FACSIMILE MESSAGE

Environment Canada / Environnement Canada

Environmental Protection Branch
Qimugjuk Building 979 P.O. Box 1870
Iqaluit, NU X0A 0H0

DATE: March 14, 2003

TO:	Mr. Hugh Wilson	**FROM:**	Colette Meloche
	Miramar Hope Bay Ltd.		Environmental Assessment Specialist
			Environment Canada
PHONE:	604-985-2572	**PHONE:**	867-975-4639
FAX:	604-980-0731	**FAX:**	867-975-4645

Number of pages including cover: 3

Subject: Doris North Draft EIS – Comments regarding water balance calculations

MESSAGE:

Dear Mr. Wilson,
Please find enclosed a letter outlining a potentially serious concern regarding Miramar's estimation of the water budget for the Doris North Site that Environment Canada has become aware of during the course of our review of the draft EIS. Please don't hesitate to contact me if you have any questions or concerns with regards to the issues raised in the letter. Thank-you.

Best Regards,

Colette Meloche
Environmental Assessment Specialist

cc. Stephanie Briscoe, Executive Director, NIRB
Phillipe di Pizzo, Executive Director, NWB
James Cummine, Meteorological Service of Canada, Environment Canada
Chris Spence, Meteorological Service of Canada, Environment Canada
Stephen Harbicht, Environmental Protection Branch, Environment Canada

C30314 DOH EC Comments Draft EIS - ILAE

Environment Canada / Environnement Canada

Environmental Protection Branch
Qimugjuk Building 969 P.O. Box 1870
Iqaluit, NU X0A 0H0
Tel: (867) 975-4639
Fax: (867) 975-4645

INTERNAL	
PC	IP
LA	PB
OM	
TA	
BS	
ST	
ED	
CEO	
BRD	
EXT.	

March 14, 2003

Our file: 4703 003 013

Mr. Hugh Wilson
Miramar Hope Bay Ltd.
300 – 889 Harbourside Drive
North Vancouver, B.C. V7P 3S1
Tel: (604) 985-2572
Fax: (604) 980-0731

Via Facsimile and Post

Dear Mr. Wilson:

RE: Doris North Draft EIS – Comments regarding water balance calculations

Environment Canada (EC) has begun to review the Doris North draft EIS submitted by Miramar Hope Bay Ltd. (MHBL) in order to provide comments back to the Nunavut Impact Review Board (NIRB) and the Nunavut Water Board (NWB). The draft EIS is being reviewed by all branches of EC and comments will be submitted to the NIRB in advance of the Pre-hearing Conference scheduled for April 14-16, 2003. However, in the meantime, EC would like to inform MHBL of a potentially serious concern that has been raised by our technical advisors with the Meteorological Service of Canada (MSC) during the review of the water balance calculations related to the Tail Lake impoundment area. These concerns are raised based upon EC's mandated responsibilities for the enforcement of the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

Recognizing that the discharge hydrographs developed from the site were insufficient to provide long-term estimates of runoff, MHBL extrapolated regional Water Survey of Canada (WSC) hydrometric station data, using the Ellice River station (10QD001) as the primary source of regional data. A weekly relationship was derived and applied to the Ellice record to construct a long-term runoff record for the Doris, Tail and Little Roberts basins, with which MHBL calculated means and extreme conditions. As a result of these calculations, MHBL estimated that the runoff to the mine infrastructure would be approximately 120 mm/year. Based on this number, MHBL determined the containment area for the tailing disposal area.

In 1984, a change in technology allowed the WSC to better measure the stream flow at remote sites in the central and eastern Arctic. During a Quality Assurance Program audit in 2002, WSC found that streamflow was seriously underestimated at four sites prior to 1984, one of which was the Ellice River. Annual runoff in this area may be closer to 180 mm/year, versus the 120 mm suggested by MHBL. This has serious repercussions for the estimates of runoff for the Doris North site, MHBL's water management scheme, and their estimates of environmental impacts.

In light of this information, **EC suggests that MHBL re-evaluate its water budget for the site in order to ensure that the containment area designed for the tailings impoundment is large enough to contain spring peaks and/or storm events.** This is especially necessary in light of MHBL's desire to expand operations at this site past the operational period for the Doris North project. As currently proposed using the water balance calculation shown in Figure 5.3.1, MHBL indicates that over a 5 year life of operation, the level of Tail Lake will rise from 28.3 m to 31.4 m, containing the lake within the 32.6 m height of the dam. However, given that runoff to Tail Lake is possibly 130% of the estimates provided by MHBL, as indicated by the WSC Quality Assurance Program audit in 2002, more freeboard is needed to ensure complete containment of the tailings.

Given the significant concerns that EC has with the water balance calculations used in the design of the Tail Lake Impoundment area, EC request that the proponent respond to the concerns outlined in this letter as soon as possible.

Please do not hesitate to contact myself or Mr. Chris Spence, Hydrologist with the Meteorological Service of Canada, with any questions or comments with regards to the foregoing. Mr. Spence can be reached at (867) 669-4746.

Yours truly,

Colette Meloche
Environmental Assessment Specialist

cc: (Stephanie Briscoe, Executive Director, Nunavut Impact Review Board)
(Phillipe di Pizzo, Executive Director, Nunavut Water Board)
(Stephen Harbicht, Head, Assessment and Monitoring, Environment Canada, Yellowknife)
(Chris Spence, Hydrologist, Meteorological Service of Canada, Environment Canada, Yellowknife)
(James Cummine, Meteorological Service of Canada, Environment Canada, Winnipeg)