

Environment Act Licence Loi sur l'environnement Licence

Manitoba
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Licence No./Licence n° 1740 S2 RRR
Issue Date/Date de délivrance June 1, 1995

(Revised: July 24, 1995)

(Revised: December 8, 1995)

(Revised: January 29, 1997)

THIS LICENCE IS ISSUED PURSUANT SECTION 11(1) OF THE ENVIRONMENT ACT TO:

BLACK HAWK MINING INC.; "the Licencee"

as a Stage 2 Licence

for the construction and operation of the mining Development, being the Farley Lake Open Pit Mine together with the existing access road from Provincial Road No. 391, in accordance with the Proposal filed on November 26, 1993, and the Environmental Impact Assessment (EIA) dated November, 1994, and located 35 kilometres southeast of Lynn Lake, subject to the following specifications, limits, terms and conditions:

DEFINITIONS

In this Licence:

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

"**AP**" means the maximum acid generation potential, expressed as tonnes of CaCO_3 per 1000 tonnes of a material tested, determined in accordance with a static Acid-Base Accounting method satisfactory to the Director;

"**CAEAL**" means Canadian Association for Environmental Analytical Laboratories;

"**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;

"**effluent**" includes mine water, or polluted surface runoff, or leachate containing pollutants, or any combination thereof;

"**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;

"**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;

"**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 water pumped to the surface from underground mine workings, or from an open pit, 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 liquid 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;

"**mothballed**" means placed into a state of non use, or temporarily closed, while at the same time maintained in a state of readiness for potential re-use or re-opening;

"**NP**" means the maximum neutralization potential, expressed as tonnes of CaCO_3 per 1000 tonnes of a material tested, determined in accordance with a static Acid-Base Accounting method satisfactory to the Director;

"**NPR**" means neutralization potential ratio as determined from the ratio of NP/AP;

"**potentially acid-generating**" means having the potential or uncertain ability to generate acid as indicated by a NPR of 4 or less, until or unless an appropriate alternate NPR cut-off value is determined, to the satisfaction of the Director, through detailed characterizations, evaluations and interpretations, or through kinetic testing, carried out on representative test material by qualified individuals;

"**sanitary sewage**" means all toilet, sink, shower stall and floor drain wastes;

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

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

"**undiluted**" means free of extraneous sources of water which could feasibly be prevented from mixing with effluent streams prior to their discharge at their designated final

discharge point(s), and/or not having water added for the purposes of meeting the limits of this Licence. and

"waste rock" means rock containing insufficient commercial mineral value to the Development, excepting such rock which is inadvertently present in mined ore.

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; and/or
 - (b) determine the environmental impact associated with the release of any pollutants from the said mine; and/or
 - (c) provide the Director, within such time as may be specified, with such reports, drawings, specifications, analytical data, bioassay data, flow rate or emission 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 a laboratory accredited by CAEAL or an equivalent accrediting agency.
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 Wastewaters

4. The Licencee shall:
- (a) direct the all the mine water collected in each of the open pits, as well as all effluent from the "south waste rock dump" and from the "ore transfer pad", only into "sedimentation pond #1";
 - (b) direct all effluent from the "north waste rock dump" only into "sedimentation pond #2";
 - (c) direct all the effluent from the "east overburden dump" only into "sedimentation pond #3"; and
 - (d) direct all the effluent from the "west overburden dump" only into "sedimentation pond #4".

as identified in Appendix 'A' attached to this Licence, except that under circumstances of repair or maintenance respecting the operation of sedimentation pond #1 or #2, in which case effluent designated for sedimentation pond #1 would be allowed to be directed into sedimentation pond #2 and vice versa for the limited duration of that repair or maintenance activity.

5. The Licencee shall not release any effluent from the Development into the environment except through the final discharge points P1, P2, P3 and P4, being the outfalls of the valved discharge pipes from each of the sedimentation ponds #1, #2, #3 and #4, respectively, as shown in Appendix 'A' attached to this Licence, or possible future amendments thereto, unless otherwise redesignated in writing by the Director.
6. The Licencee shall not release effluent from final discharge points P1 or P2 if:
- (a) the concentration of any of the following pollutants in the undiluted effluent at the final discharge point 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	0.07 mg/L	0.10 mg/L	0.14 mg/L
total copper	0.017 mg/L	0.026 mg/L	0.034 mg/L
total lead	0.005 mg/L	0.008 mg/L	0.01 mg/L
total nickel	0.14 mg/L	0.21 mg/L	0.28 mg/L

Cont'd . . .

<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 zinc	0.07 mg/L	0.10 mg/L	0.14 mg/L
total suspended solids	25.0 mg/L	37.5 mg/L	50.0 mg/L
total ammonia	2.5 mg/L	3.75 mg/L	5.0 mg/L

- (b) the pH of the undiluted effluent at the final discharge point 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

7. The Licencee shall not release effluent from final discharge points P3 or P4 if the concentration of the following pollutant in the undiluted effluent at the respective final discharge point 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 suspended solids	25.0 mg/L	37.5 mg/L	50.0 mg/L

8. The Licencee shall:
- direct all sanitary 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
 - 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 Thompson District Office of Manitoba Environment before being placed into use.

Respecting Overburden, Waste Rock, Ore and Solid Wastes

9. The Licencee shall collect all the organic and unconsolidated inorganic overburden removed in the course of the stripping of the mine site, deposit it in separate piles only in the locations identified as "east overburden dump" and "west overburden dump", as shown on Appendix 'A' attached to this Licence, and save this material for eventual mine site rehabilitation purposes.
10. The Licencee shall, except for such non potentially acid-generating rock as may be required for construction purposes, deposit all neutral and acid consuming waste rock from the Development only into the "north waste rock dump", and deposit all potentially acid-generating waste rock from the Development only into the "south waste rock dump", as shown in Appendix 'A' attached to this Licence, unless otherwise approved by the Director.
11. The Licencee shall ensure that all potentially acid-generating waste rock is managed in a manner approved by the Director, with the goal of preventing acid rock drainage or rendering the potential occurrence of any acid rock drainage as amenable to collection and treatment prior to release into the environment.
12. The Licencee shall temporarily store ore only within the boundaries of the "ore transfer pad" as shown in Appendix 'A' attached to this Licence.
13. 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.

Respecting Recyclable Waste

14. 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.
15. The Licencee shall make an effort to initiate and maintain a recycling program for those substances identified in, or through the provisions of, Clause 14 of this Licence.

Respecting Dangerous Goods (Hazardous Wastes)

16. The Licencee shall comply with:
 - (a) all the requirements of Manitoba Regulation 97/88R respecting the storage and handling of gasoline and associated products; and

- (b) all the requirements set out in the Dangerous Goods Handling and Transportation Act, and regulations issued thereunder, respecting the transport, storage and/or disposal of any dangerous goods brought onto or generated at the mine site.

17. 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 Monitoring, Record Keeping and Reporting

18. The Licencee shall:

- (a) during discharge events from the final discharge points P1 and P2, sample and analyze undiluted effluent released for the following pollutants at no less a frequency than as specified in the table below, where the applicability of Columns I, II, III and IV for each pollutant listed shall be determined on the basis of the arithmetic mean concentration of that pollutant in those samples of effluent collected and reported in those preceding six months during which effluent 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	0.07 mg/L	0.03 mg/L	0.01 mg/L	0.01 mg/L
total copper	0.017 mg/L	0.007 mg/L	0.003 mg/L	0.003 mg/L
total lead	0.005 mg/L	0.002 mg/L	0.001 mg/L	0.001 mg/L
total nickel	0.14 mg/L	0.06 mg/L	0.03 mg/L	0.03 mg/L
total zinc	0.07 mg/L	0.03 mg/L	0.01 mg/L	0.01 mg/L
total suspended solids	25.0 mg/L	20.0 mg/L	15.0 mg/L	15.0 mg/L

- (b) during discharge events from the final discharge points P1 or P2, sample and analyze undiluted effluent for the total ammonia concentration (NH₃+NH₄ as N), field pH and field temperature (°C) at a frequency of no less than once each week; and

- (c) during discharge events from final discharge points P3 or P4, sample and analyze the undiluted effluent for total suspended solids at the same frequency as specified in sub-clause 18(a).

19. The Licencee shall measure or estimate the total volume of effluent released each month from each final discharge point, using flow rate measurement equipment and/or estimation techniques satisfactory to the Director.

20. The Licencee shall, commencing with the first month after the initial release of effluent from one of the settling ponds, but excluding such periods when sampling is impractical due to total freeze-up conditions or due to safety hazards associated with access, initiate a monthly water quality monitoring program on the receiving waters at:
- (a) a location in Gordon Lake near the inlet to the "Diversion Channel" shown in Appendix 'A' attached to this Licence;
 - (b) a location near the point of discharge of the "Diversion Channel" into Farley Lake; and at
 - (c) a location in the west deep basin of Farley Lake;

and analyze these samples for: pH, field temperature, total hardness (as CaCO₃), total ammonia (as N), total arsenic, acid-soluble copper, acid-soluble lead, total nickel, total iron, total zinc, and total suspended solids, until or unless otherwise specified in writing by the Director.

21. The Licencee shall submit to the Director the analyses and flow rate data determined in accordance with Clauses 18, 19 and 20, of this Licence, no later than 30 days following the end of the month in which the samples were taken.
22. The Licencee shall:
- (a) within 1 month of the date of issuance of this Licence, submit to the Director a proposal, for the approval of the Director, respecting the collection of representative bulked samples of waste rock from each lift of waste rock placed into the "north waste rock dump" and the analysis of these samples by acid-base accounting, or kinetic testing if necessary, as carried out and interpreted by qualified individuals to verify that the deposited waste rock is not potentially acid-generating waste rock; and
 - (b) submit to the Director the analytical results and the interpretation of each bulked sample collected in accordance with the approved sampling program, as soon as the results and the interpretation become available.
23. The Licencee shall by December 31st of each year, submit a report to the Director on the achievements made over the preceding 12 months regarding the recycling program initiated pursuant to Clause 15 of this Licence.
24. The Licencee shall continually maintain the Emergency Response Plan, approved by the Director on December 11, 1995, in a current status, and submit a copy of each subsequent revised Emergency Response Plan to the Director.

Respecting Decommissioning

25. The Licencee shall:
- (a) by June 1, 1997, submit to the Director an updated preliminary Closure Plan to replace the preliminary Closure Plan identified in the EIA dated November, 1994, for the consideration, possible amendment and approval of the Director;

- (b) provide the Director with:
- (i) written notice three months in advance of any imminent permanent closure of this Development, or
 - (ii) provide the Director with an immediate notice of any sudden decision to temporarily close this Development whereby the Development would be placed in a mothballed state for re-opening in the foreseeable future;

and shall within one month of the date of such a notice, submit to the Director a detailed Closure Plan for the Development, with respect to the decommissioning and rehabilitation of the affected areas, the release of pollutants into the environment, the restoration or replacement of altered or lost fish habitat, the decommissioning of access roads, and any safety concerns as may be associated with the abandonment of the Development, for the consideration, possible amendment and approval of the Director; and

- (c) upon the permanent or temporary closure of this Development, take all necessary steps to carry out the approved detailed Closure Plan within the time interval specified or accepted by the Director.

REVIEW OR REVOCATION

26. This Licence replaces Environment Act Licence No. 1740 S2 RR which is hereby rescinded.
27. If, in the opinion of the Director, the Licencee 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.
28. 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.

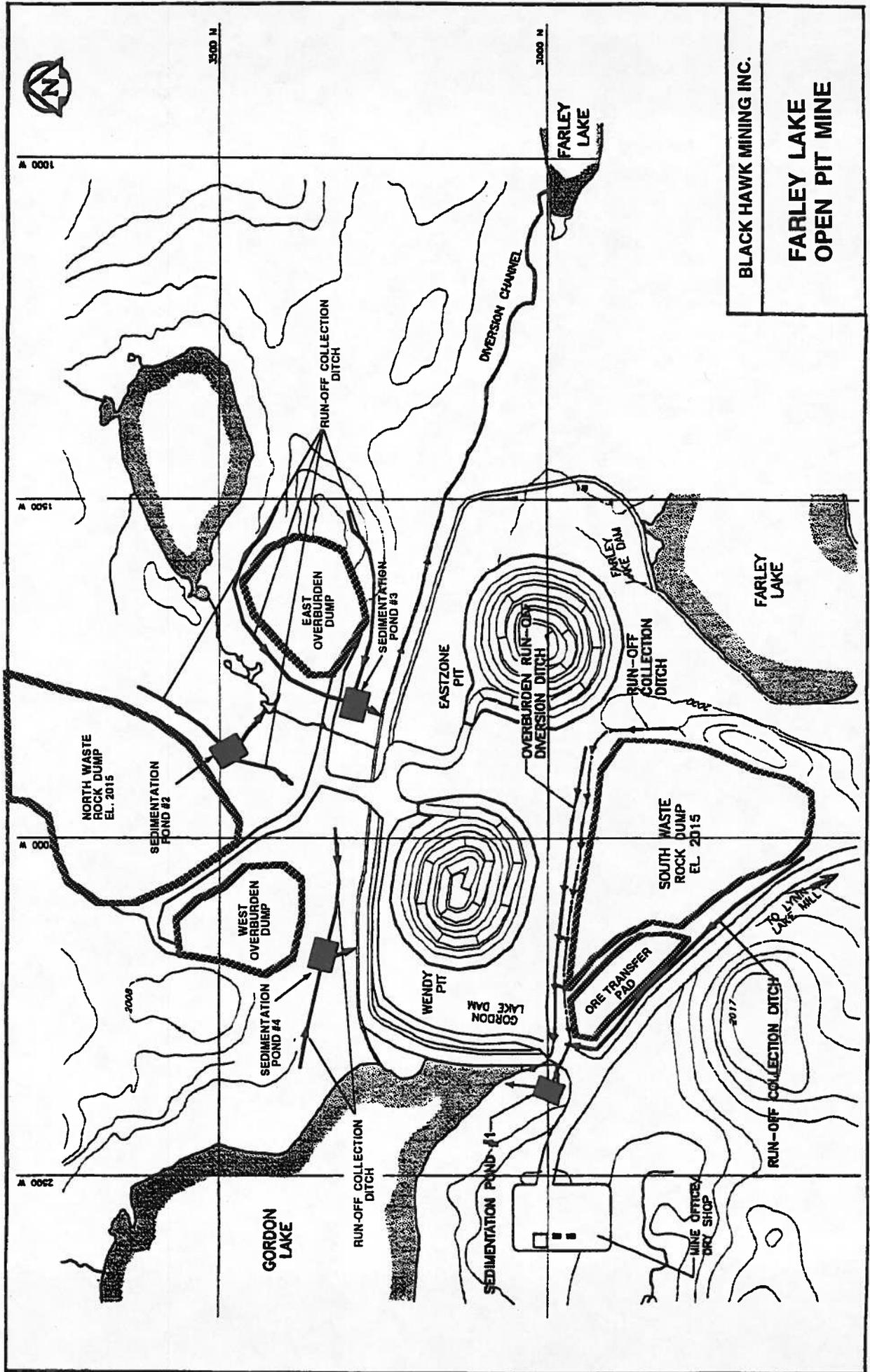


Larry Strachan, P. Eng.
Director
Environment Act

File: 2886.1

APPENDIX 'A'

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