

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

RE: THE CLEAN ENVIRONMENT COMMISSION and HUDSON BAY MINING AND SMELTING CO., LIMITED, Applicant,

- WHEREAS pursuant to the provisions of The Clean Environment Act, Hudson Bay Mining and Smelting Co., Limited submitted an application to The Clean Environment Commission to prescribe limits in connection with the deposition of waste rock, mine tailings recycled from the Flin Flon processing complex and sulphide ore, and the deposition of mine water, industrial waste and domestic waste including sewage; all relative to the continued operation of the Centennial Mine site on surface lease M 150, Lots 3818 and 3826, Group 421 all located in parts of Township 66, Range 28 WPM in northern Manitoba;
- AND WHEREAS the Commission considered the application on the 22nd day of April, 1974, and again on the 12th day of August, 1974, and issued Order No. 382 on the 10th day of September, 1974;
- AND WHEREAS the Environmental Management Division submitted a request for a variation of Order No. 382 to the Commission on the 14th day of March, 1978;
- AND WHEREAS the Commission held a public hearing in the City of Flin Flon on the 8th day of May, 1979, for the purposes of receiving evidence and representations in connection with the said request for variation and issued varied Order No. 382VC prescribing limits on the said operation on the 14th day of June, 1979;
- AND WHEREAS on the 9th day of July, 1979, the Applicant appealed Order No. 382VC to the Minister pursuant to subsection 17(1) of The Clean Environment Act;
- AND WHEREAS on the 7th day of November, 1979, the Minister directed the Commission to vary Order No. 382VC to comply with the intent of Order-in-Council 1005 issued on the 31st day of October, 1979, and the Commission issued Order No. 382VCO on the 28th day of November, 1979;
- AND WHEREAS on the 10th day of April, 1985, after receiving a request for variation of the order from the Applicant, the Minister directed the Commission to hold a hearing pursuant to Section 17(3.1) of the said Act and submit a report and recommendations;
- AND WHEREAS the hearing was held on the 3rd day of June, 1985, and a report and recommendations were provided to the Minister on the 28th day of August, 1985;
- AND WHEREAS the Minister deemed it advisable to accept the recommendation of the Commission and on the 23rd day of December, 1985, directed the Commission to vary Order No. 382VCO in accordance with Order-in-Council No. 1319 issued on the 4th day of December, 1985;

IT IS HEREBY ORDERED THAT ORDER NO. 382VCO BE VARIED TO READ AS FOLLOWS

1. The Applicant shall ensure that all sulphide ore produced at the said site is transported off the said site without delay or interruption save that ore may be stored in an enclosed ore bin not to exceed 50 cubic yards in effective capacity pending transportation off the said site.
2. The Applicant shall ensure that all waste rock from engineering works associated with the development of the mine is:
  - (a) stockpiled on a location shown on Appendix "A" to this order and the said waste rock is limited to:
    - (i) a maximum stockpile quantity of 2,000 tons at any one time; and
    - (ii) a maximum content of 5 percent of sulphide minerals by weight at any one time; and
  - (b) eventually removed and used for engineering purposes on or off the site or stockpiled off the site where it will be available for use in engineering works but, in any eventuality, applied in a manner and at a location that there is no impairment of the natural environment other than that necessitated by the said engineering works.
3. The Applicant shall ensure that all mine tailings solids brought onto the said site for engineering purposes is:
  - (a) used for underground engineering works only;
  - (b) not stored on the surface of the said site.
4. The Applicant shall ensure that all liquid effluents are:
  - (a) subject to Clause 4(c) of this order, not directly discharged into the waters of Lake Athapapuskow;
  - (b) subject to Clause 4(c) of this order, directed towards and ultimately disposed of, in the muskeg area west of the said mine site;

4. (c) only bypassed to the waters of Lake Athapapuskow in the event of an emergency situation which precludes the use of the normal drainage and disposal system and on each occasion that the liquid effluents are bypassed, the occurrence shall be recorded in writing with the Commission, outlining the date of the bypass, the duration and cause of the bypass, and remedial measures taken by the Applicant and including an analysis of the following substances and characteristics of the liquid effluent bypassed; pH, total arsenic, total copper, total lead, total nickel, total zinc, suspended solids and any other substances or characteristics as may be requested in writing by the Environmental Management Division.
5. The Applicant shall ensure that domestic waste consisting of sewage is, in the event of the mine water being bypassed to the waters of Lake Athapapuskow in an emergency situation, held in storage tanks and not bypassed with the mine water.
6. The Applicant shall ensure that solid waste and bulky metallic waste, as defined in Manitoba Regulation 208/76, is not discarded in any area other than designated waste disposal grounds.
7. The Applicant shall ensure that the effluent discharged at the final discharge point<sup>1</sup> is of such quality that:
- (a) the concentrations of the following substances in the effluent are not in excess of the corresponding maximum allowable concentrations indicated for the categories shown below:

Substance	Column I	Column II	Column III
	Maximum Monthly Arithmetic Mean <sup>2</sup> Concentration	Maximum Concentration In a Composite Sample <sup>3</sup>	Maximum Concentration In a Grab Sample
Total Arsenic	0.5 mg/L	0.75 mg/L	1.0 mg/L
Total Nickel	0.5 mg/L	0.75 mg/L	1.0 mg/L

- (b) the pH of the effluent is not less than the minimum allowable values indicated for the categories shown below:

Parameter	Minimum Monthly Arithmetic Mean <sup>2</sup> pH	Minimum pH In A Composite Sample <sup>3</sup>	Minimum pH In A Grab Sample
pH	6.0	5.5	5.0

7. (c) on and after the 1st day of January, 1982, the concentration of the following substances in the effluent are not in excess of the corresponding maximum allowable concentrations indicated for the categories shown below:

Substance	Column I	Column II	Column III
	Maximum Monthly Arithmetic Mean <sup>2</sup> Concentration	Maximum Concentration In a Composite Sample <sup>3</sup>	Maximum Concentration In a Grab Sample
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 Zinc	N/A	N/A	2.0 mg/L
Total Suspended Matter	25.0 mg/L	37.5 mg/L	50.0 mg/L

8. The Applicant shall ensure that the effluent discharged at the final discharge point is sampled and analyzed:

- (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 any listed substance shall be determined on the basis of arithmetic mean concentration of a substance in the samples of effluent collected and reported in those preceding six months during which discharge occurred:

Substance	Column I	Column II	Column III	Column IV
	At Least Weekly If Concentration Is Equal To Or Greater Than	At Least Every Two Weeks If Concentration Is Equal To Or Greater Than	At Least Monthly If Concentration Is Equal To Or Greater Than	At Least Every Six Months If Concentration Is Less Than
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	2.0 mg/L	1.0 mg/L	0.5 mg/L	0.5 mg/L
Total Suspended Matter	25.0 mg/L	20.0 mg/L	15.0 mg/L	15.0 mg/L

8. (b) for pH at no less a frequently than as specified in the following criteria:
  - (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 effluent 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 effluent discharge occurred;
  - (iii) once a month if (i) and (ii) do not apply.
9. The Applicant shall ensure that the effluent discharged at the final discharge point is sampled in such a manner and/or analyzed for such additional parameters and characteristics and/or sampled and analyzed at such frequencies and for such duration of time as may be specified in writing by the said Division.
10. The Applicant shall ensure that the total volume of effluent discharged monthly at the final discharge point is determined monthly by a method of measurement or estimation which has been filed with and received the approval of the said Division.
11. The Applicant shall ensure that within 30 days of the end of the month during which the data requested pursuant to Clauses 8, 9, and 10 are collected, the said data are submitted to the said Division in a form satisfactory to the said Division.
12. The Applicant shall ensure that sludge which is accumulated from the treatment of the mine water and which may subsequently be disposed of on surface, is disposed of in a manner satisfactory to the said Division.
13. Whereupon the Division deems it advisable to have the effectiveness of any segment or component of the wastewater treatment system established, or to have specific areas of concern within the system investigated, the Applicant shall provide the Division with such engineering studies, specifications, analysis of any wastewater streams and any further information likely to be relevant and as may be requested in writing by the Division.


14. The detailed rehabilitation scheme, submitted pursuant to Clause 13 of Order No. 382, shall be subject to review from time to time by the Commission and the Applicant and in any case reviewed not less than one year before the expected date of termination of the said operation as determined by the Applicant.
15. The Applicant shall, within six months of the date of termination of the said operation, take all necessary steps and carry out the detailed scheme as amended and finally approved by the Commission for the rehabilitation of the environment.
16. The Applicant shall provide reasonable access to the surface sump dam as required by the said Division for effluent sampling or other monitoring or inspection purposes.
17. The active operation of the mine shall not occur past June 30, 1988, without prior review by The Clean Environment Commission.
18. Order No. 382VCO is hereby rescinded.
19. In this order, the following definitions apply:
  - 1 "final discharge point" for the mining liquid effluent shall be considered to be:
    - (a) the outfall of the mine water discharge pipe for the parameters arsenic, nickel, pH, copper, lead; and
    - (b) the spillway on the dam structure located east of the mine site, as identified in the attached Appendix "B" for the parameters zinc, suspended solids.
  - 2 the "monthly arithmetic mean" for each substance means the average of all concentrations of the substance determined from the analysis of all composite and grab samples collected and reported during that month with the exception that, if the Applicant collects only one composite or grab sample during a single month, 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.

19. 3 a "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 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.

20. Order No. 382VCO, as varied to comply with Order-in-Council 1319/85, is hereby designated Order No. 382VCOO.

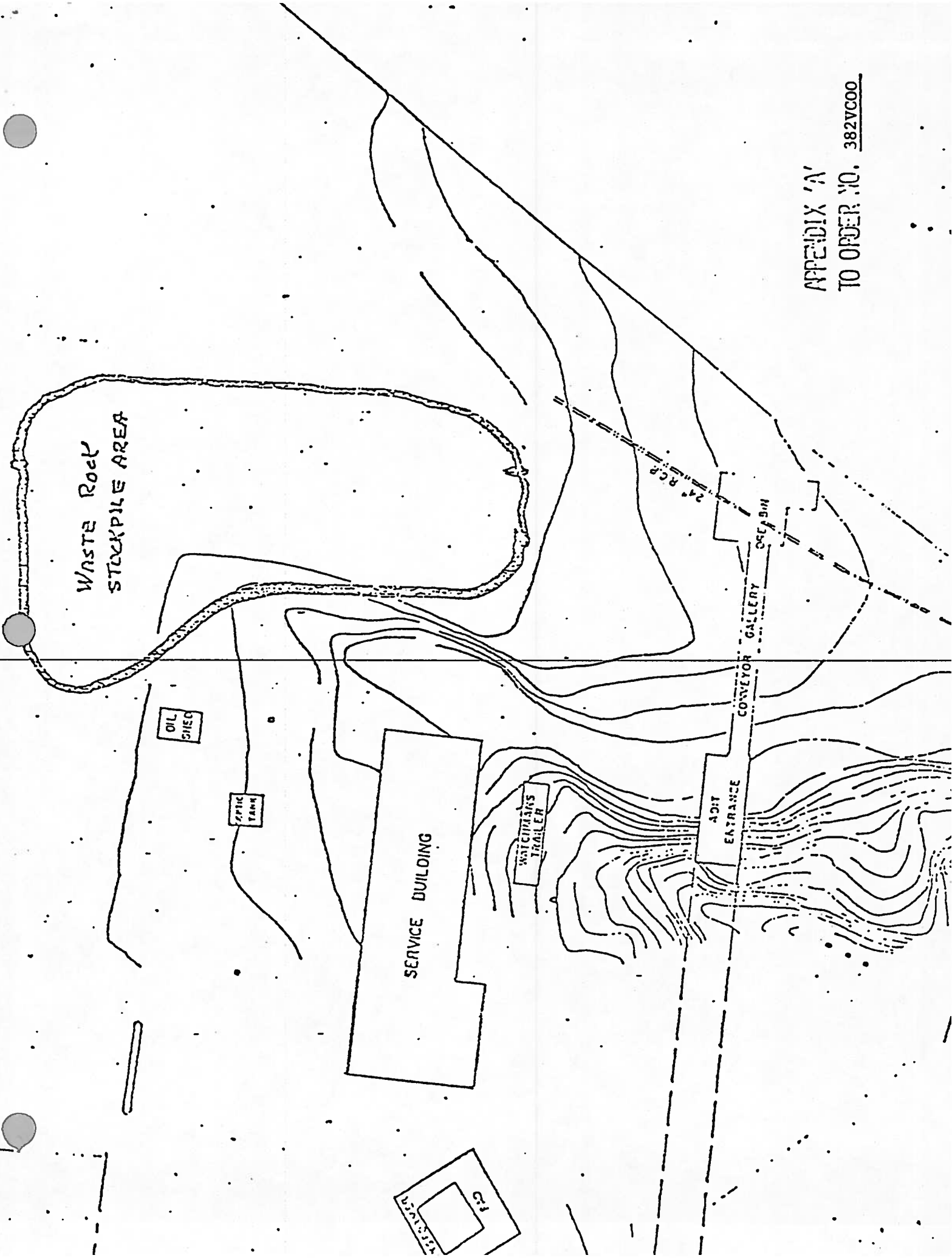
Order No. 382VCOO

Dated at the City of Winnipeg  
this 9th day of January, 1986.

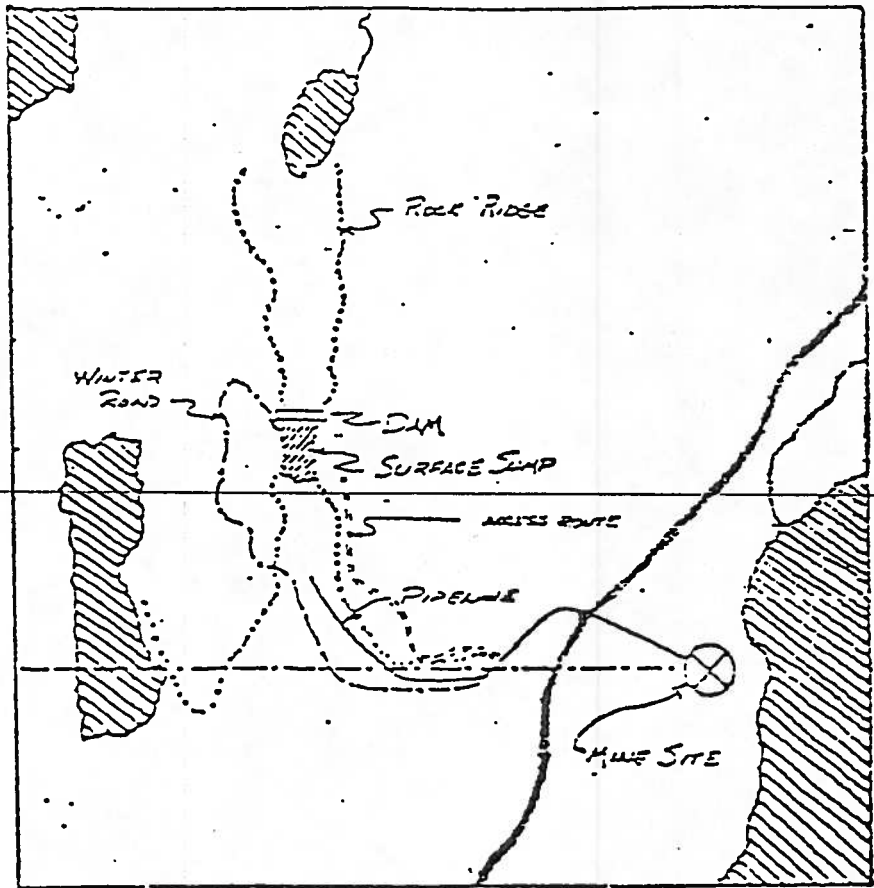
  
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Chairman,  
The Clean Environment Commission.

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APPENDIX 'A'  
TO ORDER NO. 382VC00







APPENDIX "B"  
TO ORDER NO. 382VC00