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September 3, 2019

Files: MV2005C0032
MV2005L2-0015

Mr. William Liu
De Beers Canada Inc.
Suite 300 – 1601 Airport Road NE
Airport Corporate Center
Calgary AB T2E 6Z8

Email: William.Liu@debeersgroup.com

Dear Mr. Liu:

Re: De Beers Canada Inc. – Gahcho Kue Mine – 2018 Annual Report

The Mackenzie Valley Land and Water Board (MVLWB or the Board) met on August 29 2019 to review De Beers Canada Inc.'s (De Beers) 2018 Annual Report, which was submitted under Part B, condition 10 of Water Licence MV2005L2-0015 and Condition 94 of Land Use Permit MV2005C0032 on March 30, 2019.

The Board hereby acknowledges receipt of the 2018 Annual Report and provides the following direction based on comments made during this review:

- The Board directs De Beers to update the 2018 Annual Report to address the comments received during the review period, specifically ENR comment ID-3, 16, 19, 20, and Board staff comment ID-1, 2, 3, 4, and 5 and resubmit to the Board by **September 26, 2019**. For these corrections, a complete updated version should be resubmitted with all changes noted in a revision summary table.
- The Board directs De Beers to address the comments and commitments from the Review Comment Table in future iterations of the Annual Report, starting with the March 31, 2020 submission, specifically ECCC comment ID-1 and 3, and GNWT-ENR comment ID-1, 2, 7, 12, 14, 15, 17, 18.
- The Board directs De Beers to review and update (including cross referencing) the sampling practices as outlined in the Geochemical Characterization and Management Plan, the Operational Water Management Plan, and the Quality Assurance and Quality Control Plan, to address the comments received during the review period, specifically ECCC comment ID-2 and GNWT-ENR comment ID-4 and 5. If changes are required, an update to the plans (as applicable) shall be submitted to the Board or Analyst (as applicable) for approval.
- The Board directs De Beers to review and update the sampling practices and response framework (specifically Table 7) outlined in the Geochemical Characterization and Management Plan, to address the comments received during the review period, specifically GNWT-ENR comment ID-10, 11, and 13. If changes are required, an updated Geochemical Characterization and Management Plan shall be submitted for Board approval.

Confirmation of the required update to the 2018 Annual Water Licence Report will be determined by Board staff.

The full cooperation of De Beers is anticipated and appreciated. If you have any questions or concerns, please contact Angela Love at (867) 766-7456 or email angela.love@mvlwb.com.

Yours sincerely,



Mavis Cli-Michaud

MVLWB Chair

Copied to: Distribution List

Attached: Review Comment Table

Review Comment Table

Board:	MVLWB
Review Item:	De Beers Gahcho Kue - 2018 Annual Report (MV2005C0032 and MV2005L2-0015)
File(s):	MV2005C0032 MV2005L2-0015
Proponent:	De Beers Canada Inc - Gahcho Kue
Document(s):	2018 Annual Report (86.29 MB)
Item For Review Distributed On:	Apr 4 at 11:16 Distribution List
Reviewer Comments Due By:	May 22, 2019
Proponent Responses Due By:	May 29, 2019
Item Description:	<p>De Beers Canada Inc. (De Beers) submitted their 2018 Annual Water Licence Report (Report) on March 30, 2019. This Report is required by Land Use Permit (Permit) MV2005C0032, Condition 94 and Water Licence (Licence) MV2005L2-0015, Part B, condition 10 and Schedule 1.</p> <p>Although formal approval of this Report not required under the Licence, the Board must be satisfied that the Licensee has met the requirements of the Licence. Therefore, reviewers are invited to submit comments and recommendations using the Online Review System (ORS) by the review comment deadline specified below. If reviewers seek clarification on the submission, they are encouraged to correspond directly with the proponent prior to submitting comments and recommendations.</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 about the ORS or this review, please contact Board staff identified below.</p>
General Reviewer Information:	<p>In addition to the email distribution list, the following organizations received review materials by fax:</p> <p>Northwest Territory Métis Nation; Tim Heron; NWTMN IMA Coordinator; (867) 872-3586; rcc.nwtmn@northwestel.net</p>
Contact Information:	<p>Angela Love 867-766-7456 Jen Potten 867-766-7468</p>

Comment Summary

Environment and Climate Change Canada: Russell Wykes				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
4	General File	Comment (doc) ECCC Cover Letter Recommendation		Noted.
1	Topic: Nitrate loadings References: 1) Section 10.2 Updates on the success of management measures undertaken to reduce nitrate loadings to the Water Management Pond 2) Figure 10-1 Accumulative Nitrate Loading from Pit Dewatering in 2017 and 2018	Comment In order to address increasing trends, measures have been undertaken to reduce nitrate loading to the Water Management Pond (WMP). According to Section 10.2 of the 2018 annual report, nitrate loading due to pit dewatering has been reduced in 2018 through the implementation of mitigation strategies. Figure 10-1 illustrates nitrate loading to the WMP from pit dewatering in 2017 and 2018, and provides a comparison between the two years. On-going graphical comparisons of nitrate loading data (i.e., comparing current year data to historic data) would support the continued tracking of pit dewatering loading trends. Recommendation ECCC recommends that future annual reports continue to provide graphical comparisons of accumulative nitrate loadings to the Water Management Pond from pit dewatering by comparing current year data with historic loading data.	May 30: Acknowledged. De Beers plans to continue to track nitrate loadings from the pit dewatering and report them in the Annual Report.	Noted. In future submissions of the Annual Water Licence Report, De Beers is to continue to include a graphical comparisons of accumulative nitrate loadings to the Water Management Pond from pit dewatering by comparing current year data with historic loading data.
2	Topic: Seepage Surveys References: 1) Table 11-16 Summary of Action Level Exceedances in 2018, as Defined in the Geochemical Characterization and Management Plan 2) Appendix D – Geochemical Audit Technical Report, 2018	Comment Seepage surveys, as described in the Geochemical Characterization and Management Plan, were conducted in June and September of 2018. Survey locations included the AN storage pad; Airstrip; Dykes A, A1, F, G, H, I and J; N11 road; distal from the mine; South Mine Rock Pile; CPK Pile and the ROM	May 30: As discussed in responses to GNWT #4 and 5, the higher than expected concentrations were results of collecting samples from stagnant water ponding, instead of active seepage or runoff. The inappropriate sampling methods during the 2018 seepage audit program were recognized	Noted. Board staff appreciates De Beers' explanation of why higher than expected concentrations were a result of collecting samples from stagnant water ponding, instead

		<p>Pad. Monitoring results indicate action level exceedances occurred during both seepage sampling events, with generally more parameter exceedances in the fall than spring. Action level exceedances include elevated levels of metals and routine parameters in several downgradient samples, some of which also exhibited elevated nutrients. Minimal information has been provided regarding whether any management responses resulted from these action level exceedances.</p> <p>Recommendation ECCC recommends that the Proponent describe whether any management responses were initiated and/or planned as a result of the action level exceedances (nutrients, metals and routine parameters), and describe any associated changes to monitoring and/or mitigation.</p>	<p>during the review of the geochemical audit report and corrective actions are being implemented in the 2019 bi-annual seepage audit program. Seepage sampling will focus on active seepage from the mine rock/CPK pile/dykes or from the water ponding that collect active seepages/runoff.</p>	<p>of active seepage or runoff.</p> <p>De Beers is to ensure that proper collection of samples occurs in the future to ensure accuracy of the results to capture any areas of potential concern.</p> <p>A review and update (including cross referencing) of the sampling practices as outlined in the Geochemical Characterization and Management Plan, the Operational Water Management Plan, and the Quality Assurance and Quality Control Plan is required. If changes are required, an update to the plans (as applicable) shall be submitted to the Board or Analyst (as applicable) for approval.</p>
3	<p>Topic: Air Quality Comments - Gachcho Kue 2018 Annual Report</p>	<p>Comment In its Commitments Table (Appendix F, page F-47), De Beers indicated that it will make available the results of the air quality monitoring programs and emission estimates through public submission of the annual report. However, the 2018 Annual Water License and Land Use Permit Report does not contain any results of air monitoring from the Project, and no other report with air monitoring results has been made available to ECCC.</p> <p>Recommendation ECCC requests that the De Beers make available</p>	<p>May 30: The air quality and emission monitoring data will be included in the Annual Air Quality Report under the Air Quality and Emission Monitoring Management Plan (AQEMMP). The annual air quality reports have been submitted to MVLWB, GNWT, and ECCC each year in the past. De Beers is scheduled to submit the 2018 Air Quality Report to MVLWB, GNWT, and ECCC in June 2019. The latest version of the approved AQEMMP is available at the MVLWB</p>	<p>Noted.</p> <p>In future submissions of the Annual Water Licence Report, De Beers should ensure that all information committed to being submitted has been provided. Rational should be provided for circumstances when information, previously committed to, has not been included.</p>

		the result of air quality monitoring activities from 2018, as well as the most recent version of the Air Quality Emissions Management and Monitoring Plan. ECCC requests the opportunity to provide comments on these results when they are made available.	registry: http://registry.mvlwb.ca/Documents/MV2005C0032/MV2005C0032%20MV2005L2-0015%20-%20De%20Beers%20Gahcho%20Kue%20-%20Air%20Quality%20and%20Emissions%20MMP%20-%20Version%203%20-%20Oct19-15.pdf	
Fisheries and Oceans Canada: Laura Watkinson				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
1	General	Comment DFO has reviewed the De Beers Gahcho Kue - 2018 Annual Report in accordance with its mandate and has no comments at this time. Recommendation N/A	May 30: Acknowledged.	Noted.
GNWT - ENR: Central Email GNWT				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
2 1	General File	Comment (doc) ENR Letter with Comments and Recommendations Recommendation		Noted.
1	Topic 1: Current Project Schedule	Comment Table 4-1 outlines the Current Project schedule including construction and closure. ENR notes that in the 2017 Annual Report, progressive reclamation of the coarse processed kimberlite (CPK) pile is anticipated to begin in 2021, while the 2018 Annual Report, it begins in 2025. It isn't clear why the schedule has changed. Recommendation 1) ENR recommends that in future Annual Reports, De Beers identify any changes in project schedule.	May 30: Acknowledged.	Noted. In future submissions of the Annual Water Licence Report, De Beers is to identify any changes to the project schedule.
2	None	Comment None Recommendation 2) ENR recommends De Beers provide	May 30: The CPK Pile progressive reclamation timeline in the 2017 Annual	Noted.

		rationale for delaying progressive reclamation of the CPK pile, as well as a description of any other changes to the project schedule since the 2017 Annual Report.	report was inaccurate. Based on the 2018 Project Description and latest Processed Kimberlite and Mine Rock Management Plan, the CPK pile will not reach its final footprint and height until Year 9 (2024) of the operation. The start of the progressive reclamation will therefore not start until one year after the CPK placement.	In future submissions of the Annual Water Licence Report, De Beers is to include an explanation for any of the changes to the project schedule.
3	Topic 2: Seepage Survey Dates	<p>Comment Section 11, page 51 states that seepage surveys were conducted June 10-15, 2018 and September 30, 2018. Page 73 states that seepage and runoff surveys were completed May 28-30, 2018 and September 10-12, 2018.</p> <p>Recommendation 1) ENR recommends that De Beers clarify the dates of the seepage surveys.</p>	<p>May 30: The spring seepage survey was carried out between May 28 and 30, 2018, the fall program was carried out between September 10 and 12 2018. The 2018 Annual Report Ver.1.1 will be updated to reflect the correct sampling dates.</p>	<p>Noted.</p> <p>De Beers to update section 11 of the Annual Report with the corrected information.</p> <p>Include this item in a conformity table to indicate where in the Annual Report this item has been addressed.</p>
4	Topic 3: Seepage Sampling Locations and Protocol	<p>Comment According to Tables 11-3 and 11-4, the majority of seepage sample locations had no visible water flow during the spring and fall surveys. The spring survey noted several locations were ice covered, and the fall survey noted several locations that were dry. The 2018 Bi-Annual Geochemical Audit, Performance Monitoring Report (Tetra Tech, 2018) in Appendix D states that 28 samples were collected in the spring event, and 23 were collected in the fall. Section 4.2.2 of the Geochemical Audit (Tetra Tech, 2018) notes that exceedances in sample DI-01 of aluminum, cadmium, lithium, manganese, nickel, zinc, etc. ".may be due to standing water and annual evaporation, and not</p>	<p>May 30: De Beers agrees with GNWT's comment that one of the intents of the seepage sampling program is to monitor the change in seepage water quality, and to compare with the water quality model inputs. De Beers recognized that majority of the 2018 seepage samples were collected from stagnant water ponding. As concentrations of constituents in isolated water ponding are highly influenced by the wet and dry cycle, and have much higher contact and retention time with surrounding materials, they are not representative of the true seepage water quality. In the</p>	<p>Noted.</p> <p>Board staff appreciates De Beers' explanation of why higher than expected concentrations were a result of collecting samples from stagnant water ponding, instead of active seepage or runoff.</p> <p>De Beers is to ensure that proper collection of samples occurs in the future to ensure accuracy of the results to capture any areas of potential concern.</p> <p>A review and update (including cross</p>

		<p>due to dyke seepage." Given that the majority of samples were collected from areas where no flow was visible, and ice was present in the spring, it isn't clear that the results of this program are truly representative of waste rock geochemistry and influences on seepage and surface runoff.</p> <p>Recommendation 1) ENR recommends that De Beers clarify the goal of this geochemical sampling program. If the goal is to characterize the water quality of seepage and runoff interacting with waste rock on site, ENR recommends that samples only be collected when visible flow is present and the water can be seen to be exiting the waste rock pile/structure.</p>	<p>2019 biannual seepage sampling program, De Beers will only sample and report active seepage water quality results.</p>	<p>referencing) of the sampling practices as outlined in the Geochemical Characterization and Management Plan, the Operational Water Management Plan, and the Quality Assurance and Quality Control Plan is required. If changes are required, an update to the plans (as applicable) shall be submitted to the Board or Analyst (as applicable) for approval.</p>
5	None	<p>Comment None</p> <p>Recommendation 2) ENR recommends that De Beers consider conducting the spring seepage survey slightly later in the spring to avoid ice covered conditions at the sample locations.</p>	<p>May 30: Agreed. De Beers will only collect active seepage samples or sample from water ponding that collect active seepage/runoff. We will also avoid collecting any under-ice water samples.</p>	<p>Noted.</p> <p>De Beers is to ensure that proper collection of samples occurs in the future to ensure accuracy of the results to capture any areas of potential concern.</p> <p>A review and update (including cross referencing) of the sampling practices as outlined in the Geochemical Characterization and Management Plan, the Operational Water Management Plan, and the Quality Assurance and Quality Control Plan is required. If changes are required, an update to the plans (as applicable) shall be</p>

				submitted to the Board or Analyst (as applicable) for approval.
6	Topic 4: Table 11-10 - Parameters selected from the Shake Flask Extraction (SFE) Analysis (Mine Rock)	<p>Comment ENR compared the parameters selected for Table 11-10 in the 2018 Annual Report, to the corresponding table (Table 11-7a) in the 2017 Annual Report and noted that 3 additional parameters are listed in the 2018 Annual Report: dissolved aluminum, copper, and uranium. ENR also noted that vanadium was not included in the 2018 table although it had been included in the 2017 table. ENR notes similar parameter changes between Table 11-12 (2018 Annual Report) and the corresponding Table 11-8a (2017 Annual Report), as well as Table 11-13 (2018 Annual Report) and corresponding Table 11-8b (2017 Annual Report). ENR notes that there is no discussion regarding how these parameters are selected, or why the list of selected parameters could change year to year.</p> <p>Recommendation 1) ENR recommends that De Beers clarify why the selected parameters for SFE results have changed in 2018, and that selection criteria or rationale be provided for the parameters being presented in future Annual Reports.</p>	<p>May 30: All SFE parameters are provided in the Appendix D tables. The report tables provide select parameters for review. The selection criteria is generally to illustrate metals that are higher than steady state or first flush values. Previous years' reports also included a random selection of other parameters. Future reports will highlight only values that exceed first flush or steady state in report, and present the remaining elements in the appendix.</p>	Board staff note that the provided tables were only selected parameters that highlighted any metals that were higher than steady state or first flush values. The full results were provided as an appendix.
7	Topic 5: Geochemical Monitoring – Shake Flask Extraction Results	<p>Comment Section 11.2 contains a summary of the geochemical monitoring results, including results of shake flask extraction analysis compared to the input water chemistry for "Unsaturated Mine Rock - Granite (Non-PAG)" used in water quality modelling. De Beers notes a number of analyzed parameters that exceed</p>	<p>May 30: Acknowledged. 2019 and future Annual Reports will include discussions on SFE and NAG extract leachate analysis results.</p>	Noted. In future submissions of the Annual Water Licence Report, De Beers is to include an interpretation or discussion of the significance of the concentrations that exceed the input

		<p>the steady state and first flush values, with other parameters exceeding the steady state, but below first flush values for both mine rock and kimberlite samples. However, neither this section nor Appendix D contain any interpretation or discussion of the significance of the concentrations that exceed the input water chemistry values.</p> <p>Recommendation 1) ENR recommends that De Beers include interpretation of results in all future Annual Reports as specified in the Water Licence (Schedule 1, Part B, Item 10, 1.j.ii).</p>		water chemistry values.
8	Topic 6: Appendix D - Geochemical Audit - NP Determination Methodologies	<p>Comment It isn't clear why the Modified Sobek method was used for analysis of the spring audit samples, and the Standard Sobek method was used in analysis for the fall audit samples.</p> <p>Recommendation 1) ENR recommends that De Beers provide rationale for using two different NP determination methodologies during the 2018 bi-annual geochemical audit.</p>	<p>May 30: De Beers did not intend to use two different methods. De Beers has elected to use the Standard Sobek method in previous years, and moving forward for consistency and ease of comparison year-to-year, the Standard Sobek method will be used for all samples. The Standard Sobek method is listed as an appropriate method for neutralization potential determination in the MEND Guidelines (Price, 2009)</p>	Board staff note that De Beers has agreed to use the Standard Sobek method for all samples to allow for consistency and ease of comparison of the year-to-year analysis moving forward.
9	None	<p>Comment None</p> <p>Recommendation 2) ENR recommends that De Beers clarify which method will be used for future geochemical audits, and provide justification for selecting that method.</p>	<p>May 30: See response to GNWT #8.</p>	Noted.
10	Topic 7: Table 11-16 Management Responses	<p>Comment ENR notes that not all management responses in Table 11-16 address the action level exceedances as laid out in the Geochemical Characterization and Management Plan. For example, a number of seepage samples exceeded multiple action levels; however, none of</p>	<p>May 30: As pointed out by GNWT #4 and 5, higher than expected concentrations were results of collecting samples from stagnant water ponding, instead of active seepage or runoff. The inappropriate sampling methods during the 2018</p>	<p>Noted.</p> <p>Board staff appreciates De Beers' explanation of why higher than expected concentrations were a result of collecting samples from stagnant</p>

		<p>the management responses such as: review pH test procedure, collect and analyze follow up confirmation sample, increase frequency of monitoring, investigate alternative mitigation strategies, etc. are included. ENR notes that it isn't clear how the various management responses are categorized in terms of low, medium, high action level exceedances. It would be helpful to clarify this in the Annual Water Licence Reports as well as the Geochemical Characterization Management Plan.</p> <p>Recommendation 1) ENR recommends that De Beers clarify management responses taken to address the seepage action level exceedances.</p>	<p>monitoring program were recognized during the review of the geochemical audit report and corrective actions are being implemented during the 2019 bi-annual geochemical audit program. Seepage sampling will focus on active seepage from the mine rock/CPK pile/dykes or from the water ponding that collect active seepages/runoff.</p>	<p>water ponding, instead of active seepage or runoff.</p> <p>De Beers is to ensure that proper collection of samples occurs in the future to ensure accuracy of the results to capture any areas of potential concern.</p> <p>A review of the sampling practices and response framework (specifically Table 7) outlined in the Geochemical Characterization and Management Plan (the Plan) is required. An update may be required to better reflect how exceedances are evaluated and what responses are based on the evaluation of a particular exceedance (e.g., simply continue monitoring, increase monitoring, or need to implement some kind of mitigation).</p> <p>If changes are required, an updated Plan shall be submitted for Board approval.</p>
1 1	None	<p>Comment None</p> <p>Recommendation 2) ENR recommends that the level of management response (low, medium, high) being applied is included in Table 11-16.</p>	<p>May 30: One of the intents of the seepage sampling program is to provide monitoring data to validate the site water quality model. The management responses were also included to trigger operation/construction actions or future model updates. De Beers deems</p>	<p>A review of the sampling practices and response framework (specifically Table 7) outlined in the Geochemical Characterization and Management Plan (the Plan) is required.</p>

			the current responses framework is adequate.	<p>An update may be required to better reflect how exceedances are evaluated and what responses are based on the evaluation of a particular exceedance (e.g., simply continue monitoring, increase monitoring, or need to implement some kind of mitigation).</p> <p>If changes are required, an updated Plan shall be submitted for Board approval.</p>
1 2	Topic 8: Spring and Fall Seepage Sample Metal Exceedances	<p>Comment Sections 4.2.2 and 4.2.4 of Appendix D notes a number of seepage sample exceedances relative to water chemistry source term predictions - steady state and first flush - during both the spring and fall surveys. ENR notes that the document does not provide any discussion or interpretation of the significance of the exceedances.</p> <p>Recommendation 1) ENR recommends that in future Annual Reports, a discussion of results should be provided detailing the significance of any deviations from source term predictions, potential causes of any exceedances, and mitigation measures to be implemented, if applicable.</p>	May 30: Acknowledged. De Beers will include discussions on the monitoring results in the future.	<p>Noted.</p> <p>In future submissions of the Annual Water Licence Report, De Beers is to include a discussion of the results detailing the significance of any deviations from source term predictions, potential causes of any exceedances, and mitigation measures to be implemented.</p>
1 3	None	<p>Comment None</p> <p>Recommendation 2) ENR recommends that, given the number of parameter concentrations that exceeded the input water chemistry values, De Beers consider establishing action levels and associated management</p>	May 30: The current response framework includes the comparison to concentrations outside of normal range. Further, as discussed for GNWT #10 and #11, De Beers will conduct a corrected seepage sampling program in 2019. Depending	<p>Noted.</p> <p>De Beers is to ensure that proper collection of samples occurs in the future to ensure accuracy of the results to capture any areas of potential concern.</p>

		<p>responses for metal leaching in the Geochemical Characterization and Management Plan. This will support adaptive management during operations, and help inform closure and post closure monitoring.</p>	<p>on the 2019 seepage survey results, De Beers will have a review of the effectiveness of the response framework.</p>	<p>A review of the sampling practices and response framework (specifically Table 7) outlined in the Geochemical Characterization and Management Plan (the Plan) is required. An update may be required that establishes action levels and associated management responses for metal leaching.</p> <p>If changes are required, an updated Plan shall be submitted for Board approval.</p>
1 4	Topic 9: Seepage Trend Analysis	<p>Comment De Beers states in Section 11.3 of the 2018 Annual Report that trend analysis of seepage and runoff survey data was conducted by completing Mann-Kendall tests, and that the full suite of trends are included in Appendix D, but they do not appear to have been included.</p> <p>Recommendation 1) ENR recommends that De Beers provide an overview analysis of major trends as specified in the Water Licence (Schedule 1, Part B, Item 10, 1.j.iii).</p>	<p>May 30: De Beers intended to conduct a trend analysis and interpretation of previous monitoring results as per Water Licence conditions (Schedule 1, Part B, Item 10, 1.j.iii and 1.j.iv). However, it was determined it was too early to conduct such analysis. As the seepage sampling program only started in September 2016, in many cases there were only three sample points to analyze. Once the lab analysis is available after the 2019 sampling program, De Beers will access if the dataset is sufficient to conduct trend analysis and will include discussions the assessment in the 2019 Annual Report.</p>	<p>Noted.</p> <p>In future submissions of the Annual Water Licence Report, De Beers is to include an overview analysis of major trends as required by Schedule 1, Part B, condition 10, 1.j.iii of Licence MV2005L2-0015.</p>
1 5	Topic 10: Interpretation of the Results of all Survey Data Collected since Project Inception	<p>Comment ENR notes that the 2018 Annual Report, as well as Appendix D are focused on the 2018 data, and do not provide an</p>	<p>May 30: Please see response for GNWT #14.</p>	<p>Noted.</p> <p>In future submissions of the Annual Water</p>

		<p>interpretation of the results of all survey data collected since project inception as specified in the Water Licence (Schedule 1, Part B, Item 10, 1.j.iv).</p> <p>Recommendation 1) ENR recommends that De Beers provide an interpretation of results of all survey data collected since project inception as specified in the Water Licence (Schedule 1, Part B, Item 10, 1.j.iv).</p>		<p>Licence Report, De Beers is to include results of all survey data collected since project inception, and an interpretation of the results if possible, as required by Schedule 1, Part B, condition 10, 1.j.iv of Licence MV2005L2-0015.</p>
1 6	Topic 11: SNP-06	<p>Comment Based on GNWT-ENR comment ID-4 made during the review of the 2017 Annual Report, the Board directed De Beers to "include a narrative description and interpretation of parameters of concern, detailing influences that can be attributed from the Fine PKC Facility on the Water Management Pond" in future iterations of the Annual Report, starting with the March 31, 2019. ENR notes that the 2018 Annual Report does not contain such a description.</p> <p>Recommendation 1) ENR recommends that De Beers provide the "description and interpretation of parameters of concern, detailing influences that can be attributed from the Fine PKC Facility on the Water Management Pond" in order to satisfy the direction from the Board.</p>	<p>May 30: The appropriate section in the 2018 Annual Report Ver. 1.1 will be updated to incorporate the GNWT Comment #16.</p>	<p>Noted.</p> <p>De Beers to update the Annual Water Licence Report as requested by the Board in the July 5, 2018 letter.</p> <p>Include this item in a conformity table to indicate where in the Annual Report this item has been addressed.</p>
1 7	Topic 12: SNP-07 Fecal Coliform Exceedance	<p>Comment The fecal coliform count in the October 2nd sample was 61 MPN/100mL, which exceeded the effluent quality criteria (EQC) of 20 MPN/100mL. Given that the membrane bioreactors weren't investigated until October 16, the effluent was potentially out of compliance for up to two weeks. ENR notes that the 2018 Annual Report does not discuss any</p>	<p>May 30: Agreed. As described in the Annual Report, De Beers worked with the GNWT Lands Inspector in implementing all necessary correctives actions. Fecal coliform samples were not collected at the downstream locations, as the incident occurred during winter month. If fecal coliform in</p>	<p>Board staff note that if fecal coliform in the SNP-07 sample exceeds the EQC level during the summer months, then De Beers has agreed to sample the downstream water containment facility for fecal coliform to ensure it does not exceed the EQC level.</p>

		<p>additional investigations or confirmatory sampling in Area 7 or the Water Management Pond (WMP) to investigate whether untreated effluent impacted Area 7 or the WMP.</p> <p>Recommendation 1) ENR recommends that if future exceedances occur, De Beers sample the effluent storage location to ensure that the effluent in those locations does not exceed the SNP-07 fecal coliform EQC.</p>	<p>the SNP-07 sample exceeds the EQC level during the summer months again. De Beers will sample the downstream water containment facility for fecal coliform to ensure it does not exceed the SNP-07 EQC level.</p>	<p>In future submissions of the Annual Water Licence Report, De Beers is to include a discussion of exceedances and any additional investigations or confirmatory sampling taken.</p>
18	None	<p>Comment None</p> <p>Recommendation 2) ENR recommends that future Annual Reports include a summary of corrective actions that have been put in place to ensure such issues are prevented going forward.</p>	<p>May 30: A summary of the corrective actions was included in Section 19.1.4. of the Annual Report.</p>	<p>Board staff note that section 19.1.4 provided a summary of the corrective actions taken to address the exceedance but does not discuss how the exceedance may be prevented in the future.</p> <p>In future submissions of the Annual Water Licence Report, should exceedances be noted, De Beers is to include a summary of corrective actions that have been put in place to help prevent exceedances going forward.</p>
19	Topic 13: Seepage from South Mine Rock Pile-Board Direction	<p>Comment In response to GNWT-ENR comment ID-6 on the 2017 Annual Report, the Board directed De Beers "to include appropriate reference values to the table associated with the 'Laboratory Analytical Results for</p>	<p>May 30: Agreed. Reference values will be included in Table 19-29 of the Annual Report.</p>	<p>Noted.</p> <p>De Beers to update the Annual Water Licence Report as requested by the Board in the July 5, 2018 letter.</p>

		<p>Samples collected at SNP-12' and to provide a narrative description, detailing the magnitude of any deviations between results and predictions and outlining potential causes and mitigations, if applicable." ENR notes that the reference values have not been provided in Table 19-29 (results from SNP-12).</p> <p>Recommendation 1) ENR recommends that De Beers provide the reference values associated with Table 19-29 in order to satisfy the direction from the Board.</p>		<p>Include this item in a conformity table to indicate where in the Annual Report this item has been addressed.</p>
20	Topic 14: Seepage from Coarse Processed Kimberlite Pile	<p>Comment In response to GNWT-ENR comment ID-7 on the 2017 Annual Report, the Board directed De Beers "to include appropriate reference values to the table associated with the 'Laboratory Analytical Results for Samples collected at SNP-14' and to provide a narrative description, detailing the magnitude of any deviations between results and predictions and outlining potential causes and mitigations, if applicable." ENR acknowledges that the reference values have been provided in Table 19-31 but that there is no narrative description detailing the magnitude of any deviations between results and predictions. Given that there are 17 parameters where deviations have been highlighted, it is particularly important that DeBeers detail the significance of these deviations, as well as outline potential causes and mitigations, as applicable.</p> <p>Recommendation 1) ENR recommends that De Beers "provide a narrative description, detailing the magnitude of any deviations between results and</p>	<p>May 30: As described in response to GNWT #10, the exceedance of the water samples is due to inappropriate sampling of stagnant water, instead of active seepage flows. As a corrective action, the 2019 seepage sampling program will only focus on the active seepage / runoff, and the water ponding that collects active seepage/runoff. The description in appropriate report sections will be updated.</p>	<p>Noted.</p> <p>De Beers to update the Annual Water Licence Report as requested by the Board in the July 5, 2018 letter.</p> <p>Include this item in a conformity table to indicate where in the Annual Report this item has been addressed.</p>

		predictions and outlining potential causes and mitigations, if applicable” in Table 19-31 in order to satisfy the direction from the Board		
MVLWB: Angela Love				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
1	July 5, 2018 Board Acknowledgement/Direction Letter of 2017 Annual Report	Comment The Board provided direction to De Beers, in the Acknowledgement/Direction Letter dated July 5, 2018, to address comments and commitments made during the review of the 2017 Annual Report. Recommendation De Beers to confirm where in the 2018 Annual Report the Boards direction has been addressed.	May 30: During submission of Water Licence Annual Report Version 1.1, a conformance table will be included in the cover letter to confirm how the Board directions on 2017 and 2018 Annual Reports.	Noted. De Beers to update the Annual Water Licence Report as requested by the Board in the July 5, 2018 letter.
2	Plain Language Summary	Comment States the Type A Water Licence was issued September 24, 2016. Issuance was on September 24, 2014. Recommendation To update date of Issuance.	May 30: The water licence issuance date will be updated.	Noted. De Beers to update the plain language summary of the Annual Water Licence Report with the corrected information.
3	Section 1: Introduction	Comment 1) Reference is made to a Land Use Permit MV2014C0032. Recommendation To update Land Use Permit reference to MV2005C0032.	May 30: The reference to the land use permit will be updated.	Noted. De Beers to update section 1 of the Annual Water Licence Report with the corrected information.
4	N/A	Comment 2) States the Type A Water Licence was issued September 24, 2016. Issuance was on September 24, 2014. Recommendation To update date of Issuance.	May 30: The water licence issuance date will be updated.	Noted. De Beers to update section 1 of the Annual Water Licence Report with the corrected information.
5	Section 2: Engagement	Comment Table 2-1 reads as though this is a tentative schedule for activities to occur in the future, but is labeled for engagement in 2018. Recommendation De Beers to	May 30: Descriptions of Table 2-1 will be updated to conform to the Water Licence condition.	Noted. De Beers to update section 2 of the Annual Water Licence Report

	confirm if Table 2-1 describes activities that are planned for the forthcoming year (i.e. 2019) as required by Schedule 1, condition 1 a) of Licence MV2005L2-0015.		with the corrected information.
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