



**Mackenzie Valley Land and Water Board**  
**7th Floor - 4922 48th Street**  
**P.O. Box 2130**  
**YELLOWKNIFE NT X1A 2P6**  
**Phone (867) 669-0506**  
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**Staff Report**

<b>Applicant:</b> De Beers Canada Inc.	
<b>Location:</b> Snap Lake, NT	<b>Application:</b> MV2011L2-0004 & MV2017D0032
<b>Date Prepared:</b> December 29, 2017	<b>Meeting Date:</b> January 11, 2018
<b>Subject:</b> Surveillance Network Program (SNP) – request to amend sampling frequency	

**1. Purpose/Report Summary**

The purpose of this Report is to present to the Mackenzie Valley Land and Water Board (MVLWB/the Board) a request from De Beers Canada Inc. (De Beers) to amend the sampling frequency at Surveillance Network Program (SNP) station 02-16j, required by Annex A of Licence MV2011L2-0004.

**2. Background**

- November 27, 2017 – De Beers submits SNP change request to Board staff;
- November 27, 2017 – Review commenced;
- December 14, 2017 – Reviewer comments and recommendations due and received;
- December 22, 2017 – Responses received;
- **January 11, 2018 – Submission presented to the Board for decision.**

**3. Discussion**

Submission Description

On November 27, 2017 De Beers submitted a request to amend the external sampling frequency for fecal coliforms at SNP station 02-16j. Snap Lake is currently in Extended Care and Maintenance (ECM). As a part of this process, flights to site have been reduced to every two weeks. Currently, the SNP station 02-16j requests weekly sampling when pumping for the following parameters: Biological oxygen demand (BOD), Nutrients, Total Oil and Grease, Total Suspended Solids (TSS), *E. Coli*, and Faecal Coliforms. As such De Beers requests that the SNP requirements be amended to reduce the frequency of external sampling to every two weeks. In house sampling will continue as per usual for fecal coliforms.

**4. Comments**

Not applicable.

## 5. Reviewer Comments

By December 14, 2017, comments and recommendations on the submission were received from the following reviewers:

- Fisheries and Oceans Canada (DFO);
- Government of the Northwest Territories – Environment and Natural Resources (GNWT-ENR); and
- Snap Lake Environmental Monitoring Agency (SLEMA).

De Beers responded by December 22, 2017. The Review Summary and Attachments (attached) presents the concerns identified through the review of the Application.

The GNWT-ENR requested clarification from De Beers on their understanding of the discharge configuration at Snap Lake, and that if their understanding is correct, they recommend that the sampling frequency can be reduced during Extended Care and Maintenance. De Beers' responded by confirming that the GNWT-ENR's understanding was correct.

SLEMA recommended the MVLWB grant De Beers' request to reduce the frequency of external sampling at SNP 02-16j to every two weeks.

Board staff have attached an updated draft Licence MV2011L2-0004 outlining the requested changes to SNP station 02-16j for Board consideration.

## 6. Security

The GNWT currently holds \$39,066,247.00 in reclamation security for the Snap Lake Mine for this Licence.

## 7. Conclusion

Board staff conclude there are no outstanding issues or concerns with this SNP change request.

## 8. Recommendation

Board staff recommend the Board approve the SNP change as requested in De Beers' November 27, 2017 letter.

## 9. Attachments

- [Request Memo/Letter](#)
- Review Summary and Attachments
- Draft Water Licence Conditions
- Draft Decision Letter from the Board

Respectfully submitted,



Kierney Leach  
Technical Regulatory Specialist

**Review Comment Table**

<b>Board:</b>	MVLWB
<b>Review Item:</b>	De Beers Snap Lake - Surveillance Network Program (SNP) change request (MV2011L2-0004)
<b>File(s):</b>	<a href="#">MV2011L2-0004</a>
<b>Proponent:</b>	De Beers Canada Inc. - Snap Lake
<b>Document(s):</b>	<a href="#">Water Licence MV2011L2-0004</a> (1.1 MB) <a href="#">De Beers Snap Lake - Request to amend SNP 02-16j</a> (333 KB)
<b>Item For Review Distributed On:</b>	Nov 27 at 16:39 <a href="#">Distribution List</a>
<b>Reviewer Comments Due By:</b>	Dec 14, 2017
<b>Proponent Responses Due By:</b>	Dec 22, 2017
<b>Item Description:</b>	<p>De Beers Canada Inc. (De Beers) Snap Lake submitted a request to amend the external sampling frequency for fecal coliforms at SNP station 02-16j on November 27, 2017 (attached). Annex A of Water Licence MV2011L2-0004 contains the current SNP requirements (also attached).</p> <p>Reviewers are invited to submit questions, comments, and recommendations on this submission by <b>Thursday December 14, 2017 at 5pm MST</b>.</p> <p>All documents that have been uploaded to this review are also available on our public registry. If you have any questions or comments regarding this review or using the Online Review System, please contact Kierney Leach at 867-766-7470 or <a href="mailto:kleach@mvlwb.com">kleach@mvlwb.com</a>.</p>
<b>General Reviewer Information:</b>	<p>In addition to the email distribution list, the following organizations received review materials by fax:</p> <p>Fort Resolution Métis Council - Trudy King (867) 394-3322</p> <p>Hay River Metis Council - Trevor Beck, President (867) 874-4472</p> <p>NWT Metis Nation - Tim Heron, NWTMN IMA Coordinator (867) 872-3586</p>
<b>Contact Information:</b>	<p>Angela Love 867-766-7456</p> <p>Jen Potten 867-766-7468</p> <p>Kierney Leach 867-766-7470</p>

### Comment Summary

Fisheries and Oceans Canada: SALLY WONG				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
1	General	<p><b>Comment</b> DFO has reviewed De Beers Surveillance Network Program (SNP) change request in accordance to its mandate and has no comments.</p> <p><b>Recommendation</b> n/a</p>		
GNWT - ENR: Central Email GNWT				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
3	General File	<p><b>Comment</b> (<a href="#">doc</a>) ENR Letter with Comments and Recommendations</p> <p><b>Recommendation</b></p>		
1	Topic 1: Change to Monitoring Frequency - Station SNP02-16j	<p><b>Comment</b> De Beers is requesting to change the sampling frequency of effluent from the Sewage Treatment Plant (STP) (SNP02-16j) from "weekly on alternate dates during pumping operations" to "every two weeks" while staffing levels are reduced during Extended Care and Maintenance (ECM). ENR's understanding of the discharge configuration is that effluent from the STP mixes with site effluent, prior to ultimately being incorporated into the final effluent stream discharged from the site (02-17b/02-17). More frequent sampling occurs at this final discharge location during periods of discharge to Snap Lake. De Beers has not proposed changes to this sampling point, so more frequent monitoring (continuously, daily and every six days) of site discharge will</p>	<p><b>Dec 14:</b> De Beers Canada Inc. thanks the GNWT for their comment and understanding.</p>	<p>De Beers' response confirms that the GNWT-ENR's understanding of the discharge configuration is correct.</p>

		<p>occur prior to effluent entering the receiving environment. Sewage parameters are included in monitoring from 02-17/17b. Provided that ENR's understanding of the current discharge configuration is correct, then ENR does not oppose reducing sampling frequency for SNP02-16j to once every two weeks while staffing levels at the Snap Lake Mine are reduced.</p> <p><b>Recommendation 1)</b> ENR recommends that sampling at SNP station 02-16j can be reduced while staffing levels at Snap Lake are reduced during ECM.</p>		
2	None	<p><b>Comment</b> None</p> <p><b>Recommendation 2)</b> ENR recommends that sampling of effluent during periods of discharge to the receiving environment remain at their current approved frequency (SNP 02-17b/02-17).</p>	<p><b>Dec 14:</b> De Beers thanks the GNWT for their comment. Sampling at SNP 02-17B will remain unchanged when pumping.</p>	Acceptable response.
<b>Snap Lake Environmental Monitoring Agency - SLEMA: Zhong Liu</b>				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
1	General File	<p><b>Comment</b> (<a href="#">doc</a>) SLEMA's comments</p> <p><b>Recommendation</b></p>		
2	None	<p><b>Comment</b> No concerns are raised for the request because sample results for SNP 02-16j have remained consistent throughout ECM and there is no indication that this would change.</p> <p><b>Recommendation</b> It is recommended that the MVLWB grant De Beers the request to reduce the frequency of external sampling at SNP 02-16j to every two weeks.</p>		Noted.

3	None	<p><b>Comment</b> One issue are identified for the SNP 02-16j in the Surveillance Network Program (Annex A, MV2011L2-000, page 51 of 66). There is inconsistency between the description and the rationale of SNP 02-16j: The Description of SNP 02-16j is sewage effluent from Sewage Treatment Plant, prior to mixing with Water Treatment Plant effluent, and the Rationale of SNP 02-16j is operational monitoring: to evaluate whether sewage has been adequately treated before mixing with other waste streams in the Water Management Pond.</p> <p><b>Recommendation</b> It is recommended that the MVLWB make changes to ensure the consistency between the Description and the Rationale of SNP 02-16j.</p>		<p>The 'Description' for SNP station 02-16j in the Licence is a process description of the sampling location (where/when). The 'Rationale' is intended to qualitatively describe why sampling is occurring at this location (why). Both the Description and Rationale at SNP station 02-16j in Annex A of Licence MV2011L2-0004 are consistent, and should not be worded identically as they have a different purpose.</p>
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December 13, 2017

Jen Potten  
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

Dear Ms. Potten,

**Re: DeBeers – Snap Lake  
Water Licence – MV2011L2-0004  
Surveillance Network Program (SNP) Change Request  
Request for Comment**

The Department of Environment and Natural Resources (ENR), Government of the Northwest Territories has reviewed the request at reference based on its mandated responsibilities under the *Environmental Protection Act*, the *Forest Management Act*, the *Forest Protection Act*, the *Species at Risk (NWT) Act*, the *Waters Act* and the *Wildlife Act* and provides the following comments and recommendations for the consideration of the Board.

**Topic 1: Change to Monitoring Frequency - Station SNP02-16j**

**Comment(s):**

De Beers is requesting to change the sampling frequency of effluent from the Sewage Treatment Plant (STP) (SNP02-16j) from “weekly on alternate dates during pumping operations” to “every two weeks” while staffing levels are reduced during Extended Care and Maintenance (ECM).

ENR’s understanding of the discharge configuration is that effluent from the STP mixes with site effluent, prior to ultimately being incorporated into the final effluent stream discharged from the site (02-17b/02-17). More frequent sampling occurs at this final discharge location during periods of discharge to Snap Lake. De Beers has not proposed changes to this sampling point, so more frequent monitoring

(continuously, daily and every six days) of site discharge will occur prior to effluent entering the receiving environment. Sewage parameters are included in monitoring from 02-17/17b.

Provided that ENR's understanding of the current discharge configuration is correct, then ENR does not oppose reducing sampling frequency for SNP02-16j to once every two weeks while staffing levels at the Snap Lake Mine are reduced.

**Recommendation:**

- 1) ENR recommends that sampling at SNP station 02-16j can be reduced while staffing levels at Snap Lake are reduced during ECM.
- 2) ENR recommends that sampling of effluent during periods of discharge to the receiving environment remain at their current approved frequency (SNP 02-17b/02-17).

Comments and recommendations were provided by ENR technical experts in the Water Resources Division and the North Slave Region and were coordinated and collated by the Environmental Assessment and Monitoring Section, Conservation, Assessment and Monitoring Division (CAM).

Should you have any questions or concerns, please do not hesitate to contact Patrick Clancy, Environmental Regulatory Analyst at (867) 767-9233 Ext: 53096 or email [patrick.clancy@gov.nt.ca](mailto:patrick.clancy@gov.nt.ca).

Sincerely,



Patrick Clancy  
Environmental Regulatory Analyst  
Environmental Assessment and Monitoring Section  
Conservation, Assessment and Monitoring Division  
Department of Environment and Natural Resources  
Government of the Northwest Territories





**Snap Lake Environmental Monitoring Agency**  
**5120 49<sup>th</sup> Street, 3<sup>rd</sup> Floor**  
**P.O. Box 95, Yellowknife, NT X1A 1P8**  
**Phone: 867-765-0961**  
**Website: [www.slema.ca](http://www.slema.ca)**

Kierney Leach  
Technical Regulatory Specialist  
Mackenzie Valley Land and Water Board  
7th Floor – 4910 50th Avenue  
P.O.Box 2130  
Yellowknife, NT X1A 2P6

File: MV2011L2-0004

December 14, 2017

**Re: De Beers' Request to Amend SNP 02-16j**

Dear Ms. Leach,

Snap Lake Environmental Monitoring Agency (SLEMA) has reviewed the Request. Enclosed please find the Comment Table.

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

Sincerely,

**Original signed by**

Alex Power  
Chairperson