

APPENDIX B
CONDITONS PERTAINING TO ABANDONMENT AND RESTORATION



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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI

DECISION

LICENCE NUMBER: NWB1NAN9702

This is the decision of the Nunavut Water Board (NWB) with respect to an application for a Licence Renewal dated January 17, 1996, made by

Nanisivik Mines Limited

to renew the Licence to allow for mining, milling, and associated uses at Nanisivik Mines Limited, Nanisivik, Northwest Territories


With respect to this application, the NWB gave notice to the public that Nanisivik Mines Limited had filed an application for renewal. Subsequently, the NWB held a public hearing in Arctic Bay on September 25, 1996 to hear concerns from intervenors and interested parties

DECISION

After having been satisfied that the application had been screened pursuant to the Environment Assessment and Review Process Guidelines Order (1984) and that any potentially adverse environmental effects were insignificant or mitigable with known technology, the NWB decided that the application could proceed through the regulatory process. After reviewing the submission of the Applicant and the written and oral comments expressed by intervening parties during the public hearing held in Arctic Bay on September 25, 1996, the NWB, having given due regard to the facts and circumstances, the merits of the submissions made to it and to the purpose, scope and intent of the Nunavut Land Claims Agreement, determined that

Licence Number NWB1NAN9702 be issued subject to the terms and conditions contained therein.

SIGNED this day 31ST day of July 1997 at Gjoa Haven, NT


Thomas Kudloo
Chairperson

PART H: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION (contd.)

15. By March 31 of each year the Licensee shall submit to the Board for review the results of the Test Cell Evaluation Study. A final summary report on the recommended cover for Final Abandonment and Restoration shall be submitted to the Board prior to written notification by the Licensee of final closure.

PART H: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION

1. The Licensee shall submit to the Board for approval within nine (9) months of issuance of this licence a revised Interim 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 H, Item 2.
2. The Licensee shall provide the following additional elements to address abandonment and restoration concerns:
 - a. Specific abandonment and restoration objectives for each mine component which shall include, but not be limited to, the following:
 - i. Open pits;
 - ii. All abandoned and active solid waste disposal sites;
 - iii. Underground workings;
 - iv. West Twin Disposal Area and associated piping facilities;
 - v. Waste rock storage areas;
 - vi. Water management structures (dams, diversion channels, intake, and delivery system);
 - vii. Dump Ponds;
 - viii. Borrow pits, ore storage stockpiles, and other disturbed areas;
 - ix. Surface structures (process plant, camps, concentrate storage building, and associated structures)

PART H: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION (contd.)

- x. All petroleum and chemical storage areas;
 - xi. Any other areas potentially contaminated with hazardous materials; and
 - xii. Any facilities or areas which may have been affected by development such that potential pollution problems exist.
- b. A description of the measures required, or actions to be taken, to achieve the objectives stated in the Guidelines mentioned in Part H, Item 1, and Part H, Item 2 a) for each mine component;
- c. A detailed description, including maps and other visual representations, for each site, accompanied by a detailed description of the final desired landscape;
- d. A comprehensive assessment of materials suitability, including geochemical and physical characterization and availability for restoration needs, with attention to cover materials, including maps where appropriate showing sources and stockpile locations of all borrow materials;
- e. A description of the process to be employed for progressive restoration, and details of restoration scheduling and procedures for coordinating restoration activities with the overall mining sequence and materials balance;
- f. A description of how post-closure assessment, monitoring and treatment will be considered, including a description of any post-closure treatment potentially required for drainage water that is not acceptable for discharge as required by Part D, Item 5 from the West Twin Disposal Area;
- g. An identification of the research needs for restoration;
- h. A description of the monitoring program to be employed in recording the progress of mining activities as they relate to ongoing restoration needs. The relevant components of the restoration monitoring program should be designed to generate data in forms suitable for use in the RECLAIM model or its equivalent. Sampling and testing protocols for determining the success of restoration measures undertaken should be documented. The program shall include, but not be limited to, the following:
- i. Areas with potentially acid/alkaline drainage and metal leaching;

PART H: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION (contd.)

- ii. Water quality trends in waste rock dump and ore stockpile seepage;
 - iii. Volumes of waste materials produced and stored by type and location, with particular attention to materials requiring measures to mitigate impacts from water that is not acceptable for discharge as required by Part D, Item 5;
 - iv. Areas, slope angles, and relevant topography of waste rock dumps;
 - v. Methods, timing, and details respecting the placement of cover material and the development of permafrost in tailings material as part of tailings restoration;
 - vi. Stability of surface drainage channel(s) over reclaimed tailings; and
 - vii. Success of applying restoration research results.
- i. Details of closure measures proposed in the event of a premature or temporary shutdown at any time during the term of the Licence; and
 - j. An explanation of how aesthetic concerns will be taken into account in restoration.
- 3. The Licensee shall provide the Board annually, as required in Part B, Item 5(n) an updated estimate of the current mine restoration liability using the current version of RECLAIM, its equivalent or other similar method approved by the Board.
 - 4. The Licensee shall revise the plans referred to in this section as required by the Board in its review of the plans. Revisions to the plans 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 to the Board, a revision shall be received in the office of the Board within two (2) months after notification.
 - 5. The Licensee shall implement the plans referred to in Part H, Item 4 as approved by the Board in accordance with the schedules and procedures specified in the plans, and shall endeavour to carry out progressive restoration of disturbed areas.
 - 6. The Licensee shall review the Abandonment and Restoration Plan annually, and shall modify the Plan as necessary to reflect input from the Board, changes in operations and technology, and results from restoration research and other studies. All proposed modifications to the Plan shall be submitted to the Board for approval.

PART H: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION (contd.)

7. The Licensee shall notify the Board of final closure of the mine as soon as reasonably feasible.
8. If during the period of this license, the Licensee notifies the Board in writing of the mine closing indefinitely, a final Abandonment and Restoration Plan shall be submitted to the Board for approval within sixty (60) days of notification.