

Environment Act Licence Loi sur l'environnement Licence

Manitoba
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Licence No./Licence n° 906 RR
Issue Date/Date de délivrance February 11, 1981

Revised: **March 11, 1998**
June 1, 1998

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

VIRIDIAN INC.; "the Licencee"

to operate the mining Development commonly known as the Fox Mine, located in Township 88, Range 27 WPM, on Lots 81 to 102 inclusive, in the Granville Lake Mining Division of The Pas Mining District, in accordance with the Proposal dated April 1, 1974, filed under The Clean 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 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 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 the Fox Lake overflow weir structure located in the ditch leading from Fox Lake to Snake Lake, south of Provincial Road 396, as shown in Appendix 'A' attached to this Licence;

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

"effluent" means treated or untreated mine water from this Development designated for release into the environment;

"mg/L" means milligrams per litre;

"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; and

"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.

GENERAL TERMS AND CONDITIONS

This Section of the Licence contains requirements intended to provide guidance to the Licencee in implementing practices to ensure that the environment is maintained in such a manner as to sustain a high quality of life, including social and economic development, recreation and leisure for present and future Manitobans.

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.

SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS

Respecting Liquid Effluent

4. The Licencee shall not discharge effluent from the Development if:
- (a) the concentration of any of the following pollutants in the effluent, when sampled at the final discharge point, is in excess of the corresponding maximum allowable concentration shown for those categories listed under Columns I and II 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 or Grab Sample
total arsenic	0.5 mg/l	0.75 mg/l
total copper	0.3 mg/l	0.45 mg/l
total lead	0.2 mg/l	0.3 mg/l
total nickel	0.5 mg/l	0.75 mg/l
total zinc	0.3 mg/l	0.5 mg/l
total suspended solids	25.0 mg/l	37.5 mg/l

- or,
 (b) the pH of the effluent, when sampled at the final discharge point, is below the minimum allowable values shown for those categories listed under Columns I and II of the following table:

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

Respecting Solids

5. The Licencee shall confine the surface disposal of waste rock and tailings solids, with the exception of low sulphide content waste rock and tailings solids used for construction works, to the tailings area as defined by the boundaries drawn on Plan 17345 which is filed in the office of the Director of Surveys in Winnipeg, Manitoba.

Respecting Operational Monitoring, Record Keeping and Reporting

6. The Licencee shall sample and analyze effluent from the final discharge point for:
 (a) the following pollutants at no less frequency than as specified in the table below, whereby the applicability of Columns I, II, III, and IV for any listed pollutant shall be determined on the basis of the arithmetic mean concentration of the pollutant in the samples of effluent collected and reported in those preceding six months during which discharge occurred:

<u>Pollutant</u>	<u>Column I</u>	<u>Column II</u>	<u>Column III</u>	<u>Column IV</u>
	At Least Weekly If Concentration Is Equal To Or <u>Greater Than</u>	At Least Every Two Weeks If Concentration Is Equal To Or <u>Greater Than</u>	At Least Monthly If Concentration Is Equal To Or <u>Greater Than</u>	At Least Every Six Months If Concentration <u>Is Less Than</u>
Total Arsenic	0.5 mg/L	0.2 mg/L	0.10 mg/L	0.10 mg/L
Total Copper	0.3 mg/L	0.1 mg/L	0.05 mg/L	0.05 mg/L
Total Lead	0.2 mg/L	0.1 mg/L	0.05 mg/L	0.05 mg/L
Total Nickel	0.5 mg/L	0.2 mg/L	0.10 mg/L	0.10 mg/L
Total Zinc	0.3 mg/L	0.1 mg/L	0.05 mg/L	0.05 mg/L
Total Suspended Solids	25.0 mg/L	20.0 mg/L	15.0 mg/L	15.0 mg/L

and,

- (b) pH, at no less a frequency than as specified in the following:
 - (i) once a week, where the pH of the effluent was less than 5.0 at any time in those preceding six months during which discharge occurred;
 - (ii) once every two weeks, where the pH of the effluent was between 5.0 and 5.5 at any time in those preceding six months during which discharge occurred; or
 - (iii) once a month if (i) and (ii) do not apply.
- 7. The Licencee shall, on a monthly basis, determine the volume of effluent flowing through the final discharge point by use of a method of measurement or estimation which has been filed with and received the approval of the Director.
- 8. The Licencee shall submit to the Director the analyses and flow rate data determined in accordance with Clauses 6 and 7, not later than 30 days following the end of the month in which the samples and measurements were taken.
- 9. The Licencee shall submit to the Director, on or before the 1st day of March of each year of operation, an overall water balance for the Development including all influencing factors from the freshwater supply from Dunphy Lake to the outfall of Fox Lake and reflecting the flow volumes based on the previous year's flows recorded within the system.

Respecting Decommissioning and Restoration

- 10. The Licencee shall,
 - (a) on or before the 1st day of January, 1982, file with the Director a preliminary Closure Plan with respect to:
 - (i) the eventual orderly removal and disposal of all structures, their contents and all other accumulated material on the site of the Development;
 - (ii) the steps to be taken to rehabilitate the said site progressively and at the termination of the operation of the Development in line with aesthetic considerations and the preservation and enhancement of the environment; and
 - (iii) the containment and/or treatment measures proposed for preventing contamination of the environment arising from the long-range acid generating potential of the tailings in the post-abandonment period;
 - and the Closure Plan shall be subject to the consideration, possible amendment and approval or otherwise by the Director;
 - (b) in the event of an imminent cessation of operations at the Development, replace the preliminary Closure Plan, required pursuant to sub-Clause 10(a) of this Licence, with a detailed Closure Plan to achieve the same purpose and file the detailed Closure Plan with the Director for consideration, possible amendment and approval or otherwise; and

- (c) at such time as operations terminate at the Development, take all necessary steps to carry out the approved detailed Closure Plan within one year of the date of the termination of operations at the Development.

REVIEW OR REVOCATION

- A. This Licence replaces Environment Act Licence No. 906 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**

CLIENT FILE: 203.1

APPENDIX 'A'

