data Qualifier Descriptions:

2 Holding time exceeded upon receipt of sample