

JCS  
→ Island Copper  
July 3/91

DRAFT (2)

834309

PROVINCE OF BRITISH COLUMBIA  
MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

**AMENDMENT TO RECLAMATION PERMIT**  
(Issued pursuant to Section 10(6) of the Mines Act  
S.B.C.1989)

Permit M-9

Issued to BHP-UTAH Mines Limited

for reclamation of surface work located at the:

Port Hardy, Island Copper Mine

is hereby revised subject to the appended conditions.

Amended at Victoria, British Columbia, this                    day of  
in the year 1991.

---

Minister of Energy, Mines  
and Petroleum Resources

'Cross' between Myra Falls + Equity Silver mines

**PREAMBLE**

An application to amend Reclamation Permit M-9 entitled "BHP-Utah Mines Limited, Reclamation Permit Renewal", dated [redacted] which included a program for the protection and reclamation of the surface of the land and watercourses affected by the mine, was filed with the Minister on [redacted]

This permit contains the requirements of the Ministry of Energy, Mines and Petroleum Resources for reclamation. It also is compatible, to the extent possible, with the requirements of other provincial ministries for reclamation issues. The amount of security required by this permit and the manner to which this security may be applied, will also reflect the requirements of those ministries. However, nothing in this permit limits the authority of other provincial ministries to set other conditions, or to act independently, under their respective permits and legislation.

Decisions made by staff of the Ministry of Energy, Mines and Petroleum Resources will be made in consultation with other Ministries.

**AMENDMENTS**

The ministry of Energy, Mines and Petroleum Resources hereby approves the amended program for protection and reclamation of the land surface and watercourses affected by the mine subject to compliance with the following terms and conditions:

1. Reclamation Security

The owner, agent, or manager (herein called the Permittee) shall cause to be deposited with the Minister of Finance and Corporate Relations within ninety (90) days of receipt of this amendment, an additional security in the amount of [redacted]

The outstanding balance referred to above, shall be determined by the Minister and will be based upon discussions between the Permittee and Ministry staff. Security shall be held by the Minister of Finance and Corporate Relations for the proper performance of the approved program and all the conditions of this permit in a manner satisfactory to the Minister of Energy, Mines and Petroleum Resources. The security deposit may be in any form as authorized pursuant to Section 3 of the **Bonding Act**.

2. Annual Reclamation Report

By March 31 of each year, an annual reclamation report shall be submitted in a form and containing the information required by the chief inspector. The annual reclamation report shall document current status of reclamation and include an estimate of the cost of outstanding reclamation obligations. This cost shall include closure of the mine, as well as long-term costs associated with treatment of acid mine drainage if required. It shall also include an updated five-year plan. In general, the annual reclamation report shall address the water management system, reclamation of the open pit and the waste rock dumps. By December 31, 1994 the company shall determine the need for continuing treatment of A.M.D. after abandonment.

3. Objectives

The surface of the land and watercourses shall be reclaimed to the following objectives:

- Needs discussion/clarification*
- (a) Development of a long-term water management program to ensure that water quality objectives are met. *receiving*
  - (b) Re-integration of disturbed lands into the surrounding landscape.
  - (c) Development of productive end land uses including forestry, wildlife habitat and recreation.
  - (d) Reduction of erosion through development of maintenance-free vegetation covers and the development of self-sustaining, erosion-free water courses.

(e) The foreshore shall be reclaimed for fish habitat as required by the Federal Department of Fisheries and Oceans in consultation with the Chief Inspector of Mines.

4. Productivity

The level of productivity on land and watercourses shall not be less than that which existed prior to mining on an average property basis unless the proponent can produce adequate documentation to demonstrate the impracticality of achieving this level. Land shall be revegetated to a self-sustaining state using appropriate plant species.

5. Use of Suitable Growth Medium

Where necessary, a growth medium which will satisfy land use and productivity objectives shall be placed on the surface of the land.

6. Treatment of Structures and Equipment

All machinery, equipment and building superstructures shall be removed. Exemptions may be granted by the Chief Inspector where buildings are maintained and used for another purpose.

Concrete foundations and slabs may be left intact, provided they are covered by a suitable growth medium and revegetated, unless otherwise approved by the Chief Inspector of Mines.

All scrap material shall be disposed of in a manner acceptable to the Chief Inspector of Mines.

7. Safety Provisions

All safety provisions of the Mines Act shall be complied with to the satisfaction of the Chief Inspector of Mines.

8. Waste Dumps

- (a) All waste dumps shall be reclaimed as described in the closure plan.
- (b) The permittee shall review effectiveness of alternate methods of limiting acid generation in the dumps including resloping and membrane and compacted till covers.
- (c) The permittee shall monitor the impact on till cover integrity of natural succession of grasses and legumes to woody species, and shall take appropriate steps to manage this vegetation.

9. Watercourses

Drainage of the entire minesite shall be restored either to original watercourses or to new watercourses which will sustain themselves in the future without maintenance. The reclamation program shall incorporate procedures to ensure that the quality of water leaving the site meets effluent standards.

10. Pits

- (a) The pit shall be reclaimed in accordance with the mine closure plan.
- (b) A study shall be undertaken to evaluate the acid mine drainage from pit walls and berms above the final low tide elevation.

11. Tailings Impoundments

- (a) The emergency tailings impoundment shall be reclaimed in accordance with the closure plan.
- (b) Studies of the ~~re~~colonization by biota of the tailings deposit on the bottom of Rupert Inlet

after abandonment shall be carried out.

12. Roads

Unless otherwise approved by the Chief Inspector of Mines, roads shall be reclaimed to the approved land use.

13. Metal Uptake in Vegetation

Waste material which is directly or indirectly harmful to plant and animal life shall be disposed of in a manner which minimizes adverse effects. Vegetation shall be monitored for heavy metal uptake to determine whether elevated metal levels are occurring. Completely covering potentially harmful material with glacial till or topsoil may be one of the alternatives that could become necessary.

14. Disposal of Toxic Chemicals

Chemicals or reagents which cannot be returned to the manufacturer are to be disposed of in accordance with the Waste Management Act.

15. Acid Generating Material

- (a) The permittee shall continue to evaluate, assess and incorporate methods to reduce or eliminate acid mine drainage.
- (b) The permittee shall continue to monitor the total volume of acid generated on the property.
- (c) The permittee shall continue to treat acid mine drainage until effluent leaving the property is of a quality acceptable to the Waste Management Branch.

16. Acid Mine Drainage Sludge

The permittee shall ensure that sludge is disposed of in an acceptable manner by evaluating options for sludge disposal.

The permittee shall provide, by March 31, 199~~4~~<sup>5</sup>, detailed information on the storage capacity and preferred locations of sludge containment facilities, if long term treatment of AMD is needed.

17. Temporary Shutdown

If this mine ceases operation for an indeterminate period, the owner, agent or manager must either continue to carry out the approved program or apply for an amendment setting out a revised program for approval by the chief inspector.

18. Safety Provisions

All safety and other provisions of the Mines Act shall be complied with to the satisfaction of the chief inspector.

19. Closure Plan

By December 31 of 1994, a detailed Closure Plan shall be submitted which documents current status of reclamation as well as future reclamation programs up to the time of, and following closure. ~~It shall include a projection of the cost of outstanding reclamation obligations as of December 31 for each year from 1991 to estimated date of closure. It shall be submitted in accordance with the outline described below, and any instructions issued by the chief inspector pursuant to the Mines Act. Treatment proposed for all hydroelectric and related facilities including access roads shall be shown in the Closure Plan.~~

?

Without limiting the general nature of this program, the closure plan shall include:

- (a) review of water movement,
- (b) review of all reclamation studies, especially those pertaining to acid mine drainage conducted on site.
- (c) cost items,

The Permittee shall prepare and submit revisions to the Closure Plan as necessary, and as may be required by the Reclamation Advisory Committee. After submission of the Closure Plan by December 31, 1994, the Reclamation Advisory Committee may consider revisions to the permit. This provision shall not be construed as limiting the power of the Minister or the chief inspector to amend this permit at any time.