

# Environment Act Licence Loi sur l'environnement Licence

Manitoba  
Environment  
Environnement  
Manitoba



Licence No./Licence n° 1501 RR  
Issue Date/Date de délivrance January 30, 1998

IN ACCORDANCE WITH THE MANITOBA ENVIRONMENT ACT (C.C.S.M. c. E125)  
THIS LICENCE IS ISSUED PURSUANT TO SECTION 11(1) TO:

**HUDSON BAY MINING AND SMELTING CO., LIMITED; "the Licencee"**

to operate the mining Development commonly known as the Chisel Lake Mine or just Chisel Mine, located in parts of Townships 67 and 68, Range 18 WPM, southwest of the Town of Snow Lake, in accordance with the Chisel Lake Mine Proposal dated July 9, 1987, the Photo Lake Mine Proposal dated June 30, 1994, and the Notice of Alteration dated January 5, 1998, all filed under The Environment Act and subject to the following specifications, limits, terms and conditions:

## DEFINITIONS

In this Licence:

**"accredited laboratory"** means an analytical facility accredited by the Standard Council of Canada (SCC), or accredited by another accrediting agency recognized by Manitoba Environment to be equivalent to the SCC, or able to demonstrate, upon request, that it has the quality assurance/quality control (QA/QC) procedures in place equivalent to accreditation based on the Canadian Standard Can/CSA-Z753, extension of the international standard ISO 9000, Guide 25;

**"approved"** means approved by the Director in writing;

**"arithmetic mean"** means the average value of the concentrations in composite or grab samples collected over the time periods specified in this Licence;

**"composite sample"** means a quantity of undiluted effluent consisting of a minimum of three equal volumes of effluent collected at approximately equal time intervals over a sampling period of not less than 7 hours and not more than 24 consecutive hours, or consisting of a quantity of undiluted effluent collected continually at an equal rate, or at a rate proportional to flow, over a sampling period of not less than 7 consecutive hours and not more than 24 consecutive hours;

**"Director"** means an employee of the department appointed as such by the Minister;

**"final discharge point"** means an effluent quality control point as designated within this Licence, unless otherwise redesignated in writing by the Director;

**"grab sample"** means a quantity of undiluted effluent collected at any given time;

**"effluent"** means treated or untreated mine water from this Development, from the Photo Lake Mine Development, or from the Chisel North orebody, designated for release into the environment;

**"mg/L"** means milligrams per litre;

**"mine"** includes all the surface and underground workings, overburden, waste rock and ore stockpiles, all ancillary buildings, wastewater treatment facilities and other infrastructure located on the mine site associated with the Development shown in Appendix 'B' attached to this Licence;

**"mine site"** includes the whole operational or disturbed area of land within the boundaries of those surface rights acquired and held by the Licencee for the operation of the Development;

**"mine water"** means liquids and substances pumped to the surface out of the underground mine workings or an open pit, or leachate from ore or waste rock stockpiles, or polluted surface runoff water, or any combination thereof;

**"monthly arithmetic mean"** means the arithmetic mean as determined for each specified pollutant or characteristic from the analysis of all composite and grab samples collected and reported during that month in which the release of effluent occurred, with the exception that if the Licencee collects only one composite or grab sample during a single month, then the single set of analytical results shall be construed to be representative of the effluent quality for that month and hence shall be treated as the monthly arithmetic mean;

**"septage"** means the sludge produced in individual on-site sewage disposal systems such as septic tanks;

**"sewage"** means sewage as defined in Manitoba Regulation 95/88R respecting private sewage disposal systems and privies, or any future amendments thereof;

**"solid waste"** means substances defined as solid waste in Manitoba Regulation 150/91 respecting waste disposal grounds, or any future amendments thereof; and

**"undiluted"** means free of extraneous unpolluted sources of water which could feasibly be prevented from mixing with the mine water or effluent prior to its discharge at a designated final discharge point, or not having water added for the purposes of meeting the limits of this Licence.

## GENERAL SPECIFICATIONS

1. Notwithstanding any of the following limits, terms and conditions specified in this Licence, the Licencee shall, upon the request of the Director:
  - (a) sample, monitor, analyze and/or investigate specific areas of concern regarding any segment, component or aspect of pollutant storage, containment, handling, treatment, and disposal or emission systems, for such pollutants or ambient quality, aquatic toxicity, leachate characteristics and discharge or emission rates, for such duration and at such frequencies as may be specified;
  - (b) determine the environmental impact associated with the release of any pollutant(s) from the Development; or
  - (c) provide the Director, within such time as may be specified, with such reports, drawings, specifications, analytical data, descriptions of sampling and analytical procedures being used, bioassay data, flow rate measurements and such other information as may from time to time be requested.
2. The Licencee shall, unless otherwise specified in this Licence:
  - (a) carry out all preservations and analyses on liquid samples in accordance with the methods prescribed in the most current edition of "Standard Methods for the Examination of Water and Wastewater" published jointly by the American Public Health Association, the American Waterworks Association and the Water Pollution Control Federation, or in accordance with an equivalent analytical methodology approved by the Director; and
  - (b) ensure that all analytical determinations are undertaken by an accredited laboratory.
3. The Licencee shall report all the information requested through the provisions of this Licence in a manner and form acceptable to the Director.

## LIMITS, TERMS AND CONDITIONS

### Respecting Liquid Effluent

4. The Licencee shall not discharge any effluent from the Development into the environment beyond the mine site except through the final discharge points #1 or #2, as depicted in Appendix 'A' attached to this Licence.
5. Subject to new evidence as may be obtained through the provisions of this Licence or otherwise, the Licencee shall not discharge any effluent from final discharge point #1 or #2 if:
  - (a) the concentration of any of the following pollutants in the undiluted effluent is in excess of the corresponding maximum allowable concentration shown for those categories listed under Columns I, II and III of the following table:

<u>Pollutant</u>	<u>Column I</u> Maximum Monthly Arithmetic Mean Concentration	<u>Column II</u> Maximum Concentration in a Composite Sample	<u>Column III</u> Maximum Concentration in a Grab Sample
total arsenic	0.5 mg/l	0.75 mg/l	1.0 mg/l
total copper	0.3 mg/l	0.45 mg/l	0.6 mg/l
total lead	0.2 mg/l	0.3 mg/l	0.4 mg/l
total nickel	0.5 mg/l	0.75 mg/l	1.0 mg/l
total zinc	0.5 mg/l	0.75 mg/l	1.0 mg/l
total suspended solids	25.0 mg/l	37.5 mg/l	50.0 mg/l

or,

- (b) the pH of the effluent is below the minimum allowable values shown for those categories listed under Columns I, II and III of the following table:

<u>Column I</u> Minimum Monthly Arithmetic Mean pH	<u>Column II</u> Minimum pH in a Composite Sample	<u>Column III</u> Minimum pH in a Grab Sample
6.0	5.5	5.0

6. The Licencee shall:
- (a) direct all sewage generated at the mine site only into an on-site sewage disposal facility, wherefrom withdrawn septage is disposed of only into a facility which has a Licence or Permit authorizing the acceptance of septage; and
  - (b) ensure that the on-site sewage disposal facility is designed and operated in accordance with the requirements of Manitoba Regulation 95/88R respecting private sewage disposal systems and privies, whereby the sewage disposal system proposed for use is registered with The Pas Regional Office of Manitoba Environment before being placed into use.

**Respecting Solids**

- 7. The Licencee shall not permit the removal any contaminated soil or potentially acid-generating rock from the mine site for use as a construction material in any surface development off this mine site, nor permit the release of such materials to any other person as a construction material.
- 8. The Licencee shall not deposit solid waste into the environment except into a waste disposal ground operating under the authority of a permit issued pursuant to Manitoba Regulation 150/91 or any future amendment thereof.

**Respecting Recyclable Waste**

9. The Licencee shall not deposit bulky metallic wastes, used tires, used oil and other fluid lubricants, and any other class of recyclable waste substances as may be specified by the Director, into the environment except to:
- (a) a facility or infrastructure which accepts such materials for recycling; or
  - (b) a waste disposal ground operating under the authority of a permit issued pursuant to Manitoba Regulation 150/91, where these recyclable substances are kept distinctly segregated from each other and are not buried (unless otherwise specified by the Director) so as to readily facilitate their recycling.
10. The Licencee shall make an effort to initiate and maintain a recycling program for those substances identified in, or through the provisions of, Clause 9 of this Licence.

**Respecting Dangerous Goods or Hazardous Wastes**

11. The Licencee shall comply with all the applicable requirements of:
- (a) Manitoba Regulation 97/88R, or any future amendment thereof, respecting the storage and handling of gasoline and associated products; and
  - (b) the Manitoba Dangerous Goods Handling and Transportation Act, and regulations issued thereunder, respecting the handling, transport, storage and disposal of any dangerous goods brought onto or generated at the Development.
12. The Licencee shall ensure that used oil and hydraulic fluids removed from on-site machinery and vehicles are collected and transported in secure, properly labeled and non-leaking containers until recycled, and if temporarily stored on site, that the storage area consists of a base and dikes lined on the interior to the satisfaction of the Director.

**Respecting Operational Monitoring, Record Keeping and Reporting**

13. The Licencee shall sample and analyze the effluent at final discharge points #1 and #2, if and when discharge actually occurs, for all the pollutants and characteristics listed in sub-Clauses 5(a) and 5(b) of this Licence at a frequency of not less than once a week.
14. The Licencee shall, in each month:
- (a) measure the total volume (expressed as cubic metres) of effluent discharged through final discharge point #1 during that month;
  - (b) determine the total volume (expressed as cubic metres) of excess mine water allowed to overflow from the "4995 Sump" into the open pit during that month;
  - (c) determine the total volume (expressed as cubic metres) of mine water pumped out of the Chisel North underground workings during that month, if not pumped to the Photo Lake Mine surface pump house;
  - (d) determine the total volume of effluent discharged through final discharge point #2 during that month;

using flow rate measurement equipment and flow rate estimation techniques satisfactory to the Director.

15. The Licencee shall, once every month, during open water conditions:
- (a) obtain a representative sample of the water quality of Woosey Creek at the mouth of Woosey Creek and preceding any mixing with waters from Morgan Lake;
  - (b) analyze such samples for:
    - (i) pH
    - (ii) temperature (°C)
    - (iii) hardness (as CaCO<sub>3</sub>)
    - (iv) acid-soluble copper
    - (v) acid-soluble lead
    - (vi) total iron
    - (vii) total recoverable zinc
    - (viii) total ammonia (as N) and its calculated un-ionized ammonia (as NH<sub>3</sub>)unless otherwise specified by the Director; and
  - (c) shall provide the analytical results in accordance with Clause 16 together with a comparison of the corresponding surface water quality objectives expressed in the "Manitoba Surface Water Quality Objectives" for the protection of cool water aquatic organisms.
16. The Licencee shall submit to the Director the analyses and flow rate data determined in accordance with Clauses 13, 14 and 15, in a form acceptable to the Director, not later than 30 days following the end of the month in which the samples and measurements were taken.
17. The Licencee shall, every third year commencing with the summer of 1995, carry out full limnological studies along Woosey Creek from the mine site up to and including Morgan Lake in accordance with a monitoring program approved by the Director, and submit the results of each such study by no later than the 30th day of June in the year following that in which the studies were carried out.

#### **Respecting Recyclable Waste**

18. The Licencee shall by January 31st of each year, submit a report to the Director on the achievements made over the preceding 12 months regarding the recycling program by identifying how each class of substances was recycled, the approximate quantities of each class of substances which were recycled versus the approximate quantities of each class of these substances which were generated over these same 12 months, and the approximate quantities of each class of these substances remaining in segregated storage at the waste disposal ground at year end.
19. The Licencee shall dispose of the mine water treatment plant sludge only into the existing on-site sludge holding ponds unless the substance is removed from the property for reprocessing at a concentrator/smelter/refinery, or unless otherwise approved by the Director.

**Respecting Decommissioning and Restoration**

20. The Licencee shall:

- (a) once every two years from the date of issuance of this Licence, submit to the Director an updated Closure Plan for this Development with respect to the decommissioning, cleanup and rehabilitation of the affected areas, and the control of pollutant releases from the site of the Development, for the consideration, possible amendment and approval of the Director;
- (b) upon the termination of all operations at this Development and prior to any abandonment of the Development, take all necessary steps to carry out the approved final Closure Plan within such time interval as may be specified by the Director.

**REVIEW OR REVOCATION**

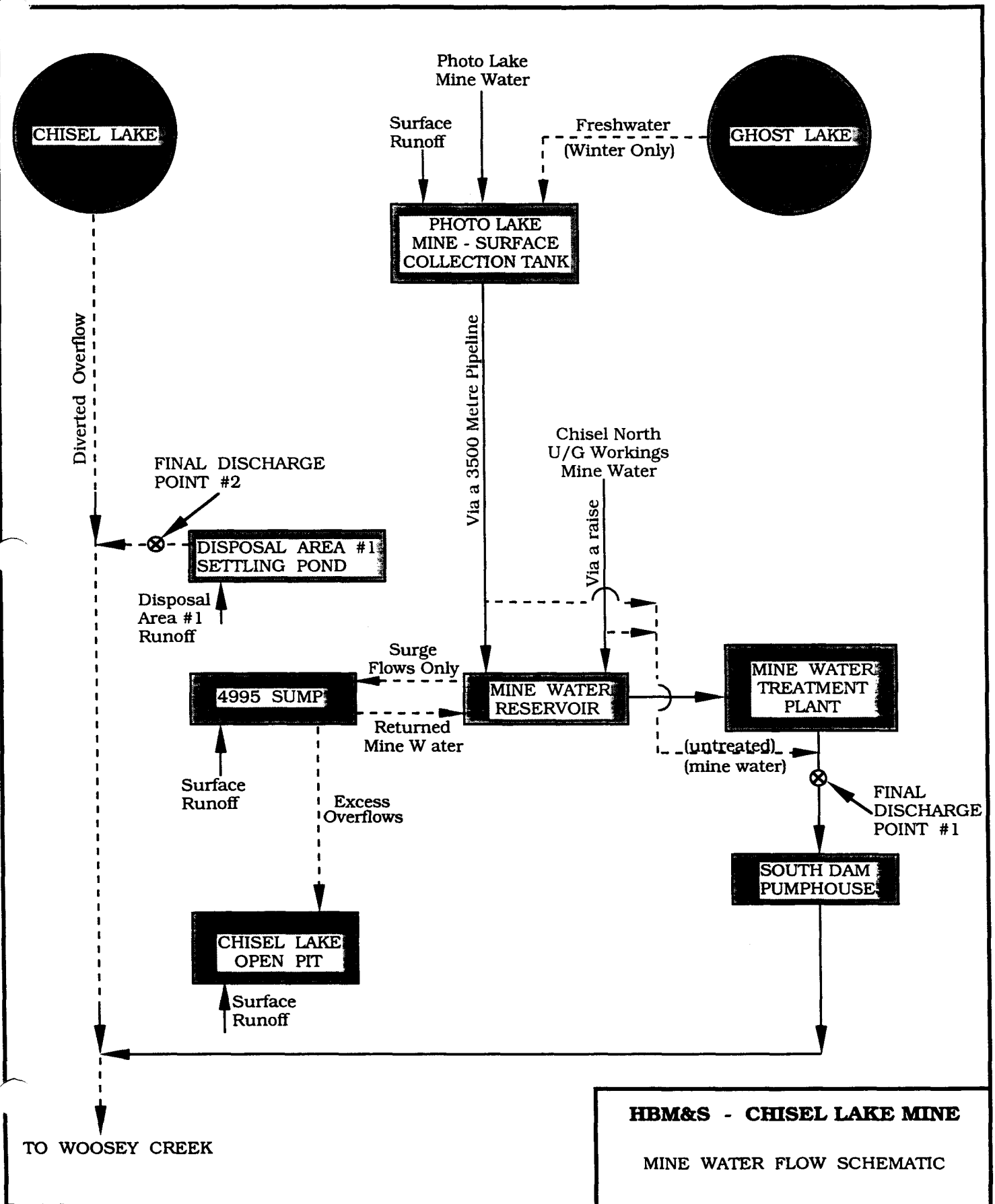
- A. This Licence replaces Environment Act Licence No. 1501 R which is hereby rescinded.
- B. If, in the opinion of the Director, the Licencee has exceeded or is exceeding or has or is failing to meet the specifications, limits, terms, or conditions set out in this Licence, the Director may, temporarily or permanently, revoke this Licence.
- C. If, in the opinion of the Director, new evidence warrants a change in the specifications, limits, terms or conditions of this Licence, the Director may require the filing of a new proposal pursuant to Section 11 of The Environment Act.



**Larry Strachan, P. Eng.**  
**Director**  
**Environment Act**

**File: 2866.0**

**APPENDIX 'A'  
TO  
ENVIRONMENT ACT LICENCE NO. 1501 RR**

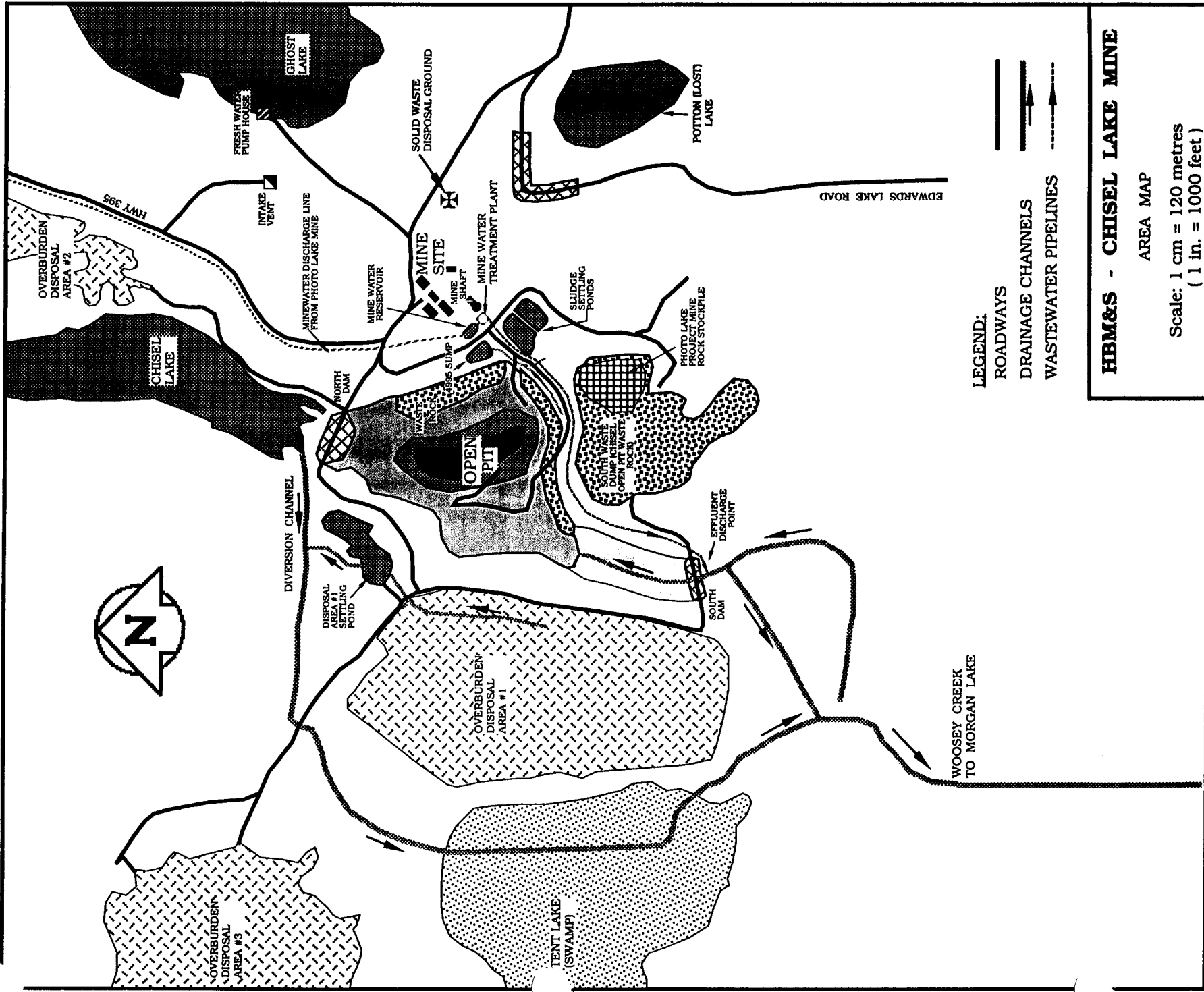


**HBM&S - CHISEL LAKE MINE**

**MINE WATER FLOW SCHEMATIC**



APPENDIX 'B'  
TO  
ENVIRONMENT ACT LICENCE NO. 1501 RR



**LEGEND:**

ROADWAYS

DRAINAGE CHANNELS

WASTEWATER PIPELINES

**HBM&S - CHISEL LAKE MINE**

AREA MAP

Scale: 1 cm = 120 metres  
( 1 in. = 1000 feet )