

Pursuant to the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada*, the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to

**ARAUCO NWT LIMITED**

(Licensee)

of

**1500 - 700 WEST PENDER STREET,  
VANCOUVER, BC V6C 1G8**

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use water for a period subject to restrictions and conditions contained within this licence:

**NWB2GEO9702**

Licence Number

**NORTHWEST TERRITORIES 07**

Water Management Area

**GEORGE LAKE  
(LATITUDE 65° 55'N, LONGITUDE 107° 27'W)**

Location

**INDUSTRIAL WATER USE AND WASTE DISPOSAL**

Purpose

**EXPLORATION, DEVELOPMENT, MINING, AND  
ASSOCIATED USES**

Description

**SEE LICENCE PART C**

Quantity of Water Not to be Exceeded

**JULY 7, 1997**

Effective Date of Licence

**MARCH 1, 2002**

Expiry Date of Licence

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

Approved by,

Witness

Philippe di Pizzo, Executive Director

Date

Date

## **PART A: SCOPE AND DEFINITIONS**

### **1. SCOPE**

- a. This licence entitles Arauco NWT Limited, to use water and dispose of waste for industrial undertakings in exploration, development, mining and associated uses at the George Lake property, Northwest Territories ( 65° 55'N, 107° 27'W).
- b. The Licensee shall have applied for and received a new Water Licence for mining and milling purposes before any ore bodies in the area are brought into production, other than for the mining of a bulk ore sample.
- c. 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 deposits of such waste may enter any waters. Whenever new Regulations are made or existing Regulations are amended by the Governor in Council under a future Nunavut 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; and
- d. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with other applicable Federal and Territorial legislation.

### **2. DEFINITION**

In this Licence: **NWB2GEO9702**

**“Average Concentration”** as determined in Part B, Item 6 of the “Surveillance Network Program” submitted to the Board in accordance with the sampling and analysis requirements specified in the “Surveillance Network Program”;

**“Board”** means the Nunavut Water Board established under the NLCA;

**“Geotechnical Engineer”** or **“Engineer”** means a professional engineer registered with the Association of Professional Engineers, Geologists, and Geophysicists of the Northwest Territories whose principal field of specialization is the design and construction of earthworks in a permafrost environment;

**“Inspector”** means an Inspector designated by the Department of Indian and Northern Affairs Canada Board in a manner consistent with the Memorandum of Understanding between the Department of Indian and Northern Affairs Canada and the Board;

**“Licensee”** means the individual or organization to whom licence NWB2GEO9702 is issued or assigned.

## **PART A: DEFINITIONS (cont'd)**

**“Minewater”** means groundwater or any other water used in mining which is pumped or flows out of any underground workings or open pit;

**“NLCA”** means the Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada;

**“Waste”** means any substance that, by itself or in combination with other substances found in water, would have the effect of altering the quality of any water to which the substance is added to an extent that is detrimental to its use by people or by any animal, fish or plant, or any water that would have that effect because of the quantity or concentration of the substance contained in it or because it has been treated or changed, by heat or other means;

**“Waste Rock”** means all unprocessed rock materials that are produced as a result of mining operations and having no economical value;

## **PART B: GENERAL CONDITIONS**

1. The water use fee shall be paid annually in advance as set out in Schedule 1 annexed to this licence.
2. Prior to the use of water or deposit of waste for underground exploration development, mining and associated uses, the Licensee shall maintain a Security Deposit in the amount of \$100,000.00. The Security Deposit shall be maintained until such a time as the Board is satisfied that the Licensee has complied with all provisions of the Final Abandonment and Restoration Plan. This clause shall survive the expiry of this Licence or renewals thereof.
3. The licensee shall file a report no later than March 31<sup>st</sup> of the year following the calendar year reported which shall contain the following information:
  - a. The monthly and annual quantities in cubic metres of water pumped from George Lake;
  - b. The monthly and annual quantities in cubic metres of waste water discharged from all sources. Quantities reported shall be separated by source and discharge;
  - c. Tabular summaries for all data and information generated under the “Surveillance Network Program”;
  - d. A summary of any construction work, modification and/or major maintenance work carried out on the water supply and the waste disposal system and all associated structures;
  - e. A list of unauthorized discharges and summaries of follow-up action taken;

## **PART A: DEFINITIONS (cont'd)**

- f. A progress report on any studies requested by the Board that relate to waste management, water use or restoration and a brief description of any future studies planned by the Licensee;
  - g. An executive summary in terms understandable to the general public translated into Inuktitut of all plans, reports, or studies conducted according to this licence;
  - h. Any revisions to the approved Abandonment and Restoration Plan;
  - i. A summary of any abandonment and restoration work undertaken during the year and an outline of any work anticipated for the next year;
  - j. Any revisions to the approved Spill Contingency Plan;
  - k. An updated estimate of the current project restoration liability based upon the results of the project restoration research, the mine development monitoring, and any modifications to the mine plan;
  - l. Public consultation/participation report describing consultation with local organizations and the residents of the nearby communities;
  - m. Provide a brief summary of work done to address concerns or deficiencies listed in the inspection reports and/or compliance reports; and
  - n. Any other details on water use or waste disposal requested by the Board by November 1 st. of the year being reported.
- 4. All research and studies undertaken by the Licensee shall follow “Ethical guidelines for the conduct of research in the North,” by the Association of Canadian Universities for Northern Studies.
  - 5. 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.
  - 6. The “Surveillance Network Program” and compliance dates specified in the Licence may be modified at the discretion of the Board.
  - 7. 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 discharged. The meters and measuring devices or methods shall be operated and maintained to the satisfaction of the Inspector.
  - 8. The Licensee shall within thirty (30) days of the use of water pursuant to this Licence, post and maintain the necessary signs to identify the stations of the “Surveillance

Network Program” to the satisfaction of the Inspector.

9. The Licensee shall ensure a copy of this Licence is maintained at the site of operation at all times.

#### **PART C: CONDITIONS APPLYING TO WATER USE**

1. Prior to the use of any water for mining and underground development, the Licensee shall submit to the Board for approval, a proposal with map(s) showing intake locations.
2. The Licensee shall obtain all fresh water needed for mining exploration, exploration and domestic use from George Lake using the Water Supply Facilities or as otherwise approved by the Board.
3. The monthly quantity of water withdrawn for mining exploration and domestic use from George Lake shall not exceed 10,000 cubic metres.
4. The annual quantity of water withdrawn for mining exploration and domestic use from George Lake shall not exceed 120,000 cubic metres.
5. The monthly quantity of minewater pumped from underground workings to surface ponds shall not exceed 6,800 cubic metres.
6. The annual quantity of minewater pumped from underground workings to surface ponds shall not exceed 81,600 cubic metres.
7. The Licensee shall minimize the use of fresh water from George Lake by reclaiming and recycling minewater for underground drilling and development purposes.

#### **PART D: CONDITIONS APPLYING TO WASTE DISPOSAL**

1. Prior to the use of any water for mining and underground development, the Licensee shall submit to the Board for approval, a disposal plan which addresses the treatment of minewater and method of disposal. The plan shall include, but not be limited to, the following: a site map to scale identifying the ore and waste rock storage areas, the settling pond(s) and downstream receiving areas.
2. All waste discharged by the Licensee shall not exceed the following effluent quality standards at the point of discharge:

---

PARAMETER	MAXIMUM AVERAGE CONCENTRATION	MAXIMUM CONCENTRATION ANY GRAB SAMPLE
-----------	----------------------------------	--

## **PART D: CONDITIONS APPLYING TO WATER USE (cont'd)**

---

Total Arsenic	0.5 mg/l	1.0 mg/l
Total Copper	0.3 mg/l	0.6 mg/l
Total Lead	0.2 mg/l	0.4 mg/l
Total Zinc	0.5 mg/l	1.0 mg/l
Suspended Solids	25 mg/l	50 mg/l

The waste shall have a pH between 6.0 and 9.5 and have no visible sheen of oil and grease.

---

3. Sewage is to be disposed of to the satisfaction of the Inspector.
4. Within sixty (60) days prior to the use of water or the deposit of waste for mining purposes, the Licensee shall submit to the Board for approval, a hydrological water balance report for any basins or drainage water bodies which will or could receive waste discharges.

## **PART E: CONDITIONS APPLYING TO SPILL PREVENTION AND CONTINGENCY PLANNING**

1. The Licensee shall, within thirty (days) prior to the use of water pursuant to this Licence, submit to the Board for approval a Contingency Plan. The plan shall be accordance with the Northwest Territories Water Board, "Guidelines for Contingency Planning" (1987). This plan shall include, but not be limited to, the following:
  - a. General Contingency Plan;
  - b. Oil Spill Prevention and Contingency Plan; and
  - c. Hazardous Material Spill Prevention and Contingency Plan.
2. The General Contingency Plan shall include, but not be limited to the following:
  - a. Action to be taken should wastes to be discharged not meet the License effluent quality requirements; and
  - b. Action to be taken should an excess of minewater, beyond the capacity that can be treated as identified in the approval disposal plan in Part D, item 1, be encountered;
3. The Oil Spill Prevention and Contingency Plan shall describe in detail, but not be limited to the following:
  - a. Action to be taken to prevent, terminate, contain, recover and dispose of any discharge of oil, and contain and dispose of fluids and solids contaminated by petroleum products.
  - b. An on-site petroleum products inventory; and

- c. An on-site emergency equipment inventory and location index.
- 4. The Hazardous Materials Spill Prevention and Contingency Plan shall include, but not be limited to the following;
  - a. Action to be taken to prevent and clean up spilled materials;
  - b. An on-site hazardous materials inventory;
  - c. Normal and emergency handling procedures for hazardous materials; and
  - d. An on-site emergency equipment inventory and location index.
- 5. If not approved by the Board, the Contingency Plan referred to in Part E, Item 1, shall be revised and resubmitted within thirty (30) days of receiving notification of the Board's decision.
- 6. The Contingency Plan shall be reviewed annually by the Licensee and revised as necessary to reflect changes in operation and technology. The plan shall outline any spill training and communications exercises carried out within the year being revised. The proposed revisions shall be approved in writing by the Board.
- 7. If, during the period of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:
  - a. Employ the Contingency Plan;
  - e. Report the incident immediately via the 24-Hour Spill Reporting Line (403) 920-8130; and
  - f. Submit to the Inspector a detailed report on each occurrence no later than thirty (30) days after the event occurred.

## **PART F: CONDITIONS APPLYING TO MODIFICATIONS**

- 1. The Licensee may, without written consent from the Board, carry out modifications to the Water Supply Facilities 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 the Licence;
  - c. The Board has not, during the sixty (60) days following notification of the proposed modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and

**PART F: CONDITIONS APPLYING TO SPILL PREVENTION AND CONTINGENCY PLANNING (cont'd)**

- d. The Board has not rejected the proposed modifications.
2. Modification for which all of the conditions referred to in Part F, Item 1, have not been met, can be carried out only with written consent 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 modification. These plans and drawings shall be submitted to the Board on material that will reproduce within the use of a standard copier.

**PART G: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION**

1. The Licensee shall submit to the Board for approval within six (6) months prior to the use of water pursuant to this licence, an Abandonment and Restoration Plan in accordance with the Northwest Territories Water Board's "Guidelines for Abandonment and Restoration Planning for Mines in the Northwest Territories, September 1990", which shall take into consideration all areas referred to in Part G, Item 2.
2. The Licensee shall address the following when completing or revising the Abandonment and Restoration Plan:
  - i. The waste treatment systems;
  - ii. The waste rock disposal areas;
  - iii. The ore storage areas;
  - iv. Any site affected by spills;
  - v. The natural runoff waters from the development sites;
  - vi. All petroleum products, hazardous materials and chemical storage areas;
  - vii. Any other areas potentially contaminated with hazardous materials; and
  - viii. Any facilities or areas which may have been affected by development such that potential pollution problems exist.
3. The Licensee shall revise the Plan(s) referred to in this section as required by the Board in its review of the Plan(s). Revisions to the Plan(s) shall be submitted to the Board for its approval within six (6) months of receiving notification of the Board's requirement for revision. If the plan is not acceptable by the Board, a revision shall be received in the office of the Board within two (2) months after notification.



**PART E: CONDITIONS APPLYING TO SHANDONG ENVIRONMENTAL AND RESTORATION PLANNING (cont'd)**

4. The Licensee shall implement the plans referred to in Part G as approved by the Board in accordance with the schedules and procedures specified in the plans and endeavour to carry out progressive restoration of areas as soon as is reasonably practicable.
5. The Licensee shall review the Abandonment and Restoration Plan annually, and shall modify the Plan as necessary to reflect changes in operations, technology, and results from restoration research and other studies. All proposed modifications to the Plan shall be submitted to the Board for Approval.
6. A final Abandonment and Restoration Plan shall be submitted to the Board upon written notification by the Licensee of final closure.
7. Compliance with the Abandonment and Restoration Plan specified in this Licence does not limit the legal liability of the Licensee, other than liability arising by operation of the NLCA.

Approved by,

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Philippe di Pizzo, Executive Director

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

**SURVEILLANCE NETWORK PROGRAM**

<b>Licensee:</b>	<b>ARAUCO NWT LIMITED</b>
<b>Licence Number:</b>	<b>NWB2GEO9702</b>
<b>Effective Date of Licence:</b>	<b>July 7, 1997</b>
<b>Effective Date of Surveillance Network Program:</b>	<b>July 7, 1997</b>

**SNP Sampling Locations, Sampling Requirements, and Analysis Requirement.**

Station Numbers	Description	Sampling Requirements	Analysis Requirements			
1603-1	Fresh water intake facility on George Lake.	Quarterly during periods of operation	Total Arsenic Total Copper Suspended Solids	Total Zinc Ammonia Nitrogen pH	Total Nickel	Total Lead
1603-2	Minewater effluent to be discharged from the approved settling pond as defined in Part D, Item 1 of the Licence.	Weekly during each period of flow	Total Arsenic Total Copper Suspended Solids	Total Zinc Ammonia Nitrogen pH	Total Nickel	Total Lead
1603-3	Runoff water drainage from the ore storage area.	Once per week during periods of flow	Total Arsenic Total Copper	Total Zinc Suspended Solids	Total Nickel pH	Total Lead
1603-4	Runoff water from the waste rock storage areas.	Once per week during periods of flow	Total Arsenic Total Copper	Total Zinc Suspended Solids	Total Nickel pH	Total Lead

**B. GENERAL REQUIREMENTS**

1. A quality assurance plan which includes analyses of field blanks and certified reference material, and replicate sampling in order to assess field contamination, accuracy, and precision, shall be submitted to the Board for approval within 30 days of the use of water pursuant to this licence.
2. The plan referred to in Part B, Item 1 of the SNP, shall be implemented as approved by the Board.
3. All sampling, sample preservation and quality control procedures shall be conducted in accordance with methods approved by the Board.
4. All 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 as approved by the Board.
5. All analyses shall be performed in a laboratory approved by the Board.

**C. FLOW MEASUREMENT REQUIREMENTS**

1. The monthly quantity of water pumped from George Lake at Station Number 1603-1 shall be recorded in cubic metres.
2. The monthly quantity of waste discharged from Station Number 1603-2 shall be recorded in cubic metres.

**D. REPORTS**

1. The Licensee shall within thirty (30) days following the month being reported, submit to the Board all data and information required by the "Surveillance Network Program" including the results of the approved quality assurance plan.

Approved by,

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Philippe di Pizzo, Executive Director

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date