



DIAND Nunavut District
Box 100
Iqaluit, NT
XOA OHO

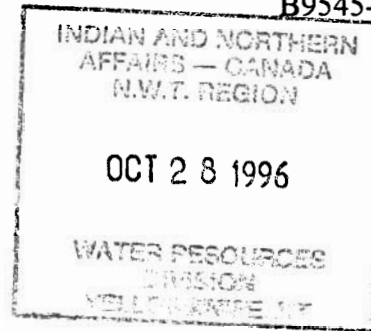
Your file Votre référence

Our file Notre référence

October 17, 1996

B9545-5-N6L3-1191

Mr. Dennis Zettler;
Senior Administrative Officer
Hamlet of Baker Lake
Baker Lake, NT
XOC OAO



Dear Mr. Zettler;

Re: Water Licence Inspection and Analytical Results: August 13, 1996

1. Please find attached a copy of the inspection report prepared as a result of the August 13, 1996 inspection.
2. There are a number of issues identified that will require your attention. These are:
 - a SNP Station sign needs to be placed at the freshwater intake pumphouse (where water samples are collected);
 - an O+M plan was due in 1994. It is more important now than every as additional work is required on the dump (specifically in terms coverage with granular material). Provided is a copy of a previously approved plan which may assist you in the drafting of this plan. Part G, Item 1 of the licence outlines the areas that must be addressed, and;
 - prior to any abandonment and restoration work being carried out on old dumpsites, an A+R plan must be approved by the Board. As MACA is preparing for such work (at Airplane Lake), a coordinated effort must be made to address this requirement of the licence.
3. MACA intends to replace the truckfill station within the next 4 years. By copy of this letter and its attached inspection report, some recommendations are offered to MACA to take into consideration when planning for this facility.

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4. Copies of the reports prepared on the water intake (by Arctic Divers Ltd.) and the old dumpsite (MM Dillon Ltd.) should be provided, if not already done so, to the Nunavut Water Board for their information.
5. Also attached for your records are the results from the water samples collected during the inspection. With respect to drinking water, all parameters tested were within the Health and Welfare Canada *Guidelines of Canadian Drinking Water Quality*. You will note a high copper level, but this was most certainly a result of contamination from the copper water lines within the truckfill station where the sample was collected. Previous samples collected here show much lower levels.
6. If you have any questions, please do not hesitate to contact me at the above address, or by phone at (819)-979-4405.

Sincerely,



Paul Smith
Water Resources Officer
Nunavut District

- cc.
- Nunavut Water Board, Gjoa Haven
 - Water Resources Division, DIAND, YK
 - RMO, DIAND, Rankin Inlet
 - MACA, GNWT, Rankin Inlet (Attn. Don Forsyth)

INDIAN & NORTHERN AFFAIRS
WATER RESOURCES LABORATORY
Box 1500
Yellowknife, NT. X1A 2R3
Tel. (403) 920-8129
Fax. (403) 873-9300

To: Indian & Northern Affairs Canada
Water Resources\NAP
Baffin District Office
Box 100
==> Iqaluit NT X0A 0H0
Paul Smith

SAMPLE INFORMATION

Our Lab # : 961343
Your Sample ID: 1191-1
Sample Matrix : grab water

Account No.: Baffin

Collection:

Location: Baker Lake N6L3-1151
Date: 08/13/96
By: PS

Report Date: 09/11/96

Approved by: W. Reddy

- SAMPLE ANALYSIS REPORT -

Lab#	Parameter	Result Units	Detect Limit	analdate	Method
961343	Alkalinity	8.3 mg/L	0.300	08/16/96	10101
	Calcium	2.52 mg/L	0.040	08/26/96	20103
	T.Cadmium ICP-M	LO.1 ug/L	0.100	08/20/96	100133
	Chloride	4.23 mg/L	0.080	08/21/96	17206
	Colour	10 Colour	5.000	08/16/96	02021
	Conductivity	34.7 uS/cm	0.100	08/16/96	02041
	T.Cobalt ICP-MS	LO.1 ug/L	0.100	08/20/96	100115
	T.Chromium ICP-	L2 ug/L	2.000	08/20/96	100111
	T.Copper ICP-MS	187.0 ug/L	0.100	08/20/96	100119
	Potassium	0.41 mg/L	0.050	08/27/96	19106
	Magnesium	1.04 mg/L	0.010	08/26/96	12102
	T.Manganese ICP	6.4 ug/L	0.100	08/20/96	100113
	Sodium	1.85 mg/L	0.040	08/27/96	11102
	Non Filt Residu	12 mg/L	3.000	08/16/96	10406
	T.Nickel ICP-MS	1.0 ug/L	0.100	08/20/96	100117
	T.Lead ICP-MS	11.4 ug/L	0.200	08/20/96	100145
	pH	6.95 pH	0.050	08/16/96	10301
	T.Iron	679 ug/L	20.000	08/19/96	26004
	Turbidity	10.9 NTU	0.100	08/16/96	02081
	T.Zinc ICP-MS	34.0 ug/L	0.500	08/20/96	100121

RECEIVED

SEP 18 1996

D.I.A.N.D.

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SEP 19 1996

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Paul Smith

SAMPLE INFORMATION

Our Lab # : 961344
Your Sample ID: 1191-2
Sample Matrix : grab water

Account No.: Baffin

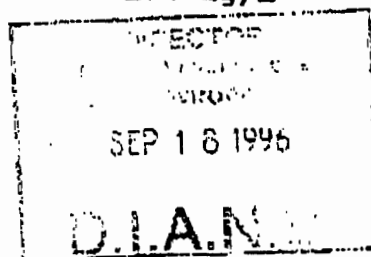
Collection:
Location: Baker Lake N6L3-1191
Date: 08/13/96
By: PS

Report Date: 09/15/96

Approved by: W. Wood

- SAMPLE ANALYSIS REPORT -

Lab#	Parameter	Result Units	Detect Limit	Method Code
961344	Alkalinity	28.5 mg/L	0.300	10101
	Calcium	9.37 mg/L	0.040	20103
	T.Cadmium ICP-MS	LO.1 ug/L	0.100	100133
	Chloride	11.50 mg/L	0.080	17206
	Colour	50 Colour	5.000	02021
	Conductivity	132.0 us/cm	0.100	02041
	T.Cobalt ICP-MS	0.4 ug/L	0.100	100115
	T.Chromium ICP-MS	L2 ug/L	2.000	100111
	T.Copper ICP-MS	4.7 ug/L	0.100	100118
	Filt.Residue	118 mg/L	10.000	10451
	Potassium	2.38 mg/L	0.050	19106
	Magnesium	1.69 mg/L	0.010	12102
	T.Manganese ICP-MS	53.9 ug/L	0.100	100113
	Sodium	9.93 mg/L	0.040	11102
	Non_Filt_Residue	6 mg/L	3.000	10406
	Ammonia-N	0.576 mg/L	0.002	07562
	T.Nickel ICP-MS	1.8 ug/L	0.100	100117
	Oil&Grease	0.20 mg/L	0.200	06524
	T.Lead ICP-MS	0.8 ug/L	0.200	100145
	pH	7.27 pH	0.050	10301
	Phenols	LO.002 ug/L	2.000	06533
	T.Iron	1014 ug/L	20.000	26004
	T.Mercury-C/V	LO.01 ug/L	0.010	80011
	Turbidity	4.8 NTU	0.100	02081
	T.Zinc ICP-MS	1.4 ug/L	0.500	100121





MUNICIPAL WATER USE INSPECTION FORM

DATE: August 13/96 COMPANY REP.: Hamlet Foreman / By-law Officer
LICENSEE: Hamlet of Baker Lake LICENCE #: N6L3-1191

WATER SUPPLY

Source (s): Baker Lake Quantity Used (to date): ~ 28,000 m³/yr.
Owner/Operator: DPW / Hamlet (estimate or actual)

Indicate: A - Acceptable U - Unacceptable N/A - Not Applicable

Intake Facilities: See note Storage Structure N/A Treatment Systems A Chem. Storage A

Flow Meas. Device A Convey. Lines N/A Pumping Stations See note

Comments: Pumphouse is about 20 years old and is located on the shore of Baker Lake in the centre of town. Facility is showing its age and MCA has plans to replace it (in place within 4 years).

WASTE DISPOSAL

Sewage Sewage Treatment System (primary, secondary or tertiary) Primary
Natural Water body _____ Continuous Discharge (land or water) land
Seasonal Discharge _____ Wetlands Treatment ✓ Trench _____

Solid Waste: Owner/Operator: _____
Landfill _____ Burn & Landfill ✓ Other _____

Indicate: A - Acceptable U - Unacceptable N/A - Not Applicable

Disch. Quality Samples collected Decant Structure N/A Erosion A

Disch. Meas. Dev. N/A Dyke Inspection N/A Seepages A

Dams, Dykes N/A Freeboard N/A Spills N/A

Construction N/A O & M Plan None seen A & R Plan See note 2

Periods of Discharge: Continuous Effluent Discharge Rate: Varies

Comments: All sewage and dump leachate flows back into Baker Lake (Potable water supply).

FUEL STORAGE

Owner: _____ Operator _____ Condition of Tanks _____
Berms & Liners _____ Water within berm: _____ Evidence of Leaks: _____
Drainage Pipes _____ Pump Station and Catchment Berm _____
Pipeline Condition _____ Not Applicable: ✓

SURVEILLANCE NETWORK PROGRAM

Samples Collected: (Hamlet) None - see note
(DIAND) 1191-1; 1191-2*

Signs Posted: SNP Not posted Warning Required @ 1191-2* and @ Baker Lake

Record & Reporting Annual Report submitted, not entirely complete

Geotechnical Inspection: Not required

Non-Compliance of Act or Licence: SNP sign Required immediately @ 1191-1 and later @ 1191-2.

The O&M plan was done in March 1994. A copy of a previously approved O&M plan will be provided that may assist the Hamlet with the preparation of this plan.

Page 2 attached Yes ✓ No _____

Not available
Licensee Representatives Title

Licensee Representatives Signature

PAUL SMITH
Inspectors Name
Paul Smith
Inspectors Signature



WATER USE INSPECTION REPORT

(continued)

Date: August 17/96

Licence #: NL23-1191

General Comments: (Continued)

Water Supply Comments Cont.: All spring run-off from the community flows directly into Baker Lake.

While discussing aspects of the water supply system with the SAs and the Mayor, concerns were identified relating to inadequate reserves (in case of fire, only 4 truck loads of water are available), during a recent storm, sediment was drawn into the pump house/truck fill station, and there is growing concern relating to health aspects of drawing water from a supply that receives run-off from the community ~~area~~ as well as run-off from the sewage and solid waste disposal facilities (which are in the same watershed).

MACA has plans to replace the old truck fill station. It is recommended that either a) a new water supply is identified and used, or b) the intake, if Baker Lake remains the supply, be located closer to the point where the Thelon River flows into Baker Lake (perhaps Hornet Point). In any case, MACA should consult with the community to discuss the alternatives and decide which is more acceptable.

An inspection + maintenance report was prepared as a result of work conducted on the water supply intake facilities. This work was done for DPW by Arctic Divers Ltd. They recommended a new intake line be installed. A copy of this report should be submitted to the Water Board.

Pam Smith

Water Inspector

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~~INDUSTRIAL~~ WATER USE INSPECTION REPORT
(continued)

Date: August 13/96

Licence #: NL613-1191

General Comments: (Continued)

Note 1: An O+M plan is a requirement of the Water Licence (Part 6, Item 1). The Inspector will provide a copy of a previously approved plan that may assist the Hamlet with the preparation of this plan.

Note 2: An A+R Plan is required prior to abandoning any waste disposal site. There is an abandoned site where clean-up work is being planned (MAEA providing the necessary funding). A copy of the consultants report (MM D. Nor Ltd.) should be submitted to the Water Board prior to any clean-up being undertaken.

* 1191-2 is an SNP station that has not officially been located. The study that recommended its location was required by the Licence was undertaken by DIAND Water Resources, Yk. The draft report is complete, but has yet to be finalized and submitted to the Water Board - the report was due 1 year ago. The draft report recommended that the inlet to Airplane Lake be considered the "end" of the waste disposal facility. As this was the recommended location for 1191-2, a set of samples was collected during the inspection. Once officially decided, the licensee will also be required to collect samples @ 1191-2 and erect an appropriate SNP station sign and warning sign.

Dump site needs better granular coverage. Sewage lagoon disposal pit is at capacity w/ solids. Lower berm has washed out.

Pam Simon

Water Inspector

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