

ATTENTION -

Dr. K.C. Charron
Dr. K. Kay
Mr. J.R. Menzies

J. G. McNiven, Esq.,
Manager,
Negus Mines Limited,
Yellowknife, N.W.T.

Ottawa, 1 August, 1951.

Dear Mr. McNiven:

Your letter of June 7, 1951, to Mining Inspector S. Homulos, outlining the proposal of your company to roast concentrates, and to store arsenic trioxide in slurry form in an underground settling chamber in Negus mine, has received consideration, and an investigation has been made at Yellowknife by Chief Inspector Christie and Inspector Homulos of this Department, Dr. K.W. Downes, Department of Mines and Technical Surveys, and Dr. K. Kay, Department of National Health and Welfare.

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J.R.
Our technical advisers consider the "Cottrell" collection system or the "Bag" method of collection, with the dry material being stored underground in a permafrost zone, to be the methods least likely to endanger public health. We understand, however, that your company wishes to install the collection and disposal system adopted by the Consolidated Mining and Smelting Company of Canada Limited at the Con Mine. No doubt discussions with the investigators made clear to you their concern as to leakage from underground or surface basin storage of arsenic slurry.

As for adopting the proposed Con method of collection of arsenic trioxide from the stack and the method of disposal of the slurry, certain requirements must be met:

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- (1) We require an authoritative statement as to the percentage of arsenic that will be removed from the stack;
- (2) We must have the assurance of a competent geologist that the rock structure of the basin selected for storage is such that as far as can be ascertained there will be no seepage. The basin will have to be properly grouted and sealed so that there may be no chance of such seepage. Any possibility of overflow must be removed, and the basin must be adequately fenced from the public;
- (3) The basin must have a sufficient capacity for a reasonable time having regard to the output of the plant. Holes will have to be drilled around the perimeter of the basin at such distances and in such number to meet the views of our technical advisers; periodical tests of these holes will be required to determine whether there is any seepage and as to arsenic content.
- (4) We will expect within a reasonable period of operation of such surface basin that properly planned experiments will be made to prove the tightness of the basin, and that the data obtained will be submitted for review by the Department in accordance with the pattern which has been adopted in the matter of assessing the reliability of the Con basin.

It appears from press reports that your company has already purchased roaster machinery and I presume that before doing so you explored the possibility of having the concentrates treated at one of the local mines.

I feel it necessary to emphasize that under no circumstances shall roasting operations be commenced until an adequate system of arsenic collection and disposal has been installed and all the conditions herein mentioned have been complied with to the satisfaction of our technical advisers. Any implied authority to

Carry out your revised program is given on the definite understanding that the methods employed are considered experimental and that it will be the responsibility of Negus Mines Limited to see that both arsenic collection and disposal features will safeguard the public health. Please be assured of our continued interest and readiness to lend all reasonable assistance.

Yours sincerely,

(Sgd.) H. A. Young,
Deputy Minister.