

Review Comment Table

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| Board: | MVLWB |
| Review Item: | De Beers Canada Inc. - Snap Lake - Water Licence Renewal Draft Water Licence (MV2019L2-0004) |
| File(s): | MV2019L2-0004 |
| Proponent: | De Beers Canada Inc. - Snap Lake |
| Document(s): | DRAFT Water Licence (916 KB) GNWT Response to Undertakings (511 KB) GNWT RECLAIM - Estimate with No Wetlands (654 KB) GNWT RECLAIM - Estimate with Wetlands (655 KB) |
| Item For Review Distributed On: | Jan 6 at 17:17 Distribution List |
| Reviewer Comments Due By: | Jan 30, 2020 |
| Proponent Responses Due By: | Feb 7, 2020 |
| Item Description: | <p>Jan 24 Update - Please note that the GNWT has submitted their responses to Undertakings #5 and #6 from the Nov 26-27, 2019 Public Hearing and has been linked to this review item (including RECLAIM estimates; with wetlands, and without wetlands). PLEASE USE CHROME TO OPEN THE EXCEL FILES.</p> <p>These responses may impact the currently worded Draft conditions pertaining to the Security and the Plume Delineation Study. As such, reviewers are asked to consider this submission when making comments and recommendations on these Draft conditions.</p> <p>Jan 6 - The purpose of this draft Water Licence is to allow reviewers to comment on possible conditions. These draft materials are not intended to limit, in any way, the scope of reviewers' comments.</p> <p>The Board is not bound by the contents of the draft Licence and will make its decision at the close of the proceeding on the basis of all the evidence and arguments filed by all reviewers. Please note that review comments and recommendations on the draft Licence must not introduce new evidence at this point in the proceeding.</p> <p>Reviewers are invited to submit comments, and recommendations using the Online Review System (ORS) by the review comment deadline specified below. Please clearly indicate which condition you are commenting on.</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; tim.heron@nwtmetis.ca or (alternatively) lands.resources@nwtmetis.ca</p> |
| Contact Information: | <p>Angela Love 867-766-7456 Jacqueline Ho 867-766-7455</p> |

Comment Summary

De Beers Canada Inc. - Snap Lake (Proponent)

| ID | Topic | Reviewer Comment/Recommendation | Proponent Response | Board Staff Analysis |
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| 1 | General File | <p>Comment (doc) Cover letter for De Beers response to comments on the draft water licence and draft land use permit for Snap Lake Mine</p> <p>Recommendation</p> | | |

De Beers Canada Inc. - Snap Lake: Colleen Prather

| ID | Topic | Reviewer Comment/Recommendation | Proponent Response | Board Staff Analysis |
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| 1 | Part A: Scope and Defined Terms; Condition 1 | <p>Comment Closure and Reclamation will occur through the site and across all site facilities, roads, laydown areas, winter ice road, north pile etc. It is not limited to areas that also had progressive reclamation during operations. Just to reduce the chance for potential confusion, suggest eliminating the use of Progressive Reclamation in this Water Licence since this Water Licence is for activities related to Final Closure and Reclamation only. De Beers is suggesting edits to clarify Scope items 1c and 1h.</p> <p>Recommendation Reword 1c as: Construction, operation, maintenance, reclamation, and closure of the North Pile Facility Reword 1h as: Closure and Reclamation activities</p> | | |
| 2 | Part A: Scope and Defined Terms; Condition 1 | <p>Comment The scope of this water licence must allow for closure activities but also for the management and deposit of waste. At the Snap Lake Mine, the deposit of waste will include the collection, treatment, and discharge of effluent.</p> <p>Recommendation De Beers is recommending an addition to Part A, Condition 1 to include the following text: " i) collection, treatment, and discharge of effluent".</p> | | |
| 3 | Part A: Scope and Defined Terms | <p>Comment The Board is seeking input on the definition for "Active Closure" (pdf page 3 of the draft water licence). De Beers is in agreement with the definition as proposed</p> | | |

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| | | Recommendation The definition of "Active Closure" as proposed in the draft water licence is acceptable | | |
| 4 | Part A: Scope and Defined Terms | <p>Comment De Beers is providing input on the definition for "Engineer of Record" (pdf page 4 of the draft water licence) and specifically the structures and facilities at Snap Lake Mine that require design by the Engineer of Record</p> <p>Recommendation The definition for Engineer of Record should be as follows: Engineer of Record - a qualified and competent Professional Engineer who is response for the design and performance of the "Mine Openings to Surface; North Pile; Perimeter Water Control Structures"</p> | | |
| 5 | Part A: Scope and Defined Terms | <p>Comment De Beers is providing input on the definition of "Engineered Structures" (pdf page 4 of the draft water licence) at Snap Lake Mine related to Water Use and deposit of Waste</p> <p>Recommendation The definition for Engineered Structure should be as follows: Engineered Structure - any structure or facility related to Water Use or the deposit of Waste that is designed by a Professional Engineer, including but not limited to the "Mine Openings to the Surface; North Pile; Perimeter Water Control Structures"</p> | | |
| 6 | Part A: Scope and Defined Terms | <p>Comment The definition for "North Pile Facility" (pdf page 5 of the draft water licence) should be revised. The phrase "stockpiles of ore or Waste Rock associated with the Project" is redundant for Snap Lake and should be removed from the definition. The phrase "Passive Water Treatment System" should be changed to "Perimeter Water Control Structures" to ensure that the sumps, pumps and ponds that exist currently and are considered to be an active system are included as well as the final passive collection water system involving ditches, ponds and passive flow.</p> <p>Recommendation The definition for North Pile Facility should be updated as follows: North Pile Facility - includes the North Pile and the Perimeter Water Control Structures.</p> | | |

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| 7 | Part A: Scope and Defined Terms | <p>Comment The definition of "North Pile Perimeter Water Control Structures" requires updating in order to include the pond as well.</p> <p>Recommendation The definition for "North Pile Perimeter Water Control Structures" should be updated as follows: North Pile Perimeter Water Control Structures - includes the ditches, sumps and ponds that collect and convey water away from the North Pile.</p> | | |
| 8 | Part A: Scope and Defined Terms | <p>Comment The definition for "Post-closure" (pdf page 5 of the draft water licence) should be revised In the FCRP, De Beers described the Post-closure phase as " A phase in the mine life where physical works relating to closure and reclamation have been completed and the monitoring programs described in the FRCP are conducted until monitoring results demonstrate that closure criteria have been achieved." In this draft Water Licence, the definition of Active Closure is "the closure period during which closure and reclamation activities are being implemented and prior to breaching the Influent Storage Ponds to allow water to passively flow into Snap Lake". Once all physical work activities as described in the FCRP have been completed, the phase of Active Closure can be considered finished.</p> <p>Recommendation The definition for Post-closure should be updated as follows: Post-Closure - the phase in the mine life cycle where physical works relating to closure and reclamation have been completed. Monitoring is being conducted during this phase until such time that it can be demonstrated that closure criteria have been achieved.</p> | | |
| 9 | Part A: Scope and Defined Terms | <p>Comment During the next Water Licence for the Snap Lake Mine there will be no "Progressive Reclamation" occurring. All reclamation works conducted will be for the purpose of Final Closure</p> <p>Recommendation The term "Progressive Reclamation" is no longer relevant for Snap Lake Mine as all activities conducted at the mine will be for the purpose of Final Closure and Reclamation and as such the term "Progressive Reclamation"</p> | | |

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| | | should be removed from the Water Licence | | |
| 10 | Part A: Scope and Defined Terms | <p>Comment The definition for Receiving Environment Facility should be revised. The definition for Receiving Environment as proposed in the draft Water Licence is not acceptable and will lead to significant risk to De Beers. The definition should remain the same as in the current water licence (MV2011L2-0004).</p> <p>Recommendation The definition for Receiving Environment should be updated as follows: Receiving Environment - the aquatic environment that receives any Water or Waste released from the Project.</p> | | |
| 11 | Part B: General Conditions; Condition 21 | <p>Comment The last sentence in Part B, Condition 21 is confusing and overly bureaucratic. As per the standard modification conditions, any change that is substantial enough to warrant reporting will be reported as per the notification condition. This condition is not in the current Snap Lake Water Licence (MV2011L2-0004) nor the Gahcho Kue Water Licence (MV2005L2-0015) issued only last year.</p> <p>Recommendation The last sentence of Part B, Condition 21 ("Written notification shall be provided to the Board and an Inspector if any changes occur") should be removed.</p> | | |
| 12 | Part C: Security, Condition 5 | <p>Comment Condition 5 in Part C as written is much too limiting. The Licensee must be permitted to make security adjustment requests based on other information that may become available just as is allowed for the Board in Part C, Condition 3b. While we agree that security adjustments may also come with updated Closure and Reclamation Plans, completion reports and performance assessment reports, it is important that we are permitted to make requests based on other information as available as well. For example, perhaps there will be a policy change by GNWT which will result in a decrease in security rates for a similar feature at another mine site. De Beers should have the right to request an adjustment at our site too, if applicable and warranted, at any time.</p> | | |

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| | | <p>Recommendation To provide the Licensee with the flexibility to make justifiable security adjustment requests, Part C, Condition 5 should be revised to the following: Unless otherwise approved by the Board, the Licensee may submit security adjustment requests within any of the following submissions: a) Closure and Reclamation Plans; b) Closure and Reclamation Completion Reports; c) Performance Assessment Reports; or d) By written request to the Board.</p> | | |
| 13 | Part D: Water Use; Condition 3 | <p>Comment De Beers would like to suggest input and modification to Part D, Condition 3 Wastewater sources at the Snap Lake Mine that may be used include water from the Water Management Pond, Perimeter Sumps, and the future Influent Storage Ponds. Wastewater from these sources would be used for dust control on the roads or the North Pile, or for emergency industrial uses elsewhere at site such as fire suppression. Use of wastewater for dust control at the North Pile should not require any additional approval as this water came from the North Pile, and will be collected again in the Perimeter Water Control Structures, and therefore does not constitute a release to the environment. Use of waste water for fire suppression elsewhere at site, may be required on very short notice (e.g., during an emergency) and therefore approval from the Inspector rather than the Board is important. Such a use is likely to be required for a short time period, much shorter than a typical approval period by the Board of 60 days. Thus, approval from the Board should not be required. Finally, effluent quality criteria are only applicable to water that is discharged to the receiving environment (i.e., Snap Lake) and thus wastewater used for these specific purposes (i.e., dust control or fire suppression) should not need to meet the effluent quality criteria as established in Part F, Conditions 21 and 28.</p> <p>Recommendation Part D, Condition 3 should be rewritten as: "The Licensee may use Wastewater from the Water Management Pond and Influent Storage Ponds for dust control within the North</p> | | |

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| | | Pile. For use of wastewater for other industrial uses (e.g., fire suppression and dust control outside of the North Pile) use will require Inspector approval." | | |
| 14 | Part D: Water Use; Condition 4 | <p>Comment The term "temporarily" is used in Part D, Condition 4. This type of approval should not be limited to a temporary approval, but should be at the discretion of the Inspector. If the term 'temporarily' is used, then a definition of the term would be required in the definition section of the licence. It is not advisable to define the term as applicability of the term may vary between different aspects of the licence. The use of the word 'temporarily' in this condition poses an unnecessary restriction on the Inspector's discretion. The Inspector must have some space to use their judgement and not be overly limited by restrictive conditions such as this. In addition, the use of the term 'temporarily' is not consistent with the Gahcho Kue WL MV2005L2-0015 Part D, Condition 1.</p> <p>Recommendation The term "temporarily" should be removed from Part D, Condition 4</p> | | |
| 15 | Part E: Construction; Condition 7 | <p>Comment The purpose for the term "Structure Description and Construction Plan" as used in this draft Water Licence for Snap Lake Mine (first presented in Part E, Condition 7) is unclear. The only structures at Snap Lake Mine that will contain, withhold, divert, or retain Water or Wastes are the Engineered Structures of the North Pile Cover and the Perimeter Water Control Structures. The Engineered Structures are covered by Part E, Condition 8, and Part E Condition 9. Part E, Condition 7 is redundant. It is unclear what additional non-Engineered Structures that would contain, withhold, divert, or retain Water or Wastes would be covered by this condition.</p> <p>Recommendation The Water Licence for Snap Lake Mine does not need to include the term or conditions related to "Structure Description and Construction Plans". Part E, Condition 7 should be removed.</p> | | |

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| 16 | Part E: Construction; Condition 8 | <p>Comment For consistency with the Gahcho Kue WL MV2005L2-0015, and to prevent delays to the Project progress, De Beers requests the requirement to submit Design Construction Plans 60 days prior to construction.</p> <p>Recommendation Replace 90 days with 60 days</p> | | |
| 17 | Part E: Construction; Condition 9 | <p>Comment For consistency with the Gahcho Kue WL MV2005L2-0015, and to prevent delays to the Project progress, De Beers requests the requirement to submit Design Drawings 60 days prior to construction, and minimum of 60 days prior to implementing any proposed changes.</p> <p>Recommendation Replace 90 days with 60 days</p> | | |
| 18 | Part E: Construction; Condition 11 | <p>Comment If Part E, Condition 7 is removed as per the recommendation by De Beers, Part E, Condition 11 is no longer relevant. In addition, Part E, Condition 11 is redundant to Part E, Condition 10</p> <p>Recommendation Part E, Condition 11 should be removed.</p> | | |
| 19 | Part E: Construction; Condition 12 | <p>Comment If Part E, Condition 7 is removed as per the recommendation by De Beers, Part E, Condition 12 is no longer relevant.</p> <p>Recommendation Part E, Condition 12 should be removed.</p> | | |
| 20 | Part F: Waste and Water Management; Condition 3 | <p>Comment The term "revised" is used in Part F, Condition 3. The word 'revised' is unnecessary. A Waste Management Plan should be submitted, just as per all the other plans.</p> <p>Recommendation The term "revised" should be removed from Part F, Condition 3</p> | | |
| 21 | Part F: Waste and Water Management; Condition 5 | <p>Comment It is unclear why the timeline to submit the Water Management Plan (Part F, Condition 5) is different than the timeline to submit the Waste Management Plan (Part F, Condition 3). Both plans should be updated and submitted following the effective date of the Licence.</p> <p>Recommendation Part F, Condition 5 should be revised as follows: Within 90 days following the effective date of this Licence, the Licensee shall submit to the</p> | | |

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| | | Board, for approval, a Water Management Plan. The Plan shall be in accordance with the requirements of Schedule 4, Condition 1. The Licensee shall not commence construction of any Engineered Structures prior to Board approval of the Plan. | | |
| 22 | Part F: Waste and Water Management; Condition 7 | <p>Comment For consistency with the Gahcho Kue WL MV2005L2-0015, and to prevent delays to the Project progress, De Beers requests the requirement to submit the North Pile Management Plan 60 days prior to construction.</p> <p>Recommendation Part F, Condition 7 should be revised as follows: A minimum of 60 days prior to commencement of activities, the Licensee shall submit to the Board, for approval, a North Pile Management Plan. The Plan shall be in accordance with the requirements of Schedule 4, Condition 2. The Licensee shall not commence construction of any Engineered Structures prior to Board approval of the Plan.</p> | | |
| 23 | Part F: Waste and Water Management; Condition 9 | <p>Comment Part F, Condition 9 is for an update to the Acid Rock Drainage and Geochemical Characterization and Management Plan. Initially De Beers suggested that this plan is not required for Closure, but De Beers agreed to the recommendation from the GNWT to provide an update to this plan that covers characterization of materials as related to blasting and earthwork activities, and for geochemical assessments of acid generating material of cover construction materials. The specific recommendation from the GNWT was given at the Water Licence hearing and can be found on pages 37 to 38 from Day 2 (November 28, 2019). The rationale for the change in timing of submission is because the purpose of this plan has changed from Operations. This plan will be used to confirm the acid drainage potential and geochemical characterization of materials generated during blasting and earthworks, and to confirm the quality of cover materials.</p> <p>Recommendation Part F, Condition 9 should be revised as follows: A minimum of 60 days prior to commencement of</p> | | |

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| | | <p>activities (blasting, earthworks, or placing of cover materials, whichever comes first), the Licensee shall submit to the Board, for approval, an Acid Rock Drainage and Geochemical Characterization and Management Plan. The Licensee shall not commence construction of any Engineered Structures prior to Board approval of the Plan.</p> | | |
| 24 | Part F: Waste and Water Management; Condition 10 | <p>Comment The Erosion and Sedimentation Plan will be applied to more areas than just the North Pile and thus the linkage of this plan to the North Pile is unclear and should be removed. As suggested by ECCC and GNWT in their comments on the draft water licence, De Beers will develop a general Erosion and Sedimentation Management Plan that can be applied across the site, and any erosion and sedimentation specific to the North Pile will be contained within the North Pile Management Plan.</p> <p>Recommendation Part F, Condition 10 should be revised as follows: Within 90 days following the effective date of this Licence, the Licensee shall submit to the Board, for approval, an Erosion and Sedimentation Management Plan. The Plan shall be in accordance with the requirements of Schedule 4, Condition 4.</p> | | |
| 25 | Part F: Waste and Water Management; Condition 12 | <p>Comment Part F, Condition 12 is related to design specifications and engineering standards of the North Pile. De Beers is recommending a minor edit to clause 12b under this condition for clarity on how seepage from the North Pile facility will be managed. De Beers is also recommending edits to clause 12d because interpretation of deterioration, erosion, and timeline to repair should be determined by the Engineer of Record because not all items identified are urgent or need to be completed immediately.</p> <p>Recommendation Part F, Condition 12b should be revised as follows: Seepage from the facility is minimized; Part F, Condition 12d should be revised as follows: Any deterioration or erosion of constructed structures/facilities that requires repair (as based on recommendations from the Engineer of</p> | | |

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| | | Record) shall be reported to an Inspector and the Board, and repaired as per the Engineer of Record instructions. | | |
| 26 | Part F: Waste and Water Management; Condition 14 | <p>Comment Inspections for erosion will occur on a weekly basis during Closure to ensure sufficient monitoring is occurring to detect and address erosion if it occurs. Daily inspections for erosion during discharge is excessive and unwarranted by the small volume of water discharged. De Beers urges the Board however to not include specific monitoring frequencies for erosion in the body of the licence, but rather allow these details to be developed, and adjusted as needed, in the Erosion and Sedimentation Plan and the North Pile Management Plan as appropriate. Changing conditions of a water licence is very difficult and onerous for both the Licencee and the Regulator as it requires amendment. Frequencies for monitoring are best suited for inclusion in management plans whereby changes can be made to align with real environmental risks and needs as those change over time.</p> <p>Recommendation Part F, Condition 14 should be removed. Inspections during discharge will be described in the North Pile Management Plan.</p> | | |
| 27 | Part F: Waste and Water Management; Condition 15 | <p>Comment The Engineer of Record conducts annual geotechnical inspections. Any ad-hoc visits by the Engineer of Record over and above the annual inspection should be per the EoR's discretion and not as per a clause in the water licence. The current licence for Snap Lake requires the Geotechnical Inspection Report within 60 days of submission but this is an extremely tight timeline to achieve. De Beers requests that the timing of submission of the report (Part F, Condition 15b) should be 90 days after the inspection. Clauses 15.b.i and 15.b.ii are acceptable. This will also be consistent with the GK Licence (MV2005L2-0015 part G, Condition 23).</p> <p>Recommendation The following clause should be removed from Part F, Condition 15: "and following any events that exceed design criteria" Part F, Condition 15b</p> | | |

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| | | should be revised as follows: Within 90 days of completing the inspection, submit the Professional Engineer's Geotechnical Inspection Report to the Board and an Inspector. | | |
| 28 | Part F: Waste and Water Management; Condition 21 | <p>Comment The phrase "including all discharges" in Part F, Condition 21 adds no clarity and should be removed. The remainder of the wording in this condition is acceptable</p> <p>Recommendation Part F, Condition 21 should be revised as follows: The Licensee shall ensure that all Water and Waste from the Project that enters the Receiving Environment at Surveillance Network Program stations 02-17b (Water and Sewage Treatment Plant), 02-17c (East Influent Storage Pond), and 02-17d (West Influent Storage Pond), has a pH value between 6.0 and 9.0(a) and meets the following Effluent Quality Criteria (EQC)</p> | | |
| 29 | Part F: Waste and Water Management; Condition 23a | <p>Comment For Part F, Condition 23a, the term "resuming" is not acceptable because the future discharge scenario will be seasonal and intermittent. There may be stops and starts during the discharge period in a given year (e.g., discharge during the freshet, a pause, and then discharge again if summer rains and general runoff is high). This scenario occurred in 2019. The re-submission of samples prior to every restart of discharge would cause operational delays and issues without justification.</p> <p>Recommendation Part F, Condition 23a should be revised as follows: On an annual basis, and a minimum of five days prior to commencing Discharge of Effluent from 02-17b (Water and Sewage Treatment Plant), 02-17c (East Influent Storage Pond), and 02-17d (West Influent Storage Pond); and</p> | | |
| 30 | Part F: Waste and Water Management; Condition 23b | <p>Comment For Part F, Condition 23b, the term "commencing" is not applicable because discharge would only resume if an exceedance of the effluent quality criteria was identified.</p> <p>Recommendation Part F, Condition 23b should be revised as follows: A minimum of five days prior to resuming Discharge of Effluent from 02-17b (Water and Sewage Treatment Plant), 02-17c (East</p> | | |

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| | | Influent Storage Pond), and 02-17d (West Influent Storage Pond) following an exceedance of the EQC specified in Part F, Condition 21 (the table). | | |
| 31 | Part F: Waste and Water Management; Condition 27 | <p>Comment This condition should only be related to breaching of the control structure and moving to a fully passive system of discharge. De Beers considers clause 27e as the trigger. Clause 27e should be removed</p> <p>Recommendation Part F, Condition 27 should be revised as follows: A minimum of 120 days prior to breaching the control structure at the Influent Storage Ponds and proceeding to a Passive Water Treatment System Discharge, the Licensee shall submit to the Board for approval, an EQC Re-evaluation Report, that includes, but is not limited to (clauses a through d) Part F, Condition 27e should be removed</p> | | |
| 32 | Part F: Waste and Water Management; Condition 28 | <p>Comment The phrase "including all discharges" in Part F, Condition 28 adds no clarity and should be removed. The remainder of the wording in this condition is acceptable</p> <p>Recommendation The following clause should be removed from Part F, Condition 28: "including all Discharges"</p> | | |
| 33 | Part F: Waste and Water Management; Condition 28; Footnote 7 to table | <p>Comment Footnote 7 to the EQC table in Part F, Condition 8 is incorrect. De Beers did not propose to remove the AEMP benchmark for TDS but did propose to remove the EQC for TDS. De Beers requests the footnote is removed from the final licence as it is not appropriate for inclusion in the licence and is not correct.</p> <p>Recommendation Part F, Condition 28, Footnote 7 should be removed from the licence.</p> | | |
| 34 | Part G: Aquatic Effects Monitoring; Condition 3 | <p>Comment Updates to AEMP Design Plans and Re-Evaluation Reports are very onerous. De Beers suggest moving to every 5 years rather than every 3 years. The additional time between reports is justified by the reduced inputs into Snap Lake during Closure as compared to Operations. An AEMP re-evaluation is not expected to result in substantial changes unless warranted by data. To gather sufficient data, a longer time frame</p> | | |

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| | | <p>between re-evaluations is warranted. Also, there is redundancy between this clause 3 and clause 4. Finally, De Beers proposes that in years when the AEMP Re-Evaluation Report is required, it will be submitted and will meet the requirements of both the Re-Evaluation Report (Condition 3) and the Annual Report (Condition 5).</p> <p>Recommendation Part G, Condition 3 should be revised as follows: Five years following implementation of the AEMP Design plan, and every five years thereafter, or as directed by the Board, the Licensee shall submit to the Board, for approval, an AEMP Re-Evaluation Report. In years when the AEMP Re-Evaluation Report is required, it will be submitted in place of the Annual AEMP Report. The Report shall be in accordance with the MVLWB/GNWT Guidelines for Aquatic Effects Monitoring Programs and shall evaluate the overall effectiveness of the AEMP to date.</p> | | |
| 35 | Part G: Aquatic Effects Monitoring; Condition 4 | <p>Comment Updates to AEMP Design Plans and Re-Evaluation Reports are very expensive. De Beers suggest moving to every 5 years rather than every 3 years. The additional time between reports is justified by the reduced inputs into Snap Lake during Closure as compared to Operations.</p> <p>Recommendation Part G, Condition 4 should be revised as follows: Every five years following implementation of the AEMP Design plan</p> | | |
| 36 | Part G: Aquatic Effects Monitoring; Condition 5 | <p>Comment As noted in the comment to Part G, Condition 3, De Beers is proposing to submit a combined AEMP Annual Report and AEMP Re-Evaluation Report in years when the re-evaluation is required. The information contained within these reports is similar and it is more efficient to produce one report that meets the intent of both criteria.</p> <p>Recommendation An additional sentence should be added to the end of Part G, Condition 5 as follows: In years when the AEMP Re-Evaluation Report is required, it will be submitted in place of the Annual AEMP Report. The report will meet the</p> | | |

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| | | requirements of the annual analysis and re-evaluation analysis. | | |
| 37 | Part H: Spill Contingency Planning; Condition 3 | <p>Comment The term "revised" is used in Part H, Condition 3. The word 'revised' is unnecessary. A Spill Contingency Plan should be submitted, just as per all the other plans.</p> <p>Recommendation The term "revised" should be removed from Part H, Condition 3</p> | | |
| 38 | Part H: Spill Contingency Planning; Condition 6 | <p>Comment Part H, Condition 6 requires the Licensee to restore all areas affect by spills and Unathorized Discharges to the satisfaction of an Inspector. Not all spills have an actual quantifiable environmental effect. In those cases, how will restoration be proven? This condition as written is too broad and should not be included. However, if it is to be included, it should be consistent with the GK Licence (MV2005L2-0015 Part H, Condition 4).</p> <p>Recommendation Part F, Condition 15b should be revised as follows: All spills and Unathorized Discharges of Water or Waste shall be reclaimed to the satisfaction of an Inspector.</p> | | |
| 39 | Part I: Closure and Reclamation; Condition 2 | <p>Comment The term "revised" is used in Part I, Condition 2. The word 'revised' is unnecessary. A Final Closure and Reclamation Plan should be submitted, just as per all the other plans.</p> <p>Recommendation The term "revised" should be removed from Part I, Condition 2</p> | | |
| 40 | Part I: Closure and Reclamation; Conditions 3 to 6 | <p>Comment The Snap Lake Mine is no longer in production or Operations. The term progressive reclamation should be removed and replaced by Closure and Reclamation. There is no need for repeated submissions of the Final Closure and Reclamation Plan Re-submissions of a Final Closure and Reclamation Plan should be based on proposed changes to the Plan, not on a prescribed frequency.</p> <p>Recommendation Part I, Conditions 3, 4, 5, and 6 should be removed</p> | | |
| 41 | Part I: Closure and Reclamation; Condition 8 | <p>Comment Part I, Condition 8 is redundant to Part I, Condition 9 and should be removed. In addition, a table of contents and schedule have not been required for</p> | | |

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| | | <p>other plans and in advance of submitting other plans. This is an overly bureaucratic and burdensome requirement and will not provide sufficient value to warrant the increased paperwork. A schedule of activities will be included in the plan required under Part I, Condition 9.</p> <p>Recommendation Part I, Condition 8 should be removed</p> | | |
| 42 | Part I: Closure and Reclamation; Condition 9 | <p>Comment De Beers recommends that the Post-Closure and Reclamation Monitoring and Maintenance Plan should be submitted to the Board within 6 months of completing the Closure and Reclamation of the Project. By this time, the conceptual monitoring as proposed in the Final Closure and Reclamation Plan can be detailed and specific to the works constructed. In addition, a schedule of monitoring activities will be included in the Plan.</p> <p>Recommendation The timeline for Part I, Condition 9 should be 6 months of completing the Closure and Reclamation of the Project.</p> | | |
| 43 | Part I: Closure and Reclamation; Condition 10 | <p>Comment The timing of the Performance Assessment Reports is linked to the monitoring requirements for closing out each component. This will vary by component. De Beers requests therefore that the timing window be long enough to be inclusive of the longer monitoring periods required before submission of a PAR. Suggest 'within 3 years'.</p> <p>Recommendation The timeline for Part I, Condition 9 should be within 3 years of completing the Closure and Reclamation of any specific component of the Project.</p> | | |
| 44 | Schedule 1; Condition 1f | <p>Comment As noted under Part E, Condition 7, the purpose of the term "Structure Description and Construction Plans" is unclear, and conditions related to this term should be removed. The term "Structure Description and Construction Plans" should be removed from Schedule 1, Condition 1f.</p> <p>Recommendation Remove the term "Structure Description and Construction Plans" from Schedule 1, Condition 1f and Schedule 1, Condition 1f.iii</p> | | |
| 45 | Schedule 1; Condition 1i.viii | <p>Comment From 2002 to 2019, water levels at the outlet of Snap Lake have</p> | | |

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| | | <p>been surveyed three times per year at approximately the same time frame in each year (De Beers 2019; 2020). The range of elevation changes in Snap Lake to date (2002 to 2019) has been within the natural range of variability and is not expected to trend beyond this range given that the Mine will be moving into final Closure and water use and discharge is not expected to be as high what was required in Operations. There should not be a condition within the water licence requiring continued monthly monitoring of elevations of water in Snap Lake. De Beers proposes this monitoring should be removed as a water licence condition and instead added to the scope of the Aquatic Effects Monitoring Program. De Beers 2019. Snap Lake Mine, Aquatic Effects Monitoring Program, 2018 Annual Report. September 2019. De Beers 2020. Snap Lake Mine, Aquatic Effects Monitoring Program, 2019 Annual Report. In Preparation.</p> <p>Recommendation De Beers recommends the following: Schedule 1, Condition 1i.viii should be removed as a condition of the water licence. Hydrologic monitoring for the receiving environment should be a component of the Aquatic Effects Monitoring Program</p> | | |
| 46 | Schedule 1; Condition 1o | <p>Comment As noted under Part I, Conditions 3 to 6, the term Progressive Reclamation should be removed and be replaced by Closure and Reclamation Clause iv under Schedule 1, Condition 1o is unacceptable because it is not appropriate to require closure cost estimate on an annual basis. Consideration of potential changes to security is a substantial effort and should not be speculated on annually. This clause does not appear in other licences such as the current Snap Lake water licence or the Gahcho Kue water licence (MV2005L2-0015).</p> <p>Recommendation Schedule 1, Condition 1o.i should be revised as follows: Progressive Reclamation should be replaced by Closure and Reclamation Schedule 1, Condition 1o.iv should be removed</p> | | |

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| 47 | Schedule 3; Condition 1 | <p>Comment As noted under Part E, Condition 7, the purpose of the term "Structure Description and Construction Plans" is unclear, and conditions related to this term should be removed.</p> <p>Recommendation Remove the requirement for Schedule 3, Condition 1</p> | | |
| 48 | Schedule 3; Condition 2e | <p>Comment Not all construction will require the supervision or field check by a professional engineer. Some construction can be done by a suitably qualified person, or person delegated and reporting to qualified engineer. This condition needs to be revised to specifically refer to engineered structures.</p> <p>Recommendation Schedule 3, Condition 2e should be revised as follows: A Quality Control Plan stamped by a Professional Engineer, a component of which includes a plan for a Professional Engineer to supervise and field check Construction activities related to Engineered Structures only.</p> | | |
| 49 | Schedule 4; Condition 4 | <p>Comment As noted under Part F, Condition 10, the Erosion and Sedimentation Plan will apply to the site outside of the North Pile. This distinction needs to be added to this condition. The North Pile Management Plan will include a section specific to erosion and sedimentation protection on the North Pile</p> <p>Recommendation The starting phrase of Schedule 4, Condition 4 should be updated as follows: The Erosion and Sedimentation Plan referred to in Part F, Condition 10 will apply to all areas except the North Pile. The Plan shall include, but not be limited to the following:</p> | | |
| 50 | Annex A; Part A; Condition 1 | <p>Comment As requested by Board staff, De Beers is providing input on changing the sampling parameter from Biological Oxygen Demand (BOD) to Carbonaceous Biochemical Oxygen Demand (CBOD) These tests are used to measure organic pollution in water. Organic loading from Snap Lake Mine is very low and as such, these tests should be applied to the final discharge points only. De Beers accepts the change from BOD to CBOD at the discharge points.</p> | | |

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| | | <p>Recommendation It is recommended that the test for CBOD be required at the final discharge points only (SNP 02-17b, 02-17c, 02-17d) during discharge.</p> | | |
| 51 | Annex A; Part A; Condition 1, Table | <p>Comment The description for stations SNP 02-20d,e,f (pdf page 40 of the draft water licence) should reference one of three and not one of four stations because this sampling area has already been reduced to three stations</p> <p>Recommendation Correction to the description of 02-20d, 02-20e, and 02-20f (pdf page 40 of the draft water licence). The stations should be described as follows: In Snap Lake, one of three stations located in a radius of 120 degrees at 200 m from the diffuser, on the edge of the mixing zone around the diffuser.</p> | | |
| 52 | Annex A; Part A; Condition 1, Table | <p>Comment As per the Board's definitions, the description of SNP 02-16j (pdf page 51 of the draft water licence) should reference sewage discharge and not Greywater discharge.</p> <p>Recommendation Correction to the description of 02-16j (pdf page 51 of the draft water licence). The station should be described as follows: This station is used to monitor sewage discharge from the Sewage Treatment Plant.</p> | | |
| 53 | Annex A; Part A; Condition 1, Table | <p>Comment Minor edits to the sampling frequency and requirements for SNP station 02-17b. The sampling frequency and requirements should be the same for all discharge locations. Sampling only applies to this station while there is active discharge at this location.</p> <p>Recommendation De Beers proposes the sampling schedule for 02-17b in Closure during discharge as follows: Continuously, by in-line: flow, pH, temperature, conductivity, turbidity Every six days during discharge: TDS (measured and calculated), nutrients, pH, TSS, Turbidity, Conductivity, Faecal Coliforms, Total Petroleum Hydrocarbons. Monthly during discharge: the every six days parameters plus Major Ions, Total and Dissolved Metals, and carbonaceous Biochemical Oxygen Demand. Once annually during discharge: Acute toxicity tests Once quarterly during discharge: Chronic toxicity tests</p> | | |

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| 54 | Annex A; Part A; Condition 1, Table | <p>Comment The sampling frequency for SNP stations 02-17c and 02-17d (pdf page 53 of the draft water licence) need to take into account the seasonal and intermittent flow from these discharge locations (as noted as a comment on Part F, Condition 23a). There may be stops and starts during the discharge period in a given year, or the flows may be too low to effectively collect a sample. The trigger to identify discharge and collect samples should be based on flow rate. The threshold of 70 m³/day is proposed as this was the lowest daily discharge rate recorded at Snap Lake Mine in 2019. If flow is less than 70 m³/day, sampling will cease. The frequency for collection of acute toxicity tests should be once annually. As noted under Part F, Condition 23b, if effluent exceeded EQC (which includes acute toxicity testing), discharge would cease and only resume upon meeting the criteria. In the event that effluent does not meet EQC, effluent would be tested for chemistry and toxicity with the request to resume once the quality meets EQC. The wording in the rationale for the station references "wetland treatment system" and should be corrected to "water management system". The status of the stations should be once the Influent Storage Ponds are discharging to Snap Lake which will begin in Closure.</p> <p>Recommendation De Beers proposes sampling at 02-17c and 02-17d when discharge is above a threshold. This threshold should be based on a minimum value similar to discharge flows that are observed at Snap Lake (e.g., either based on flows from 2018 or 2019). De Beers recommends the sampling schedule at 02-17c and 02-17d should be the same as that proposed for 02-17b (line above) De Beers is recommending a minor update to the description and rationale for SNP stations 02-17c and 02-17d. Description (02-17c): Discharge from the East Influent Storage Pond to Snap Lake main basin. Monitoring to characterize the quality of water from the east passive treatment system to Snap Lake. Rationale (02-17c): To evaluate water quality (by comparison</p> | | |
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| | | <p>to EQC) from the North Pile that is retained in the East Influent Storage Pond water management system prior to passively draining to Snap Lake</p> <p>Description (02-17d): Discharge from the West Influent Storage Pond to the Northwest Arm of Snap Lake. Monitoring to characterize the quality of water from the west passive treatment system to Snap Lake. Rationale (02-17d): To evaluate water quality (by comparison to EQC) from the North Pile that is retained in the West Influent Storage Pond water management system prior to passively draining to the Northwest Arm of Snap Lake</p> | | |
| 55 | Annex A; Part A; Condition 1, Table | <p>Comment De Beers would like to add clarification to the request to remove SNP Station 02-18 (pdf page 54 of the draft water licence). SNP Station 02-18 is a station that records the calculated whole lake average of total dissolved solids in Snap Lake. This is not a single station where multiple samples are collected to report the average. Rather, the average is calculated based on results collected from eight stations across Snap Lake (three SNP stations near the diffuser; one AEMP station at the outlet of Snap Lake; four AEMP stations throughout Snap Lake). De Beers is proposing to retain all of these eight stations and continue to collect samples for analysis of total dissolved solids and other constituents. De Beers is proposing to include results from the three SNP stations, when discharging, in the monthly report and the Water Licence Annual Report. De Beers is proposing to include results from all eight stations in the annual Aquatic Effects Monitoring Program report. De Beers is requesting to remove the monthly requirement to report the whole lake average of total dissolved solids in Snap Lake. This is a requirement that is a hold-over from Operations where large volumes of effluent that was high in total dissolved solids was being discharge to Snap Lake. Discharge conditions at Snap Lake Mine have changed; small volumes, of mainly surface runoff water, are discharge to Snap Lake. The monthly reporting requirement is no longer relevant and</p> | | |

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| | | <p>overly burdensome</p> <p>Recommendation SNP station 02-18 should be removed from the water licence.</p> | | |
| 56 | Annex A; Part B; Condition 1d | <p>Comment The SNP station used to monitor flow from the Sewage Treatment Plant is SNP 02-16j.</p> <p>Recommendation Update the station reference in Annex A, Part B, Condition 1d as follows: 1d) The daily volume of water discharged from the Sewage Treatment Plant to the main outfall (Surveillance Network Program station 02-16j)</p> | | |
| 57 | Annex A; Part B; Condition 1e | <p>Comment The SNP station used to monitor flow from the combined outfall from the Water Treatment Plant and the Sewage Treatment Plant to Snap Lake is SNP 02-17b.</p> <p>Recommendation Update the station reference in Annex A, Part B, Condition 1e as follows: 1e) The daily volume of water discharged from the combined outfall from the Water Treatment Plant and the Sewage Treatment Plant to Snap Lake (Surveillance Network Program station 02-17b)</p> | | |
| 58 | Annex A; Part C; Condition 4 | <p>Comment The condition Annex A, Part C, 4 is based on operational assumptions. The term monthly requirement should be replaced by "reported monthly WHEN discharged". The volumes to be recorded should be solid waste only, and for the period preceding and during closure.</p> <p>Recommendation Annex A, Part C, Condition 4 should be updated as follows: For the period preceding and during closure, the volumes of solids, measured daily, in tonnes, which are deposited to the North Pile shall be recorded and reported monthly when discharged.</p> | | |

Environment and Climate Change Canada: Russell Wykes

| ID | Topic | Reviewer Comment/Recommendation | Proponent Response | Board Staff Analysis |
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| 12 | General File | <p>Comment (doc) ECCC Cover Letter</p> <p>Recommendation</p> | | |
| 1 | ECCC #1.) Part F. 10 - Erosion and Sediment Management Plan | <p>Comment This condition pertains to the requirement to submit an erosion and sediment management plan prior to construction of the North Pile. The question was raised during the technical session whether this could be</p> | <p>Feb 7: A similar recommendation was made by GNWT-ENR-14. De Beers agrees with the recommendation to develop a site-wide Erosion and Sedimentation Plan that will cover</p> | |

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| | | <p>incorporated into the North Pile Management Plan for the closure activities. Given the various earthworks and surface remediation activities across the site during the Closure phase, the plan will need to encompass the entire project.</p> <p>Recommendation ECCC recommends retaining a site-wide erosion and sediment management plan, although North Pile specific sections could be incorporated into the North Pile Management Plan.</p> | <p>areas outside of the North Pile, and within the North Pile Management Plan, include a section on Erosion and Sedimentation.</p> | |
| 2 | ECCC #2) Part F. 11 - Explosives Management Plan | <p>Comment This condition pertains to the submission of a new Explosives Management Plan. As this plan has been submitted previously, updates to reflect closure activities would be sufficient.</p> <p>Recommendation ECCC recommends Condition 11 reference an updated as opposed to a new Explosives Management Plan submission.</p> | Feb 7: Noted | |
| 3 | ECCC #3) F. 21 - EQC - Discharge Locations | <p>Comment This condition sets out the requirement for all water and waste that enters the receiving environment, including specified discharges from the wastewater treatment plant and the two Influent Storage Ponds, to meet Effluent Quality Criteria as specified. The Board requested input on the discharge locations that should be included. Because the wording states, "all water and waste", ECCC suggests that specifying the three main discharge locations is sufficient.</p> <p>Recommendation ECCC recommends that the condition retain the wording that "all Water and Waste from the Project that enters the Receiving Environment" and continue to specify main discharge locations.</p> | Feb 7: De Beers agrees with this recommendation from ECCC De Beers proposed a similar edit to this condition: "The Licensee shall ensure that all Water and Waste from the Project that enters the Receiving Environment at Surveillance Network Program stations 02-17b (Water and Sewage Treatment Plant), 02-17c (East Influent Storage Pond), and 02-17d (West Influent Storage Pond)..." | |
| 4 | ECCC #4) F.21 - TDS, TSS, and pH | <p>Comment Effluent Quality Criteria (EQC) have been proposed as follows: Total Suspended Solids (TSS) - 15 mg/L Maximum Average Concentration (MAC)/ 25 mg/L Grab Nitrate - 60 mg/L MAC / 80 mg/L Grab Fluoride - 1.3 mg/L MAC / 2.0 mg/L Grab Total Phosphorus - Annual Loading Limit - 229 kg/year De Beers proposes removal of the TDS criteria, citing lower levels in discharges. ECCC is not opposed to removal of the TDS</p> | Feb 7: Noted | |

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| | | <p>criteria, provided the proposed TDS benchmark (500 mg/L) is still met at the edge of the mixing zone. The TSS criteria proposed are acceptable. The proposed exception of not reporting any surface water runoff with a pH between 5.0 and 9.0 to the Water Management System is reasonable. ECCC notes that natural pH values may fall below this range in some tundra areas.</p> <p>Recommendation N/A</p> | | |
| 5 | ECCC #5) F.21 - Metals, Phosphorus and Ammonia | <p>Comment De Beers provided a presentation to ECCC on Dec. 10, 2019, which presented EQC options for various parameters. The parameters were screened for inclusion in the list of EQC if the predicted concentrations exceeded CCME aquatic life guidelines. Not all of the parameters exceeding CCME would need to be retained for EQC. For the following currently regulated metals, EQC were proposed as follows: Aluminum - 0.28 mg/L Copper - 0.0041 mg/L Nickel - 0.09 mg/L Zinc - 0.0129 mg/L For nutrients, which are currently regulated, the following EQC were suggested: Total Ammonia as N - 4.1 mg/L Total Phosphorus as P - 0.0555 mg/L</p> <p>Recommendation ECCC recommends including Al, Cu, Ni, Zn, NH3-N and TP as regulated parameters in the active closure phase in the water licence (in addition to the parameters listed in the Draft Water Licence), using the proposed Maximum Average Concentration EQC provided to ECCC.</p> | <p>Feb 7: De Beers does not agree with the recommendation for additional parameters in the active phase of Closure in the water licence, and continues to stand behind our Effluent Quality Criteria Report V.2 and our proposed EQC for Closure and Post-closure. The proposed EQC for Closure and Post-closure were developed using the same methods used to develop the EQC in the existing water licence. The methods have been approved and accepted by the Board, and the proposed EQC will be protective of the receiving environment. As described in the EQC Report V.2, nitrate was the only parameter that was identified as a parameter of potential concern; therefore, water quality based EQC were calculated for nitrate. The values presented by ECCC are the highest of the modelled 95th percentile concentrations predicted in either the water management pond or the influent storage ponds. Should discharge occur at these concentrations, the AEMP benchmarks in Snap Lake would not be exceeded.</p> | |
| 6 | ECCC #6) F.21 - Hydrocarbons | <p>Comment The draft water licence does not include criteria for hydrocarbons. Given the presence of stored fuel and heavy equipment on site during the closure phase, regulating Total Petroleum Hydrocarbons would be reasonable.</p> <p>Recommendation ECCC recommends including EQC for Total Petroleum Hydrocarbons in the water licence.</p> | <p>Feb 7: De Beers has accepted recommendations (ECCC-6, GNWT-ENR-21, SLEMA-26) to monitor for hydrocarbons during Active Closure. De Beers requests limits for Total Petroleum Hydrocarbons are consistent with GK Water Licence (MV2005L2-0015) and proposes: Total Petroleum</p> | |

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| | | | Hydrocarbons = 5 mg/L (MG) with no value for MAC. | |
| 7 | ECCC #7) F.27 EQC Re-evaluation Report Timing | <p>Comment The Board is seeking input on the timing and triggers for submission of an EQC Re-evaluation Report. The purpose of the report will be to inform the EQC for breaching of the Influent Storage Ponds and transition to passive discharge. The trigger could be the request to breach the ponds; in this case, sufficient time will be needed to evaluate the data and updated model predictions. If these vary materially from current predictions, then there could potentially be adjustment to closure plan timing, so extended lead-time for review would be appropriate.</p> <p>Recommendation ECCC recommends that submission of the EQC Re-evaluation Report ahead of the trigger event set by the Board be at least 120 days or longer.</p> | <p>Feb 7: De Beers agrees with the recommendation by ECCC. The trigger for the report should be for the event: "breaching of the control structure and moving to a fully passive system of discharge". The report should be submitted 120 days prior to breaching of the control structure.</p> | |
| 8 | ECCC #8) F.28 Discharge from Passive Water Treatment System - TDS EQC | <p>Comment Board staff are requesting input on removal of the TDS EQC, and maintaining an Aquatic Effects Monitoring Plan (AEMP) benchmark of 500 mg/L at the edge of the mixing zone(s) in Snap Lake.</p> <p>Recommendation ECCC recommends maintaining an AEMP benchmark for TDS of 500 mg/L at the edge of the mixing zone(s) in Snap Lake.</p> | <p>Feb 7: De Beers agrees with this recommendation from ECCC. For clarification, De Beers proposed to remove the site-specific water quality objective for TDS (1000 mg/L) but proposed to retain the drinking water aesthetic guideline (500 mg/L) as an AEMP benchmark to evaluate monitoring data. De Beers did propose to remove the EQC for TDS.</p> | |
| 9 | ECCC #9) F.28 Discharge from Passive Water Treatment System - Nitrate EQC | <p>Comment The Board has requested input on the proposed nitrate EQC of 60 mgN/L MAC / 80 mgN/L Grab. ECCC suggests that the nitrate EQC be re-evaluated prior to breaching of the ponds, and a lower discharge concentration be set as the criteria if supported by monitoring data and updated model predictions.</p> <p>Recommendation ECCC recommends that the post-closure EQC for nitrate not be set at this time. ECCC recommends that they be set following closure monitoring, and based on monitoring data and on updated model predictions for the post-closure period.</p> | <p>Feb 7: De Beers has presented evidence to show that at a constant nitrate concentration of 60 mg N/L in the discharge to Snap Lake, nitrate concentrations in Snap Lake are predicted to remain below the AEMP benchmark. Therefore, the proposed maximum average concentration (MAC) and maximum grab concentration (MGC) EQC for nitrate of 60 mg N/L and 80 mg N/L for Closure and Post-closure are protective of the receiving environment. De Beers requests MAC and MGC EQC of 60 mg N/L and 80 mg N/L in Closure and Post-closure for three reasons: 1) Blasting will be required for construction activities such as creating the influent storage</p> | |

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| | | | <p>ponds. The residual nitrate from ammonium nitrate explosives will cause greater variability in nitrate concentrations than the variability observed in the 2018 and 2019 data from the North Pile sumps and Surveillance Network Program (i.e., SNP 02-02 and SNP 02-14). 2) Some nitrate concentrations in the North Pile sumps in 2018 and 2019 were greater than the proposed MAC EQC of 60 mg N/L. De Beers recognizes that nitrate concentrations in the North Pile sumps have decreased in Extended Care and Maintenance, but at this time, there is still enough variability in the monitoring data to support a MAC EQC of 60 mg N/L. 3) To reduce uncertainty for the company, to gain internal approvals and funding, and to confidently move forward and execute the Final Closure and Reclamation Plan. In alignment with the trigger to move to a passive system, an EQC Re-evaluation Report will be prepared (see response to ECCC-7, GNWT-27). Prior to "breaching of the control structure and moving to a fully passive system of discharge", De Beers will develop an EQC Re-evaluation Report that uses the most recent set of monitoring data. The data will dictate if lower EQC will be appropriate for the Post-closure phase.</p> | |
| 10 | ECCC #10) Annex A - SNP Part A.1. | <p>Comment De Beers proposes removal of the surface runoff sites in the Surveillance Network Plan (SNP). At a minimum, representative sites should be retained throughout active closure in order to evaluate changes associated with closure activities. Once water quality is demonstrated to be stable, an evaluation of frequency of monitoring and reduction could be done. Monitoring of the Whole-Lake TDS concentration stations (SNP02-18) could reasonably be discontinued, if at the edge of the mixing zone at 200m TDS is shown to be below 500 mg/L. With this proposal, SNP sites that are no longer</p> | <p>Feb 7: De Beers disagrees with this recommendation. As part of the Undertaking 4 response (provided on 16 December 2019), De Beers provided figures showing the full long-term dataset collected at the SNP stations that have been proposed for elimination. There are no additional data to provide. De Beers also provided further rationale why these stations are no longer required (e.g., the original purpose of the station has been met; the station is frozen; the station will be</p> | |

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| | | <p>applicable (e.g. the Final Mine water Collection Site, Diffuser or Water Intake Construction sites) would be deemed inactive.</p> <p>Recommendation ECCC recommends further rationalization of the SNP sites included in closure monitoring be done prior to determining the list of stations. This could be in the format of a technical meeting or workshop.</p> | <p>unavailable/inaccessible once closure activities begin). The need to retain these stations or to review each station individually at a workshop is unclear.</p> | |
| 11 | ECCC #11) Annex A - SNP Part A.1. - BOD vs cBOD | <p>Comment Board staff are seeking input on changing the sample parameter Biological Oxygen Demand (BOD) to Biochemical Oxygen Demand (cBOD).</p> <p>Recommendation ECCC recommends retaining BOD for comparability of data with past sample results, and in order to characterize all sources of biological/biochemical oxygen demand.</p> | <p>Feb 7: De Beers accepts monitoring for either BOD or cBOD but only at the final discharge SNP stations (i.e., SNP 02-17b, 02-17c, 02-17d). Monitoring of this parameter is not required at any other SNP station.</p> | |

Fisheries and Oceans Canada: Dan Coombs

| ID | Topic | Reviewer Comment/Recommendation | Proponent Response | Board Staff Analysis |
|----|----------------------------------|--|----------------------------|----------------------|
| 1 | Impacts to Fish and Fish Habitat | <p>Comment Impacts to fish and fish habitat can occur during works, undertakings and activities in or near water. Death of fish and harmful alteration, disruption or destruction of fish habitat can result from operations or from failure to develop suitable long-term avoidance and mitigation measures. Those measures should aim at preventing the death of fish, maintaining riparian vegetation, carrying out works, undertakings and activities on land, maintaining fish passage, ensuring proper sediment control, preventing entry of deleterious substances in water.</p> <p>Recommendation The Proponent should contact the Fish and Fish Habitat Protection Program at the DFO Yellowknife office if they are planning on doing work, undertaking or activities near or in water that could potentially impact fish and fish habitat to determine if the work needs a review as per the Fisheries Act (https://www.dfo-mpo.gc.ca/pnw-ppe/reviews-revues/request-review-demande-d-examen-001-eng.html). Standard codes of practice can be found on DFO's website (https://www.dfo-mpo.gc.ca/pnw-ppe/practice-practique-eng.html).</p> | <p>Feb 7: Noted</p> | |

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| 2 | SNP Stations 02-22 to 0-24 | <p>Comment DFO concurs with ECCC comment # 10.</p> <p>Recommendation DFO supports" ECCC recommendmendation of further rationalization of the SNP sites included in closure monitoring be done prior to determining the list of stations. This could be in the format of a technical meeting or workshop." Any updates required to the Fisheries act authorization can be addressed after.</p> | <p>Feb 7: Please see response to ECCC-10</p> | |
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GNWT - ENR - EAM (Environmental Assessment and Monitoring): Central Email GNWT

| ID | Topic | Reviewer Comment/Recommendation | Proponent Response | Board Staff Analysis |
|----|---------------------------------------|--|---|----------------------|
| 62 | General File | <p>Comment (doc) ENR Letter with Comments and Recommendations</p> <p>Recommendation</p> | | |
| 1 | Topic 1: Scope | <p>Comment The scope of the licence is still written for an operating mine and includes references to mining and milling, as well as operation of various facilities. As this is a licence for Closure and Post-Closure, the scope should be updated accordingly.</p> <p>Recommendation 1) GNWT recommends that the Scope be updated for a mine entering Closure, and that any reference to active mining and milling be removed.</p> | <p>Feb 7: De Beers agrees with this recommendation from GNWT (and SLEMA-3) in that the Scope is for a Mine entering Closure. The only reference to mining and milling should be related to Waste that has already been generated (i.e., North Pile) and associated Wastewater (i.e., water in the Water Management Pond, and perimeter sumps of the North Pile).</p> | |
| 2 | Topic 2: Definition of Active Closure | <p>Comment The proposed definition of the term active closure is "the closure period during which closure and reclamation activities are being implemented and prior to breaching the Influent Storage Ponds to allow water to passively flow into Snap Lake." GNWT notes the term active closure is currently only used in Part F, Condition 21 which outlines the EQC that will apply during the phase of active water management. The definition of active closure should describe the end point prior to implementing a second set of EQC and proceeding to a Passive Water Treatment System. Criteria to determine when a second set of EQC become active are discussed in GNWT's comments related to Part F, Condition 27.</p> <p>Recommendation 1) GNWT recommends the definition of active closure reflect the phase of active water management prior to implementing a second set of EQC.</p> | <p>Feb 7: De Beers agrees with the definition of Active Closure as proposed in the draft water licence. De Beers disagrees with this recommendation from the GNWT because a clause "prior to implementing a second set of EQC" adds no additional clarity to the term and constrains the definition with a required action</p> | |

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| 3 | None | <p>Comment None</p> <p>Recommendation 2) GNWT refers the Board to its comments on the draft licence Part F, Condition 27 for further discussion on the development of the second set of EQC.</p> | <p>Feb 7: See response to GNWT-ENR-27</p> | |
| 4 | <p>Topic 3: Definition of Engineered Structure and Engineer of Record</p> | <p>Comment Board staff have requested input on the list of structures/facilities that should be included as part of the definition of Engineered Structure and Engineer of Record.</p> <p>Recommendation 1) GNWT recommends De Beers provide the list of structures/facilities that will fall under the definition of Engineered Structure and Engineer of Record (e.g. ISPs, WMP, North Pile, etc.).</p> | <p>Feb 7: De Beers has provided definitions for "Engineer of Record" and "Engineered Structures" The definition for Engineer of Record should be as follows: Engineer of Record - a qualified and competent Professional Engineer who is response for the design and performance of the "Mine Openings to Surface; North Pile; Perimeter Water Control Structures" The definition for Engineered Structure should be as follows: Engineered Structure - any structure or facility related to Water Use or the deposit of Waste that is designed by a Professional Engineer, including but not limited to the "Mine Openings to Surface; North Pile; Perimeter Water Control Structures"</p> | |
| 5 | <p>Topic 4: Definition of Influent Storage Pond</p> | <p>Comment The proposed definition for Influent Storage Pond (ISP) includes the very term being defined. As well, the proposed definition doesn't consider that the ISPs will also receive runoff from adjacent site catchment areas nor that they also discharge effluent to the receiving environment.</p> <p>Recommendation 1) GNWT recommends that the definition be revised to "Components of the Passive Water Treatment System designed to collect, store and equalize flow of seepage and runoff from the North Pile prior to discharging to Snap Lake."</p> | <p>Feb 7: De Beers accepts this recommendation from the GNWT.</p> | |
| 6 | <p>Topic 5: Definition of North Pile Closure Cover</p> | <p>Comment GNWT notes that for Part E Condition 6, it may be valuable to have a definition for the North Pile Closure Cover to ensure that both the transition layer material and the erosion protection cover material are included in the geochemical records.</p> <p>Recommendation 1) GNWT recommends</p> | <p>Feb 7: De Beers disagrees with this recommendation. A definition for the term "North Pile Closure Cover" is more appropriate in the Design and Construction Plan or the North Pile Management Plan rather than the water licence.</p> | |

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| | | adding a definition for the North Pile Closure Cover to the list of defined terms. | | |
| 7 | Topic 6: Definition of Post-Closure | <p>Comment The proposed definition of the term Post-Closure is "the period following the approval of the Post-Closure and Reclamation Monitoring and Maintenance Plan." GNWT notes the term should consider the difference in Closure and Post-Closure such as a reduced site presence, completion of all closure activities, and the occurrence of monitoring.</p> <p>Recommendation 1) GNWT recommends the term Post-Closure be defined as "the period following closure and reclamation, during which the performance of the closed and reclaimed mine components are monitored to ensure compliance with the closure objectives."</p> | <p>Feb 7: Based on feedback from GNWT and SLEMA-16, De Beers agrees that the definition for Post-closure should be updated. De Beers proposes the following definition for Post-closure: Post-Closure - the phase in the mine life cycle where physical works relating to closure and reclamation have been completed. Monitoring is being conducted during this phase until such time that it can be demonstrated that closure criteria have been achieved.</p> | |
| 8 | Topic 7: Definition of Progressive Reclamation | <p>Comment The proposed definition of progressive reclamation is "Closure and Reclamation activities conducted during the operating phase of the Project." Since the project is no longer in the operating phase of the project, the term progressive reclamation no longer applies. The term Closure and Reclamation as defined in the draft Standard Water Licence Conditions should instead be used. As noted in GNWT's comments on the draft Standard Conditions, the proposed definition of closure and reclamation does not consider when closure and reclamation occurs. It is noted that the other definition for closure and reclamation with the strikethrough includes additional wording to describe the closure and reclamation phase: "Means the Project area after the completion and cessation of activities as described in the completed Water Licence Application." In addition, the Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mines Sites in the Northwest Territories (MVLWB/AANDC, 2013) defines permanent closure, "Permanent closure is the final closure of a mine site with no foreseeable intent by the existing proponent to return to either active exploration or mining."</p> <p>Recommendation 1) GNWT recommends</p> | <p>Feb 7: De Beers also recommended that the term "Progressive Reclamation" should be removed from this water licence. De Beers accepts this recommendation from the GNWT. The term "Closure and Reclamation" should be used and should be defined as follows: Closure and Reclamation - the works and activities conducted during closure and as described in the Final Closure and Reclamation Plan</p> | |

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| | | that the term "Progressive Reclamation" be replaced with the term "Closure and Reclamation" and be defined with the definition proposed in the draft Standard Water Licence Conditions with the addition of wording that describes when closure and reclamation takes place. | |
| 9 | Topic 8: Part B Standard Condition | <p>Comment The draft Standard Water Licence Conditions include a condition (Part B, Condition 4) that states "In each submission required by this Licence or any directive from the Board, the Licensee shall identify all recommendations based on Traditional Knowledge received, describe how the recommendations were incorporated into the submission, and provide justification for any recommendation not adopted." GNWT notes neither this standard Condition, nor the associated standard Condition in Schedule 1, Condition 1, Item f, have been included in the draft Water Licence.</p> <p>Recommendation 1) GNWT recommends the standard Condition listed under Part B, Condition 4, and Schedule 1, Condition 1, Item f, be included in the Water Licence.</p> | <p>Feb 7: De Beers does not agree with this recommendation. This is an overly expansive condition. It is not always appropriate to look to TK to inform all regulatory submissions. For instance, it would be difficult to obtain and incorporate TK into the submission of a highly specific and technical report such as a geochemical report, water quality model, or engineering drawing. The value of doing so is likely very limited. De Beers is committed to engaging with Indigenous Parties and seeking their input and TK into the management of the Snap Lake Mine, however we feel that requiring this blanket requirement to include TK within all submissions under the water licence is excessive and will not add value. The Final Closure and Reclamation Plan made extensive use of Indigenous TK, and is the right place to focus additional TK in the future.</p> |
| 10 | Topic 9: Part D, Condition 3 | <p>Comment Board staff are seeking input into the list of wastewater sources and wastewater uses as per Part D, Condition 3. As per the draft Condition, wastewater from site may be used only if that wastewater meets the Effluent Quality Criteria or as otherwise approved by the Board. Therefore, an SNP station that requires compliance with the effluent quality criteria should be established at the wastewater sources that will be used.</p> <p>Recommendation 1) GNWT recommends De Beers provide a proposed list of wastewater sources that may be used during Closure and corresponding SNP</p> | <p>Feb 7: Wastewater sources at the Snap Lake Mine that may be used include water from the Water Management Pond, Perimeter Sumps, and the future Influent Storage Ponds. These wastewater sources may be used for dust control on the North Pile (and hence the water will be collected again in the same ponds and sumps) and if approved by an Inspector, for site-wide dust control or fire suppression. Effluent quality criteria are only applicable to water that is discharged to the receiving</p> |

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| | | stations that will ensure compliance with the effluent quality criteria. | environment (i.e., Snap Lake) and thus wastewater used for these specific purposes (i.e., dust control or fire suppression) should not need to meet the effluent quality criteria as established in Part F, Conditions 21 and 28. | |
| 11 | None | Comment None Recommendation 2) GNWT recommends De Beers provide a list of proposed uses for wastewater during Closure. | Feb 7: Proposed uses for wastewater may include for dust control on the roads or the North Pile, or for emergency industrial uses such as fire suppression. | |
| 12 | Topic 10: Part F, Condition 5 | Comment Board staff are seeking input into the project activities for which construction should not commence prior to Board approval of the Water Management Plan. Currently, the Condition only limits the construction of engineered structures. GNWT notes Part E, Condition 7 requires the submission of a Structure Description and Construction Plan for all structures, excluding engineered structures, intended to contain, withhold, divert, or retain water or wastes. Part F, Condition 5 should therefore require the approval of the Water Management Plan prior to construction of any structure (engineered or not) that is intended to contain, withhold, divert, or retain water or wastes. Recommendation 1) GNWT recommends Part F, Condition 5 require approval of the Water Management Plan prior to construction of any structure that is intended to contain, withhold, divert, or retain water or wastes. | Feb 7: The only structures that will contain, withhold, divert, or retain Water or Wastes are the Engineered Structures (see response to GNWT-ENR-4 for definition). Engineered structures have their own process in this licence that should not be confused with the general operations of water management of the site. The Water Management Plan will be updated from time to time as necessary, and construction of engineered structures should proceed. If an update to the Water Management Plan is required that has design implications for an Engineered Facility, both would be submitted for approval, however in many cases this is not the case. Changes to the Water Management Plan are common and often have no significant implications on the engineered structures. | |
| 13 | Topic 11: Part F, Condition 9 | Comment Board staff are seeking input into the project activities associated with this Condition. GNWT notes that the Acid Rock Drainage and Geochemical Characterization and Management Plan should be required for the characterization and management of material during all earthworks activities on site. Recommendation 1) The GNWT recommends that Part F, Condition 9 reference all earthworks activities, rather than be restricted to the North Pile Facility. | Feb 7: De Beers has also suggested that Part F, Condition 9 should reference the "Engineered Structures" and has proposed the following revision: A minimum of 60 days prior to commencement of activities (blasting, earthworks, or placing of cover materials, whichever comes first), the Licensee shall submit to the Board, for approval, an Acid Rock Drainage and Geochemical Characterization and Management Plan. The Licensee shall not commence construction of any | |

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| | | | Engineered Structures prior to Board approval of the Plan. | |
| 14 | Topic 12: Part F, Condition 10 | <p>Comment Board staff are seeking input into the project activity that this Condition applies to. GNWT agrees with this Condition as written provided the definition of the North Pile Facility remains unchanged. Board staff are also seeking input on whether the Erosion and Sedimentation Management Plan could be incorporated into the North Pile Management Plan. The components of the North Pile Facility as defined in the draft Water Licence are included in the scope of the North Pile Management Plan. GNWT therefore agrees that the plans for erosion and sedimentation management of the North Pile Facility reclamation activities within 150m of Snap Lake could be incorporated into the North Pile Management Plan. However, reclamation near Snap Lake may include activities outside the North Pile Facility, and as such, may not be appropriate for inclusion in the North Pile Management Plan.</p> <p>Recommendation 1) The GNWT recommends that plans for erosion and sedimentation management be required for remediation activities within 150m of Snap Lake. For activities associated with the North Pile, the erosion and sedimentation management plan can be combined with the North Pile Management Plan.</p> | <p>Feb 7: A similar recommendation was made by ECCC; please see response to ECCC-1.</p> | |
| 15 | Topic 13: Part F, Condition 12 | <p>Comment Board staff are seeking input for the requirement of this Condition which outlines the operation and maintenance of the North Pile Facility. GNWT notes that while seepage from the facility to the receiving environment should be minimized and collected, it will not be returned to the North Pile Facility.</p> <p>Recommendation 1) The GNWT recommends that this Condition remain in the Water Licence and that it be revised to reflect that seepage will be managed appropriately to ensure compliance with effluent quality criteria.</p> | <p>Feb 7: De Beers accepts part of the GNWT recommendation, specifically that "seepage will be managed". Effluent quality criteria apply only to the final discharge location; they do not apply to seepage water quality. For the Snap Lake Mine, the final discharge locations have been defined as 02-17b (Water and Sewage Treatment Plant), 02-17c (East Influent Storage Pond), and 02-17d (West Influent Storage Pond). The final discharge accounts for seepage and runoff from the site. Note that water collected in the Perimeter Water</p> | |

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| | | | Control Structures may be used for dust control on the North Pile if required. | |
| 16 | Topic 14: Closure Criteria | <p>Comment Part F, Condition 12, Item e, requires monitoring of the North Pile Facility be sufficient to ensure performance design criteria, as described in the Design and Construction Plan are being met. GNWT understands that for a given structure, there may be design criteria and performance criteria. The former ensures the as-built report is in accordance with the design and the latter ensures the structure is performing as expected. Both types of criteria are necessary to evaluate the success of the closure activity in meeting the closure objective. The term should therefore be clarified to "performance criteria" since the Condition relates the criteria to monitoring. In addition, Part I, Condition 1 requires that the Final Closure and Reclamation Plan (FCRP) be in accordance with the Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories. These guidelines outline that closure criteria are required in a Closure and Reclamation Plan for it to be effective. To be in compliance with Part I, Condition 1, criteria used to confirm the design and performance of a structure should therefore be included in the FCRP. This is further warranted given the difference in submission timeline for the Design and Construction Plans and the FCRP. Part E, Condition 8, requires the Design and Construction Plan to be submitted 90 days prior to commencement of construction. Whereas, Part I, Condition 2 requires the submission of the Final Closure and Reclamation Plan (FCRP) 90 days following licence issuance.</p> <p>Recommendation 1) GNWT recommends the criteria referred to in Part F, Condition 12 be clarified as performance criteria.</p> | Feb 7: De Beers agrees with this recommendation | |
| 17 | None | <p>Comment None</p> <p>Recommendation 2) GNWT recommends De Beers ensure closure criteria are included with the FCRP to ensure</p> | Feb 7: Closure criteria were included in the FCRP (Table 5.2 and described in Section 5.5). In addition, Table 5.2 was updated in | |

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| | | sufficient time is allocated for their review and approval. | the 3 July 2019 Response package. These criteria will again be included in the updated FCRP due as a condition of this water licence. | |
| 18 | Topic 15: Part F, Condition 14 | <p>Comment Part F, Condition 14 requires daily erosion inspections of discharge locations during periods of discharge. GNWT notes it is unclear if this Condition was meant to apply during both Closure and Post-Closure.</p> <p>Recommendation 1) GNWT recommends the Board clarify that the frequency of inspections noted in Part F, Condition 14 is to occur daily during Closure and weekly during Post-Closure until water quality stabilizes and erosion inspections are no longer required as determined by the Board.</p> | <p>Feb 7: De Beers recommends to the Board to not include specific monitoring frequencies for erosion in the body of the licence, but rather allow these details to be developed, and adjusted as needed, in the Erosion and Sedimentation Plan and the North Pile Management Plan as appropriate. Changing conditions of a water licence is very difficult and onerous for both the Licencee and the Regulator as it requires amendment. Frequencies for monitoring are best suited for inclusion in management plans whereby changes can be made to align with real environmental risks and needs as those change over time. As indicated in our comments to Part F Condition 14, weekly inspections for erosion during discharge in Closure will be more than sufficient to identify and address any issues. Daily inspections is excessive. However, as we indicated above, we do not believe that frequencies should be stipulated in the body of the licence. De Beers disagrees with the requirement for weekly monitoring during Post-closure because the site will be at zero occupancy by that phase, except for seasonal campaigns. Weekly inspections are not likely to be warranted nor possible. Again, by including erosion monitoring frequencies in the Management Plans rather than the licence, the frequencies can be set much closer to the period and reflect the actual risk of erosion at that time. De Beers also disagrees with recommendation of monitoring "until water quality stabilizes" as the focus of condition is on the identification of erosion and not</p> | |

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| | | | on sampling of water for chemical analysis. | |
| 19 | Topic 16: Part F, Condition 19 | <p>Comment Board staff are seeking input on the requirement of Part F, Condition 19 which states "The Licensee shall direct all Potentially Acid Generating material to the North Pile Facility, as described in the approved Acid Rock Drainage and Geochemical Characterization and Management Plan." GNWT notes that this Condition is required in the licence, and alternative wording could include: "The Licensee shall direct all Potentially Acid Generating material to the North Pile Facility, and manage it according to the approved Acid Rock Drainage and Geochemical Characterization and Management Plan."</p> <p>Recommendation 1) GNWT recommends that this Condition remain in the Water Licence and suggests that the wording be revised to "The Licensee shall direct all Potentially Acid Generating material to the North Pile Facility, and manage it according to the approved Acid Rock Drainage and Geochemical Characterization and Management Plan and the Final Closure and Reclamation Plan."</p> | Feb 7: De Beers accepts this recommendation | |
| 20 | Topic 17: Part F, Condition 20 | <p>Comment Part F, Condition 20 states "the Licensee shall discharge all Effluent from North Pile Facility to Snap Lake as described in the approved Water Management Plan". GNWT notes that the proposed Water Management Plan included in the Water Licence renewal application requests the ability to discharge water to the underground. The draft Condition as proposed is not consistent with the proposed plan.</p> <p>Recommendation 1) GNWT recommends that the Board consider the consistency of Part F, Condition 20 with De Beers' proposed Water Management Plan.</p> | Feb 7: De Beers agrees with this recommendation from the GNWT. De Beers will continue to manage surface runoff and seepage and will discharge effluent to either Snap Lake at the approved discharge locations or to the underground. The details of water management within a site, including within the underground mine, are to be captured within the existing plans and not within the water licence. Part F, Condition 20 should be revised as follows: The Licensee shall discharge all Effluent as described in the approved Water Management Plan. | |
| 21 | Topic 18: Part F, Condition 21, TPH | <p>Comment De Beers' rationale for excluding total petroleum hydrocarbons (TPH) in the list of EQC was that "There is no mine-related source of total petroleum hydrocarbons to the WMP,</p> | Feb 7: De Beers has accepted recommendations (ECCC-6, GNWT-ENR-21, SLEMA-26) to monitor for hydrocarbons during Active Closure. De Beers requests limits | |

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| | | <p>Sump 3 or Sump 5 in Closure or Post-Closure." There is a tank farm on site and remediation will require heavy machinery work all over site.</p> <p>Recommendation 1) GNWT recommends that EQC for TPH of 3.0 mg/L maximum average concentration and 5.0 mg/L maximum grab concentration be included in Condition 21.</p> | <p>for Total Petroleum Hydrocarbons are consistent with GK Water Licence (MV2005L2-0015) and proposes: Total Petroleum Hydrocarbons = 5 mg/L (MG) with no value for MAC.</p> | |
| 22 | Topic 19: Part F, Condition 21 & 28 - EQC | <p>Comment Board staff included EQC that are being proposed by De Beers in the draft Water Licence. The GNWT expressed concerns regarding the proposed EQC in the intervention and at the Public Hearing, November 26-27, 2019.</p> <p>Recommendation 1) GNWT will provide our final EQC recommendations within our closing arguments to be submitted to the Board by February 14th, 2020.</p> | <p>Feb 7: De Beers proposed EQC that are appropriate for the Snap Lake Mine in Closure and Post-closure. De Beers also submitted evidence to back-up this request. De Beers stands behind the EQC as proposed.</p> | |
| 23 | Topic 20: Part F, Condition 21 - EQC | <p>Comment Board staff noted in the draft Water Licence that the changes in the table listing the EQC that will apply during Closure are based on those which have been proposed by De Beers. GNWT notes EQC for total phosphorous and fluoride have not been stricken out in the table, however these parameters were not included in the list of parameters with EQC proposed by De Beers.</p> <p>Recommendation 1) GNWT recommends the Board clarify if Closure EQC for total phosphorus and fluoride are to remain in the Water Licence.</p> | <p>Feb 7: De Beers noted that the Board proposed EQC for TP and fluoride are the same values as in the current water licence. De Beers presented a standard screening process to identify constituents of concern, and then completed standard analyses to develop proposed EQC values. TP and fluoride were not identified for Closure and Post-closure because these parameters did not screen through after question "Are predicted 95th percentile concentrations at the mixing zone boundary more than the AEMP benchmark?". For both TP and fluoride the answer was no. While the EQC proposed by the Board for TP and fluoride could be met without active treatment, there is no technical reason to include them in the water licence as regulated parameters.</p> | |
| 24 | Topic 21: Part F, Condition 21 "Discharge Locations" | <p>Comment Board staff are seeking input into the list of discharge locations that should be included in Part F, Condition 21. GNWT noted concerns regarding the discharge locations proposed by De Beers in our intervention and sought clarification during the Public Hearing November 26-27, 2019.</p> | <p>Feb 7: De Beers proposed final discharge locations that are aligned with the final closure design which includes passive water flow. The exact locations of the final discharge point may be adjusted slightly once the Influent Storage Ponds are completed, but</p> | |

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| | | <p>Recommendation 1) GNWT will provide final recommendations on effluent discharge locations within our closing arguments to be submitted to the Board by February 14th, 2020.</p> | <p>they will be in the general areas identified in the submission. De Beers stands behind the discharge locations as proposed.</p> | |
| 25 | <p>Topic 22: Part F, Condition 25 & 26</p> | <p>Comment Part F, Conditions 25 and 26 include a note that Board staff will update the trigger for initiating the Plume Delineation Study based on GNWT's response to Undertakings. GNWT believes the triggers noted in these Conditions are suitable and instead suggests an additional Condition be included that is in accordance with GNWT's response to Undertaking #6. As well, GNWT notes Conditions 25, 26 and this additional Condition should clearly communicate that since De Beers is proposing to discharge from both the East and West Influent Storage Ponds, both discharge locations should be included in the study.</p> <p>Recommendation 1) GNWT recommends that in addition to Part F, Conditions 25 and 26, an additional Condition be included in the licence in accordance with GNWT's response to Undertaking #6. This Condition should require the Plume Delineation Study for each ISP be completed within the first open water season following approval of the Closure and Reclamation Completion Reports for the North Pile (minus the landfill area) and all water management structures.</p> | <p>Feb 7: De Beers agrees with this recommendation</p> | |
| 26 | <p>None</p> | <p>Comment None</p> <p>Recommendation 2) GNWT recommends the Conditions related to the Plume Delineation Study be clear that the study is required for both the East ISP and the West ISP.</p> | <p>Feb 7: Noted</p> | |
| 27 | <p>Topic 23: Part F, Condition 27 "Trigger for the EQC Re-evaluation Report"</p> | <p>Comment As noted by Board Staff in the draft Water Licence, Part F, Condition 27 should align with the trigger for the development of a second set of EQC that is presented in the GNWT's response to Undertaking #6. GNWT refers the Board to its response to Undertaking #6 for more detailed rationale for the trigger to develop a second set of EQC.</p> <p>Recommendation 1) GNWT recommends that the trigger for an EQC Re-evaluation Report align with the GNWT's trigger to develop a second set of EQC</p> | <p>Feb 7: De Beers agrees to the submission of an EQC Re-evaluation report. De Beers accepted the recommendation by ECCC-7 that the report should be submitted within 120 days of the trigger "breaching of the control structure and moving to a fully passive system of discharge". Except for the timeline, this aligns with Criteria 1 in this recommendation. De Beers does not agree with criteria #2. De</p> | |

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| | | <p>described in GNWT's response to Undertaking #6. Specifically, GNWT recommends the EQC Re-evaluation Report be submitted within 90 days of meeting the following two criteria: 1. The Closure and Reclamation Completion Reports for the North Pile minus the landfill area and all water management structures have been approved by the Mackenzie Valley Land and Water Board; and, 2. Once criterion 1 is achieved, measured water quality parameters (total suspended solids (TSS), nitrate, total phosphorous, and cobalt) have demonstrated stable or decreasing trends for at least two open water seasons.</p> | <p>Beers proposes that criteria #2 should say: De Beers agrees to use water quality data that have demonstrated stable or decreasing trends for at least two open water seasons in the EQC Re-evaluation Report. De Beers proposes this change because the reason for specifically listing TSS and nitrate in criteria #2 is understandable, but it is not clear why the GNWT listed total phosphorus and total cobalt.</p> | |
| 28 | <p>Topic 24: Part F, Condition 27 "Contents of EQC Re-evaluation Report"</p> | <p>Comment Board staff have proposed items that will be required in the EQC Re-evaluation Report. In addition to those already listed in Part F, Condition 27, the Condition should require the report demonstrate that criteria 1 and 2, proposed by GNWT, have been met. As well, the EQC Re-evaluation Report should require that the updated Site Water Quality Model that is tracking measured water quality parameters (nitrate, total phosphorous, and cobalt) in the ISPs have a median relative percent residual difference < 15% for at least two open water seasons. A bias of more than 15% suggests that the mechanistic model does not adequately represent the underlying processes and should not be used to assess the need of re-evaluating EQC prior to breaching the ISPs and proceeding to a Passive Water Treatment System. A bias of more than 15% should therefore require an update to the water quality prediction model. It is noted in GNWT's response to Undertaking #6 that a large list of parameters for which this criterion must be met is unnecessary as most analytes are predicted to be well below AEMP benchmarks. The GNWT is therefore recommending nitrate, total phosphorous and cobalt since these are the parameters predicted to be within at least 50% of AEMP benchmarks for perimeter sumps 3 and 5.</p> <p>Recommendation 1) GNWT recommends in addition to the requirements already proposed in Part F, Condition 27, the</p> | <p>Feb 7: For Part F, Condition 27, De Beers proposed to accept the wording of clauses a through d, that clause e should be removed and used as the trigger, and that the report should be provided a minimum of 180 days prior to the trigger. See response to GNWT-27 regarding criteria 1 and 2 as proposed by the GNWT</p> | |

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| | | Condition require the report demonstrate that criteria 1 and 2, proposed by GNWT, have been met. | | |
| 29 | None | <p>Comment None</p> <p>Recommendation 2) GNWT recommends the EQC Re-evaluation Report require that the updated Site Water Quality Model that is tracking measured water quality parameters (nitrate, total phosphorous, and cobalt) in the Influent Storage Ponds have a median relative percent residual difference < 15% for at least two open water seasons.</p> | <p>Feb 7: De Beers agrees that the performance of the water quality calibration in site water quality model report can be evaluated using the median relative percent residual difference. However, De Beers does not believe that this commitment needs to be a condition in the water licence.</p> | |
| 30 | Topic 25: Part I, Condition 2 | <p>Comment Part I, Condition 2 states that "Within 90 days following the effective date of this Licence, the Licensee shall submit to the Board, for approval, a revised final Closure and Reclamation Plan."</p> <p>Recommendation 1) GNWT recommends the Board allow sufficient time for public review and approval by the Board.</p> | <p>Feb 7: Noted.</p> | |
| 31 | Topic 26: Part I, Condition 3 | <p>Comment Part I, Condition 3 states "Every three years during Closure and following the previous approval, or as directed by the Board, the Licensee shall submit to the Board, for approval, a revised final Closure and Reclamation Plan." The GNWT notes this Condition appears to be based off of the draft Standard Water Licence Conditions provided for review by the MVLWB (Part I, Condition 3). However, the rationale for this Condition states that the three year timeline is intended to allow for enough data to be collected through reclamation research to support any proposed revisions. The GNWT is not aware of any further reclamation research that De Beers intends to conduct during the Closure or Post-Closure periods. Further, once the final Closure and Reclamation Plan is approved, it should be the final plan that guides reclamation efforts.</p> <p>Recommendation 1) GNWT recommends Part I, Condition 3 be removed from the draft Water Licence as final Closure and Reclamation Plans should not be evergreen (i.e. change over time).</p> | <p>Feb 7: De Beers also suggested that Part I, Conditions 3, 4, 5, and 6 should be removed. Should De Beers wish to make changes to the Final Closure and Reclamation Plan, a revision will be provided for review and approval to the Board as per every other management plan.</p> | |
| 32 | Topic 27: Part I, Condition 7 | <p>Comment Part I, Condition 7 requires that within 90 days of completing closure and reclamation of any specific component of</p> | <p>Feb 7: De Beers does not agree that the Closure and Reclamation completion reports require Board</p> | |

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| | | <p>the project, the licensee shall submit to the Board a Closure and Reclamation Completion Report. The Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories outline that Closure and Reclamation Completion Reports should provide a preliminary assessment on the achievement, or lack thereof, of appropriate closure objectives and criteria. GNWT is aware that the notes associated with this Condition in the draft Standard Water Licence Conditions explain that "These Reports are not for Board approval, because they are records of what has been done. These Reports do include monitoring, maintenance, and possibly closure cost information, which generally requires Board approval; however, approval of these items should be acquired through revisions to affected plans (such as the CRP or the Post-Closure and Reclamation Monitoring and Maintenance Plan) or the closure cost estimate." However, GNWT notes in Part C, Condition 5, security adjustment requests may be submitted with Closure and Reclamation Completion Reports. Since the Closure and Reclamation Completion Reports could have implications on the Post-Closure and Reclamation Monitoring and Maintenance Plan, the Performance Assessment Reports, and security updates, the GNWT believes the Closure and Reclamation Completion Report must be for Board approval.</p> <p>Recommendation 1) GNWT recommends Part I, Condition 7 require the Closure and Reclamation Completion Report be for Board approval.</p> | <p>approval because they are a summary and record of what has been completed. De Beers acknowledges that other items submitted with the Closure and Reclamation Report may require Board approval. As such Board approval should be limited to specific items and not all submissions to the Board.</p> | |
| 33 | Topic 28: Part I, Condition 8 and 9 | <p>Comment Part I, Condition 8 states "A minimum of one year prior to completing Closure and Reclamation of the Project, or as otherwise directed by the Board, the Licensee shall submit a table of contents or draft schedule for the Post-Closure and Reclamation Monitoring and Maintenance Plan to the Board for approval." Part I, Condition 9 states "Within x months of completing the Closure and Reclamation of the Project, or as otherwise directed by the Board, the</p> | <p>Feb 7: De Beers recommended that Part I, Condition 8 is redundant to Part I, Condition 9 and should be removed. In addition, a table of contents and schedule have not been required for other plans and in advance of submitting other plans. It is excessively bureaucratic and potentially confusing to submit tables of contents and/or draft schedules for monitoring and</p> | |

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| | | <p>Licensee shall submit to the Board for approval, a Post-Closure and Reclamation Monitoring and Maintenance Plan. The Plan shall be in accordance with the requirements of Schedule 6, Condition 1." The requirement for a Post-Closure and Reclamation Monitoring and Maintenance Plan is in accordance with the draft Water Licence standard Condition Part J, Condition 14. The rationale noted for this standard Condition acknowledges that this plan may need to be revised and resubmitted several times as closure and reclamation progresses. It is understood for a large scale project such as the Snap Lake Mine, reclamation of some components may be complete before others. GNWT suggests that instead of using the trigger "completing the Closure and Reclamation of the Project" in Conditions 8 and 9, the trigger should be in accordance with each Closure and Reclamation Completion Report.</p> <p>Recommendation 1) GNWT recommends Part I, Condition 8 require the table of contents or draft schedule for the Post-Closure and Reclamation Monitoring and Maintenance Plan be submitted along with the submission of each Closure and Reclamation Completion Report.</p> | <p>maintenance plans within a separate report rather than simply providing the monitoring and maintenance plan as a separate stand alone submission. A schedule of activities will be included in the plan required under Part I, Condition 9.</p> | |
| 34 | None | <p>Comment None</p> <p>Recommendation 2) GNWT recommends Part I, Condition 9 be changed to require the first version of the Post-Closure and Reclamation Monitoring and Maintenance Plan within 90 days of the approval of the first Closure and Reclamation Completion Report and subsequent updates within 90 days of each Closure and Reclamation Completion Report being approved.</p> | <p>Feb 7: De Beers recommends that the Post-Closure and Reclamation Monitoring and Maintenance Plan should be submitted to the Board within 6 months of completing the Closure and Reclamation of the Project. By this time, the conceptual monitoring as proposed in the Final Closure and Reclamation Plan can be detailed and specific to the works constructed. In addition, a schedule of monitoring activities will be included in the Plan. De Beers recommends that a single Monitoring and Maintenance Plan be required, and not multiple monitoring and maintenance plans by each component. This will streamline requirements and reduce the potential for discrepancies between plans.</p> | |

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| | | | Furthermore, there is no need to require updates to the Post-Closure Monitoring and Maintenance Plan every time a closure and reclamation report is submitted (or approved - see comment to GNWT-ENR-32). Revisions to the plans will be made as required to align with Project changes. Submission of a completion report does not necessitate changes to the monitoring plan. | |
| 35 | Topic 29: Part I, Condition 10 | <p>Comment Board staff is seeking recommendations on submission timelines for Performance Assessment Reports. GNWT notes the Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories outline that Closure and Reclamation Completion Reports should provide a preliminary assessment on the achievement, or lack thereof, of appropriate closure objectives and criteria. This is therefore an initial assessment of the reclamation activities. The guidelines also state "Performance assessment reports are submitted to the Board at the end of the initial monitoring period (5 years) to compare site conditions to closure objectives and criteria."</p> <p>Recommendation 1) GNWT recommends that the initial Performance Assessment Reports be submitted to the Board for approval at the end of the initial monitoring period as per the MVLWB/AANDC Guidelines (2013).</p> | <p>Feb 7: The timing of the Performance Assessment Reports is linked to the monitoring requirements for closing out each component. This will vary by component. De Beers requests therefore that the timing window be long enough to be inclusive of the longer monitoring periods required before submission of a PAR. De Beers requested the timeline for Part I, Condition 9 should be within 3 years of completing the Closure and Reclamation of any specific component of the Project.</p> | |
| 36 | None | <p>Comment None</p> <p>Recommendation 2) GNWT recommends the Water Licence include a condition to allow the Board to require the submission of subsequent performance assessment reports at their discretion.</p> | <p>Feb 7: De Beers will be submitting an annual closure and reclamation progress report. This annual report is the appropriate mechanism for the Board to monitor progress of closure and reclamation.</p> | |
| 37 | Topic 30: Schedule 1, Condition 1 | <p>Comment Schedule 1, Condition 1, Item i, ix, requires monthly elevations of water in the Water Management Pond during the open water season and a stage volume curve of the pond. GNWT notes this Condition should also apply to the Influent Storage Ponds.</p> <p>Recommendation 1) GNWT recommends</p> | <p>Feb 7: De Beers can accept this condition but suggest wording as: Schedule 1, Condition 1, item I, ix: Monthly elevations of Water in the Water Management Pond and/or Influent Storage Ponds (only required when the structures are completed and are still holding</p> | |

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| | | Schedule 1, Condition 1, Item i, ix, also apply to the Influent Storage Ponds. | water) during the open-water season, and a stage volume curve for the ponds; | |
| 38 | Topic 31: Schedule 1, Condition 1, k, ii | Comment Schedule 1, Condition 1, k, ii states that "A summary of annual quantities of all Potentially Acid Generating Materials, including an updated map or diagram showing the location of the deposited materials". GNWT notes that it seems as though there may be a word missing after "Materials" and it is unclear which PAG materials this Condition is referring to. Does this mean PAG materials used or encountered in excavation and construction, or another classification? Recommendation 1) GNWT recommends the Board clarify which specific materials this Condition is referring to. | Feb 7: Noted | |
| 39 | Topic 32: Schedule 1, Condition 1, k, iii | Comment GNWT notes that Schedule 1, Condition 1, k, iii refers to quantities of Waste Rock generated. As mining is no longer occurring on site, this Condition should apply to all rock generated on site from reclamation activities such as the rock generated from ISP construction. Recommendation 1) GNWT recommends that Condition 1, k, iii apply to all rock generated on site from reclamation activities. | Feb 7: Noted | |
| 40 | Topic 33: Schedule 1, 1, k, vi | Comment This Condition refers to the results of field test cells. GNWT notes that it is not clear what, if any field test cells are, or will be taking place on site, and that this Condition may no longer be relevant. Recommendation 1) GNWT recommends that this Condition either be clarified, or removed, if no longer relevant. | Feb 7: De Beers agrees that this condition should be removed. | |
| 41 | Topic 34: Schedule 3, Condition 2 | Comment Schedule 3, Condition 2, Item a, iv, requires that Design and Construction Plans include design specifications and performance parameters. However, Part F, Condition 12 refers to performance design criteria. Recommendation 1) GNWT recommends consistent language be used in Schedule 3, Condition 2, Item a, iv and Part F, Condition 12 and the term performance criteria be used. | Feb 7: De Beers agrees with this clarification recommendation | |

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| 42 | Topic 35: Schedule 3, Condition 2 | <p>Comment Schedule 3, Condition 1 outlines the requirements of the Structure Description and Construction Plans for non-engineered structures. Information about the monitoring that is required for these plans includes locations and parameters. However, Schedule 3, Condition 2 outlines the requirements for the Design and Construction Plans for engineered structures. Information about the monitoring that is required for these plans includes locations, parameters, frequencies and rationale. It is unclear why less monitoring information is being required for the Structure Description and Construction Plans.</p> <p>Recommendation 1) GNWT recommends the same detailed monitoring information be required for the Design and Construction Plans as the Structure Description and Construction Plans.</p> | <p>Feb 7: De Beers disagrees with this recommendation. De Beers noted that the purpose for the term "Structure Description and Construction Plan" as used in this draft Water Licence for Snap Lake Mine (first presented in Part E, Condition 7) is unclear. The only structures at Snap Lake Mine that will contain, withhold, divert, or retain Water or Wastes are the Engineered Structures (Part E, Conditions 8 and 9); see response to GNWT-ENR-4. The Water Licence for Snap Lake Mine does not need to include the term or any conditions related to "Structure Description and Construction Plans".</p> | |
| 43 | Topic 36: SNP 02-17c | <p>Comment The sampling frequency and sampling parameters that relate to acute and chronic toxicity tests are reversed in the table for SNP 02-17c and 02-17d. For example, the sampling frequency row includes acute toxicity tests and the corresponding sampling parameters row states once monthly during discharge.</p> <p>Recommendation 1) GNWT recommends the error with respect to the sampling frequency and sampling parameters listed in the table for SNP 02-17c and 02-17d be amended.</p> | <p>Feb 7: Agree</p> | |
| 44 | Topic 37: East Side Final Discharge Point | <p>Comment SNP station 02-17c is an important monitoring location as it is the point of compliance for effluent discharge on the east side of the North Pile. At the public hearing, GNWT raised concerns about the uncertainty of the location of SNP 02-17c as it has changed at multiple stages of the regulatory process. For example, in version 2 of the EQC report, Figure 3-1 shows the SNP station 02-17c near the outlet of the Water Management Pond. Then, in the response provided by De Beers to GNWT's intervention, Figure 11-1 shows SNP 02-17c at the edge of the lake. At the Public Hearing, GNWT asked De Beers to clarify the location of SNP 02-17c, and De Beers</p> | <p>Feb 7: De Beers disagrees with this recommendation. The Water Management Pond will be drained and decommissioned once the East Influent Storage Pond has been constructed and is operational. There will be no outlet of the WMP at this point in time. The rationale for the recommendation is unclear.</p> | |

responded that ".the final monitoring stations will be further up at the top of the channel and actually within the influent storage ponds." (Public Hearing Transcript, Day 1, page 133). As well, De Beers stated "the monitoring will be at a location where we still have the opportunity to control the water should it not meet our discharge criteria and divert it back into internal storage facilities" (Public Hearing Transcript, Day 1, page 138 & 139). The statements made at the Public Hearing coincide with the description for SNP station 02-17c in the draft Water Licence, "discharge from East passive Influent Storage Pond to Snap Lake main basin. Monitoring to characterize the quality of water from the passive treatment system to Snap Lake" and the location being the "outflow from the East Influent Storage Pond to Snap Lake". As well, in the response to undertakings provided by De Beers, attachments 3 and 4 show the location of 02-17c, which correspond with the description in the draft licence. However, the only SNP station in the draft licence that would monitor effluent once it has exited the East ISP prior to entering Snap Lake is SNP 02-14 (located in the Water Management Pond). GNWT notes SNP 02-14 is proposed to only be active during Closure. To confirm reclamation of the Water Management Pond has been successful and effluent is not being further impacted from the mine, an SNP station should also be established at the outlet of the Water Management Pond once reclamation is complete and the Influent Storage Ponds have been breached and should continue in Post-Closure.

Recommendation 1) GNWT recommends an SNP station be established at the outlet of the Water Management Pond to monitor effluent quality once reclamation of the Water Management Pond is complete and the East ISP has been breached. If there are concerns with effluent quality at the outlet of the Water Management Pond compared to the East ISP, the compliance point on the East side

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| | | of the North Pile will need to be re-evaluated. | | |
| 45 | Topic 38: SNP station 02-02b, and 02-02c Sampling Frequencies | <p>Comment The GNWT is concerned that the proposed monitoring frequencies (once annually), will be insufficient to detect trends in water quality.</p> <p>Recommendation 1) The GNWT recommends that SNP stations 02-02b and 02-02c be sampled every 2 weeks during discharge, at minimum so trends can be determined over and between years.</p> | <p>Feb 7: De Beers disagrees with this recommendation The SNP 02-02 stations are essentially at the inlets to the Water Management Pond and the Influent Storage Ponds and the proposed sampling is sufficient to track quality and quantity of water coming into the pond. De Beers has proposed increased sampling frequency to the final discharge locations (SNP 02-17b, 02-17c, and 02-17d) (see response to GNWT-ENR-52 and SLEMA-39). This increased sampling frequency will provide sufficient data to detect trends.</p> | |
| 46 | Topic 39: SNP station 02-03 | <p>Comment GNWT notes that the rationale for this station is to provide information about the geochemical stability/rate of weathering of the rock used for construction at the site. During Closure, this will be valuable information to have as reclamation activities and building demolition occurs.</p> <p>Recommendation 1) GNWT recommends that SNP station 02-03 remain active during Closure to continue monitoring runoff water quality from the core facilities area.</p> | <p>Feb 7: De Beers disagrees with this recommendation. As noted in the response to Undertaking 4, the purpose of this station was to provide information about the geochemical stability/rate of weathering of the rock, and specifically to monitor runoff to the water management pond from core facilities east of the WMP. This monitoring station is in a depression, typically occurs as small puddles, is subject to evaporation, and thus water quality monitored here does not represent runoff from the core facilities area. As demonstrated in the figures for each water quality parameter, there is no indication of increasing trends at this station. This station will not provide information that will inform Closure activities. Sedimentation and erosion monitoring will be conducted and stations that are more appropriate to monitor these activities will identified and sampled.</p> | |
| 47 | None | <p>Comment None</p> <p>Recommendation 2) GNWT recommends that SNP station 02-03 be sampled at the same frequency and same parameters currently listed in the draft Water Licence.</p> | <p>Feb 7: As noted in response to GNWT-ENR-46, De Beers disagrees with this recommendation and De Beers recommends that this station should be removed from the Snap Lake water licence.</p> | |

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| 48 | Topic 40: SNP station 02-04.2 | <p>Comment De Beers' rationale to remove this station is to monitor uncontrolled surface runoff from the airstrip. As the airstrip will continue to be used throughout Closure, surface runoff should continue to be monitored. GNWT notes that one of the three airstrip locations should be sufficient for monitoring in this area, preferably 02-04.2 as it is the station closest to the aquatic environment.</p> <p>Recommendation 1) GNWT recommends that SNP station 02-04.2 remain active during Closure as currently included in the draft Water Licence.</p> | <p>Feb 7: De Beers disagrees with this recommendation. The purpose of these stations was not to monitor for general runoff from the airstrip but to provide information about the geochemical stability/weathering of the rock used to construct the airstrip. As based on the long-term water quality dataset, there is no visible signs of sulphide oxidation or acid generation. The intent of this station has been met and there is no requirement to continue monitoring at this station.</p> | |
| 49 | Topic 41: SNP station 02-05 | <p>Comment At the Public Hearing, De Beers' consultants stated that this station is essentially acting as a 15 year on-site humidity cell representing runoff results for blended PAG/non-PAG material (Hearing transcript, Day 2, p. 80). Continued monitoring at this location will provide valuable data on long-term potential for ML/ARD. This site was also used as a North Pile runoff model input for the months of May and June. Sampling at this station should continue in order to verify and update model predictions.</p> <p>Recommendation 1) GNWT recommends that SNP station 02-05 remain active during Closure as currently included in the draft Water Licence.</p> | <p>Feb 7: De Beers disagrees with this recommendation. The purpose of this station was to monitor for surface runoff from the Bulk Sample Mine Rock Pad. For more than a decade, runoff monitoring has been conducted and there is no evidence of acid generation or metal leaching. Continued monitoring at this location is not warranted.</p> | |
| 50 | Topic 42: SNP station 02-06 | <p>Comment This station collects uncontrolled surface runoff at the Quarry site on the south side of the North Pile. The 2018 ARD and geochemical characterization report recommended continued monitoring at this location. GNWT notes that SNP monitoring at this location should continue during Closure due to its location on the southwest side of the North Pile and its potential to detect changes in uncontrolled runoff from the North Pile during construction.</p> <p>Recommendation 1) GNWT recommends that SNP station 02-06 remain active during Closure as currently included in the draft Water Licence.</p> | <p>Feb 7: De Beers disagrees with this recommendation. The purpose of this station was to monitor for runoff water quality from the quarry site. There is no evidence of acid generation or metal leaching, and no indication that trends are increasing. In addition, water quality at this station is similar to reference bog stations indicated that the runoff water quality is natural to the area. Continued monitoring is not warranted.</p> | |
| 51 | Topic 43: SNP 02-11 | <p>Comment GNWT notes that SNP 02-11 is used to monitor seepage downgradient from the Water Management Pond Dam</p> | <p>Feb 7: De Beers disagrees with this recommendation. The purpose of this station is to evaluate the</p> | |

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| | | <p>1 to evaluate dam performance. Dam performance should continue to be evaluated as long as the Dam is required. GNWT notes that while De Beers stated in their rationale that "there are no apparent signs of ARD or oxidation." Figure 4I-8 provided by De Beers in their response to undertakings, shows an increasing trend in sulphate concentrations. This could potentially be an indication of minor sulphide oxidation, however there is no data beyond 2014 at this location, and a continued trend cannot be confirmed. Monitoring at this location is further justified throughout Closure to monitor for any changes related to construction and reclamation work.</p> <p>Recommendation 1) GNWT recommends that SNP 02-11 remain active in Closure as long as Dam 1 is required during Closure as currently included in the draft Water Licence.</p> | <p>performance of Dam 1 of the Water Management Pond. The Dam is inspected every year by the Engineer of Record and there has not been any indication of concern for this dam. There are no apparent signs of acid rock drainage or oxidation on the dam. In addition, it appears that water collected from this station is more representative of groundwater than surface water seepage downgradient of the water management pond.</p> | |
| 52 | Topic 44: SNP 02-17b | <p>Comment De Beers is proposing a reduced sampling frequency at SNP 02-17b for several parameters compared to SNP 02-17c and d. GNWT notes it is unclear why SNP 02-17b would have a reduced sampling frequency as all three are discharge locations.</p> <p>Recommendation 1) GNWT recommends SNP stations 02-17b, c, and d should have the same sampling requirements (same as proposed for SNP 02-17 c and d). However, since SNP 02-17 b is the main diffuser, GNWT recommends the in-line monitoring requirement during periods of flow that is currently listed for this station remain in the licence as drafted.</p> | <p>Feb 7: De Beers agrees with this recommendation and refers reviewers to comments made by De Beers on the sampling frequency for SNP 02-17b, 02-17c, and 02-17d. In summary, De Beers recommends that the sampling frequency of SNP 02-17b in Closure remain the same as in the current water licence. There were minor edits made to the parameters including in each sampling group. De Beers also proposed that the sampling frequency at SNP 02-17c and 02-17d should be the same as the sampling schedule at 02-17b.</p> | |
| 53 | Topic 45: SNP 02-20h, i, j & k | <p>Comment SNP stations 02-20 h, i, j and k are located at the edge of the mixing zones associated with discharge from the ISPs. De Beers proposes to sample annually for turbidity, TDS (measured and calculated), nutrients, TSS, pH, conductivity, major ions, CCMS scan (total only) and, CBOD at these stations. GNWT notes the results of monitoring at these locations will be used to determine whether the AEMP benchmarks have been met. Sampling at these locations</p> | <p>Feb 7: De Beers disagrees with this recommendation because: 1) There is a very small volume of water now managed and released at Snap Lake. 2) Sampling of the receiving environment should be aligned with the reduced timing and volume of discharge during Closure and Post-closure. 3) Only one parameter of potential concern was identified. Therefore, the environmental risk to Snap</p> | |

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| | | <p>should therefore occur weekly during discharge and one sampling event one month after discharge has ceased. The sampling frequency could be reassessed in conjunction with the EQC Re-evaluation Report.</p> <p>Recommendation 1) GNWT recommends SNP 02-20 h, i, j, and k be sampled weekly during discharge and one sampling event one month after discharge has ceased for turbidity, TDS (measured and calculated), nutrients, TSS, pH, conductivity, major ions, CCMS scan (total only) and, CBOD.</p> | <p>Lake is low. 4) De Beers has proposed an increase to the frequency of sampling at SNP 02-17c and SNP 02-17d. The sampling schedule for the SNP 02-20 stations should be: once annually during ice cover and once annually during ice free period for set regular water quality parameters; once annually during ice free period for surficial sediment sample; once annually for acute toxicity (Rainbow trout early life stage and Fathead Minnows, 7-day); once annually during ice free period for chronic toxicity.</p> | |
| 54 | Topic 46: SNP 02-20 j & k | <p>Comment The description for SNP stations 02-20 j and k state that they are located in the main basin. However, these stations are in the Northwest arm of Snap Lake.</p> <p>Recommendation 1) GNWT recommends the description for SNP stations 02-20 j and k be amended to state they are located in the Northwest arm of Snap Lake.</p> | Feb 7: Agreed | |
| 55 | Topic 47: Annex A, Part B, Condition 1, Item e | <p>Comment Annex A, Part B, Condition 1, Item e requires daily volume of water discharged from the combined outfall from the Water Treatment Plant and the Sewage Treatment Plant to Snap Lake (Surveillance Network Program 02-17). GNWT notes station 02-17 is now 02-17b.</p> <p>Recommendation 1) GNWT recommends Annex A, Part B, Condition 1, Item e, refer to 02-17b.</p> | Feb 7: De Beers also made a similar recommendation and agrees with this recommendation from GNWT | |
| 56 | Topic 48: Draft Standard Water Licence Conditions â€œContact Water | <p>Comment As per GNWT's comments on the Draft Standard Water Licence Conditions submitted July 12, 2019, any runoff from a Waste Rock Pile, Tailings Facility, Laydown/Stockpile, Roads, etc. would be considered Contact Water.</p> <p>Recommendation 1) GNWT recommends that that Board create a definition for Contact Water or refine the definition of Minewater to include runoff that contacts site infrastructure.</p> | Feb 7: De Beers disagrees with this recommendation. This term will provide no additional clarity to the activities at the site and may cause additional confusion. This term has not been used in the Gahcho Kue or Snap Lake water licences issued by the MVLWB. | |
| 57 | Topic 49: Draft Standard Water Licence Conditions â€œ | <p>Comment As per GNWT's comments on the Draft Standard Water Licence Conditions, the proposed definition of "discharge" already includes that it is a release. Further, the definition should be</p> | Feb 7: De Beers recommends to use the definition for unauthorized discharge as currently in the draft water licence | |

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| | Unauthorized Discharge | <p>changed to "a Deposit of Water or Waste not authorized under this Licence." This would be more consistent with the Waters Act and Regulations.</p> <p>Recommendation 1) GNWT recommends that the definition be changed to "a Deposit of Water or Waste not authorized under this Licence".</p> | | |
| 58 | Topic 50: Draft Standard Water Licence Conditions – Scope | <p>Comment As outlined in GNWT's comments on the Draft Standard Water Licence Conditions, GNWT notes that Screening under the MVRMA are much broader than Water Licence triggers and the assessment of effects from a project is guided by the proposed project, the proposed impacts of the project, and, the mitigations that will be used to reduce impacts. Therefore, limiting the Scope to items that are more generic and are not project specific can be problematic. For example, if the proposed project is to create waste rock and tailings but the proposed action to prevent potential significant adverse effects is to backfill them underground or stored them together in a lined facility, the Scope of the licence should reflect that. If it doesn't, waste rock or tailings could be stored at a different location or in a different and less protective manner (i.e. no liner on the tundra). Without specifically mentioning the applicant's approach to mitigate effects there is no ability to compel the licensee to amend the Water Licence due to deviations or modifications to its approach or activities that were not assessed (e.g. depositing slurry tailings versus dry-stack or paste tailings). This is because that certain change may not be considered out of Scope. Note, in comments below there is a discussion about linkages between project modifications and Water Licence scope. GNWT refers the Board to that section as it outlines the linkages between a Water Licence scope and modification that can lead to Water Licence amendments.</p> <p>Recommendation 1) GNWT recommends that the Board reinstate the requirement that a reference to the project description and design plan (and or figure) be included in the Scope Condition.</p> | <p>Feb 7: De Beers also recommended inclusion of reference to the Project Description including the water licence renewal application package submitted, revised, and review throughout this process.</p> | |

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| 59 | Topic 51: Draft Standard Water Licence Conditions "Security | <p>Comment Over the years there has been much discussion about whether security should be in the body of the Water Licence (i.e. Part C) or in a Schedule to the licence. Including security in the body of the Water Licence would require an amendment to the licence to have security changed. This would ensure that changes in security are: substantive, comprehensive, transparent and appropriate.</p> <p>Recommendation 1) GNWT recommends that the Board consider placing the security deposit requirements within the body of the Water Licence.</p> | <p>Feb 7: De Beers recommends that the security deposit requirements should be listed within a Schedule to the licence so as to allow for adjustment as required over time without requiring an amendment to the water licence.</p> | |
| 60 | Topic 52: Draft Standard Water Licence Conditions "Construction | <p>Comment Part E, Condition 1 makes reference to minimizing the escape of Waste to the Receiving Environment. GNWT would propose that "minimize" be replaced with "virtually eliminate" in the Condition.</p> <p>Recommendation 1) GNWT recommends that the Condition be revised to state "designed, constructed and maintained to virtually eliminate the escape of Water or Waste to the Receiving Environment."</p> | <p>Feb 7: De Beers disagrees with this recommendation. The intent of engineered design structures to contain or direct water or waste is to minimize the water and waste release to the receiving environment. It is not possible to guarantee with one hundred percent certainty to virtually eliminate any release. The use of the term "virtually eliminate" may imply one hundred percent certainty and is not acceptable to De Beers. Would revise to state: ". designed, constructed and maintained to virtually eliminate to the extent practicable the escape of Water or Waste to the Receiving Environment." In addition, this is inconsistent with other water licences.</p> | |
| 61 | Topic 53: Draft Standard Water Licence Conditions "Waste Discharge | <p>Comment Part F, Condition 18 outlines how "all" waste are to be disposed. GNWT has concern with the phrasing of this Condition as "all" waste can include effluent. The disposal location and rate of discharge should not be approved in a Management Plan. The legislation is clear that the use of water and deposit of waste requires a Water Licence and that the Minister of ENR has authority to approve or not approve a Type A Water Licence or Type B Water Licence with a public hearing. Therefore, the disposal of effluent must be specified in the licence and effluent limits must be imposed.</p> <p>Recommendation 1) ENR recommends</p> | <p>Feb 7: De Beers disagrees with this recommendation. The Waste Management Plan may include reference to solid or liquid (e.g., sludge) waste and thus Part F, Condition 18 should remain as written in the draft water licence.</p> | |

| | | that Condition 18 be changed to reference "solid waste as described in the approved Waste Management Plan. | | |
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| GNWT - Lands - North Slave Region: Joseph Heron | | | | |
| ID | Topic | Reviewer Comment/Recommendation | Proponent Response | Board Staff Analysis |
| 1 | Inspectors Comments - NSRO | Comment (doc) Please find attached the comments by the NSRO Lands Inspector. Recommendation The Inspector requests comments contained in the attached document are considered by the Board. | Feb 7: - | |
| 2 | Part D: Water Use | Comment #3 WASTEWATER USE The Licensee may use Wastewater from the [enter list Wastewater sources] for [enter Wastewater uses] only if that Wastewater meets the Effluent Quality Criteria established in Part F, Conditions 21 and 28 of this Licence, or as otherwise approved by the Board. Board approval is unnecessary as the water must meet EQC's already established by the Board. Also, time constraints imposed by Board approval can unnecessarily hold-up or stop the project from moving forward during seasonal operations. Recommendation The Inspector recommends the condition read: #3 WASTEWATER USE - The Licensee may use Wastewater from the [enter list Wastewater sources] for [enter Wastewater uses] only if that Wastewater meets the Effluent Quality Criteria established in Part F, Conditions 21 and 28 of this Licence, or as otherwise approved by an Inspector. Also, the Inspector suggest the condition be improved to include all sources and uses of the wastewater. | Feb 7: De Beers recommended that the approval of this condition should be limited to the Inspector. That is, the Inspector should have the authority to approve the use of wastewater for activities, specifically emergency related activities as timely approvals are required in these instances. De Beers also noted that effluent quality criteria only apply to water that is discharged to the environment and thus should not be included as part of this condition. | |
| 3 | Part E: Construction | Comment Condition #5 CONSTRUCTION RECORDS: The Licensee shall maintain records of Construction materials for all structures and make them available at the request of the Board or an Inspector. Recommendation The inspector recommends a definition of Construction Materials be generated and added to the license glossary. Clarification regarding what type of recorded items are to be provided is also requested by the Inspector. | Feb 7: De Beers notes that an equipment list was provided as part of the Land Use Permit Application package. It is not possible to list every material that will be used in closure at this time. Materials used in closure will be consistent with standard practices and where required will be addressed within the respective management plans. | |

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| 4 | Part A: Scope of Permit: Page 36 d) i. | <p>Comment d) i. on Page 36 reads: For each Action Level, a description of how exceedances of the Action Level will be assessed, and generally which types of action will be taken of the Action Level is exceeded.</p> <p>Recommendation The Inspector recommends the typo in the sentence be corrected to ensure the condition is enforceable. The condition should read: For each Action Level, a description of how exceedances of the Action Level will be assessed, and generally which types of action will be taken if the Action Level is exceeded.</p> | Feb 7: Noted | |
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Snap Lake Environmental Monitoring Agency (SLEMA): Sonia Aredes

| ID | Topic | Reviewer Comment/Recommendation | Proponent Response | Board Staff Analysis |
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| 1 | General File | <p>Comment (doc) SLEMA comments on WL draft</p> <p>Recommendation</p> | | |
| 2 | General File | <p>Comment (doc) SLEMA recommendations on the WL draft</p> <p>Recommendation</p> | | |
| 3 | Part A: Scope and Defined Terms ITEM 1. | <p>Comment Mining and milling activities are no longer authorized under the licence</p> <p>Recommendation This Licence entitles the Licensee to use water and deposit waste from activities associated with the Temporary Closure, Active Closure, and Post-Closure at the Snap Lake Diamond Project Site</p> | Feb 7: De Beers agrees with this recommendation from SLEMA (and GNWT-ENR-1). | |
| 4 | Part A: Scope and Defined Terms ITEM 1.c) | <p>Comment None</p> <p>Recommendation 1) Remove "Construction"; 2) add "and the construction and development of the North Pile Closure Cover"</p> | Feb 7: De Beers agrees with the second part of the recommendation. Part A, 1(c) should be revised as follows: Construction, operation, maintenance, closure and reclamation of the North Pile Facility, and the construction and development of the North Pile Closure Cover | |
| 5 | Part A: Scope and Defined Terms ITEM 1.h) | <p>Comment None</p> <p>Recommendation 1) Remove "Progressive reclamation and associated Closure and Reclamation activities"; 2) add "Care and Maintenance, Active Closure, Post - Closure Monitoring and any authorized activity associated with Decommissioning,</p> | Feb 7: De Beers agrees with the recommendation to remove "Progressive Closure" from this water licence. De Beers agrees with the second addition proposed by SLEMA | |

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| | | Reclamation and Remediation at the Mine Site | | |
| 6 | Part A: Scope and Defined Terms ITEM 1.i) | Comment None Recommendation Add "The operation of a landfill and the construction and operation of a landfarm"; | Feb 7: De Beers does not object to this recommendation as these are features of the Snap Lake Mine. | |
| 7 | Part A: Scope and Defined Terms ITEM 1.ii) | Comment None Recommendation Add "The operation of the Domestic Water System and the construction and operation of the Mine (Surface) Water System | Feb 7: The scope already includes withdrawal of water. De Beers has proposed adding the "collection, treatment, and discharge of effluent". This addition addresses the intent of the recommendation by SLEMA. | |
| 8 | Part A: Scope and Defined Terms ITEM 2. | Comment Mining and Milling are not authorized under this Licence. If the Licensee wants to reopen the Mine should apply for an amendment Recommendation 2. Mining and milling are not authorized under this Licence. The Licensee should apply for an amendment to the Licence should it decide to reopen the mine and return to Commercial Operations. | Feb 7: De Beers agrees with this recommendation. | |
| 9 | Part A: Scope and Defined Terms Defined Terms: | Comment Active Closure Definition Recommendation Active Closure - Period that involves the implementation of the approved Closure Plan, during which the main activities at site are described as decommissioning, remediation and reclamation, along with the prescribed monitoring. Active Closure involves also the construction and set up of water management structures that will permanently stay at site such as the Influent Storage Ponds and Wetlands. The Active Closure Period is followed by the Post Closure Monitoring Period | Feb 7: De Beers recommends that the shorter and more succinct definition as written in the draft water licence is appropriate and acceptable. This more detailed description is better placed within the FCRP or other documentation that a water licence. | |
| 10 | Part A: Scope and Defined Terms Defined Terms: | Comment Commercial Operation Definition as per Metal and Diamond Mining Effluent Regulations Recommendation Commercial Operation - in respect of a mine, means an average rate of production equal or greater than 10% of the design-rated capacity of the mine over a period of 90 consecutive day | Feb 7: De Beers agrees with SLEMA-8 in that mining and milling are not authorized under this licence. For that reason the definition of "commercial operation" is not required. | |
| 11 | Part A: Scope and Defined Terms Defined Terms: | Comment Constructed Wetlands Definition and recommendation on the use of the term "actively" in the definition Recommendation 1) I believe the term | Feb 7: 1). The phrase "actively remove nitrate through denitrification" is correct usage because a wetland actively removes nitrogen through | |

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| | | <p>&quot;actively&quot; is not appropriate to be used in relation to the wetlands (wetland is classified as a passive treatment system). 2) Constructed Wetlands-an engineered surface water structure that has been developed to mimic natural occurring wetlands; it uses natural and biological processes inherent to the aquatic environment and is a system designed to optimize the removal of contaminants. It operates in a passive mode requiring no continuous maintenance</p> | <p>bacterial de-nitrification. 2). The definition for "Constructed Wetlands" in the draft water licence is specific to Snap Lake and is more appropriate for the licence. The detailed definition provided by SLEMA is better suited for the FCRP or a management or monitoring plan.</p> | |
| 12 | Part A: Scope and Defined Terms Defined Terms: | <p>Comment Recommends include the definition of Decommissioning Recommendation Decommissioning - The process that begins near, or at, the cessation of mineral production and ends with removal of all unwanted infrastructure and services.</p> | <p>Feb 7: De Beers is agreeable to the term decommissioning included in the water licence; however, it is possible that some items or infrastructure could be decommissioned on a schedule that is not aligned with mineral production. If decommissioning is to be included it should be defined as: the process that includes the removal of unwanted infrastructure and services.</p> | |
| 13 | Part A: Scope and Defined Terms Defined Terms: | <p>Comment Influent Storage Pond Definition Recommendation Influent Storage Pond The engineered structures designed to receive and store Seepage and Runoff from the North Pile as described in the document North Pile Passive Treatment System Detailed Design on March 21, 2019, including the East Influent Storage Pond and the West Influent Storage Pond.</p> | <p>Feb 7: The detailed definition for the Influent Storage Pond as recommended by SLEMA is better placed within the FCRP or a management or monitoring plan. GNWT (GNWT-ENR-5) recommends that the definition be revised to "Components of the Passive Water Treatment System designed to collect, store and equalize flow of seepage and runoff from the North Pile prior to discharging to Snap Lake." De Beers accepted their recommended edits as it is concise for a water licence and aligns with the scope of the facility.</p> | |
| 14 | Part A: Scope and Defined Terms Defined Terms: | <p>Comment Maximum Average Concentration does not include time. Effluent limits in permits are generally expressed as a magnitude (e.g. mg/L) and averaging period (average weekly, average of 30 days) to reflect magnitude duration and frequency Recommendation Recommend to include period - average of 30 day, seasonal average, etc.</p> | <p>Feb 7: De Beers disagrees with this recommendation. Calculation of a maximum average concentration should not be confined to a specific period of time because the timeline to calculate the maximum average will vary between licences.</p> | |

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| 15 | Part A: Scope and Defined Terms Defined Terms: | <p>Comment Passive Water Treatment System Definition</p> <p>Recommendation Passive Water Treatment System - Water treatment system that requires little or no maintenance designed to treat Runoff and Seepage from the North Pile and includes the Influent Storage Ponds - ISPs and the Constructed Wetlands.</p> | <p>Feb 7: De Beers disagrees with this recommendation. The key aspect for the "passive water treatment system" is no active management rather than no maintenance. De Beers recommends to retain the definition as written in the draft water licence.</p> | |
| 16 | Part A: Scope and Defined Terms Defined Terms: | <p>Comment Post-Closure Definition</p> <p>Recommendation Post-Closure - the period following active closure at the Snap Lake Mine, that starts after the submission and Board approval of the Reclamation Completion Report (RCR) and the Post Closure Monitoring Plan</p> | <p>Feb 7: Based on feedback from SLEMA and GNWT-ENR-7, De Beers agrees that the definition for Post-closure should be updated. De Beers proposes the following definition for Post-closure: Post-Closure - the phase in the mine life cycle where physical works relating to closure and reclamation have been completed. Monitoring is being conducted during this phase until such time that it can be demonstrated that closure criteria have been achieved.</p> | |
| 17 | Part A: Scope and Defined Terms Defined Terms: | <p>Comment Recommends include the definition of Reclamation</p> <p>Recommendation "Reclamation" means the process of returning a disturbed site to its natural state or one for other productive uses that prevents or minimizes any adverse effects on the environment or threats to human health and safety;</p> | <p>Feb 7: Noted.</p> | |
| 18 | Part B: General Conditions | <p>Comment SLEMA notices that the submitted schedules are obsolete; Recommends the submission of an updated schedule</p> <p>Recommendation Within 90 days following the effective date of this Licence approval, the Licensee shall submit an updated Project Schedule to the Board for review.</p> | <p>Feb 7: De Beers agrees with the recommendation to submit an updated schedule. This will be included as part of the updated FCRP that will be submitted as per Part I, Condition 2</p> | |
| 19 | Part F: Waste and Water Management | <p>Comment Slemma recommends if Wetlands treatment is approved</p> <p>Recommendation The submission of a Wetland Operation and Maintenance Plan 30 days after construction. It should include geographical coordinates of monitoring points for compliance The Plan should provide a schedule for cleaning and inspection</p> | <p>Feb 7: De Beers disagrees that this should be included as a condition of the water licence because constructed treatment wetlands are a contingency option for the Snap Lake Mine and no longer a main component of the Final Closure and Reclamation. Wetlands are unlikely to be constructed. However, should they be required, the operation of the</p> | |

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| | | | wetlands would be described in both the North Pile Management Plan and the Water Management Plan. An additional management plan is not necessary and would necessarily contain redundant information as in the other related plans. | |
| 20 | Part F: Waste and Water Management | <p>Comment SLEMA recommends to add condition on prohibition of Effluent dilution with Water</p> <p>Recommendation The Licensee shall not dilute Effluent with water prior to its discharge in water.</p> | <p>Feb 7: This is not a standard condition within a water licence and thus it is unclear why it is being recommended. De Beers will not dilute site water with freshwater from Snap Lake to achieve discharge criteria. De Beers will manage all surface runoff and seepage in the site water control structures and discharge water that is in compliance with the water licence. Note that precipitation dilutes surface water. This natural process will continue as De Beers manages seepage and runoff at site prior to discharge.</p> | |
| 21 | Part F: Waste and Water Management | <p>Comment SLEMA recommends to add condition on transport offsite of hazardous waste</p> <p>Recommendation The Licensee shall transport all hazardous Waste to a licensed Hazardous Waste disposal site.</p> | <p>Feb 7: This is not a standard condition within a water licence and thus it is unclear why it is being recommended. The Waste Management Plan will document the disposal of hazardous and non-hazardous wastes.</p> | |
| 22 | Part F: Waste and Water Management | <p>Comment SLEMA recommends that F9 paragraph "The Licensee shall not commence Construction of North Pile Facility prior to Board approval of the Plan" be replaced by</p> <p>Recommendation The Licensee shall not commence the construction of North Pile Surface Water Management Structures, Wetlands or North Pile cover prior to the Board approval of the Plan</p> | <p>Feb 7: De Beers agrees with this recommendation and recommended the following wording to Part F, Condition 7: The Licensee shall not commence construction of any Engineered Structures prior to Board approval of the Plan. De Beers has defined "Engineered Structures" as any structure or facility related to Water Use or the deposit of Waste that is designed by a Professional Engineer, including but not limited to the "Mine Openings to Surface; North Pile; Perimeter Water Control Structures".</p> | |
| 23 | Part F: Waste and Water Management | <p>Comment Effluent Quality Criteria & Discharges from Water Management Systems during Active Closure Phase</p> | <p>Feb 7: Please see response to SLEMA-24</p> | |

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| | | Recommendation Please, see SLEMA word (pdf) document attached to this submission | | |
| 24 | Part F: Waste and Water Management Item F21 | <p>Comment Effluent Quality Criteria &ndash; Discharges from Water Management Systems during Active Closure Phase</p> <p>Recommendation EQC proposed is shown at Summary Table 8-1, page 58, &ldquo;Effluent Quality Criteria Report for Closure and Post-Closure&rdquo; dated March 2019 by DeBeers.Please, see SLEMA attached word doc (pdf)</p> | <p>Feb 7: In the March 2019 submission, the EQC proposed assumed use of the RO in Closure and constructed treatment wetlands in Post-closure. The August 2019 submission, version 2 of the EQC report and supporting models, the base assumption was no active treatment with RO in Closure and the wetlands would not be constructed (although still maintained as a contingency). This change in thinking about water treatment was first raised at the technical session in July. This change came about based on the initial comments received and our responses to those comments. De Beers updated the models and proposed revised EQC, but it is important to remember that those EQC are still protective of the environment. In addition, while RO or wetlands have positives in terms of water treatment, there negatives that have to be considered. These were all discussed in follow-up to the workshop (response issued 24 September 2019) and response to Interventions (issued 22 October 2019). These are summarized:</p> <p>(1)Constructing a wetland will create environmental disturbances such as blasting and land modifications, plus the heavy equipment and diesel required. (2) Running an RO requires use of chemicals and supplies, hauling these to site, generation of waste (e.g., concentrated brine), use of energy and associated emissions, longer site occupation, and delay in start of demolition and reclamation. (3) Increased number and duration of winter roads (with associated energy needs, increased potential for spills and accidents). Wetlands are still part of the FCRP but are now a</p> | |

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| | | | <p>contingency only. Active treatment is also no longer the preferred option. De Beers has provided evidence that the proposed EQC are achievable and protective of the environment. The EQC that were appropriate for the Operational water licence are no longer achievable or appropriate for Closure and Post-closure. De Beers continues to stand behind our Effluent Quality and water modelling reports submitted in August 2019 that were based on active water management but no active treatment in Closure, and passive water management and no wetlands in Post-closure. The only water quality parameter of concern identified was nitrate. The EQC proposed for Closure and Post-closure are protective of the environment. As noted in response to comments on the draft water licence from Environment and Climate Change Canada (ECCC-7) and Government of the Northwest Territories (GNWT-ENR-27), De Beers will prepare an EQC Re-evaluation report prior to requesting to breach the control structures; this report will use the most recent data and will determine if lower EQC can be proposed at that time.</p> | |
| 25 | Part F: Waste and Water Management Item F21 | <p>Comment Effluent Quality Criteria & Discharges from Water Management Systems during Active Closure Phase - With respect to the Max Grab Concentration, 80 ppm of N-NO3</p> <p>Recommendation 80 mg/L as maximum grab concentration, De Beers did not provide concentrations of other Parameter of Concern. Are they in excess in SL when N is 80 mg/l? SLEMA recommends the MAC (Maximum Average Concentration) be tied to a period of time (30 day average, monthly average, etc.)</p> | <p>Feb 7: In the Effluent Quality Criteria Report V.2, a screening process was used to identify parameters of potential concern (POPC) and nitrate was the only POPC identified. However, De Beers provided water quality model predictions in the water management pond, influent storage ponds and Snap Lake for 40 parameters (Golder 2019). The primary source of nitrate in runoff and seepage from the North Pile was the use of ammonium nitrate in explosives. Concentrations of other parameters are not correlated to nitrate concentrations (i.e., if nitrate</p> | |

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| | | | <p>concentrations in runoff and seepage from the North Pile increase, it is not expected that other parameter concentrations would increase). As a result, it is not expected that other parameter concentrations in Snap Lake would be greater than AEMP benchmarks. The MAC EQC is going to be tied to a period of time. As noted in response to SLEMA-39, De Beers has accepted the recommendation to increase the frequency of monitoring. The MAC will be tied to the average concentration for samples collected once per week during the period of discharge. Golder. 2019. Snap Lake Mine - Snap Lake Hydrodynamic and Water Quality Model Report - Version 2. Submitted to De Beers Canada Inc., Calgary, AB, Canada. August 2019. Golder Doc No. 18105918-014.</p> | |
| 26 | Part F: Waste and Water Management Item F21 | <p>Comment Effluent Quality Criteria &ndash; Discharges from Water Management Systems during Active Closure Phase Recommendation EQC for Extractable Petroleum Hydrocarbons should be included in the Table</p> | <p>Feb 7: De Beers has accepted recommendations (ECCC-6, GNWT-21, SLEMA-26) to monitor for hydrocarbons during Active Closure. De Beers requests limits for Total Petroleum Hydrocarbons are consistent with GK Water Licence (MV2005L2-0015) and proposes: Total Petroleum Hydrocarbons = 5 mg/L (MG) with no value for MAC.</p> | |
| 27 | Part F: Waste and Water Management Item F27 | <p>Comment Effluent Quality Criteria &ndash; Discharges from Water Management Systems during Active Closure Phase; comment on the Max Grab Concentration equal to 80 mg/L N-NO3 Recommendation If the EQC with a max Grab Concentration of 80 ppm for N-NO3 is approved, SLEMA recommends, DeBeers inform, when the concentration in the effluent is 80 ppm of N-NO3 : 1) concentration of N-NO3 in Snap Lake 2) concentration of others POPC in the Effluent and in the Lake 3) is any POPC in excess in that circumstance?</p> | <p>Feb 7: De Beers will follow the standard monthly and annual reporting protocol for water and waste (draft licence Schedule 1).</p> | |
| 28 | Part F: Waste and Water | <p>Comment Effluent Quality Criteria &ndash; Discharges from Passive Water</p> | <p>Feb 7: This recommendation is the same as SLEMA-24.</p> | |

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| | Management Item F28 | Treatment System Recommendation SLEMA supports proposed EQC shown at Summary Table 8-1, page 58, “Effluent Quality Criteria Report for Closure and Post-Closure” dated March 2019 by De Beers. Please, see attached SLEMA pdf document | | |
| 29 | PART I: Closure and Reclamation; Item I9 | Comment Submission of the Reclamation Completion Report Recommendation SLEMA recommends the Post-Closure and Reclamation Monitoring and Maintenance Plan to be submitted with the Reclamation Completion Report that would trigger the second set of EQC | Feb 7: De Beers agrees to submit a Post-Closure Reclamation Monitoring and Maintenance Plan for the Snap Lake Mine as described further in response to GNWT-ENR-32 and GNWT-ENR-34. This Plan would be submitted within 6 months of completion of the closure and reclamation of the Project. It would describe the ongoing monitoring and maintenance at site in the Post-Closure period. For information to include in the EQC Re-evaluation Report, De Beers will consider the request by SLEMA for inclusion of SNP and AEMP data, air quality data, and assessment of environment at that time. | |
| 30 | PART I: Closure and Reclamation; Item I11 | Comment Submission of the Reclamation Completion Report Recommendation (Following last comment) Otherwise SLEMA recommends to add a condition that set the time of submission of the Reclamation Completion Report that will trigger the second set of EQC | Feb 7: This recommendation is in alignment with ECCC-7 and GNWT-ENR-27. An EQC Re-evaluation report will be prepared in advance of breaching the control structure and moving to a fully passive system. De Beers agreed with the recommendation by ECCC to provide this report 120 days in advance. | |
| 31 | Schedule 1: Annual Water Licence Report, Item hii | Comment Item 1hii) about hazardous waste Recommendation Please, remove hazardous waste from this sentence. Please, see attached pdf document | Feb 7: Agreed. De Beers has not at any time during operations disposed of hazardous waste at site, and will continue to dispose of all hazardous waste off-site to an authorized hazardous waste disposal site during closure and post-closure. | |
| 32 | Schedule 1: Annual Water Licence Report, Item h | Comment Recommend to add an item related to the deposit of waste into the landfill Recommendation Add the following: hiii) A list,brief description and estimated quantity of all waste material deposited in the landfill. Please, see attached pdf doc | Feb 7: This recommendation is covered by Schedule 1, Condition 1.h.ii | |

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| 33 | Schedule 4: Conditions Applying to Waste and Water Management, Item 3d) | <p>Comment Geochemical characterization of material to be used for North Pile cover is critical; so SLEMA recommends explicitly mention it</p> <p>Recommendation A geochemical characterization of material to be used for construction and reclamation, including a geochemical assessment conducted in areas where the acid generation potential of cover construction material requires confirmation and North Pile cover material</p> | <p>Feb 7: This recommendation is in alignment with GNWT-ENR-19. De Beers accepted the recommendation that the wording of Part F, Condition 19 should be: The Licensee shall direct all Potentially Acid Generating material to the North Pile Facility, and manage it according to the approved Acid Rock Drainage and Geochemical Characterization and Management Plan and the Final Closure and Reclamation Plan</p> | |
| 34 | Annex A “ Surveillance Network Program (SNP). Part A: Station Description and Monitoring Requirements. | <p>Comment SLEMA’s comment on GNWT recommendation. Also, SLEMA notices that the decommissioning of buildings and other surface structures during active closure will expose new surface that can impact runoff water quality</p> <p>Recommendation SLEMA supports GNWT request that all SNP monitoring stations be maintained until sufficient evidence is provided to demonstrate site chemical stability has been achieved.</p> | <p>Feb 7: De Beers disagrees with this recommendation. As part of the Undertaking 4 response (provided on 16 December 2019), De Beers provided figures showing the full long-term dataset collected at the SNP stations that have been proposed for elimination. There are no additional data to provide. De Beers also provided further rationale why these stations are no longer required (e.g., the original purpose of the station has been met; the station is frozen; the station will be unavailable/inaccessible once closure activities begin). The need to retain these stations is unwarranted.</p> | |
| 35 | Annex A “ Surveillance Network Program (SNP). Part A: Station Description and Monitoring Requirements. SNP station 02-02b: | <p>Comment SLEMA recommendation on the monitoring parameters and frequency for SNP station 02-2b during Active Closure</p> <p>Recommendation SLEMA recommends monthly monitoring during discharge during closure of SNP station 02-02b, for the following parameters: Turbidity, TSS, pH, conductivity, major ions, nutrients, ICP-MS scan (total and dissolved), TDS</p> | <p>Feb 7: De Beers disagrees with this recommendation The SNP 02-02 stations are essentially at the inlets to the Water Management Pond and the Influent Storage Ponds and the proposed sampling is sufficient to track quality and quantity of water coming into the pond. De Beers has proposed increased sampling frequency to the final discharge locations (SNP 02-17b, 02-17c, and 02-17d) (see response to GNWT-ENR-52 and SLEMA-39). This increased sampling frequency will provide sufficient data to detect trends.</p> | |
| 36 | Annex A “ Surveillance Network Program (SNP). | <p>Comment SLEMA recommendation on the monitoring parameters and frequency for SNP station 02-2c during Active Closure</p> | <p>Feb 7: De Beers disagrees with this recommendation The SNP 02-02 stations are essentially at the inlets to the Water Management</p> | |

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| | Part A: Station Description and Monitoring Requirements. SNP station 02-02c: | Recommendation SLEMA recommends monthly monitoring during discharge during closure of SNP station 02-02b, for the following parameters: Turbidity, TSS, pH, conductivity, major ions, nutrients, ICP-MS scan (total and dissolved), TDS | Pond and the Influent Storage Ponds and the proposed sampling is sufficient to track quality and quantity of water coming into the pond. De Beers has proposed increased sampling frequency to the final discharge locations (SNP 02-17b, 02-17c, and 02-17d) (see response to GNWT-ENR-52 and SLEMA-39). This increased sampling frequency will provide sufficient data to detect trends. | |
| 37 | Annex A “ Surveillance Network Program (SNP). Part A: Station Description and Monitoring Requirements. SNP station 02-05: | Comment GNWT recommends keeping the ARD and Geochemical Monitoring Program Recommendation SLEMA recommends also keep the ARD and Geochemical Monitoring Program | Feb 7: At the Public Hearing, De Beers agreed with the GNWT recommendation to retain the ARD and Geochemical Monitoring Plan. The scope of this plan will be to confirm the acid drainage potential and geochemical characterization of materials generated during blasting and earthworks, and to confirm the quality of cover materials. | |
| 38 | Annex A “ Surveillance Network Program (SNP). Part A: Station Description and Monitoring Requirements. SNP station 02-10: | Comment Any direct discharge to Snap Lake should be monitored - at least - during Active closure Recommendation SLEMA recommends to keep MS 2-10 | Feb 7: De Beers disagrees with this recommendation. De Beers provided further rationale in response to Undertaking 4 to justify removal of this station from the water licence. In addition, to address this comment by SLEMA, it is noted that Station SNP 02-10 is not a direct discharge station. The purpose of this station was to monitor for observable flow, due to freshet or heavy rainfall. This was a general station with no fixed coordinates. Direct discharge stations at Snap Lake Mine include the current SNP 02-17b (Water and Sewage treatment plant), and the future 02-17c (East Influent Storage Pond) and 02-17d (West Influent Storage Pond). These stations will monitor discharge to Snap Lake | |
| 39 | Annex A “ Surveillance Network Program (SNP). Part A: Station Description and Monitoring | Comment Recommendation on sampling frequency. SLEMA notices that it would require two months of discharge to get the 4 measurements to obtain the MAC in one season. Recommendation SLEMA recommends to keep every six days during Active Closure | Feb 7: De Beers could accept this recommendation and refers reviewers to comments made by De Beers on the sampling frequency for SNP 02-17b, 02-17c, and 02-17d. | |

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| | Requirements. SNP station 02-17 b | | | |
| 40 | Annex A “ Surveillance Network Program (SNP). Part A: Station Description and Monitoring Requirements. SNP station 02-17 c | Comment SLEMA notices the absence of monitoring stations to prove compliance once the wetlands are constructed. Recommendation Recommends: Once the wetlands are constructed Monitoring Stations on the points of wetlands discharge to SL should be required to prove compliance | Feb 7: Monitoring stations SNP 02-17c and 02-17d are still proposed by De Beers and will be monitored to confirm the quality of water prior to discharge whether from the Influent Storage Ponds (selected option) or the wetlands (contingency option). | |
| 41 | Annex A “ Surveillance Network Program (SNP). Part A: Station Description and Monitoring Requirements. SNP station 02-17 c | Comment With respect to maintain the Monitoring Stations located at the outlet of the Influent Storage Ponds once the Wetlands are constructed. Recommendation SLEMA recommends Monitoring Stations are kept until the system matures and its performance becomes well known | Feb 7: Monitoring stations SNP 02-17c and 02-17d are still proposed by De Beers and will be monitored to confirm the quality of water prior to discharge whether from the Influent Storage Ponds (selected option) or the wetlands (contingency option). | |
| 42 | Annex A “ Surveillance Network Program (SNP). Part A: Station Description and Monitoring Requirements. SNP station 02-17d: | Comment With respect to maintain the Monitoring Stations located at the outlet of the Influent Storage Ponds once the Wetlands are constructed. Recommendation SLEMA recommends Monitoring Stations are kept until the system matures and its performance becomes well known | Feb 7: This recommendation is a repeat of SLEMA-41 | |
| 43 | Annex A “ Surveillance Network Program (SNP). Part A: Station Description and Monitoring Requirements. SNP station 02-21: | Comment About removal of this MS Recommendation SLEMA recommends to keep this Monitoring Station to verify Water Quality Objectives for downstream lakes | Feb 7: As noted in response to Undertaking #4, De Beers proposes that the outlet of Snap Lake is monitored under the AEMP (identified as station SNAP08) but that station SNP 02-21 should be removed from the water licence. The purpose of this station was to monitor the outlet of Snap Lake during construction and operations. As the Mine is moving into Closure, and given the change in water management at the Mine (i.e., decrease in effluent quantity discharged, and decrease in effluent loading), and that water quality benchmarks have been consistently met at the outlet of Snap Lake, the concern for the | |

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| | | | quantity and quality at the outlet of Snap Lake is greatly reduced. In addition, this location will continue to be monitored under the AEMP. | |
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