

NORTHWEST TERRITORIES WATER BOARD

Pursuant to the Northwest Territories Waters Act and Regulations the Northwest Territories Water Board, hereinafter referred to as the Board, hereby grants to

HAMLET OF BAKER LAKE

(Licensee)

GENERAL DELIVERY

of BAKER LAKE, NORTHWEST TERRITORIES X0C 0A0
(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use water subject to the restrictions and conditions contained in the Northwest Territories Waters Act and Regulations made thereunder and subject to and in accordance with the conditions specified in this Licence.

Licence Number	<u>N6L3-1191 (RENEWAL)</u>
Licence Type	<u>"B"</u>
Water Management Area	<u>NORTHWEST TERRITORIES 06</u>
Location	<u>BAKER LAKE, NORTHWEST TERRITORIES</u>
Purpose	<u>WATER USE AND WASTE DISPOSAL</u>
Description	<u>FOR MUNICIPAL PURPOSES</u>
Quantity of Water Not to be Exceeded	<u>100,000 CUBIC METRES PER YEAR</u>
Rate of Use of Water Not to be Exceeded	<u>NOT APPLICABLE</u>
Effective Date of Licence	<u>SEPTEMBER 1, 1993</u>
Expiry Date of Licence	<u>AUGUST 31, 1999</u>

This Licence issued and recorded at Yellowknife includes and is subject to the annexed conditions.

NORTHWEST TERRITORIES WATER BOARD

Pamela R. LeMay
Witness

V. E. Arden
Vice-Chairman

Approved by

Pauline Browne
Minister of Indian Affairs
and Northern Development

PART A: SCOPE AND DEFINITIONS

1. Scope

- a) This Licence allows for water use and waste disposal for municipal purposes at the Hamlet of Baker Lake, Northwest Territories.
- b) This Licence is issued subject to the conditions contained herein with respect to the taking of water and the depositing of waste of any type in any waters or in any place under any conditions where such waste or any other waste that results from the deposit of such waste may enter any waters. Whenever new Regulations are made or existing Regulations are amended by the Governor in Council under the Northwest Territories Waters Act, or other statutes imposing more stringent conditions relating to the quantity or type of waste that may be so deposited or under which any such waste may be so deposited this Licence shall be deemed, upon promulgation of such Regulations, to be automatically amended to conform with such Regulations.
- c) Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

2. Definitions

In this Licence: N6L3-1191

"Act" means the Northwest Territories Waters Act;

"Regulations" means Regulations proclaimed pursuant to Section 33 of the Northwest Territories Waters Act;

"Analyst" means an Analyst designated by the Minister under Section 35(1) of the Northwest Territories Waters Act;

"Board" means the Northwest Territories Water Board established under Section 10(1) of the Northwest Territories Waters Act;

"Inspector" means an Inspector designated by the Minister under Section 35(1) of the Northwest Territories Waters Act;

"Licensee" means the holder of this Licence;

"Average Concentration" means the discrete average of any four consecutive analytical results, or if less than four analytical results, the discrete average of the analytical results collected, and submitted to the Board in accordance with the sampling and analysis requirements specified in the "Surveillance Network Program";

"Average Concentration for Fecal Coliforms" means the running geometric mean of any four consecutive analytical results submitted to the Board in accordance with the sampling and analysis requirements specified in the "Surveillance Network Program";

"Bagged Toilet Waste Disposal Facilities" comprises the area and associated structures designed to contain bagged toilet wastes (honey bags) as described in Drawing Numbers 1, 2, 3 and 4, titled "Finger Lake Solid Waste Disposal Facility DPW #875501", dated 1988.

"Greywater" means all liquid wastes from showers, baths, sinks, kitchens, and domestic washing facilities, but does not include toilet waste;

"Pumpout Sewage" means all toilet wastes, greywater and/or commercial wastewater collected by means of a vacuum truck for disposal at an approved facility;

"Sewage" means all toilet wastes and greywater;

"Sewage Disposal Facilities" comprises the area and engineered structures designed to contain sewage as identified in Drawing Number 3, titled "Baker Lake - Solid Waste Operations Concept, Area Location - Ex. Sewage/Proposed Solid Waste", dated March 1986;

"Solid Waste Disposal Facilities" comprises the area and associated structures designed to contain solid wastes as described in Drawing Numbers 1, 2, 3, and 4 titled "Finger Lake Solid Waste Disposal Facility DPW #875501", dated 1988; and

"Toilet Wastes" means all human excreta and associated products, but does not include greywater;

"Waste" means waste as defined by Section 2 of the Northwest Territories Waters Act;

"Waste Disposal Facilities" means all facilities designated for the disposal of waste, and includes the Sewage Disposal Facilities, Solid Waste Disposal Facilities, and Bagged Toilet Waste Disposal Facilities;

"Water Supply Facilities" comprises the area and associated intake infrastructure as identified in "Baker Lake Pre-design Study, Water, Sewer and Solid Waste", dated March, 1981;

PART B: GENERAL CONDITIONS

1. The Licensee shall file an Annual Report with the Board pursuant to Section 15 of the Regulations not later than March 31st of the year following the calendar year reported which shall contain the following information:
 - a) tabular summaries of all data generated under the "Surveillance Network Program";
 - b) the monthly and annual quantities of water in cubic metres obtained from each and all sources;
 - c) the monthly and annual quantities in cubic metres of each and all fluid wastes discharged;
 - d) a summary of modifications and major maintenance work carried out on the Water Supply and Waste Disposal Facilities, including all associated structures and facilities;
 - e) a summary of any abandonment or restoration work completed during the year and an outline of any work anticipated for the next year;
 - f) a list of unauthorized discharges;
 - g) a summary of any studies conducted that relate to waste disposal, water use or reclamation, and a brief description of any future studies planned; and
 - h) any other details on water use or waste disposal requested by the Board by November 1st of the year being reported.

2. The Licensee shall comply with the "Surveillance Network Program" annexed to this Licence, and any amendment to the said "Surveillance Network Program" as may be made from time to time, pursuant to the conditions of this Licence.
3. The "Surveillance Network Program" and compliance dates specified in the Licence may be modified at the discretion of the Board.
4. The Licensee shall, within sixty (60) days of the issuance of this Licence, post signs in the appropriate areas to inform the public of water supply and waste disposal facilities. All postings shall be located and maintained to the satisfaction of the Inspector.
5. The Licensee shall install meters or such devices, or use such methods as approved by the Board for measuring the volumes of water used and waste disposed. The meters and measuring devices or methods shall be operated and maintained to the satisfaction of the Inspector.
6. The Licensee shall, within sixty (60) days of the issuance of this Licence, post the necessary signs to identify the stations of the "Surveillance Network Program". All postings shall be located and maintained to the satisfaction of the Inspector.
7. The Licensee shall immediately report to the 24 Hour Spill Report Line (403-920-8130) any spills of waste, which are reported to or observed by the Licensee, within the municipal boundaries or in the areas of the water supply or waste disposal facilities.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee shall obtain all fresh water from Baker Lake using the Water Supply Facilities or as otherwise approved by the Board.
2. The annual quantity of water used for all purposes shall not exceed 100,000 cubic metres.
3. The Licensee shall maintain the Water Supply Facilities in a manner to the satisfaction of the Inspector.
4. The Licensee shall divert surface run-off away from the Water Supply Facilities to the satisfaction of the Inspector.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall direct all piped and pumpout sewage to the Sewage Disposal Facilities or as otherwise approved by the Board.
2. The Licensee shall conduct the "Baker Lake Water Quality Study" as described in the Terms of Reference annexed to this Licence.

3. The Licensee shall submit a report of the Study described in Part D, Item 2, within two (2) years of the issuance of this Licence.
4. All sewage effluent discharged from the Sewage Disposal Facilities at "Surveillance Network Program" Station Number 1191-2 shall meet the following effluent quality standards:

Parameters	Maximum Average Concentration
BOD ₅	80 mg/L
Fecal Coliform	1×10^4 CFU/dL
Oil and Grease	5 mg/L
Suspended Solids	100 mg/L

The waste discharged shall have a pH between 6 and 9.

5. The Licensee shall maintain the Sewage Disposal Facilities to the satisfaction of the Inspector.
6. All bagged toilet wastes (honey bags) shall be disposed of at the Bagged Toilet Waste Disposal Facilities in a manner to the satisfaction of the Inspector.
7. The Licensee shall dispose of all solid wastes at the Solid Waste Disposal Facilities or as otherwise approved by the Board.

PART E: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION

1. Six (6) months prior to abandoning any Waste Disposal Facilities, the Licensee shall submit, to the Board for approval, an Abandonment and Restoration Plan. This Plan shall include but not be limited to:
 - a) contaminated site remediation;
 - b) leachate prevention and monitoring;
 - c) an implementation schedule;
 - d) maps delineating all disturbed areas, borrow material locations, and site facilities;
 - e) consideration of altered drainage patterns;
 - f) type and source of cover materials;
 - g) future area use; and
 - h) hazardous wastes including oil.
2. The Licensee shall implement the Plan specified in Part E, Item 1 as and when approved by the Board.

PART F: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written consent from the Board, carry out modifications to the Water Supply and Waste Disposal Facilities provided that such modifications are consistent with the terms of this Licence and the following requirements are met:
 - a) the Licensee has notified the Board in writing of such proposed modifications at least sixty (60) days prior to beginning the modifications;
 - b) such modifications do not place the Licensee in contravention of either the Licence or the Act;
 - c) the Board has not, during the sixty (60) days following the notification of the proposed modifications, informed the Licensee that review of the proposal will require more than the sixty (60) days; and
 - d) the Board has not rejected the proposed modifications.
2. Modifications for which all of the conditions referred to in Part F, Item 1, have not been met, can be carried out only with written approval from the Board.
3. The Licensee shall provide as-built plans and drawings of the modifications referred to in this Licence within ninety (90) days of completion of the modifications.

PART G: CONDITIONS APPLYING TO OPERATION AND MAINTENANCE

1. The Licensee shall submit, to the Board for approval, a Plan for the Operation and Maintenance of the Waste Disposal Facilities. The Plan shall be submitted within six (6) months of the issuance of this Licence and shall include, but not be limited to, the following:
 - a) location of facilities and proximity to receiving waters;
 - b) inspection of dams, dykes and drainage courses and restoration of erosion;
 - c) removal of floating materials from the Sewage Disposal Facilities;
 - d) controlling effluent discharge quality;
 - e) run-off and drainage control within and around the facilities;
 - f) treatment of contaminated drainage;
 - g) prevention of windblown debris;
 - h) managing hazardous waste including oil;
 - i) segregation of domestic, metal and recyclable waste materials;
 - j) method and frequency of maintenance, including burning where permitted, of the Solid Waste Disposal Facilities;
 - k) alternatives designed to reduce or eliminate burning; and
 - l) frequency of compaction and covering of the solid waste.

2. The Licensee shall implement the Plan specified in Part F, Item 1 as and when approved by the Board.
3. The Licensee shall review the Operation and Maintenance Plan annually and shall modify the Plan as necessary to reflect changes in operation, and technology, or any other changes that may be required by the Inspector. The proposed modifications shall be submitted to the Board for approval.

NORTHWEST TERRITORIES WATER BOARD

Donald R. LeMay
Witness

W E Arden
Vice-Chairman

NORTHWEST TERRITORIES WATER BOARD

LICENSEE:	HAMLET OF BAKER LAKE
LICENCE NUMBER:	N6L3-1191
EFFECTIVE DATE OF LICENCE:	September 1, 1993
EFFECTIVE DATE OF SURVEILLANCE NETWORK PROGRAM:	September 1, 1993

SURVEILLANCE NETWORK PROGRAM

A. Location of Surveillance Stations

<u>Station Number</u>	<u>Description</u>
1191-1	The freshwater intake pumphouse.
1191-2	Run-off below the Waste Disposal Facilities (exact location to be determined following study identified under Part D, Item 2 of the Licence).

B. Sampling and Analysis Requirements

1. Effluent at Station Number 1191-2 shall be sampled monthly, during periods of open water, and analyzed for the following parameters:

Ammonia-Nitrogen	pH
BOD ₅	Suspended Solids
Fecal Coliform	Total Phosphate

2. Water at Station Number 1191-2 shall be sampled annually, during periods of open water, and the run-off analyzed for the following parameters:

Calcium	Total Copper
Conductivity	Total Iron
Magnesium	Total Lead
Oil and Grease	Total Mercury
Potassium	Total Nickel
Sodium	Total Organic Carbon
Sulphate	Total Phenols
Total Cadmium	Total Zinc
Total Chromium	

3. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of "Standard Methods for the Examination of Water and Wastewater", or by such other methods approved by the Analyst.

4. All analyses shall be performed in a laboratory approved by the Analyst.

C. Flow and Volume Measurement Requirements

1. The monthly and annual quantities of water pumped from the "Surveillance Network Program" Station Number 1191-1 for drinking purposes shall be measured and recorded in cubic metres.

D. Reports

1. The Licensee shall submit all of the information generated by the "Surveillance Network Program" annually as specified in Part B, Item 1 of the Licence.

NORTHWEST TERRITORIES WATER BOARD

Pamela R. Lefkowitz
Witness

W E Arden
Vice-Chairman

ANNEX TO
HAMLET OF BAKER LAKE
LICENCE N6L3-1191

TERMS OF REFERENCE
BAKER LAKE WATER QUALITY STUDY

PURPOSE

The purpose of this study is to determine the possible effects of the effluent and run-off from the Sewage Disposal Facilities, the Solid Waste Disposal Facilities, and surface run-off from the community on the quality of drinking water obtained from Baker Lake.

OBJECTIVES

1. To determine the degree of contamination entering Baker Lake from the waste disposal sites and surface run-off from the community.
2. If a significant degree of contamination is evident, as determined under objective 1, determine the degree of contamination entering the water supply intake.
3. To assess the health risk associated with the quality of the drinking water.
4. Recommend any improvements that may be appropriate to reduce any contamination or health risks that may be identified.
5. Define the wastewater disposal area and the location of "Surveillance Network Program" Station Number 1191-2.
6. Conduct a bathymetric survey of Finger Lake.

GUIDELINES

1. Identify sampling locations which will determine the degree of contamination introduced from the above noted sources. Suggested sample locations include:
 - a) influent stream to Finger Lake;
 - b) Finger Lake, downstream of sewage lagoon;
 - c) Finger Lake, downstream of Solid Waste Disposal Facility;
 - d) stream from Finger Lake prior to entering Airplane Lake;
 - e) Airplane Lake;
 - f) Garbage Creek;
 - g) shoreline of Baker Lake between Garbage Creek and the Hamlet limits;
 - h) shoreline of Baker Lake within Hamlet limits;
 - i) Baker Lake, in the vicinity of the water intake; and
 - j) treated water from pumphouse.

"Greywater" means all liquid wastes from showers, baths, sinks, kitchens, and domestic washing facilities, but does not include toilet waste;

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 - g) a summary of any studies conducted that relate to waste disposal, water use or reclamation, and a brief description of any future studies planned; and
 - h) any other details on water use or waste disposal requested by the Board by November 1st of the year being reported.

- 2) The samples collected shall be analyzed for the following parameters:

Ammonia Nitrogen	Sulphate
Calcium	Total Cadmium
Chlorides	Total Chromium
Fecal Coliform	Total Copper
Fecal Streptococci	Total Iron
Magnesium	Total Lead
Oil and Grease	Total Mercury
Organochlorine	Total Nickel
Ph	Total Organic Carbon
Potassium	Total Phenols
Sodium	Total Zinc

3. Samples shall be collected at least once during spring freshet, once during summer, and once before freeze-up.
4. Sampling and analysis procedures shall be collected in accordance with the requirements of the Analyst as defined in the Licence.
5. The results obtained shall be interpreted in accordance with the CCME Guidelines for Water Quality (1990) and the Guidelines for Canadian Drinking Water Quality (fourth edition).