



INDEPENDENT ENVIRONMENTAL MONITORING AGENCY

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July 15, 2003

Melody McLeod
Chairperson
Mackenzie Valley Land and Water Board
7th Floor – 4910 50th Avenue
Yellowknife, NT X1A 2P6

Dear Ms. McLeod,

**Re: Water Licence N7L2 and MV2001L2-008
Comments on Wastewater and Processed Kimberlite Management Plan**

The Independent Environmental Monitoring Agency has completed its review of the revised *Wastewater and Processed Kimberlite Management Plan*, dated May 2003 for BHPB's Ekati project. The document is comprehensive with substantial improvements in detail and organization over earlier versions.

The plan outlines operational changes from the previously approved plan. One of our main concerns focuses on the change in plans for the discharge of Fox mine water. We recommend the Board approve the plan if the discharges of Fox mine water are to cell C as originally proposed, but not if discharges are to cell D, as presently proposed.

We believe the change of discharge location within Long Lake is very important because discharges to cell C rather than cell D will aid in the removal of suspended solids, the settling of residual flocculants and coagulants and the oxidation of ammonia components nitrate and nitrite before reaching cell E, thereby reducing impacts to the downstream environment. Due to the fact that the results of investigations of the toxicity of coagulants and flocculents may show the need for additional treatment through filtering or other means, it would be precautionary for the operation to provide as much filtering opportunities as possible by discharging into cell C now.

In 2001, the Board asked BHPB to report on the predicted impacts on the discharges from the Long Lake Containment Facility due to the addition of Fox mine wastes, and specifically asked for the impacts relevant to the addition of coagulants and flocculants. BHPB's analysis used the assumption that discharges would be to cell C to show there would be no predicted toxicity to the aquatic environment downstream from Long Lake. Their analysis also stated that should there be a shift in the downstream aquatic communities due to toxicity, it would be so subtle that it would not be detected and that if the impacts were larger, the Aquatic Environmental Monitoring Program would detect.

In 2002, the AEMP has shown changes in the zooplankton communities downstream of Long Lake. As well, Environment Canada has conducted initial investigations into the toxicity of coagulants and flocculants which have shown that coagulants and flocculants are toxic to zooplankton at levels that are within range of possible effluent discharges

from Long Lake. The revised *Wastewater and Processed Kimberlite Management Plan* indicates that twice the amount of flocculants and coagulants will be required for Fox mine water than for mine water from other pits.

Thus, the Agency recommends that a risk assessment on the effects of discharge from Long Lake on the downstream environment be conducted using the most current information and for two scenarios: discharges of Fox mine water into cell C and discharges from Fox mine water into cell D.

In addition, we have the following comments on the WPKMP:

1. There are inconsistencies between what happens with cell D in the *2003 Plan* and what happens in the *2001 Plan*. The latter notes (p.2) that cell D will receive approximately 7 million cu m of tailings, thereby leaving a surplus capacity of 24 million cu m in cell D. The new *Plan* states that almost twice this volume of tailings will be deposited (15.1 m cu m) and that, somewhat bizarrely, the surplus capacity will also increase to 37.6 m cu m. BHPB should clarify this incongruity.
2. The *2003 Plan* notes that the plan for Two Rock Lake sedimentation facility is as described during Sable licensing—an internal dike with semi-pervious filter on upstream side. The *2003 Plan* proposes that this filter may not be constructed if the results from monitoring the flocculant plants at Misery and Fox show that further water treatment is not required. This appears acceptable, but will need a reporting requirement in the MVLWB's approval of this Plan if not already provided for in the Class A licences.

In summary, the Agency maintains its position on the undesirability of the cell D discharge point for Fox mine water, for all the reasons we have previously set out for the board. BHPB has not provided any meaningful reasons as to why cell D is acceptable, and, given the toxicity issues associated with treated mine water and the two-fold increase in use of flocculants and coagulants for Fox ore, the use of cell D is neither conservative nor justified. Until a risk assessment is completed and reviewed as described above, we recommend that the revised plan not be approved at this time.

As Fox mining activities have already begun, we strongly recommend that the risk assessment be done immediately.

Sincerely,

-ORIGINAL SIGNED BY-

Red Pedersen
Chairperson

Cc: Society Members, IACT members