

APPROVAL FOR WATER USE AND WASTE DISPOSAL

Pursuant to Article 13 of 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 Twin Mining Corp. authorization to use water and dispose of waste into water in conjunction with mineral exploration near Jackson Inlet subject to the terms and conditions outlined herein and in the applicable land use permits.

APPLICATION NO:	NWB2JAC0101
LICENSEE:	Twin Mining Corp. 1250-155 University Toronto, ON M5H 3B7 Phone: (416)777-0013 Fax: (416)777-0014 E-mail: info@twinmining.com
START DATE:	July 30, 2001
EXPIRY DATE:	October 15, 2001
PURPOSE:	Water Use and Waste disposal associated with exploration activities
LOCATION:	Jackson Inlet, Qikiqtani Region, Nunavut General Latitude: 73°14'45"; Longitude: 88°16'07" NTS Map: 58 D1 and D8; 1:50,000

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

Original signed by:

Philippe di Pizzo
Executive Director

PART A: SCOPE, DEFINITIONS & ENFORCEMENT

1. Compliance with the terms and conditions of this approval does not absolve the Licensee from responsibility for compliance with all applicable legislation, guidelines, or directives.
2. This approval 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, and with respect to any other impacts of the Licensee's activities on water quality, quantity or flow, including surface drainage.
3. Definitions:

"Sump" means a man-made pit, trench hollow or cavity in the earth's surface used for the purpose of depositing waste material therein; and

"Drill waste" means all materials or chemicals, solid or liquid, associated with drilling of bore holes and includes bore hole cuttings.

"Combustible waste" means paper, non-treated wood products, kitchen food waste, and sewage waste.
4. The Licensee shall maintain a copy of this Licence at the sites of operation at all times.
5. Enforcement
 - i. Subject to Part A, Item 5 (iv), failure to comply with this Licence will be a violation of the *Northwest Territories Water Act*, exposing the Licensee to the enforcement measures and the penalties provided for in the Act.
 - ii. Subject to Part A, Item 5 (iv), all inspection and enforcement services regarding this Licence will be provided by inspectors appointed under the *Northwest Territories Water Act*.
 - iii. Subject to Part A, Item 5 (iv), inspectors appointed under the *Northwest Territories Water Act* enjoy-with respect to this Licence, and for the purpose of enforcing this Licence, and with respect to the use of water and deposit or discharge of waste by the licensee-all powers, privileges and protections that are conferred upon them by the *Northwest Territories Water Act* or by other applicable law.
 - iv. To the extent that the *Northwest Territories Water Act* is, subsequent to the issuance of this Licence, replaced with respect to water management in Nunavut by other federal legislation (including, without limitation, a regulation or order referred to in Section 10.10.2 of the *Nunavut Land Claims*

Agreement), and to the extent that the other federal legislation is consistent with the *Nunavut Land Claims Agreement*, the other federal legislation shall apply with respect to this Licence and the *Northwest Territories Water Act* shall cease to apply with respect to this Licence.

PART B: GENERAL CONDITIONS

1. The Licensee shall file a report with the Board no later than March 31 of the year following the calendar year reported, which shall contain the following information:
 - i. A summary report of water use and waste disposal activities;
 - ii. A list of unauthorized discharges and a summary of follow-up actions taken;
 - iii. Revision to the Contingency Plan;
 - iv. Progressive reclamation work undertaken;
 - v. Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.
2. The NWB shall be notified of any changes in operating plans or conditions associated with this project at least thirty (30) days prior to any such change.

PART C: CONDITIONS FOR THE USE AND PROTECTION OF WATER

1. The Licensee shall obtain water for domestic purposes from the Jackson River up to a maximum of 50 cubic metres per day. Water use for each drill unit shall not exceed 50 cubic meters per day.
2. If the drilling requires water in sufficient volume that the source water body may be drawn down the Licensee shall, at least 30 days prior to commencement of drilling, submit to the Board for approval the following: volume required, hydrological overview of the water body, details of impacts, and proposed mitigation measures. The use of streams is not recommend as a water source.
3. The Licensee shall equip all water intake hoses with a screen with an appropriate mesh size to ensure that there is no entrapment of fish.
4. The Licensee shall not remove any material from below the ordinary high water mark of any water body.
5. The Licensee shall not do anything that will cause erosion of the banks of any body of water on or adjacent to the land and shall provide necessary controls to prevent such erosion.

6. Sediment and erosion control measures shall be implemented prior to and maintained during the operation to prevent entry of sediment into water.

PART D: CONDITIONS APPLYING TO DRILLING OPERATIONS

1. All drill waste shall be disposed of and contained on land in a sump located at least thirty (30) metres from the high water mark of any water body at a site where direct flow into a water body is not possible and no additional impacts are created.
2. No land-based drilling is to be done within thirty (30) metres of the high water mark of any water body. Drill waste from land-based drilling shall be disposed of in a sump such that they do not enter any water body.
3. Drilling additives or muds shall not be used in connection with holes drilled through lake ice unless they are re-circulated or contained such that they do not enter the water, or are demonstrated to be non-toxic.
4. If artesian flow is encountered, drill holes shall be plugged and permanently sealed upon project termination.
5. The Licensee shall:
 - i. Ensure that during their summer drill program, all drill cuttings and any return water and sludge that cannot be re-circulated be disposed of in a properly constructed sump or an appropriate natural depression that does not drain into a water body.
6. The Licensee shall follow the *Interim Guidelines for On-Ice Drilling in the NWT* for all on-ice drilling operations. These are:
 - i. All drill cuttings shall be removed from the ice surface.
 - ii. The release of total suspended solids in the receiving environment shall be in compliance with the Guidelines for Total Suspended Solids contained in the *Canadian Council of Ministers of the Environment's (CCME) Canadian Water Quality Guidelines, Chapter 3 - Freshwater Aquatic Life*.
 - iii. For kimberlite targets, non-toxicity must be demonstrated; toxicity testing shall be done on the effluent from the drilling operation and the results shall be submitted to the Board and/or an Inspector upon request.
7. The Licensee shall establish baseline water quality conditions before drilling through lake ice.

PART E: CONDITIONS APPLYING TO WASTE DISPOSAL

1. Areas designated for waste disposal that may impair the quality, quantity, or flow of water shall not be located within thirty (30) metres of the ordinary high water mark of any body of water, unless otherwise authorized by the Board.
2. The Licensee shall not discharge sewage effluent.
3. The Licensee shall discharge and contain all greywater in a sump located at least thirty (30) metres from the high water mark of any water body at a site where direct flow into a water body is not possible and no additional impacts are created.
4. The Licensee shall incinerate all combustible waste, and shall ensure that all hazardous wastes and non-combustible waste generated through the course of the operation are backhauled and disposed of in an approved waste disposal site.
5. The Licensee shall not landfill any waste except for greywater and drill waste.

PART F: CONDITIONS FOR CAMPS AND ACCESS INFRASTRUCTURES

1. The Licensee shall not erect camps or store material on the surface of frozen streams or lakes except what is for immediate use. Camps shall be located such as to minimize impacts on surface drainage.
2. All activities shall be conducted in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake any corrective measures in the event of any impacts on surface drainage.
3. Winter lake and stream crossings, including ice bridges, shall be constructed entirely of water, ice or snow; stream crossings shall be removed or notched prior to spring break-up.
4. With respect to access road and pad construction or other earthworks, the deposition of debris or sediment into any water body is prohibited. These materials shall be disposed of above the high water mark in such a fashion that they do not enter the water.

PART G: CONDITIONS APPLYING TO SPILL PREVENTION AND CONTINGENCY PLANNING

1. The Licensee shall ensure that any chemicals, fuel or wastes associated with the project do not enter water. All sumps and fuel caches shall be located a minimum of thirty (30) metres from the normal high water mark and in such a manner that

no fuel can enter any such water body.

2. The Licensee submit to the Board for approval prior to the commencement of operations a "Fuel Spill Contingency Plan".
3. If, during the duration of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - i. Employ the Contingency Plan;
 - ii. Report the spill immediately to the 24-Hour Spill Line at (867) 920-8130 and to the DIAND Water Resources Inspector at (867) 975-4298; and
 - iii. Submit to the DIAND Water Resources Inspector a detailed report on each occurrence no later than thirty (30) days after initially reporting the event.

PART H: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION

1. The Licensee shall submit to the Board for approval, within six (6) months of issuance of this Licence, an Abandonment and Restoration Plan prepared in accordance with applicable sections of the "*Guidelines for Abandonment and Restoration Planning for Mines in the Northwest Territories (1990)*". The plan shall be revised annually to reflect changes in operation and/or technology.
2. If not approved by the Board, the plan referred to in Part H, Item 1 shall be revised and resubmitted within thirty (30) days of receiving notification of the Board's decision.
3. The Licensee shall backfill and restore to the satisfaction of the Inspector all sumps back to the natural surrounding contours of the land prior to the expiry of this permit.
4. The Licensee shall undertake progressive restoration for any components of the project, which are no longer required for the Licensee's operations.
5. All disturbed areas shall be stabilized and re-vegetated as required, upon completion of work and restored to a pre-disturbed state.

GENERAL CONDITIONS FOR THE ADMINISTRATION OF LICENCES ISSUED BY THE NUNAVUT WATER BOARD (NWB)

The following conditions form an integral part of Licence No.**NWB2JAC0101**:

1. At the time of issuance, a copy of the Licence is placed on the Water Register in the NWB Head Office in Gjoa Haven. **Documents in the Register are available to the public.**
2. If the Licensee contemplates the renewal of Licence No.**NWB2JAC0101**, it is its responsibility to apply to the NWB for its renewal. The past performance of the Licensee, new documentation and information, and issues raised during a public hearing, if the NWB is required to hold one, will be used to determine the terms and conditions of the Licence renewal. Note that if the Licence expires before the NWB issues a new one, then water use and waste disposal **must cease**, or the Licensee will be in contravention of the Nunavut Land Claims Agreement. The NWB recommends that an application for the renewal of Licence No. **NWB2JAC0101** be filed **at least three months** before the Licence's expiry date.
3. If Licence No.**NWB2JAC0101** requires amendment, then **a public hearing may be required**. The Licensee should submit applications for amendment as soon as possible to give the NWB sufficient time to go through the amendment process. The process may vary depending on the scope of the amendment requested.
4. Any communication with respect to this Licence shall be made **in writing** to the attention of:

Philippe di Pizzo
Executive Director
Nunavut Water Board
P. O. Box 119
Gjoa Haven, NU X0B 1J0
Telephone: (867) 360-6338
Fax: (867) 360-6369
6. Inspector Contact:

Water Resources Officer
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4298
Fax: (867) 979-6445
7. The Licensee shall submit two copies of all reports, studies, and plans to the Board, unless submitted electronically, in which case one copy is sufficient. Reports or studies submitted to the Board by the Licensee shall include a **detailed executive summary in Inuktitut**.