

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 filed a proposal with the department in connection with the continued operation of a copper-zinc mining and smelting complex located in the E 1/2 of Section 1, Township 67, Range 30 WPM in the Province of Saskatchewan and in the W 1/2 of Section 6, Township 67, Range 29, near the City of Flin Flon in the Province of Manitoba, with discharge of tailings and liquid effluent into the Flin Flon Lake tailings area and with effluent drainage via Flin Flon Creek to Ross Lake, Ross Creek, and Schist Lake;

AND WHEREAS in the absence of limits, terms and conditions set by a regulation issued 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 the proposal, the Commission received a representation from a person likely to be affected by an order of the Commission prescribing limits, terms and conditions;

AND WHEREAS the Commission held a hearing on the 9th and 10th days of November, 1983, at Flin Flon and heard evidence from the Company with regard to the planned program to regulate the discharge of liquid effluent from the tailings residue pond until 1989;

AND WHEREAS the Commission considered the proposal on the 19th day of December, 1983, January 16, 1984 and February 20, 1984 and issued Order number 1013 on February 29, 1984;

AND WHEREAS the Commission reviewed the Order pursuant to Section 14(7.1) of the said Act on the 11th day of June, 1986 at a hearing in Flin Flon and received evidence concerning the implementation of the tailings residue pond management plan, the progress being made to meet the zinc levels prescribed in the Federal Metal Mining Liquid Effluent Regulation and the status of the Company's rehabilitation plan;

AND WHEREAS the Commission considered the variation of the Order on 23rd day of July, the 20th day of August and the 15th day of September, 1986;

IT IS HEREBY ORDERED THAT ORDER NO. 1013 SHALL BE VARIED TO READ AS FOLLOWS:

1. The Applicant shall not discharge effluent to the environment from the said operation except at the final discharge point.
2. The Applicant shall not discharge effluent from the final discharge point

- (a) where 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:

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	0.5 mg/L	0.75 mg/L	1.0 mg/L
(ii) Total Copper	0.3 mg/L	0.45 mg/L	0.6 mg/L
(iii) Total Lead	0.2 mg/L	0.3 mg/L	0.4 mg/L
(iv) Total Nickel	0.5 mg/L	0.75 mg/L	1.0 mg/L
(v) Total Zinc except where a process upset, breakdown, significant precipitation event or thaw occurs	1.0 mg/L	1.5 mg/L	2.0 mg/L
(vi) Total Suspended Matter	25.0 mg/L	37.5 mg/L	50.0 mg/L

- (b) where the pH of the effluent is below the minimum values shown for those categories listed in the following table:

Minimum Monthly Arithmetic Mean pH	Minimum pH In a Composite Sample	Minimum pH In a Grab Sample
6.0	5.5	5.0

3. Subject to 4, the Applicant shall sample and analyze the effluent at the final discharge point:

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

<u>Substance</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 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	1.0 mg/L	0.4 mg/L	0.2 mg/L	0.2 mg/L
Total Suspended Matter	25.0 mg/L	20.0 mg/L	15.0 mg/L	15.0 mg/L

(b) for pH not less 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.

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 and for such frequency and 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 method of measurement or estimation acceptable 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 Environmental Management Division, in a form acceptable to the said 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 solid waste and wastewater treatment, handling and disposal 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 dispose of solid waste and bulky metallic waste, as defined in regulations issued pursuant to the said Act, in accordance with the provisions of such regulations and shall not dispose of such waste in any area other than a waste disposal ground designated and registered for that purpose.
9. The Applicant shall:
 - (a) participate in the operation of any rehabilitation review committee established by the department for the purpose of reviewing the Applicant's short- and long-term plans for tailings disposal and for rehabilitation measures applicable to inactive tailings areas and other areas on the premises of the said operation;
 - (b) co-operate with the operation of such a committee by promptly providing information necessary for its successful operation.

10. The Applicant shall file with the Commission, on or before the 1st day of May, 1987 a preliminary rehabilitation plan, as established in consultation with the rehabilitation review committee established pursuant to 9, and the said plan shall be subject to:
 - (a) approval or amendment by the Commission following its initial submission;
 - (b) amendment by the Commission from time to time thereafter, following consultation with the Applicant and with the said review committee.

11. The Applicant shall continue with studies designed to implement measures effecting the reduction of zinc in the effluent to the levels specified in the Environment Canada "Metal Mining Liquid Effluent Regulation and Guidelines, 1977", and shall prepare a report, complete with plans and specifications detailing the treatment of tailings residue from the year 1990 until the year 2000, such study and report to be submitted to the Environmental Management Division on or before the 31th day of December, 1989.

12. The Applicant shall, in the event of the termination of the said operation, take steps to carry out the rehabilitation plan as amended and approved pursuant to 10(a) and (b), within the space of time specified by the Commission.

13. This order shall be reviewed by The Clean Environment Commission on or before the 1st day of March, 1990.

14. In this order:
 - (a) "final discharge point" means the North Weir, as identified in Appendix A to this order, unless otherwise designated in writing by the Commission;

14. (b) "monthly arithmetic mean" means for each substance, 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;
- (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 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.
15. Order No. 1013 as varied by the Commission is hereby designated Order No. 1013VC.

Order No. 1013VC

Dated at the City of Winnipeg

this 1st day of October, 1986.


Chairman,
The Clean Environment Commission.

File: 7.1

