



**Snap Lake Environmental Monitoring Agency**  
**Main Floor, Lahm Ridge Tower**  
**4501 Franklin Avenue**  
**P.O. Box 95, Yellowknife, NT X1A 2N1**  
**Phone: 867-765-0961 FAX: 867-765-0963**  
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Marc Casas  
Regulatory Officer  
Mackenzie Valley Land and Water Board  
7<sup>th</sup> Floor – 4910 50<sup>th</sup> Avenue  
P.O.Box 2130  
Yellowknife, NT X1A 2P6

File: Water Licence MV2011L2-0004

January 23, 2014

**Re: Water Management Plan**

Dear Mr. Casas,

Snap Lake Environmental Monitoring Agency (SLEMA) reviewed the above Water Management Plan (Plan), and would like to provide the following comments.

The Plan provides enough information for surface water management, but it is lacking information on underground mine water management. It is recommended that De Beers provide related information for review.

Specific comments are as follows.

- Section 2.1.6, page 12: Inland Lake 6 should be added into Table 2-1 if it is not considered part of the PS5.
- Section 2.1.6, page 12: Table 2-1 Volume of Water Containment Structures and Figure 2-2 Wastewater Management are not consistent. Revision is required.



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<b>Table 2-1</b>		<b>Figure 2-2</b>	
<b>Location</b>	<b>Maximum Storage Capacity (m<sup>3</sup>)</b>	<b>Volume at Full Elevation (m<sup>3</sup>)</b>	<b>Full Elevation (m)</b>
Perimeter Sump 1	3,161	<b>3,755</b>	466.8
Perimeter Sump 2	4,893	<b>5,666</b>	461.5
Perimeter Sump 3	65,000	<b>13,071</b>	445.8
Perimeter Sump 4	10,683	<b>12,509</b>	444.0
Perimeter Sump 5	18,905	<b>25,426</b>	444.0
Water Management Pond	92,762	<b>92,427</b>	450.2
Temporary Sump 4	4,053	4,053	460.0
Inland Lake 6		25,426	444.0

- Figure 2-1 Water Balance Schematic Diagram, page 14: The arrow for Q5 should point to the WTP, instead of the WMP; and the note for Q5 is not correct. Only non-compliant sewage effluent will be diverted to the WMP.
- Section 2.4.3, page 21: The description on Q19, Q20 and Q21 is not consistent with Figure 2-1. Correction is required.
- Section 2.4.3, page 21: It was mentioned that an inter-lock system linked with turbidity meter, nitrate meter, and chloride meter was or will be installed in the WTP to prevent from any non-compliant discharge. There is no description of the inter-lock system in the Plan. Clarification is requested.
- Section 2.5, Table 2-3, page 23: The stream description is not accurate. For example, Q2 should be raw water to potable WTP, rather than WTP; Q5 should be treated effluent to Snap Lake via WTP, rather than direct discharge to Snap Lake; Q8 should be equal to Q6 plus Q7; Q9 is defined the direct precipitation on the sumps, how about the direct precipitation on the North Pile? What does Process Flows (Q11) mean? Q17=Q28-Q11, what is Q28? In addition, the Plan does not identify some water flows, such as the sump water from the Ammonia Nitrate Storage Pad, and (potentially non-compliant) runoff from the Fuel Tank Farm.
- Table 2-4 Summary of SNP Sampling Stations, page 40: no in-house testing for nitrate and chloride as agreed upon for SNP 02-17?
- Table 2-4, page 40: SNP 02-18 is also an important station and should be incorporated into Table 2-4, even if it is only the summary of the AEMP monitoring results.
- Section 3.2.1, page 46: Q16, Q17, and Q20 of Table 2-3 are mentioned, and there may be typo error. Q20 is evaporation, not seepage. Q21 should replace Q20 here.
- Section 3.3.1.3, page 48: The effluent quality criteria table is a duplicate to the one at page 34.



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If you have any questions whatsoever please feel free to contact Philippe di Pizzo at 867-765-0961 / [exec@slema.ca](mailto:exec@slema.ca).

Sincerely,

Johnny Weyallon

A handwritten signature in black ink, appearing to read "J. Weyallon", on a light blue background.

Chairperson