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Addressed to: Mr. K. Blower Fax No. (416) 363-5477
 Company: Giant Yellowknife Mines Ltd
 City: Toronto Province or State: Ont. Country: _____
 Number of Pages: 4 Price: _____
 (Including Cover)

Instructions/Message:

As discussed yesterday, please find
 attached a copy of the writer's
 comments in summary form, as
 transmitted to Mr. G. Wolfe
 on March 7, 1990.

Regards,
 Fred Matich.

If there is any problem in transmitting this message, operator will advise the sender.
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**Lavalin**

March 7, 1990

MEMO

Mr. G. Wolfe
Chief Engineer
Giant Yellowknife Mines Ltd.
Yellowknife, NWT

Re : North-West Tailings Area

This is further to the discussions in respect to the above on January 31, 1990 and in the interval. As arranged on March 2, 1990, we are forwarding you our comments in summary form for your reference at this time, prior to submitting a report in detail and a proposal covering assistance from Geocon on additional geotechnical work.

The points on which recommendations were made, included the following:

1. A detailed plan of action be drawn up for management of the Tailings Area in the period up to at least August 1990, based on the optimum approach desired by Giant.
2. A detailed plan of inspection and surveillance be developed, listing observations to be made and responsibilities for making observations, reporting results of same, and responding to these observations.
3. Assemble a detailed plan to make maximum use of tailings for sealing Dams 21(b) to 21(d), using both Mill tailings and TRP tailings, in accordance with Item 1, and (to the extent possible) in accordance with the original design.
4. Assemble a plan for maintaining the rate of rise of the pond level, and the maximum rise this year, to an absolute minimum below elevation 6097.

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Chief Engineer
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5. Assemble a contingency plan to include a number of considerations, such as:
 - maximum rate of lowering of the pond
 - sluicing into place, dumped mechanically-excavated tailings, if necessary.
 - dumping overburden soil over the upstream face, if necessary.
 - handling large quantities of leakage under winter or spring conditions, if necessary.
6. Carry out a routine risk analysis.
7. Examine alternatives to the plan generated under Item 1, to reduce risk, or eliminate risk where it cannot be managed. Possible alternatives discussed in very preliminary fashion included:
 - a) Use of the North Pond for emergency storage
 - b) Transfer of tailings from one part of the North-West Pond to areas of most important need, adjacent to the Dams.
 - c) Possible others, (such as permitting rise of water level to say el. 6095 only).
8. Review performance of the Tailings Area in detail, at frequent intervals, and use findings to review plans.
9. Scrutinize records on file, particularly "as-built" drawings and carry out checks in the field, if necessary. Items in this regard included elevations of the crest and depth of water adjacent to the upstream face of the Dams.
10. Check the precedent for seepage through the clay core at Dam No. 11 of the South Basin.

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Chief Engineer
Giant Yellowknife Mines Ltd.

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11. A number of areas of potential risk were discussed, which arose to a significant extent from the considerable depth of water adjacent to the Dam, and required careful consideration, such as:

- possible piping through parts of the clay core.
- possible seepage quantities in excess of that permitted.
- possible instability in the upstream direction, particularly under excessive rate of drawdown, before tailings are in place.
- possible overtopping of the dams due to insufficient freeboard.
- frost action in the upper part of the clay core.
- others (to be mentioned in the report).

In this respect also, risks were associated with difficulties (in some cases) in detecting possible technical problems at an early stage, due to low temperatures, snow cover, and the like, and also in pin-pointing problem areas accurately and applying remedial action quickly once a problem is detected. There were, of course, the normal risks attendant with operating the Tailings Area under loads higher than anticipated during design, particularly loads associated with the water depths presently existing against parts of the perimeter of the Tailings Area.

12. General

As arranged, the writer will call on March 8, 1990, to discuss the above in the context of finalizing a report to Giant, and identifying tasks of possible further technical assistance which Giant may require of Geocon, so that a proposal can be submitted accordingly by Geocon.

Kindly note that this memo is preliminary, and intended for discussion purposes, and that it will be superseded by a formal report.


M. A. J. Matich

MAJM:tcs