

AN ORDER OF THE CLEAN ENVIRONMENT COMMISSION
UNDER THE CLEAN ENVIRONMENT ACT

COPY

RE: THE CLEAN ENVIRONMENT COMMISSION and GRANGES EXPLORATION LTD., Applicant,

WHEREAS pursuant to the provisions of The Clean Environment Act, Granges Exploration Ltd., and Abermin Corporation filed a proposal with the department in connection with the operation of the Tartan Lake Mine complex, including a mill, refinery, sewage treatment plant and ancillary facilities, located in the East Half of Section 1, Township 68, Range 29 WPM and Sections 5 and 6 of Township 68, Range 28 WPM in Manitoba with discharge of tailings solids and wastewater to a tailings disposal area southeast of the mine and with discharge of liquid effluent from the tailings disposal area to Tartan Lake;

AND WHEREAS in the absence of limits, terms and conditions prescribed by a regulation under the said Act, the proposal was referred to The Clean Environment Commission to prescribe limits, terms and conditions;

AND WHEREAS after giving notice of its intention to prescribe limits, terms and conditions, the Commission received notice of representation from a person who was likely to be affected and held a hearing in Flin Flon on the 30th day of March, 1987;

AND WHEREAS after receiving additional information from the Applicant, as requested at the hearing, the Commission considered the proposal on the 8th day of June, 1987;

IT IS HEREBY ORDERED THAT

1. The Applicant shall not discharge effluent to the environment from the said gold mine complex except via the tailings area and the final discharge point.
2. The Applicant shall not discharge effluent from the final discharge point where:
 - (a) the concentrations of the following contaminants in the effluent are in excess of the corresponding maximum concentrations shown for those categories listed under Columns I, II, and III of the following table:

2. (a)

Contaminant	Column I	Column II	Column III
	Maximum Monthly Arithmetic Mean Concentration	Maximum Concentration In a Composite Sample	Maximum Concentration In a Grab Sample
(i) Total Arsenic	0.05 mg/L	0.075 mg/L	0.10 mg/L
(ii) Total Copper	0.10 mg/L	0.15 mg/L	0.20 mg/L
(iii) Total Lead	0.10 mg/L	0.15 mg/L	0.20 mg/L
(iv) Total Nickel	0.10 mg/L	0.15 mg/L	0.20 mg/L
(v) Total Zinc	0.15 mg/L	0.20 mg/L	0.30 mg/L
(vi) Total Cyanide	0.04 mg/L	0.06 mg/L	0.08 mg/L
(vii) Total Suspended Matter	25.0 mg/L	37.5 mg/L	50.0 mg/L

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

Parameter	Column I	Column II	Column III
	Minimum Monthly Arithmetic Mean pH	Minimum pH in a Composite Sample	Minimum pH in a Grab Sample
pH	6.5	6.0	5.5

2. (c) the pH of the effluent is above the maximum values shown for those categories listed under Columns I, II, and III of the following table:

Parameter	Column I	Column II	Column III
	Maximum Monthly Arithmetic Mean pH	Maximum pH in a Composite Sample	Maximum pH in a Grab Sample
pH	8.5	9.0	9.5

3. The Applicant shall sample and analyze the effluent at the final discharge point:

- (a) for the following substances at no less a frequency than as specified in the table below whereby the applicability of Columns I, II, III and IV for each listed substance shall be determined on the basis of the arithmetic mean concentration of that substance in the samples of effluent collected and reported in those preceding six months during which discharge occurred:

Substance	Column I At Least Weekly If Concentration Is Equal To Or Greater Than	Column II At Least Every Two Weeks If Concentration Is Equal To Or Greater Than	Column III At Least Monthly If Concentration Is Equal to Or Greater Than	Column IV At Least Every Six Months if Concentration Is Less Than
Total Arsenic	0.05 mg/L	0.03 mg/L	0.01 mg/L	0.01 mg/L
Total Copper	0.10 mg/L	0.05 mg/L	0.02 mg/L	0.02 mg/L
Total Lead	0.10 mg/L	0.05 mg/L	0.02 mg/L	0.02 mg/L
Total Nickel	0.10 mg/L	0.05 mg/L	0.02 mg/L	0.02 mg/L
Total Zinc	0.15 mg/L	0.08 mg/L	0.04 mg/L	0.04 mg/L
Total Cyanide	0.04 mg/L	-----	0.02 mg/L	0.02 mg/L
Total Suspended Matter	25.0 mg/L	20.0 mg/L	15.0 mg/L	15.0 mg/L

- (b) once every six months for the following substances and characteristics:

Total Barium	Sulfates
Total Iron	Hardness (as CaCO ₃)
Total Manganese	Turbidity
Total Chromium	Dissolved Solids
Total Ammonia (as N)	Field Temperature
Nitrates + Nitrites (as N)	
Sodium	

- (c) for pH at no less a frequency than as specified in the following criteria:

- (i) once a week, where the pH of the effluent was less than 5.5 or greater than 9.5 at any time in those preceding six months during which discharge occurred;

3. (c) (ii) once every two weeks, where the pH of the effluent was between 5.5 and 6.0 or between 9.0 and 9.5 at any time in those preceding six months during which discharge occurred;

(iii) once a month if (i) and (ii) do not apply.
4. The Applicant shall sample and analyze the effluent from the said operation at the final discharge point in such a manner and for such additional parameters and characteristics at such frequency and for such duration of time as is specified in writing by the Commission.
5. The Applicant shall determine the volume of effluent discharged monthly from the final discharge point by a suitable measurement technique or by a method of estimation, which has been filed with and is satisfactory to the Environmental Management Division.
6. The Applicant shall submit the analysis and measurement data determined in accordance with 3, 4, and 5 to reach the said Division, in a form acceptable to the Division, not later than 30 days following the end of the month in which the samples and measurements were taken.
7. The Applicant shall, at the request of the Commission, from time to time, investigate specific areas of concern regarding any segment or component of the wastewater treatment or handling systems of the said operation and provide the Commission with such engineering studies, drawings, specifications, analyses of wastewater streams and such other information as is so requested.
8. The Applicant shall on request provide safe transportation from the minesite to the final discharge point to any Environment Officer requesting access to the final discharge point.

9. The Applicant shall, with regard to the sewage treatment facility located on the site of the said gold mine complex:
- (a) provide a treated effluent sampling point on the facility's discharge line;
 - (b) operate and maintain the said facility in such a manner such that the quality of the treated effluent discharged from the said facility;
 - (i) does not exert a 5-day biochemical oxygen demand (BOD₅) in excess of 30 milligrams per liter;
 - (ii) does not contain suspended solids in excess of 30 milligrams per liter;
- as determined from the analysis of effluent sampled at the facility's effluent sampling point.
10. The Applicant shall, install an effective early warning system satisfactory to the said Division to provide immediate warning of any rupture or malfunction of that section of the tailings discharge pipe system that poses a potential threat of contamination to Tartan Lake.
11. Where, in the opinion of an environmental officer, any activity, accumulation of material, spill, surface runoff or stockpiling constitutes a risk of contamination to Tartan Lake, the Applicant shall, on the order of such officer, forthwith take corrective action to remove such threat by ceasing such activity and removing contaminants or potential contaminants and cleaning and restoring the area of such spill or runoff in a manner satisfactory to the said officer.
12. The Applicant shall dispose of bulky metallic waste or other solid wastes (exclusive of waste rock and tailings solids) only in waste disposal grounds designated and approved for that purpose pursuant to Manitoba Regulation 208/76.

13. The Applicant shall, in a manner satisfactory to the Environmental Management Division, on or before the 1st day of June, 1988 construct control works such as to create a single discharge point for effluent from the tailings disposal area having the following design features:
 - (a) a mechanism to stop the flow of effluent;
 - (b) a weir or other structure to permit accurate determination of the volume of effluent discharged;
 - (c) provision for ready accessibility in all weather;

14. The Applicant shall, with regard to control and retention of tailings and effluent within the tailings disposal area:
 - (a) undertake an engineering survey with a view to constructing dykes and control works such that the level of the tailings disposal area may be raised to an elevation satisfactory to the Environmental Management Division;
 - (b) submit an engineering design plan for the works described in (a) to the said Division by the 1st day of June, 1988;
 - (c) construct the dykes and control works necessary to implement the plan on or before the 1st day of June, 1989.

15. The Applicant shall:
 - (a) on or before April, 1988, submit to the Commission a preliminary rehabilitation plan for the site of the said operation with respect to the eventual closing and abandonment of the Tartan Lake Mine, for review, possible amendment and approval of the Commission.

15. (b) in the event of an imminent cessation of the said operation, the Applicant shall forthwith file with the Commission a firm and detailed rehabilitation plan, to replace the preliminary rehabilitation plan, for the consideration, possible amendment, and approval, or otherwise;
- (c) upon termination of the said operation, take all necessary steps to carry out the approved rehabilitation plan within the interval of time specified by the Commission.
16. In this Order:
- (a) "final discharge point" means;
- (i) prior to the 1st day of June, 1988, two separate sampling points, one on each of the two overflow streams from the tailings disposal area upstream of Tartan Lake as shown on the Figure in Appendix A attached;
- (ii) on and after the 1st day of June, 1988, the discharge point from control structure of the tailings disposal area constructed pursuant to clause 13; or
- (iii) such additional or alternative points as are designated in writing by the Commission;
- (b) "monthly arithmetic mean" for each substance means the average value of the concentrations determined for each substance in all the composite and grab samples collected and reported during a month, with the exception that, if the applicant collects only one composite or grab sample during the month, the single set of analytical results shall be construed as being representative of the effluent quality for that month and hence shall be treated as the monthly arithmetic mean;

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- 8 -

GRANGES EXPLORATION LTD.

16. (c) "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 hours, or alternatively, consisting of effluent collected continuously at an equal rate over a sampling period of not less than 7 hours and not more than 24 hours.
17. This order shall be reviewed by the Commission on or about December 31, 1988.

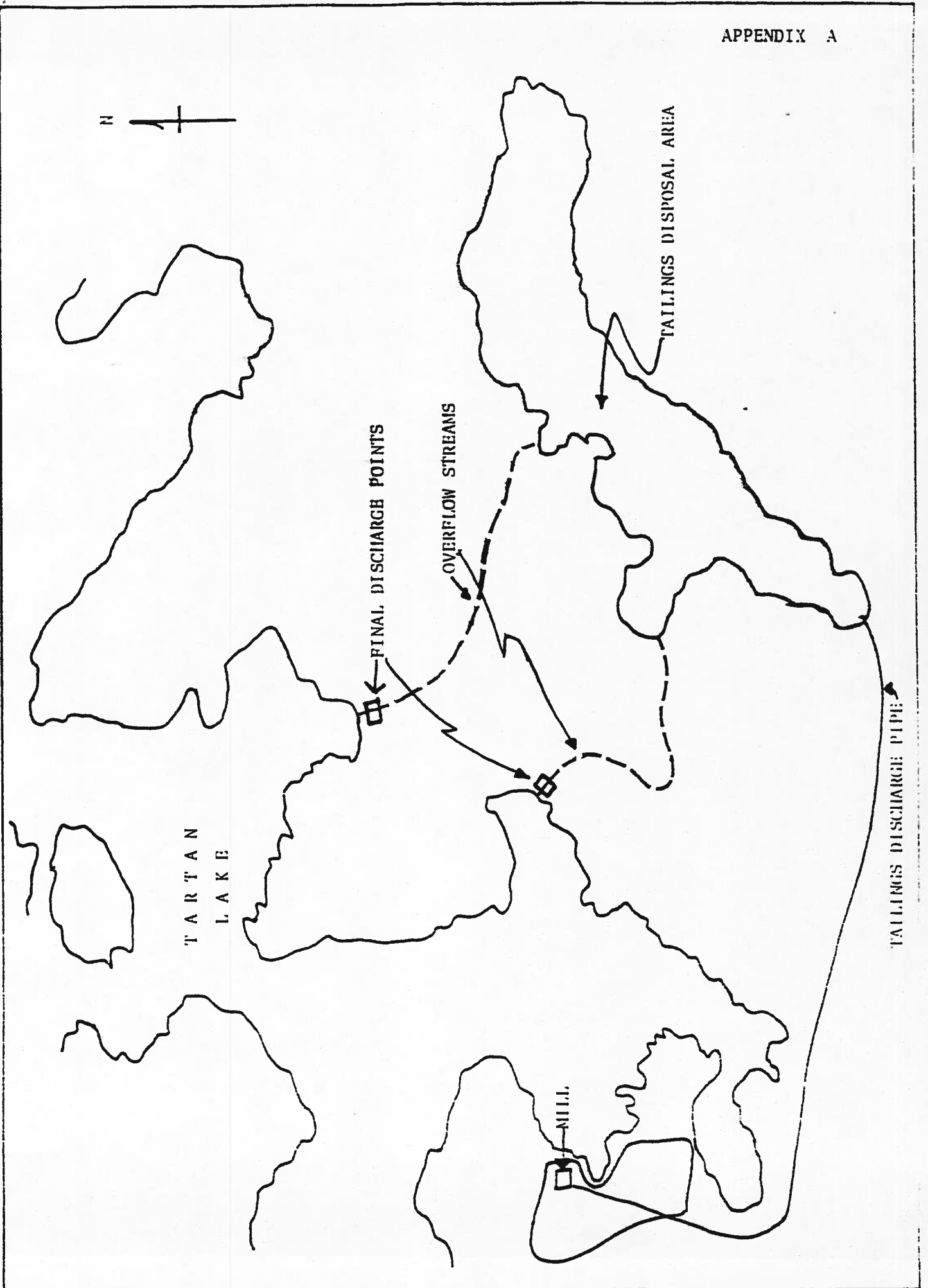
Order No. 1117

Dated at the City of Winnipeg
this 17th day of June, 1987.



Chairman,
The Clean Environment Commission.

File: 2735.0



Mr. G. Hoberstorfer
July 27, 1989
- Page 2 -

- (1) Volume to be discharged from the tailings area shall not exceed 145,000 cubic metres per month.
- (2) Discharge from the tailings disposal area will cease on or before November 1, 1989.

As discussed at the July 26, 1989 meeting, Granges will respond to Items (2), (3) and (7) of our July 20, 1989 letter in the near future, but not later than September 11, 1989.

It is also understood that Granges will submit a further request for variation to the Licence for discharge in 1990 and beyond on or before June 1, 1990.

Yours truly,

Original Signed by
N. B. BRANDSON

Norman B. Brandson, P. Eng.
Director
Environmental Management Services

cc: B. Ott (Fax: 604-682-8323)
C.B. Orcutt
L. Strachan
C. Moche
• A. Beck

LS*cb



July 27, 1989

Mr. G. Hoberstorfer
Vice-President
Granges Inc.
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VANCOUVER, British Columbia
V6C 3E8
(Fax: 604-687-8699)

Dear Mr. Hoberstorfer:

RE: TARTAN LAKE MINE EFFLUENT PERMIT VARIATION REQUEST

Further to our letter of July 20, 1989, and your meeting with staff on July 26, 1989, please be advised that pursuant to Section 14(2) of The Environment Act your request for change to Environment Act Licence No. 1117 is hereby approved as follows:

Changes to Licence No. 1117:

(1) **Clause 2(a)(ii):**

<u>Contaminant</u>	<u>Column I</u>	<u>Column II</u>	<u>Column III</u>
(ii) Total Copper	0.18 mg/L	0.27 mg/L	0.36 mg/L

(2) **Clause 3(a):**

<u>Substance</u>	<u>Column I</u>	<u>Column II</u>	<u>Column III</u>	<u>Column IV</u>
Total Copper	0.18 mg/L	0.09 mg/L	0.04 mg/L	0.04 mg/L

(3) **Clause 16(a):**

"final discharge point" means site T4 of the tailings disposal area

In addition to the above changes to the Environment Act Licence, the following conditions will also apply: