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Con Operations

July 24, 1979

Mr. D. Billing
Chief Environmental Protection Officer
Government of the Northwest Territories
YELLOWKNIFE, Northwest Territories

and

Mr. G. Warner
Chairman
N.W.T. Water Board
P. O. Box 1500
YELLOWKNIFE, Northwest Territories

Gentlemen:

Re: Reclamation and Treatment of
Arsenic Wastes

Con, Negus and Rycon Mines had to roast ore to liberate the gold between 1940 and 1970. The residue from this process has been stored in two basins on the property. Water Licence NIL 3-0040 states that proposals for the containment and reclamation of all arsenic storage areas are to be implemented by the expiry date of this licence which is February 29, 1980.

Over the past three years we have been studying ways and means of coping with this problem and on two occasions we have made presentations to the Water Board concerning the progress made. By January, 1979, plans had been all but finalized to cover the basins and to leave the arsenic trioxide permanently buried.

Early in 1979 the possibility arose of Giant Yellowknife Mines Limited being able and willing to process the arsenic sludge so that the gold, silver and arsenic trioxide could be recovered and purified to commercial grades. The end result would be the elimination of the arsenic sludge storage areas and thus the permanent removal of the potentially harmful wastes. In our opinion this is preferable to the other solution of permanent burial.

Mr. D. Billing
and
Mr. G. Warner

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Consequently the Water Board was advised on March 5, 1979, of our intention to pursue the sale of the sludge to Giant.

In Con Operations' application for a renewal of the water licence dated May 25, 1979, we asked the Board to consider extending the time frame for dealing with the Arsenic Basins to ten years from the renewal date of March 1, 1980.

Giant Yellowknife Mines Limited have provided you with a flowsheet of the process they intend to use and later technical data on that process will come from them.

Tentative discussions with Giant have determined that Con Operations will provide the sludge F.O.B. Giant's plant.

We are working on a scheme of recovering the arsenic sludge through a hydraulicing system which creates an easily pumped sludge from the bottom of the basin. In this way any dusting problem will be virtually eliminated. The sludge, having a density of between 25 - 50% solids and a PH of about 4, will be transported through Yellowknife in a Trailer Truck, specifically constructed for this purpose, in quantities no greater than 20 tons per load. Normally we plan on two or three truck loads per day but this may have to be increased to suit plant operations. The reclamation work is planned to continue all year-round.

The Giant process will produce hot water which will contain some arsenic trioxide in solution. This hot water will be used in the hydraulicing process and transported on the back haul to Con.

Operation of the hydraulicing unit will be by remote control. It is intended to construct an environmentally clean and safe method with the minimum of human handling of the sludge. Loading of the trucks will be in such a manner as to control any unforeseen spill back into the storage basin.

Attached is a schematic flowsheet of the Con process envisaged.

It is necessary to obtain the approval in principle of both the Territorial Government and the Water Board of these plans.

Yours truly

A. D. MacPhail
Manager, Con Operations

ADM/cr
Attach.