

D. Emery

OCT 27 1978

FALCONBRIDGE NICKEL MINES LIMITED

INTER OFFICE MEMORANDUM

MEMO TO: L.S. Price

FROM: R.A. Bergman

DATE: October 26, 1978

SUBJECT: R & D Programme for the Purification of
Arsenious Oxide from Giant Yellowknife

PROJECT No. 201 & Programme
B345-78

COPIES TO: HTB/PGT, DE, WRH/MC, RAB, file

It is proposed to carry out an R & D programme involving the purification of arsenious oxide tailings from the Con tailings pond and subsequently the recovery of gold from the gangue portion of the tailings.

The cost for the first stage of the programme which involves the recovery and purification of As₂O₃ from the tailings is estimated at \$7000-\$10,000.

The cost for the second phase of the programme has not been estimated as yet since it is contingent on the results obtained during the first phase of the programme.

R & D PROGRAMME STAGE I

1. Objective

The objective of this programme is to establish a preliminary flow-sheet for the recovery of As₂O₃ with a purity of at least 95 percent from the tailings and a residue containing no more than 5% As₂O₃.

2. Approach

It is proposed to leach the tailings in hot water to selectively extract the As₂O₃ and then crystallize a dense As₂O₃ product from the solution by cooling it. The solution is then recycled to pick up more As₂O₃. Bleed streams for impurities may be required, and treatment of the pregnant solution with charcoal may be needed to obtain a white As₂O₃ product.

3. Background

Some preliminary experiments have been carried out which give us confidence that the process proposed has a good chance to be practical. A memo by W.R. Hatch summarizing the work done to date is attached.

R.A. Bergman

RAB/ah
Attach.

R.A. Bergman