Snap Lake Environmental Monitoring Agency
Main Floor, Lahm Ridge Tower
4501 Franklin Avenue
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Phone: 867-765-0961 FAX: 867-765-0963
Website: www.slema.ca

Jen Potten
Regulatory Officer
Mackenzie Valley Land and Water Board
7th Floor – 4910 50th Avenue
P.O.Box 2130
Yellowknife, NT X1A 2P6

File: MV2001L2-0002

December 6, 2011

RE: East Cell Spills 11-391 and 11-398

Dear Ms. Potten,

The Snap Lake Environmental Monitoring Agency (SLEMA) has reviewed the Report on Snap Lake Spill 11-391 and 11-398 Monitoring Program, and would like to provide the Mackenzie Valley Land and Water Board (MVLWB) with the following comments.

The report provides great details in the monitoring of post-spills and the analysis of the potential effects. SLEMA accepts the conclusion made by the report.

- "On the basis of the data from October 2 to October 24, the spills had the potential for a short-term, localized effect on the water quality in the area immediately surrounding the spills in the northwest basin of Snap Lake."
- "There are insufficient data at this time to evaluate the potential effect on the water quality in Snap Lake should the spills persist. Continued investigation and follow-up monitoring are recommended."

SLEMA is looking forward to reviewing the on-going investigation report (root cause analysis and mitigative measures to be taken) and monitoring report.

SLEMA was not surprised that the two spills to Snap Lake took place. In 2009 SLEMA issued two letters to the MVLWB and expressed the concern of spilling from the East cell to Snap Lake.

The two spills were preventable and should not be viewed as accidental. The following chart shows that since May 2011, the water levels in Sump #4 have been frequently above key water levels.

- 43 days that the acceptable water level of 443.6 meters above sea level (MASL) was exceeded.
- 17 days that the maximum design water level of 444 MASL was exceeded.

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- 15 days that the water level was higher than the natural level of Snap Lake, against one of the design criteria of the East Cell Water Control Structures.

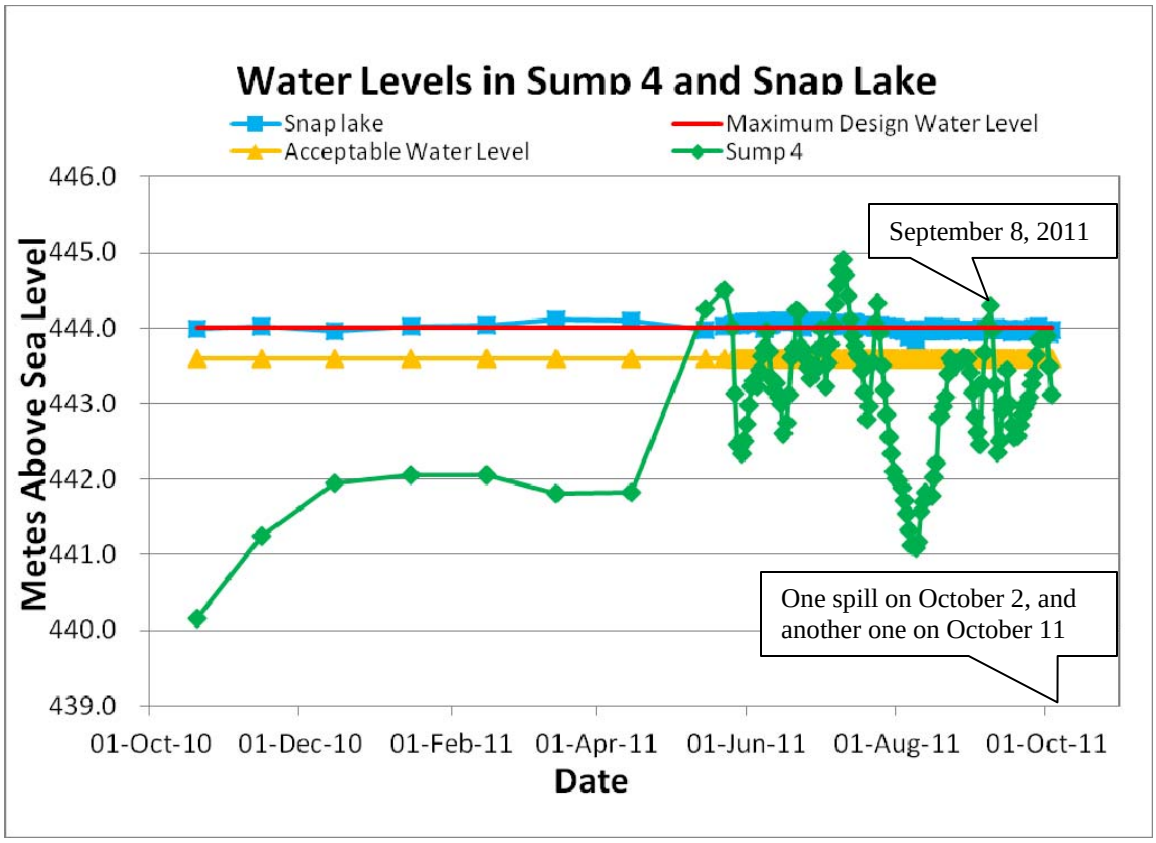

Figure 1. Water Levels in Sump #4 and Snap Lake

SLEMA staff observed water level in Sump #4 higher than that in Snap Lake on September 8, 2011 and asked for confirmation at the mine site on that same day and on September 15 during the Technical Session of Water Licence Renewal. However, the observation appeared to be ignored by De Beers.

Monitoring data in Bog PS3 North (located in the tundra area between the East Cell and Snap Lake) indicate that there may have been seepage inflow to the bog around September 10, 2011 because Nitrate level and Total Dissolved Solids (TDS) level on September 10 were significantly above those levels on June 10 (more than 10 times difference). However, the monitoring results appeared to take a few weeks to feed back to the mine site and could not provide a timely direction to the site water management.

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Table 1. Nitrate and TDS Levels in Bog PS3 Station

Parameter	June 6, 2011	September 10, 2011
Nitrate, mg/L	12.2	157
TDS, mg/L	111.0	1230

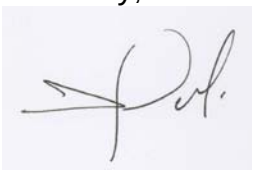
The spills of the East Cell to Snap Lake reaffirm SLEMA's concern about the management systems in place at the mine site, particularly as they pertain to identifying emerging issues and addressing them. As stated in October 18, 2011 SLEMA letter, "it is SLEMA's opinion that current management practices are reactive; not proactive. This creates unnecessary environmental risk."

SLEMA would like to provide the following recommendations for the MVLWB to consider while drafting the new Water Licence.

- Environmental Management System (EMS) at the mine site has room to improve. The EMS audit reports should be considered as part of the reporting requirement of Water Licence Annual report.
- Current practices of water level control in the East Cell sumps appear to be deficient. Real-time water level control is recommended. It includes, but is not limited to, automated real-time water level monitoring and related dewatering schedule.
- Bog stations between the East Cell and Snap Lake shoreline of the Aquatic Effects Monitoring Program (AEMP) are important for timely seepage control of the East Cell. It is recommended to enhance field monitoring in these stations and add them into the Surveillance Network Program (SNP). Specific conductivity, pH and turbidity should be measured daily if applicable.
- Lessons learned from the spills should be incorporated into an updated Water Management Plan and the Monitoring Response Plan that is being developed.

If you have any questions whatsoever please feel free to contact the undersigned or David White at 867-765-0961 / dwhite@slema.ca.

Sincerely,



Johnny Weyallon
Chairperson