

## Staff Report

<b>Applicant:</b> Kennady Diamonds Inc.	
<b>Location:</b> Kennady Lake, NT	<b>Application:</b> MV2016C0030 & MV2013L2-0005
<b>Date Prepared:</b> December 2, 2016	<b>Meeting Date:</b> December 19, 2016
<b>Subject:</b> New Type A Land Use Permit and Type B Water Licence Amendment Preliminary Screening Determination	

### 1. Purpose/Report Summary

The purpose of this Report is to present to the Mackenzie Valley Land and Water Board (MVLWB/the Board) a draft Preliminary Screening Report for Board decision, for a new type A Land Use Permit (Permit) Application MV2016C0030 and type B Water Licence (Licence) Amendment Application MV2013L2-0005 submitted by Kennady Diamonds Inc. (KDI) for advanced exploration activities at the Kennady North Property.

### 2. Background

- September 27, 2016 – Application received;
- October 7, 2016 – Application deemed complete and sent for review;
- October 20, 2016 – Paragraph 22(2)(b) of the MVLUR invoked by the Board for the review of MV2016C0030;
- November 10, 2016 – Technical workshop hosted by Board staff;
- November 21, 2016 – Clarification information provided by KDI in response to questions from the technical workshop;
- November 30, 2016 – Reviewer comment deadline on Applications;
- December 7, 2016 – KDI responses received; and
- **December 19, 2016 – Preliminary Screening Report presented to the Board for decision.**

### 3. Discussion

#### Applications and Screening of Additional Activities

KDI has applied for a new Type A Land Use Permit MV2016C0030 and an amendment to their existing Type B Water Licence MV2013L2-0005 to expand exploration activities at the Kennady North Project from enhanced to advanced exploration in order to obtain the information necessary to complete a Feasibility Study for the Kennady North Project. These activities include bulk sampling and valuation of the Kelvin kimberlite and further delineation of the Faraday kimberlites.

KDI has specifically requested the following additions to its existing operations:

- increase in extraction from 1,200 to 5,000 tonne/yr bulk sample;
- construction and operation of up to two underground declines to access the Kelvin and Faraday kimberlite deposits for bulk sampling;
- construction and operation of a multi-purpose laydown and camp area (approximately 5 ha);
- construction and operation of a pioneer all-season airstrip (approximately 1,650 m by 45 m) to accommodate larger aircraft for workers and resupply;
- construction and operation of limited all-season roads linking the winter road to the laydown, airstrip, declines, and drilling locations at the Faraday and Kelvin deposits;
- construction and operation of a new 140-person mobile camp on the laydown area and consolidation of existing Kelvin Camp modules with this new camp;
- quarrying and/or the use of cut and fill to obtain material for roads, laydown area and airstrip as necessary;
- increase in use of explosives (including mixing and storage) for quarrying and construction of the decline;
- installation and operation of a portable bulk sample processing plant (< 100 tonnes/d); and,
- increase to the size and quantity of various types of equipment (e.g., trucks, loaders, underground equipment) as well as the amount of fuel storage allowed on site in order to accommodate the proposed activities.

These additions to existing operations require screening by the Board in accordance with subsection 124(1) of the Mackenzie Valley Resource Management Act.

In their Application, KDI states that “[i]t is expected that the scope of the new LUP and amended WL would encompass the existing LUP/WL; therefore, if a new LUP is granted by the MVLWB, the existing LUP would be closed”.

In the Cover Letter attached to the Applications (attached), KDI requests “that previously screened aspects of the project...be exempt from preliminary screening”.

Section 2.1 of the *Exemption List Regulations* reads as follows:

- 2.1 A development, or a part thereof, for which a permit, licence or authorization is requested that
- (a) was part of a development that fulfilled the requirements of the environmental assessment process established by the *Mackenzie Valley Resource Management Act*; and
  - (b) has not been modified since the development referred to in paragraph (a) fulfilled the requirements of the environmental assessment process established by the *Mackenzie Valley Resource Management Act*.

Board staff is of the opinion that previously screened components of the project included in KDI’s current Applications meet the criteria to be deemed exempt in accordance with Section 2.1 of the *Exemption List Regulations*, as these activities have not been modified, and are clearly delineated from new, additional activities.

Board staff has prepared the draft preliminary screening report (attached) which clearly identifies and differentiates between new activities being screened, and previously screened activities, for the Board's consideration. The Board will note that numerous screenings have occurred for activities in the Kennady North Project area; these previous screenings are detailed in the opening paragraphs of the draft preliminary screening report. The new activities being screened for this application have been amalgamated with the previous screening so that there is one comprehensive screening for the undertaking.

### Detailed Summary of Additional Activities

#### Water Use

KDI is already licenced for the maximum allowable water use for a Type B licence (299 m<sup>3</sup> per day), and has been using much less than this during operations. No increase to the water use limit has been applied for in the Amendment Application.

For drilling (diamond and RC), almost all the water (90%) is recycled in the process. The estimated maximum daily consumption of water for drilling activities is 240 m<sup>3</sup> (six drills consuming an average of 40 m<sup>3</sup>/day). Sewage and greywater from the new Kelvin camp will be treated and discharged. Combined daily camp water use is expected to be a maximum of 44.2 m<sup>3</sup>. The bulk sample processing plant will require a maximum of 10 m<sup>3</sup> daily. The primary source of process waters will be recirculated water and runoff captured in the quarry sump. Finally, equipment washing is expected to require a maximum of 0.8 m<sup>3</sup>/day for a total of 295 m<sup>3</sup>.

#### Portable Bulk Sample Processing Plant

A new portable bulk sample processing plant will be installed near the new Kelvin Camp. The facility will be installed in a tent-type structure. Housed within the structure will be feed preparation, crushing, dense media separation, and recovery equipment.

#### Decline

KDI has noted that up to two declines may be pioneered during the next phase of the project proposed in their Applications. Final decline locations and design will be established utilizing the late exploration drilling information as it becomes available. In general, declines will be roughly 4 m by 4 m with a ~15% decline angle. The decline locations will be designed to be wholly within permafrost and installed in ground without heavy hydraulic pressure from any lake above so KDI does not expect to encounter any groundwater entering the decline. If groundwater is encountered it will be pumped to surface and transferred to the quarry sump or used for dust suppression (if applicable).

Preliminary results indicate that some samples of country rock from the decline area may contain PAG rock. Any PAG material that is extracted from the decline will be segregated and stored on-site until the end of the advanced exploration activities when it will be either:

- encapsulated in deeper fill sites on surface or in the quarry perimeter and then with sufficient NAG rock to mitigate the potential for contact with runoff water;
- backhauled in the decline prior to closure; or
- placed in the quarry and allowed to be filled naturally with water.

### Quarry Development and Waste Management

To support construction of the proposed airstrip and all-weather roads, KDI is proposing to establish a quarry onsite. The results of analysis show that the rock in the proposed quarry locations have negligible potential for metal leaching or acid rock drainage (ML/ARD), is considered suitable for construction, and requires no special management procedures for prevention of ML/ARD.

A ~25,000 m<sup>3</sup> capacity sump will be created within the quarry during initial development to collect snow melt and freshet water run-off that can be used to commission the processing plant. Processed kimberlite (6000m<sup>3</sup>/year) and process water will be directed into the quarry sump and at closure the quarry will be allowed to fill naturally with water. Samples of process water from the quarry will be sampled every six months. The size of the planned quarry development (~400,000 m<sup>3</sup>) also allows for storage of anticipated waste rock from the declines (20,000 to 40,000 m<sup>3</sup> per decline), if necessary.

The Waste Management Plan provides additional details, including details for the management of all hazardous and non-hazardous wastes associated with this project.

### Explosives Storage

Additional explosives storage will be required to support quarrying and decline development. KDI is proposing to construct an ammonium nitrate (AN) storage pad, which will have space for storage capacity for 400 tonnes of AN stored in lined 1.5 tonne totes. An AN loading facility will be setup near to the proposed AN storage pad and will consist of two small (<200 square metres) structures to house the AN bag breaking and auger equipment, the ammonium nitrate fuel oil (ANFO) mobile mixing unit, and an ANFO bagging facility.

### Fuel Storage

Approximately 2.0 million litres (L) of fuel storage capacity is requested in the Applications, which represents an increase of 1.75 million L over previously permitted activities. Approximately twenty 80,000 L to 100,000 L fuel storage tanks are proposed to be installed in a lined area located near the proposed processing facility, camp and primary generator. The lined area would be capable of holding 110% of the largest tank's capacity.

### Management Plans

KDI submitted a Waste Management Plan, and Rock Management Plan, a Quarry Management Plan, an Explosives Management Plan, a Spill Contingency Plan, a Closure and Reclamation Plan, a Wildlife Mitigation and Monitoring Plan, and an Engagement Plan with its Applications. More plans may be determined to be necessary during the review process of a draft Land Use Permit and Water Licence, should the Board determine that the project should proceed to the permitting phase of the regulatory process.

## Term

KDI have requested the maximum of five years for the term of the Land Use Permit and a seven year term for the Licence. This should allow for the completion of two to three years of active remediation and up to five years of post-construction/short-term monitoring and the alignment of the Land Use Permit and Water Licence if a two-year extension to the Land Use Permit is approved.

## **4. Comments**

### Mackenzie Valley Land Use Regulations 22.2(b) Invoked

On October 20, 2016, the Board invoked paragraph 22.2(b) of the MVLURs to allow further study to be conducted for the Permit Application in order to accommodate the time required for review of the Applications, drafting and distribution of a draft Permit and draft amended Licence for review and comment, and bringing the Applications together to the Board for decision. Information on this decision is attached for the Board's consideration.

### Next Steps

If the Board determines the project should proceed to the permitting phase of the regulatory process, Board staff will draft a Permit and Licence and distribute the drafts for public review. Following public review of the drafts, the Applications will be brought to the Board for decision and issuance.

## **5. Reviewer Comments**

By November 30, 2016, comments and recommendations on the Permit and Licence Amendment Applications were received from:

- Environment and Climate Change Canada;
- Government of the Northwest Territories (GNWT) Lands;
- Lutsel K'e Dene First Nation; and
- North Slave Metis Alliance.

KDI provided responses on December 7, 2017. The reviewer comment table (attached) presents the comments provided during review of the Applications.

## **6. Conclusion**

The draft preliminary screening includes the potential environmental and social/cultural impacts identified in the Applications, reviewer comments, and Board staff analysis. Mitigation measures identified include those described by KDI in its Applications, responses to reviewer comments, and terms and conditions expected to be included in the Land Use and Water Licence, if issued.

## **7. Recommendation**

Board staff recommend that the Board approve the draft Preliminary Screening Report. A draft Preliminary Screening Determination Letter is attached for the Board's consideration.

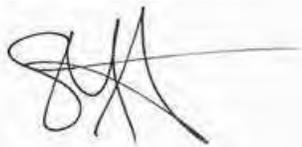
**8. Attachments**

- Reviewer Comment Summary Table
- Application:
  - [New Land Use Permit and Water Licence Amendment Cover Letter](#)
  - [Land Use Permit Application](#)
  - [Water Licence Amendment Application](#)
  - [Project Description](#)
  - [Waste Management Plan](#)
  - [Spill Contingency Plan](#)
  - [Engagement Plan](#)
  - [Pre-Application Engagement Summary](#)
  - [Closure and Reclamation Plan](#)
  - [Wildlife Mitigation and Monitoring Plan](#)
  - [Rock Management Plan](#)
  - [Quarry Management Plan](#)
  - [Advance Exploration - Screening Level EIA](#)
  - [Stream Crossings](#)
  - [Mineral Tenure](#)
  - [Proposed Studies Plan](#)
  - [Explosives Management Plan](#)
  - [Glossary of Terms](#)
  - [Abbreviation List](#)
  - [RECLAIM Security Estimate \(Proponent\)](#)
  - [Updated RECLAIM Estimate](#)
- 22.2(b) Decision:
  - [22.2\(b\) Staff Report](#)
  - [22.2\(b\) Decision Letter](#)
- Draft Preliminary Screening Report
- Draft Preliminary Screening Determination Letter from the Board

Respectfully submitted,



Julian Morse  
Regulatory Officer



Shannon Allerston  
Regulatory Officer

## Review Comment Table

<b>Board:</b>	MVLWB
<b>Review Item:</b>	Kennady Diamonds Inc. - Applications for Advanced Exploration - New Land Use Permit (MV2016C0030) and Water Licence Amendment (MV2013L2-0005)
<b>File(s):</b>	<a href="#">MV2013L2-0005</a> <a href="#">MV2016C0030</a>
<b>Proponent:</b>	Kennady Diamonds
<b>Document(s):</b>	<a href="#">New Land Use Permit and Water Licence Amendment Cover Letter</a> (334 KB) <a href="#">Land Use Permit Application</a> (1 MB) <a href="#">Water Licence Amendment Application</a> (2 MB) <a href="#">Project Description</a> (2 MB) <a href="#">Waste Management Plan</a> (2 MB) <a href="#">Spill Contingency Plan</a> (7 MB) <a href="#">Engagement Plan</a> (1 MB) <a href="#">Pre-Application Engagement Summary</a> (5 MB) <a href="#">Closure and Reclamation Plan</a> (2 MB) <a href="#">Wildlife Mitigation and Monitoring Plan</a> (2 MB) <a href="#">Rock Management Plan</a> (3 MB) <a href="#">Quarry Management Plan</a> (1 MB) <a href="#">Advance Exploration - Screening Level EIA</a> (5 MB) <a href="#">Stream Crossings</a> (1 MB) <a href="#">Explosives Management Plan</a> (258 KB) <a href="#">Glossary of Terms</a> (99 KB) <a href="#">Abbreviation List</a> (47 KB) <a href="#">Proposed Studies Plan</a> (290 KB) <a href="#">Mineral Tenure</a> (376 KB) <a href="#">MV2016C0030 MV2013L2-0005 - KDI - Technical Workshop - Decline Numbers and Rock Volumes</a> (71KB) <a href="#">RECLAIM Security Estimate (Proponent)</a> (1 MB)
<b>Item For Review Distributed On:</b>	Oct 7 at 10:48 <a href="#">Distribution List</a>
<b>Reviewer Comments Due By:</b>	Nov 30, 2016
<b>Item Description:</b>	<p>*UPDATE* November 22, 2016 - Kennady submitted information clarifying several points that were raised during the Technical Workshop. The information is now posted in this ORS review, titled Technical Workshop - Decline Numbers and Rock Volumes.</p> <p>*UPDATE* October 20, 2016 - The Mackenzie Valley Land and Water Board decided to invoke paragraph 22(2)(b) of the Mackenzie Valley Land Use Regulations to allow additional time to complete further studies on lands used in the land use operation under LUP Application MV2016C0030. This will allow the Land Use Permit and Water Licence Amendment Applications to be reviewed concurrently. The reviewer comment deadline on the Water Licence Amendment (MV2013L2-0005) and Land Use Permit (MV2016C0030) Applications has been extended to November 30, 2016. Proponent Responses will be due by December 9, 2016.</p>

Kennady Diamonds Inc. (Kennady) submitted an application for a Type A land use permit (MV2016C0030) and an amendment to its Type B water licence (MV2013L2-0005) to the MVLWB. The purpose of these Applications is to move into advanced exploration of diamondiferous kimberlites in the Kennady North area, approximately 280 km east north-east of Yellowknife. Kennady hopes to move from enhanced exploration (1,200 tonnes/year) to advanced exploration (5,000 tonnes/year). This increase will require the construction and operation of an underground decline, a multi-purpose lay-down and camp area, an all-season airstrip, all-season access and site roads, a new 140-person camp, quarrying, increased storing of explosives, installation and operation of a portable bulk sample process plant, additional support equipment, and an increase in fuel storage. The requested term of the land use permit is the maximum 5 years with a 2 year extension with a 7 year water licence term to match.

Under the Preliminary Screening Requirement Regulations of the Mackenzie Valley Resource Management Act (MVRMA), the Board must conduct a preliminary screening for an application for a proposed development, unless it is exempt from Part 5 of the MVRMA. Reviewers are encouraged to provide comments and recommendations (e.g. on impacts and mitigation measures) to assist with the completion of the preliminary screening.

Reviewers are invited to submit questions, comments and recommendations on the Applications using the Online Review System (ORS). The following documents are provided to assist in your review:

- Land Use Permit Application;
- Water Licence Amendment Application;
- Project Description;
- Waste Management Plan;
- Spill Contingency Plan;
- Engagement Plan;
- Wildlife Mitigation and Monitoring Plan;
- Rock Management Plan;
- Quarry Management Plan;
- Explosives Management Plan;
- Advanced Exploration - Screening Level EIA;
- Proposed Studies Plan; and
- Closure and Reclamation Plan.

A DRAFT Permit and DRAFT Water Licence will be distributed for review at a later date.

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.

**General Reviewer Information:**

This information has also been distributed by fax to:

Fort Resolution Métis Council  
Trudy King fax: (867)394-3322;  
Fieldworker.frmc53@northwestel.net

Hay River Metis Council  
Karen Lafferty President fax: (867)874-4472;  
hrmc@northwestel.net

	NWT Metis Nation Tim Heron NWTMN IMA Coordinator fax: (867)872-3586; rcc.nwtmn@northwestel.net
<b>Contact Information:</b>	Jen Potten 867-766-7468 Julian Morse 867-766-7453 Shannon Allerston 867-766-7458

### Comment Summary

Board decisions regarding the December 19, 2016 Preliminary Screening of KDI's Applications for a new Land Use Permit MV2016C0030 and amendment to Water Licence MV2013L2-0005

Environment and Climate Change Canada: Gabriel Bernard-Lacaille				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Decision
27	General File	<b>Comment</b> <a href="#">(doc)</a> ECCC Cover Letter <b>Recommendation</b>		
28	General File	<b>Comment</b> <a href="#">(doc)</a> ECCC Appendix A - Recommended setbacks for tundra-nesting birds <b>Recommendation</b>		
1	ECCC 1-Project Description, Environmental Monitoring, page 18	<b>Comment</b> The project description states: "Once a sewage treatment plant is installed and commissioned at the new Kelvin Camp, samples will be taken once per month during periods of discharge and analyzed for pH, fecal coliforms, total suspended sediments and oil/grease... The discharge will be directed to land at a location 100 m from any waterbody, at a place approved by the GNWT Inspector". ECCC reminds the proponent that the pollution-prevention provisions of the Fisheries Act prohibit the deposit of deleterious substances at any point where they might reach water frequented by fish. <b>Recommendation</b> Environment and Climate Change Canada (ECCC) recommends that Kennady Diamonds Inc. (the Proponent) ensure the attenuation of the treated effluent before entering fisheries waters.	<b>Dec 7:</b> Agreed.	Noted. KDI has indicated in their Application that this mitigation will be applied to Sewage management.

2	ECCC 2-Advanced Exploration Screening - Proposed Studies , Sections 1.5 to 1.7 - Fish and fish habitat, Surface Water and Sediment Quality, Aquatic Ecosystems	<p><b>Comment</b> The Proponent has identified information gaps with respect to pre-operational ecosystem health, as well as the environmental studies to be conducted at a nearby mine, Gahcho Kue. The latter's information from its reference sites and water bodies may indeed be useful in describing the general "baseline" environmental and biotic conditions of the region, presuming the two companies agree to collaborate and share data. The Proponent is also planning to obtain its own project site-specific information on water- and sediment-quality, on fish and fish habitat, benthic invertebrates, plankton, and nutrients in streams and lakes within the watershed of the Kennady North project. The proponent may find useful design suggestions within the Technical Guidance for Environmental Effects Monitoring, which is available at <a href="http://www.ec.gc.ca/eseeeem/default.asp?lang=En&amp;n=AEC7C481-1">http://www.ec.gc.ca/eseeeem/default.asp?lang=En&amp;n=AEC7C481-1</a></p> <p><b>Recommendation</b> ECCC recommends the proponent use results from its environmental and biotic sampling planned for the exploratory phases of the project, as pre-operational baseline in the event it proceeds to mining activities.</p>	<p><b>Dec 7:</b> Agreed. Please see KDI's draft monitoring and studies plan for advanced exploration (Appendix D Screening Level Environmental Impact Assessment for the EAP). KDI would appreciate input and participation in such a plan by ECCC.</p>	Noted.
3	ECCC 3 - Rock Management Plan V 1.1; Section 4.2, Decline; Conceptual Closure and Reclamation Plan, p-16,17, 20	<p><b>Comment</b> Potentially-acid-generating (PAG) rock exhumed from the decline will be placed on a surface pad near the decline so the decline can be backfilled at closure. Given the nature of such rock, it is important that it not be exposed to weathering conditions for a significant amount of time. The length of the storage period on the surface pad is not specified in the report, and page 20 states that the lag time for development of acidic conditions for this decline rock is unknown.</p>	<p><b>Dec 7:</b> As PAG rock is expected in the area of the decline, KDI agrees that this information will be needed prior to development of the decline. Section 4.2 of the Rock Management Plan acknowledges that further studies are needed to finalize plans for the decline rock and commits to updating the Plan prior to decline development. KDI proposes that the water licence or land use permit contain a condition requiring the submission of an updated Rock Management Plan to the MVLWB at least 60 days prior to decline development. The updated plan will provide details of, and supporting rationale for, how the decline rock will be handled and stored in order to minimize any potential acid generation</p>	Noted. Requiring an updated Rock Management Plan for review and approval in a water licence will mitigate this concern.

		<p><b>Recommendation</b> ECCC recommends the proponent provide a specific maximum storage period for PAG rock on a surface pad. It is recommended that this maximum storage period be shorter than the time required for the rock to start acidifying and leaching metals. However, if the maximum storage period will allow for acidification, ECCC recommends the proponent provide details on how it will collect all runoff water and leachate having come into contact with the PAG rock, and how it will treat and dispose of the water to prevent any of it from reaching fisheries waters.</p>	<p>or metal leaching. KDI assumes that the approval of the updated Rock Management Plan by the MVLWB will be required prior to KDI initiating decline construction; in this way, all parties will have an opportunity to review and make recommendations on the detailed plans for PAG handling/storage prior to any PAG rock being extracted and brought to surface at the site.</p>	
4	<p>ECCC 4- Waste Management Plan V 3.0, page 16, viii, Quarry Sump</p>	<p><b>Comment</b> The proponent intends to recycle the used water from the bulk sampling plant, once the processed kimberlite solids have settled out. The approach of a closed water loop is acceptable. However the proponent does not explain how input and output of water in the quarry sump will maintain a large enough volume of water to keep PAG rock submerged at all times in order to prevent acidification and metal leaching.</p> <p><b>Recommendation</b> ECCC recommends the proponent provide details on the water balance in the quarry sump area, such that combined input from precipitation, snow melt, runoff and used waters equal or exceed water withdrawal for the plant. The water-balance model should take into account the impact of extreme weather events (such as prolonged drought as well as severe precipitation), and longer-term climate trends if the quarry and its contents are to remain beyond closure. ECCC also recommends the proponent update closure plans to reflect a long-term understanding of the quarry water balance.</p>	<p><b>Dec 7:</b> Regional average annual precipitation and evaporation rates, as reported in Section 8.3 of the Gahcho Kue Environmental Impact Statement (at <a href="http://reviewboard.ca/upload/project_document/EIR0607-001_EIS_Section_8_Water_Quality_and_Fish_in_Kennady_Lake_1294330874.PDF">http://reviewboard.ca/upload/project_document/EIR0607-001_EIS_Section_8_Water_Quality_and_Fish_in_Kennady_Lake_1294330874.PDF</a>), are 338 mm and 285 mm for precipitation and evaporation, respectively. This means that there is a positive water balance in the region and that water can be expected to accumulate in the quarry over time. The amount of water that can accumulate in the quarry depends on the surface area of the quarry as well as the design of the quarry floor. KDI has proposed to build a quarry with the total surface area of 52,000 m<sup>2</sup> (155mX335m) and a depth of up to 30m (with 5 m benches). As described in the Quarry Management Plan, the quarry will be designed to have a sloping base in order to direct all water that falls in the quarry towards a collection area or sump. When at full size and based on a total proposed quarry area of 52,000 m<sup>2</sup>,</p>	<p>Noted.</p>

			<p>the average amount of precipitation that should accumulate in the quarry is 17,600 m<sup>3</sup> per year (0.338mX52,000m<sup>2</sup>). Because of the quarry design, the majority of that water will be directed to a sump area that, by design, will have a smaller surface area than the quarry as a whole. The smaller surface area of the sump means that less water will evaporate than it would if it were spread evenly over the entire quarry surface. So, for example, if the sump surface area was as large as a quarter the size of the entire quarry (i.e., 13,000 m<sup>2</sup>), then we would expect an annual evaporation rate of 3,705 m<sup>3</sup> (i.e., 13,000m<sup>2</sup>X0.285m) giving a net average accumulation of water of 13,900 m<sup>3</sup> per year in the quarry sump. Note that these calculations are only given as an example to illustrate how the quarry design can be adjusted to allow for the accumulation of water in certain areas both for the purposes of collected water for use in the processing plant but also for the submersion of PAG rock in future. The final volumes of water in the quarry will, of course, depend on actual precipitation, the final quarry design, and the final schedule of quarry development. With respect to the amount of water available for use by the portable bulk sample processing plant, please note that although KDI plans to use accumulated precipitation in the quarry sump for processing when available, it has, as a contingency, accounted for</p>	
--	--	--	--	--

			<p>the use of fresh water for the same purpose in its estimated water use as presented in Table 5-1 of the Project Description. With respect to the need for a sustainable water cover for any PAG rock that is sequestered in the quarry, KDI proposes to provide the requested details in an update to its Quarry Management Plan prior to development of the decline. As discussed in the response to ECCC-3, at that time KDI will have more detailed information about the amount of PAG rock from the decline that will need to be sequestered in the quarry - this will, in turn, allow KDI to perform the detailed water balance calculations necessary to ensure that any PAG placed in the quarry will have a sustainable water cover. Parties will have an opportunity to review and make recommendations on the plan prior to the initiation of decline development. KDI also agrees that, prior to final closure, the Closure and Reclamation Plan will also need to be updated to describe how any PAG rock generated during operations will be sequestered to avoid acid rock drainage post-closure.</p>	
5	ECCC 5 - Waste Management Plan V 3.0, Appendix A, Waste Management Table	<p><b>Comment</b> The proponent intends to place drill cuttings into natural depressions away from surface waters, inspecting them as it does so for contaminants and evidence of seepage.</p> <p><b>Recommendation</b> ECCC recommends the proponent explain the short and long-term risks and advantages of the chosen method for managing drill cuttings (i.e. by placing them into natural depressions away from surface waters), over alternate disposal approaches, such as off site or quarry sump.</p>	<p><b>Dec 7:</b> Disposal of drill cuttings in natural depressions are standard practices for exploration programs.</p>	Noted.

6	ECCC 6 - Waste Management Plan V 3.0, Appendix F, Water Reticulation Flow Diagram	<p><b>Comment</b> The Water Reticulation Flow Diagram suggests that the water from the quarry sump will be used to control dust on roads and other surfaces. The proponent has clarified during technical discussions that quarry sump water will continue to be used for dust control, even after processed kimberlite (PK) is deposited into the quarry sump. Use of quarry sump water for dust control must not result in the deposit of deleterious substances to waters frequented by fish. ECCC reminds the proponent that the pollution-prevention provisions of the Fisheries Act prohibit the deposit of deleterious substances at any point where they might reach water frequented by fish.</p> <p><b>Recommendation</b> ECCC recommends that -The Proponent should identify what measures will be taken to prevent any dissolved or re-suspended PK from entering surface waters during dust suppression activities; -The Proponent should also demonstrate that any PK that would be entrained with the sump water being applied to roads and similar surfaces is not in itself PAG; -Contingency plans should be developed in the event that the quarry sump water quality is not suitable for dust control.</p>	<p><b>Dec 7:</b> Please see the detailed responses to similar questions given in MVLWB-7 and MVLWB-8.</p>	<p>Responses to MVLWB comments 7 and 8 noted – see below.</p>
7	ECCC 7- Spill Contingency Plan V. 2.0 (Sept 2016)	<p><b>Comment</b> Some sections in this document identify actions that the proponent will undertake (e.g. verbs such as "will" and "shall") while others rely on "should" and "should be", implying a recommended course of action rather than a firm commitment to implement.</p> <p><b>Recommendation</b> ECCC recommends that the Proponent should identify and justify the preferred closure disposal method for PAG rock or provide rationale and timing regarding when an option would be chosen during project operations.</p>	<p><b>Dec 7:</b> KDI has committed to ensuring all PAG rock is properly handled and stored to avoid acid generation and metal leaching both during operations and at closure. The Rock Management Plan outlines three feasible options that may be used to sequester the PAG rock either alone or in combination. The final decisions about how the different options will be implemented depend upon the source of the rock, the time within the exploration project when the waste rock is generated, the quality of the rock and the quantity of rock. For example, during decline development, PAG rock may initially be hauled to the quarry. Nearer to the</p>	<p>Noted.</p>

			end of the decline development, it may make more sense to store the rock temporarily on surface next to the decline portal so that it can be placed back underground prior to the closure of the decline.	
8	ECCC 8 - Conceptual Closure and Reclamation Plan V. 3.0, disposal of PAG rock, page 17	<p><b>Comment</b> The proponent lists three options for disposing of PAG rock upon closure, without discussing the risks and relative merits of each. The first involves covering PAG rock with non-PAG rock. How this would prevent percolation of precipitation through the cover from reaching the PAG rock is not explained. The second option involves placing the PAG rock in the quarry and covering it with water. How submersion would be maintained permanently and consistently has not been explained. The third option involves backhauling the rock into the decline, but the groundwater issues related to the slight possibility that the decline might extend beyond the permafrost are not discussed.</p> <p><b>Recommendation</b> ECCC recommends that the Proponent should identify and justify the preferred closure disposal method for PAG rock or provide rationale and timing regarding when an option would be chosen during project operations.</p>	<b>Dec 7:</b> KDI will provide additional information in the Rock Management Plan prior to decline development.	Noted.
9	ECCC 9 - Conceptual Closure and Reclamation Plan V. 3.0, Quarry Sump for Processed Kimberlite (PK), page 17	<p><b>Comment</b> The Conceptual Closure and Reclamation Plan states: "If the bulk sample processing plant was utilized prior to AEP closure, the quarry sump will contain processed kimberlite (PK) and water used in the bulk sample processing plant (process water). The PK is expected to be inert, however, confirmatory testing is currently being conducted. During operations, both PK and process water will be sampled and subjected to geochemical and water quality analysis, respectively; this data will be used to guide the final closure plan. Post closure monitoring will also be conducted to further ensure water in the reclaimed quarry is clean and suitable for closure."</p> <p><b>Recommendation</b> ECCC recommends the proponent confirm the properties of PK and that those results guide the handling, treatment, storage during bulk-sampling operations and closure plans.</p>	<b>Dec 7:</b> Agreed. KDI will provide additional information in the Rock Management Plan prior to decline development. Also see response to MVLWB-6.	Noted.

10	ECCC 10 - Explosives Management Plan, Section 2.1.1 (AN Prill Storage), page 3-4	<p><b>Comment</b> Section 2.1.1 of the Explosives Management Plan describes the proposed Ammonia Nitrate (AN) prill storage area as containing up to 4000 tonnes of AN prill in double-lined tote bags, stacked on a compacted, crushed rock storage pad. Additional containment should be provided to prevent releases to surface waters, in the event of an AN spill.</p> <p><b>Recommendation</b> ECCC recommends the proponent develop and implement additional storage containment measures (e.g., liner and berm) to contain any releases of AN prill. In addition, mitigations measures such as, reduced storage quantities, covered storage structure, and covered tote bags (to avoid photo-degradation) should be considered.</p>	<p><b>Dec 7:</b> KDI recognizes that, following recent spill incidents at a northern mine site, AN storage best practices should be reviewed by regulators and industry. However, KDI is concerned that in the absence of fulsome discussion, the MVLWB may impose standards that are either inconsistent with the relative risks posed by exploration versus mining projects or that may inadvertently increase the risk of spills. With respect to the former point, it should be noted that the quantities of AN prill and amount of time AN is exposed in the environment is significantly lower in exploration projects than in a mining scenario. As well, some of the mitigations proposed by reviewers such as placing the AN in a lined berm may lead to the collection of water under the bags; bags can then freeze in place and risk being ripped when they are eventually moved. For these reasons, KDI recommends the MVLWB draft standardize explosives management requirements for advanced exploration projects using best available technology/practices in consideration of the risks posed by different types of projects. These draft requirements should be sent out for consultation with affected parties. At this time, KDI believes that its Spill Plan and Explosives Management Plan sufficiently describe surveillance and mitigation measures to avoid spills that are appropriate for the risk profile of this advanced exploration project.</p>	<p>A condition in a water licence requiring an update and re-submittal of the Explosives Management Plan will mitigate this concern.</p>
----	--	---	---	--

11	ECCC 12- Erosion and sediment control	<p><b>Comment</b> The project does not appear to have an erosion and sediment control plan, which is an important element to mitigate sedimentation effects on the aquatic environment.</p> <p><b>Recommendation</b> ECCC recommends the proponent develop and implement an erosion and sediment control plan prior to the onset of construction.</p>	<p><b>Dec 7:</b> KDI is not proposing construction of infrastructure near water, with the exception of roads which may approach drainage ditches. Construction near such drainages will use standard sediment control measures prescribed by relevant regulators: <a href="http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/eng.html">http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/eng.html</a>. As such, KDI believes applying control measures where needed and inspection by regulators is more effective than an erosion and sediment control plan.</p>	Noted.
12	ECCC 13 - (a) Project Description for the Proposed Advanced Exploration Program (AEP) Kennady North Exploration Project & (b) Quarry Management Plan (Version 1.0) for the Proposed Advanced Exploration Program (AEP) Section: (a) 8 Environmental Monitoring (Project Description ) and (b) section: 3	<p><b>Comment</b> The Proponent states that "Prior to discharge, sump water will be tested for hydrocarbons and the results provided to the Inspector. If there are no hydrocarbons, it will be discharged onto the tundra at a specified discharge point, subject to Inspector approval." There is a potential for metal leaching (ML) from the walls of the quarry, and contaminants inflow from the surface drainage. As a result, it is advisable to test for additional parameters of concern than just hydrocarbons and TSS. It is not clear whether the proponent intends to test for other parameters that could be in the sump. Proponent is reminded that any water discharged to the environment must meet the general prohibitions of the Fisheries Act section 36(3).</p> <p><b>Recommendation</b> ECCC recommends that the proponent expand their testing parameters for sump water prior to discharge to include other potential contaminants that could enter the sump. These parameters should be used to test the sump water prior to discharge.</p>	<p><b>Dec 7:</b> Please see the detailed responses to similar questions given in MVLWB-7 and MVLWB-8.</p>	Responses to MVLWB comments 7 and 8 noted – see below.

13	<p>ECCC 14 - Source: Rock Management Plan (Version 1.1) for the Proposed Advanced Exploration Program (AEP) Section: 3  Geochemical Criteria for Rock Use and Management</p>	<p><b>Comment</b> The Proponent states "PAG rock will be segregated and stored until closure either in the perimeter of the quarry or on constructed laydown areas. If the Project does not proceed to mining, the PAG rock will be sequestered to avoid long-term exposure to air and water using methods described in KDI's Closure and Reclamation Plan. Reclamation options for PAG material include: ? placing the PAG material either in the quarry perimeter or in deeper fill sites on surface and then covering it with sufficient non-acid generating rock to mitigate the potential for contact with runoff water. ? placing the PAG material in the deeper portion of the quarry and covering it with water to avoid contact with air ? Backhauling the PAG materials to the decline prior to decline closure The quarry area will then be allowed to fill naturally by precipitation to create a pond not connected to any adjacent water bodies." It is not clear which option the proponent has chosen, and what mitigation would be in place should the quarry pit overflow after fill-up.  <b>Recommendation</b> ECCC recommends that proponent confirm which option will be used to handle PAG material, and which mitigation measures will be implemented if overflow from the pit should occur.</p>	<p><b>Dec 7:</b> KDI has committed to ensuring all PAG rock is properly handled and stored to manage acid generation and metal leaching both during operations and at closure. Any of the three options described in the Rock Management Plan may be used to sequester the PAG rock either alone or in combination. The final decisions about how the different options will be implemented depend upon the source of the rock, the time within the exploration project when the waste rock is generated, the quality of the rock and the quantity of rock. For example, during decline development, PAG rock may initially be hauled to the quarry. Nearer to the end of the decline development, it may make more sense to store the rock temporarily on surface next to the decline portal so that it can be placed back underground prior to the closure of the decline. More details about the handling and storage of PAG rock from the decline will be provided in an updated Rock Management Plan prior to decline development. Based on an analysis of process water (as provided in the water licence application), the water that collects in the quarry both during operations and after closure is expected to be of good quality after the processed kimberlite has settled. Therefore, even if the quarry eventually filled and overtopped, no environmental issues are expected. Note also that the quarry is located 100 m from any natural waterbodies. Water quality in the quarry will be confirmed through</p>	<p>Noted. Requiring an updated Rock Management Plan for review and approval in a water licence, prior to decline development, will mitigate this concern.</p>
----	--	---	---	---

			monitoring prior to closure but at this time no additional mitigations are deemed necessary.	
14	ECCC 15 - Source: Rock Management Plan (Version 1.1) for the Proposed Advanced Exploration Program (AEP) Section: 4.2.1 Geochemistry	<p><b>Comment</b> The Proponent states that "Metal concentrations in the quarry rock samples are reported in Table 2 of Appendix B. A comparison of the metal concentrations in the decline rock to average sandstone showed that some metals were elevated including arsenic, cobalt, copper, nickel and selenium; however, the decline rock was not enriched in any metals compared to average shale rock." Typically, metal concentration in a rock is compared to 10X crustal abundance to determine whether enrichment is occurring or to develop a threshold to determine where the concentration would become a concern. Metal concentrations in the decline rock or quarry should be compared to the crustal abundance of that metal instead of sandstone or shale rocks.</p> <p><b>Recommendation</b> ECCC recommends the proponent compare the metal concentration to the crustal abundance of that metal to determine whether enrichment is occurring relative to the rocks in the surrounding environment.</p>	<p><b>Dec 7:</b> The requested comparison was provided in Section 3.2.2 of Appendix B in the Rock Management Plan. For clarity, there are no overall crustal abundance values that would be meaningful for a comparison of this type. Crustal abundance varies according to rock types. The standard practice is to compare the site specific values to the global average for the most similar types of rock for which global data are available. "Crustal abundance" and "global average compositions" are just different terms for the same information. The values for sandstone and shale are the most appropriate crustal abundance values to use for metatubidite rocks which are derived from sandstone and shale. The global average concentrations used for this work were obtained from the widely used reference by Turekian and Wedepohl (Turekian, K.K. and Wedepohl, K.H. 1961. Distribution of the elements in some major units of the Earth's crust. Geological Society of America, Bulletin 72: 175-192.), as reported in Price 1997 (Price, W.A. 1997. Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Mine Sites in British Columbia; British Columbia Ministry of Employment and Investment, Energy and Minerals Division, 159pp).</p>	Noted.

15	ECCC 16 - Source: Rock Management Plan (Version 1.1) for the Proposed Advanced Exploration Program (AEP) Section: 4.2.1 Geochemistry	<p><b>Comment</b> Proponent states that "Appendix B, further testing of the decline rock is necessary to definitively establish the potential for ML/ARD, however, current results indicate that under acidic conditions the rock has the potential for metal leaching." It should however, be noted that there are some metals or metalloids that can leach under neutral conditions.</p> <p><b>Recommendation</b> ECCC recommends the proponent assess the potential for metals and metalloids to leach in circumneutral conditions when testing the decline rock for potential ML/ARD and use the results to develop and implement appropriate mitigation measures, if necessary.</p>	<p><b>Dec 7:</b> KDI acknowledges that metal leaching under neutral conditions is possible. The management plan for PAG rock from the decline will be designed to prevent metal leaching under both neutral and acidic conditions. As already noted, additional details of PAG management will be provided prior to decline development.</p>	<p>Noted. Requiring an updated Rock Management Plan for review and approval in a water licence, prior to decline development, will mitigate this concern.</p>
16	ECCC 17 - Air Quality Management Plan	<p><b>Comment</b> ECCC acknowledges that emissions from incinerators, along with appropriate protocols for incinerator operation, were considered as part of the Waste Management Plan. However, other air pollution sources, such as blasting activities, stationary and mobile diesel combustion sources, and fugitive emissions of particulate matter (from fine processed kimberlite) associated with the project and proposed mitigation measures have not been adequately described. Diamond mines are not substantial point sources of criteria air contaminants, so full characterization/quantification of point sources is not required.</p> <p><b>Recommendation</b> ECCC recommends that the proponent include an Air Quality Management Plan as part of its application package. Although full characterization/quantitation of air emissions is not necessary, the following potential air emissions sources should be considered in the analysis and development of mitigation measures: blasting activities; stationary and mobile diesel combustion sources; and fugitive emissions of particulate matter (from fine processed kimberlite). In addition, the sources of air emissions associated with the advanced exploration should be analysed, criteria air contaminants identified, and where appropriate, mitigations measures developed and implemented. This Air Quality Management Plan can and is also recommended to serve as the basis for an</p>	<p><b>Dec 7:</b> KDI respectfully disagrees with this recommendation. KDI's existing and currently proposed management plans describe adequate methods of minimizing the sources of potential emissions; therefore, it is not clear what additional value an Air Quality Management Plan would provide.</p>	<p>Noted. Air quality mitigations are not within the Board's jurisdiction for inclusion in water licence or land use permit conditions. KDI has committed to minimize emissions where possible. Fine processed kimberlite will be deposited in the quarry sump, combined with water, in the form of process water; there is not a risk of fugitive emissions.</p>

		expanded plan if mining activities progress to the operation and production phase.		
17	ECCC 18 - Legal Requirements - Wildlife Mitigation and Monitoring Plan (Version 2.0), Table 1: Concordance Acts, Regulations and Guidelines Relevant to the Wildlife Monitoring Program	<p><b>Comment</b> Table 1 of the Wildlife Mitigation and Monitoring Plan (WMMP) describes various requirements and prohibitions under applicable wildlife legislation. The information related to the Species at Risk Act (SARA), the Migratory Birds Convention Act (MBCA) and Migratory Birds Regulations (MBR) is incomplete.</p> <p><b>Recommendation</b> ECCC recommends the Proponent revise the "Requirement" section of Table 1 to include - (1) Under SARA : "The killing, harming or harassing of listed species (s.32) and the damage and destruction of their residences (s.33) is prohibited under SARA. In the Northwest Territories, the prohibitions automatically apply to all Threatened, Endangered and Extirpated species listed on Schedule 1 of SARA on lands under the authority of ECCC and Parks Canada Agency, and to migratory birds (as defined under the MBCA) and aquatic species (as defined under the Fisheries Act) everywhere they are found. Section 79 of SARA states that every person who is required by or under an Act of Parliament to ensure that an assessment of the environmental effects of a project is conducted (i.e. in this case the MVLWB) must identify all adverse effects of the project on listed wildlife species and their critical habitat, and if the project is carried out, must ensure that measures are taken to avoid or lessen those effects and to monitor them. Schedule 1 of SARA provides a list of wildlife species at risk in Canada that are considered extirpated, endangered, threatened, or of special concern." - (2) Under MCBA: "General prohibitions under the MBCA and its regulations protect migratory birds (MBR 5(1)), their nests and eggs (MBR 6(a)) anywhere they are found in Canada and prohibit the deposit of harmful substances to migratory birds in waters or areas frequented by them (MBCA 5(1))."</p>	<p><b>Dec 7:</b> Agreed. KDI acknowledges the "Requirement" sections in Table 1 of the WMMB could be enhanced as recommended by ECCC. KDI will update the plan after permit/licence issuance.</p>	<p>Noted. KDI is required to comply with the legislation noted by ECCC regardless of whether it is noted in the WMMP or not, so there are no mitigation concerns. Requiring re-submission of an updated WMMP in a water licence will mitigate this concern.</p>
18	ECCC 19 - Migratory Bird	<p><b>Comment</b> ECCC provides the following advice to avoid detrimental effects to</p>	<p><b>Dec 7:</b> 1) KDI would be pleased to revise WMMP to</p>	<p>Noted. A condition in a land use</p>

<p>mitigation measures and reporting - Wildlife Mitigation and Monitoring Plan, Sections 2.7: Wildlife Mortality or Injury; 3.4: Wildlife Incident Reporting and 4: Reporting and Adaptive Management</p>	<p>migratory birds (incidental take) during proposed project activities. Section 2.7 of the WMMP states that pre-clearing nest sweeps will be conducted if clearing during the breeding season (15 May to 15 September) is required and that nesting of upland breeding birds will be prevented and discouraged on anthropogenic features. However, there is little information on measures that will be implemented, whether results will be reported, and how the effectiveness of these measures will be determined or monitored. Currently the MBR do not provide for authorizations or permits for the incidental take of migratory birds or their nests or eggs in the course of industrial or other activities. To ensure compliance with the law, taking reasonable care and avoidance are the best approaches to take when contemplating any activity or decision that has the potential to impact migratory birds, nests or eggs. Proponents are responsible for taking appropriate measures to ensure that they comply with the legislation and regulations and should avoid engaging in potential destructive or disruptive activities in key sensitive periods and locations, develop and implement appropriate preventative and mitigative measures to minimize risk of detrimental effects to migratory birds. The proposed project is located in nesting zone C8. Migratory birds may be found nesting in this zone from beginning of May until mid-August. This nesting period is provided as general guidance to assist the Proponent in planning their field activities. It is important to note that breeding periods may vary from year to year due to climatic conditions and some species may nest outside the dates provided if conditions are favourable. As mentioned previously, nest search techniques are generally not recommended. In most habitats, the ability to detect active nests remains very low while the risk of disturbing breeding birds and their eggs is high and could lead to incidental take. However, if nests containing eggs or young of migratory birds are located or discovered during operations, all disruptive activities in the nesting area should be halted until nesting is completed. Any active nest found should be protected with a buffer zone determined</p>	<p>ensure the breeding season (15 May to 15 September) be changed to "beginning of May to mid August" as requested by ECCC. 2) Clearing and disturbance - see response to ECCC#20 below. 3) As disturbance will be completed outside of the breeding season, setback distances will not be feasible as KDI cannot setback from nests where birds have chosen to nest near infrastructure. KDI is willing to meet with ECCC to improve mitigation for migratory birds in the WMMP, after permit/licence issuance.</p>	<p>permit requiring KDI to not perform clearing activities between May and mid-August will mitigate this concern. Including a condition in a water licence requiring a WMMP update and re-submittal will mitigate this concern.</p>
---	---	--	---

by a setback distance appropriate to the species, the intensity of the disturbance and the surrounding habitat, until the young have naturally and permanently left the vicinity of the nest. Moreover, if there are migratory bird nests where work is proposed, options like avoiding, adapting, rescheduling or relocating activities that could disturb or destroy the nests should be considered. To help with the determination of appropriate setback distances for the circumstances, examples of setback ranges for different groups of tundra-nesting birds are provided in Appendix A. It is important to note that these general examples should serve as an initial basis for review and could be adjusted after assessing effectiveness.

**Recommendation** ECCC recommends that the Proponent carry out all phases of the project in a manner that protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. In this regard, the Proponent should take into account ECCC's Avoidance Guidelines (<http://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=AB36A082-1>). Specifically, ECCC recommends that the Proponent:

- Revise the general nesting period of migratory birds in Section 2.7 of the WMMP to the beginning of May to mid-August.
- Use a scientifically sound approach to determine the likelihood of nesting birds in the event that clearing or disturbance cannot be scheduled outside of the nesting season. If necessary, use of non-intrusive search methods (e.g. point counts) to conduct an area search for evidence of nesting before clearing should be considered.
- Have surveys carried out by an avian specialist with experience with migratory birds and migratory bird behaviour indicative of nesting (e.g. singing birds, alarm calls, distraction displays, carrying nesting material or food, etc.).
- Implement options such as avoiding, adapting, rescheduling or relocating activities, if there are indications of migratory bird nests where work is proposed, that could disturb or destroy nests
- Halt all disruptive activities in the nesting area, if nests containing eggs or young of migratory birds are located or discovered during operations, until the

		<p>young have naturally and permanently left the vicinity of the nest. -Protect any nest found with a buffer zone (i.e. setback distance) appropriate for the species, the intensity of the disturbance and the surrounding habitat. Buffer zones should also be adjusted after assessing their effectiveness. -Include Appendix A, the "Recommended setback distances for tundra-nesting birds" in the WMMP. - Provide results of all pre-clearing surveys in the annual report. -Include monitoring of mitigation measures effectiveness in annual reporting. -Include all migratory bird mortalities in the annual report. -Contact ECCC (ec.eenordrptno-eanorthpnrnw.ec@canada.ca) for advice and additional mitigation measures, if required. -Include these recommendations in the WMMP.</p>		
19	<p>ECCC 20 - Impact Assessment "Direct Wildlife Mortality - Project Description, Sections 5.1 : Site Development Earthworks and Section 10: Development Schedule (Preliminary); Screening Level Environmental Impact Assessment, Table 1: Identified Pathways, Valued Components, Mitigation and Potential Imp</p>	<p><b>Comment</b> Contradictory information is provided on when land clearing activities will be undertaken and associated mitigations measures. Section 5.1 of the Project Description lists land clearing activities required for site development. The preliminary development schedule in Section 10 indicates some of these activities will take place during the migratory bird nesting period (e.g. Bulk Sample Plant Pad, Airstrip Construction - Phase 2, and North Exploration Drill Road). Mitigation for direct loss of wildlife habitat and direct mortality of wildlife in Table 1: Identified Pathways, Valued Components, Mitigation and Potential Impacts from the Project of the Screening Level Environmental Impact Assessment (EIA) states that land-clearing will only occur outside of the nesting season (i.e. no residual impact). However, section 2.7 of the Wildlife Mitigation and Monitoring Plan indicates that pre-clearing nest sweeps will be conducted if clearing during the breeding season is required (i.e. potential residual impacts). In most cases, nest search techniques are not recommended because, in most habitats, the ability to detect nests remains very low while the risk of disturbing active nests is high. In many circumstances, incidental take (see ECCC 19) is likely to still occur during industrial or other activities even when active nest searches are conducted prior to</p>	<p><b>Dec 7:</b> KDI's intention is to clear for infrastructure construction outside of the general nesting period to mitigate impacts to migratory bird nests. However, in the event that clearing or disturbance cannot be scheduled outside of the nesting season, KDI is committed to the use of a scientifically sound approach to determine the likelihood of nesting birds (e.g. point counts) to conduct an area search for evidence of nesting before clearing, and to meeting the requirements of the Migratory Bird Convention Act.</p>	<p>Noted. A condition in a land use permit requiring KDI to not perform clearing activities between May and mid-August will mitigate this concern. Including a condition in a water licence requiring a WMMP update and re-submittal will mitigate this concern.</p>

		<p>these activities.</p> <p><b>Recommendation</b> ECCC recommends that the Proponent: - clarify whether potentially destructive or disruptive activities to migratory birds are planned during the nesting period; and - if so, clearly indicate which mitigation measures were considered to inform the impact assessment and whether residual impacts are expected (see related ECCC 19). - Avoid any detrimental effects on migratory birds, nests and eggs by engaging in potential destructive or disruptive activities outside of key sensitive periods and locations; and develop and implement appropriate preventative and mitigation measures to avoid the risk of incidental take.</p>		
20	<p>ECCC 21 - Direct wildlife mortality pathway - Likelihood-Screening Level Environmental Impact Assessment, Table 1 Identified Pathways, Valued Components, Mitigation and Potential Impacts from the Project; Section 6: Conclusion</p>	<p><b>Comment</b> In Table 1 of the Screening Level EIA, the Proponent qualitatively described the probability of direct wildlife mortality as "unlikely". This conflicts with the description of "potential residual impacts", the information provided in Section 6 Conclusion, experiences at existing operations in the NWT does not account for the potential incidental take concerns described in ECCC 19 and ECCC 20. ECCC supports the conclusion that the effects may be reversible at a greater regional or national population level scale. However, the probability of direct wildlife mortality, given the scope of the proposed project, is higher than suggested in Table 1.</p> <p><b>Recommendation</b> ECCC recommends that the Proponent revise the likelihood assessment of the direct wildlife mortality pathway or provide a rationale for the current selection.</p>	<p><b>Dec 7:</b> KDI is satisfied that it has met and exceeded the standard of review and analysis for a project of this magnitude as well as exceeded requirements under territorial and national legislation or best practices. KDI's screening level assessment finds that direct wildlife mortality is unlikely. KDI would be pleased to invite ECCC to the exploration camp to help design specific review, surveillance tools, or additional best practices that regulators and proponents could use to further prevent direct wildlife mortality.</p>	<p>Noted. Including a condition in a water licence requiring a WMMP update and re-submittal will mitigate this concern.</p>
21	<p>ECCC 22 - Impact Assessment " Cumulative Wildlife Sensory Disturbance Impacts - Screening Level EIA, Table 1; Section 4 : Proposed</p>	<p><b>Comment</b> Table 1 of the Screening Level EIA states that there is potential for cumulative wildlife sensory disturbance effects resulting from proximity to the Gahcho Kue Mine, as the proposed project is within visible and audible range. A local study area (LSA), including the project footprint and 4 km buffer, was used as the scale of the impact assessment (Section 4). However, in section 1.4.1 of the Proposed Studies Plan, it is suggested that noise from the Gahcho Kue mine would only influence noise levels in the southwest end of the Regional Study Area (RSA),</p>	<p><b>Dec 7:</b> KDI is satisfied that it has met and exceeded the standard of review and analysis for a project of this magnitude as well as exceeded requirements under territorial and national legislation or best practices. KDI's screening level assessment finds there to be no likely cumulative sensory impacts from KDI's activities. KDI would be pleased to invite ECCC to the</p>	<p>Noted. KDI has committed to sensory disturbance mitigations which are consistent or exceed mitigations implemented by other permit and/or licence holders within the jurisdiction of the Board. Including a</p>

	Studies Plan, Section 1.4.1	<p>which is an area larger than the LSA used for the assessment. Due to the qualitative nature and the grouping of wildlife species in the Valued Component of the assessment, it is unclear if the impact predictions in Table 1 are conservative or accurate. Further information is required to understand how cumulative impact predictions were reached in particular related to noise.</p> <p><b>Recommendation</b> ECCC recommends that the Proponent: - Provide a map displaying the proposed project footprint and boundary of the LSA and RSA in relation to the Gahcho Kue project footprint. - Provide an analysis of how the cumulative wildlife sensory impacts were predicted for the proposed project, including any available noise monitoring data within the Gahcho Kue RSA that may have been used to inform the assessment.</p>	exploration camp to design specific review, surveillance tools, or best practices that regulators and proponents could use to measure sensory effects to wildlife from exploration activities.	condition in a water licence requiring a WMMP update and re-submittal will mitigate this concern.
22	ECCC 23 - Species at Risk Act - Section 79(2) - Wildlife Mitigation and Monitoring Plan	<p><b>Comment</b> Table 2 of the WMMP lists species of concern that may interact with project components and appears complete. Given the scope of the proposed project and proximity to an existing mine, the environmental impact assessment and WMMP would benefit from a more rigorous and detailed description of all the potential direct, indirect and cumulative effects and proposed mitigations and monitoring to avoid or lessen effects for each species listed in Table 2. Although the Proponent reviewed population-level threats identified in Management Plans (Table 4), site-specific potential impacts (e.g. habitat loss, disturbance and mortality) were omitted without sufficient justification (Table 2). Also, some of the information in Table 2 and 4 does not reflect the ecology of species listed and potential interaction with project activities (e.g. Rusty Blackbird and Short-eared Owl potentially nesting on infrastructure Tables 2 and 4). ECCC confirms that there is no critical habitat identified within the proposed project area at this time.</p>	<p><b>Dec 7:</b> KDI is satisfied that it has met and exceeded the standard of review and analysis for a project of this magnitude as well as exceeded requirements under territorial and national legislation or best practices. KDI's screening level assessment finds there to be no reasonable or likely impacts to species at risk. Consultation and engagement with a broad range of experts has not identified a gap or missing risk requiring additional assessment beyond what has been provided by KDI. KDI thanks ECCC for the additional advice provided with respect to: a) avoiding contact of species, b) consulting the SaR registry, c) consulting the GNWT, d) comments and mitigation wrt bank swallows. Finally KDI would be pleased to invite ECCC to the exploration camp to design specific review, surveillance tools, or best practices that regulators and proponents could use to</p>	Noted. KDI has committed to mitigations which are consistent or exceed mitigations implemented by other permit and/or licence holders within the jurisdiction of the Board. Including a condition in a water licence requiring a WMMP update and re-submittal will mitigate this concern.

	<p><b>Recommendation</b> For all species in Table 2, ECCC provides the following recommendation to the MVLWB in order for ECCC to provide advice to the Board in fulfilling its SARA section 79(2) obligation. ECCC recommends the MVLWB ask the proponent to:</p> <ul style="list-style-type: none"> <li>- Include species under consideration for listing on SARA, including those designated as “at risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), to be considered during a project assessment in a manner similar to listed species because these species could be added to Schedule 1 during the assessment of the project.</li> <li>- Identify all potential adverse effects of the project to the species, its habitat, and/or its residence. All direct, indirect, and cumulative effects should be considered;</li> <li>- Avoid contact with or disturbance to species, its habitat and/or its residence (i.e. the primary mitigation measure should be avoidance);</li> <li>- Demonstrate that avoidance and minimization measures will be applied for each species and identify any residual impacts likely to result from the project after these measures have been applied;</li> <li>- Demonstrate how the proposed monitoring will determine the effectiveness of mitigation and/or identify where further mitigation is required;</li> <li>- Consult the Species at Risk registry to obtain the most current information to update the WMMP (<a href="https://www.registrelep-sararegistry.gc.ca/default.asp?lang=En&amp;n=24F7211B-1">https://www.registrelep-sararegistry.gc.ca/default.asp?lang=En&amp;n=24F7211B-1</a>), as new species are assessed by COSEWIC or added to Schedule 1 of SARA on a regular basis;</li> <li>- Consult the Government of the Northwest Territories to identify other appropriate mitigation and/or monitoring measures to minimize project effects to species under their management responsibility; and</li> <li>- See additional comments ECCC 25-Bank Swallows and ECCC 26-Other Avian Species at Risk for species under ECCC management responsibility.</li> </ul>	<p>mitigate impacts to species at risk.</p>	
--	---	---	--

23	ECCC 24 - Aircraft Disturbance - Project description; Wildlife Mitigation and Management Plan	<p><b>Comment</b> The Project Description document describes the plan to build an airstrip capable of accommodating a larger aircraft. It also describes the project's reliance on aircrafts to support some of the operations. There is, however, little analysis of the amount of aircraft traffic related to this project and how traffic may vary seasonally. There is no analysis of areas that may be particularly sensitive to aircraft disturbance, such as areas with concentrations of moulting or migrating waterfowl.</p> <p><b>Recommendation</b> To reduce aircraft disturbance to migratory birds, subject to pilot discretion regarding safety, ECCC recommends that the Proponent: - Fly at times when few birds are present (e.g., early spring, late fall, winter) and minimize flights during particularly sensitive periods (i.e. during migration, nesting, and moulting). - Plan flight paths that minimize flights over habitat known or likely to have birds and maintain a minimum flight altitude of 650 metres (2,100 feet), if flights cannot be scheduled when few birds are present. - Safety permitting, avoid known concentrations of birds (e.g., moulting areas) by a lateral distance of at least 1.5 kilometres. If avoidance is not possible, maintain a minimum flight altitude of 1,100 metres (3,500 feet) over these areas. - Avoid areas used by flocks of migrating waterfowl by 3 kilometres. - Avoid excessive hovering or circling over areas known or likely to have birds. - Inform pilots of these recommendations and of areas known to have birds.</p>	<p><b>Dec 7:</b> KDI is willing to meet with ECCC to identify ways of improving the Wildlife Mitigation and Monitoring Plan as it pertains to birds. There are many terms proposed by ECCC that need to be clarified: "few birds" "sensitive period", "habitat", "concentration of birds". Without an understanding of these terms, their threshold, or how to monitor these, it would be difficult for KDI to meet their intent. For example, KDI requires air access to the site throughout the year, and will require helicopter support for drilling throughout the year. Flight altitudes will be determined by the purpose of the flight, weather conditions and safety requirements.</p>	<p>Noted. KDI has committed, in the WMMP, to following guidelines for minimum flying altitude as recommended by GNWT Environment and Natural Resources. Including a condition in a water licence requiring a WMMP update and re-submittal will mitigate this concern.</p>
24	ECCC 25 - Bank Swallow - Wildlife Mitigation and Monitoring Plan, Table 2: Species of Concern Expected at the Project; Sections 2.8: Mitigation for Species at Risk; 3.3: Site Surveillance Monitoring	<p><b>Comment</b> Although the proposed project is located outside the current range of the Bank Swallow, observations of the species were confirmed at the Gahcho Kue mine site in 2015. Bank Swallows, their nests and eggs are protected under the MCBA. In 2013, COSEWIC assessed Bank Swallows as "Threatened". Bank Swallows nest in burrows dug into exposed sand or soil banks near water bodies and at some construction sites with similar features. Excavation or construction activities conducted during the nesting season can inadvertently kill individuals or negatively impact their nesting success. The Proponent indicates that bank swallow</p>	<p><b>Dec 7:</b> The Wildlife Mitigation and Management Plan includes Site Surveillance Monitoring to detect nesting activity. If bank swallows are found on quarry stockpile, KDI would establish a buffer for the nesting period. KDI cannot commit to the mitigation suggested to avoid the possibility of bank swallow nesting, as the structures in question must also consider safety, accessibility, footprint limitations and other</p>	<p>The following standard condition is typically included in permits issued by the Board where quarrying will occur: "The Permittee shall slope the sides of waste material piles, excavations, and embankments — except in solid rock — to a</p>

		<p>attraction to proposed quarry will be mitigated by the small size of quarry, the level of disturbance at the quarry and Site Surveillance Monitoring. The monitoring will include a sweep for nests on project infrastructure during spring and will occur systematically at least once per week or more frequently, if necessary. The protection of nesting birds using anthropogenic features can cause operational delays as identified by the Proponent in Section 1.3 of the WMMP. Adequate prevention and monitoring are necessary measures as bank swallows may build a nest (including burrow excavation) within 5 days and may reuse nest sites and burrows in subsequent years (Garrison 1999). Garrison, Barrett A.. (1999). Bank Swallow (<i>Riparia riparia</i>), The Birds of North America (P. G. Rodewald, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America: <a href="https://birdsna.org/Species-Account/bna/home">https://birdsna.org/Species-Account/bna/home</a></p> <p><b>Recommendation</b> ECCC recommends that the Proponent take precautions to avoid any disturbance to Bank Swallow or their habitat during project activities and that the following measures are included in the WMMP: - Prevent bank swallows from digging burrows in quarry stockpiles, including overburden, during the breeding season, for example by flattening vertical surfaces to a slope of less than 70 degrees at the end of each day to prevent colonization; - Increase site surveillance frequency during spring to allow early detection of bank swallows; - Increase awareness of staff and contractors to potential presence and conservation status of the bank swallow; - Stop excavation activities if bank swallows colonize an active area, protect the area with a minimum buffer zone of 50m and notify all staff; - Consult ECCC (ec.eenordrpntno-eanorthpnrnw.ec@canada.ca) for further mitigation measures and advice</p>	<p>requirements and constraints.</p>	<p>minimum ratio of 2:1 vertical, unless otherwise authorized in writing by an Inspector.” Inclusion of this condition in a land use permit will mitigate ECCC’s concern, and will ensure stockpiles have a slope of less than 70 degrees.</p>
--	--	--	--------------------------------------	--

25	<p>ECCC 26 - Other Avian Species at Risk - Wildlife Mitigation and Monitoring Plan, Table 2 : Species of Concern Expected at the Project; Sections 2.8: Mitigation for Species at Risk; 3.3: Site Surveillance Monitoring</p>	<p><b>Comment</b> Individuals, their nests and eggs of Red-neck Phalarope and Horned Grebe are protected under the MCBA and COSEWIC assessed both species as "Special Concern". The proposed project is within the current range of the Red-necked Phalarope but outside the range for the Horned Grebe. Red-neck Phalarope nesting habitat was confirmed within the Gahcho Kue RSA in 2015. There is potential for species interactions with project components, although to a lesser extent for Horned Grebe, as there have been few observation records in the region. Project impacts may include disturbance, loss of habitat, mortality and localized changes in reproductive success due to predator attraction to operations. Although relevant mitigation measures have been proposed to address potential impacts in various sections and documents of the proposed project application, none are linked directly to these species or compiled to help with the assessment of SARA s.79(2) requirements.</p> <p><b>Recommendation</b> ECCC recommends that the Proponent take precautions to avoid any disturbance to Red-neck Phalarope and Horned Grebe or their habitat during Project activities and that the following measures are included in the WMMP: - Avoid wetlands with project infrastructure placement, as much as possible. - Minimize disturbance near wetlands during the nesting period (see comment ECCC 19). - If nests are encountered or observations in the area suggesting that a nest could be nearby, project activities in the area should be halted and the area should be protected by a buffer zone of 100m until until the young have naturally and permanently left the vicinity of the nest. - Observations of these species during any of the monitoring activities should be reported in the annual report. - Commit to best management practices for waste management to reduce attraction of predator affecting local populations of migratory birds, including these avian species at risk. - Prevent raptors and ravens from nesting on infrastructure by implementing feasible design modifications and through increased site surveillance during the nesting period. - Consult ECCC</p>	<p><b>Dec 7:</b> KDI is willing to meet with ECCC to identify possible improvements or clarifications to the Wildlife Mitigation and Management Plan.</p>	<p>Noted. Including a condition in a water licence requiring a WMMP update and re-submittal will mitigate this concern.</p>
----	---	--	---	---

		(ec.eenordrpntno-eanorthpnrnwt.ec@canada.ca) for further mitigation measures and advice.		
26	ECCC 27 - Wildlife Monitoring - Proposed Studies Plan; Project Description, Section 8	<p><b>Comment</b> The Proposed Studies Plan provides a preliminary assessment of existing and required baseline information, including migratory birds, to inform a potential future environmental assessment and reduce uncertainties in the impact predictions. Section 8 of the Project Description states that the Proponent will seek input from interested parties prior to finalizing and implementing the Proposed Studies Plan. To provide input, ECCC requires further information about the objectives, sampling design, survey methods and the monitoring overlap with Gahcho Kue.</p> <p><b>Recommendation</b> ECCC recommends the Proponent engage ECCC to discuss monitoring related to migratory birds and avian species at risk, prior to finalizing the Studies Plan in order to avoid delays during a potential future environmental assessment process.</p>	Dec 7: Agreed	Noted.

**GNWT - Lands: Darren Campbell**

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Decision
1	General File	<b>Comment</b> <a href="#">(doc)</a> GNWT Comments RE KDI - Kennady North Project Cover Letter <b>Recommendation</b>		
2	General File	<b>Comment</b> <a href="#">(doc)</a> KDI - Kennady North Project Proposed Security Scheduling <b>Recommendation</b>		
3	Archaeological Buffer	<p><b>Comment</b> The AIA provided by KDI identified and recorded multiple archaeological sites within 150 m of KDI's project components. As accurate location information is available for these sites, a 30 m buffer is sufficient for their protection.</p> <p><b>Recommendation</b> As an Archaeological Buffer standard for this permit, the GNWT recommends a 30 m buffer be used.</p>	Dec 7: Agreed. KDI has implemented this since operations began.	Noted.
4	Groundwater Assessment	<p><b>Comment</b> Section 6.1 of the Project Description indicated that a groundwater quality and quantity assessment will be completed at a later date. At the technical session held on November 10th, 2016, KDI representatives indicated that the precise location(s) for the decline(s) has/have not been determined. As such assessments cannot be conducted until these decisions are made. As such, there was discussion</p>	Dec 7: KDI agrees to the requirement for a Groundwater Management Plan, including the information requested, to be submitted prior to decline development. KDI would prefer the plan to be submitted only 60 days prior to decline construction. The	Noted. Inclusion of a condition in a water licence requiring submittal of a groundwater management plan and updated rock management plan prior to decline construction will

		<p>regarding the submission of a groundwater management plan which would include the results of any related assessments.</p> <p><b>Recommendation</b> The GNWT recommends that a Groundwater Management Plan be submitted to the Board for approval ninety (90) days prior to decline construction. The Plan should include, but not be limited to: Contingency options for decline water management should the quarry sumps have insufficient capacity; and Summary of the groundwater quality and quantity assessments. The GNWT will provide additional recommendations and comments specific to this Plan in our comments of the draft Water Licence.</p>	<p>request for a shorter time period is based on the somewhat dynamic nature of exploration projects. For example, the decision on where to locate the decline cannot be made too far in advance as it will be based on the results of ongoing drilling. Once a final decision is made on location, financing must be secured and management plans must be drafted and submitted. At some points during the year, there may be no problem with a longer review period but at many other times of year, KDI could miss important windows because of winter road availability (e.g., to bring up the necessary equipment) and avoidance of wildlife breeding seasons. In making this recommendation, KDI also notes that water licences for major mining projects only typically require management plans to be submitted 60 - 90 days prior to events like the commencement of construction or milling; presumably management plans associated with much smaller projects, like advanced exploration, should not require as much or even more time than those for bigger mining projects.</p>	<p>mitigate these concerns.</p>
5	Water Management	<p><b>Comment</b> Section 6.1 of the Project Description states that, if necessary, water will be pumped from decline to the quarry pit. The storage capacity of these pits is unclear. What contingency exists for decline water management if the capacity of the quarry sumps is insufficient? If quarry water is of poor quality it may not be approved for use as dust suppressant or even as process water. At the technical session held on November 10th, 2016, KDI representatives indicated that the precise location for the quarry has not been</p>	<p><b>Dec 7:</b> KDI has already submitted a Quarry Management Plan with the application and feels that it does not need updating prior to the initiation of quarry development. Until the development of the decline begins, the quarry will only be used as a source for clean rock to construct roads and pads. The use of the quarry for the storage of PK,</p>	<p>Noted.</p>

		<p>determined and that more formal plans will be submitted prior to construction.</p> <p><b>Recommendation</b> The GNWT requests that KDI submit a Quarry Management Plan to the Board for approval ninety (90) days prior to construction which should include, but not limited to: • The storage capacity of the quarry sumps; • Implications to additional uses for quarry water if quarry is of poor quality and cannot be used for dust suppressants or process water. • A summary table outlining the volumes of all 'waste' streams to be potentially stored in the quarry pit and sump including water, PK and waste rock. • A diagram of the quarry pit including elevations noting locations of the sump and various placement locations of the wastes outlined above.</p>	<p>process water and/or PAG rock from the decline will only begin after decline development (i.e., the extraction of waste rock that may be PAG, the processing of a bulk sample etc.). Therefore, KDI proposes to submit an update to the Quarry Management Plan a minimum of 60 days prior to development of the decline. The updated Plan can contain all of the information requested here by the GNWT as the information is only relevant for the purposes of decline development and bulk sample processing.</p>	
6	Monitoring	<p><b>Comment</b> Section 8 of the Project Description notes that monitoring of decline water does not include total hydrocarbons. Given the potential for spills or leaks from equipment working in the decline, hydrocarbon monitoring is warranted.</p> <p><b>Recommendation</b> The GNWT recommends that total petroleum hydrocarbons (TPH) be added to the proposed monitoring parameters for water located in the decline.</p>	<p><b>Dec 7:</b> Agreed. This requirement can be added to the proposed Groundwater Management Plan.</p>	Noted.
7	ANFO Storage	<p><b>Comment</b> Section 5.4 of the Project Description provides information related to ANFO storage. There was a discussion at the technical session related to other mining sites at which uncovered ANFO storage has led to bags freezing to the ground and caused some instances of ripping and spills. It is ENR's understanding that KDI has noted that they will be covering the ANFO with tarps however they noted that this may cause some moisture and freezing issues between layers. It is ENR's preference that ANFO be placed in a dedicated shack or covered area to reduce risk of ANFO incidents related to snow cover and breakage.</p>	<p><b>Dec 7:</b> See response to ECCC-10.</p>	<p>Including a condition in a water licence requiring an update and re-submittal of the Explosives Management Plan will mitigate this concern.</p>

		<b>Recommendation</b> The GNWT recommends that the ANFO storage be contained “out of the weather” to reduce likelihood of spills and wastage.		
8	Sewage Monitoring	<p><b>Comment</b> Section 8 notes that sewage will be monitored once per month. Given the size of the camps and the risk that sewage treatment could be working inadequately for 30 days before sampling occurs, this frequency may be inadequate.</p> <p><b>Recommendation</b> The GNWT recommends that KDI provide rationale for the sampling frequency proposed for sewage effluent.</p>	<b>Dec 7:</b> KDI proposes to monitor sewage outflow water quality once a month based typical requirements at other exploration camps (e.g., see SNP requirements for the Gahcho Kue exploration licence, MV2003L2-0005). KDI will follow manufacturer's specifications for operational monitoring. For example, surveillance of the treatment plant will likely require daily or weekly measurement of parameters related to operational integrity such as temperature, aeration, sediment content, etc. Once a sewage treatment plant has been purchased and prior to commissioning, KDI will provide additional operational details in an update of the Waste Management Plan.	Noted.
9	Closure	<p><b>Comment</b> Section 5.2.2 of the Closure Plan relates to the underground decline however there is no mention of potential water management during closure. Given the uncertainty related to the ingress of water into the decline, closure options should be included.</p> <p><b>Recommendation</b> The recommends that the Closure Plan include details for handling water in the decline in the event that water is present at closure.</p>	<b>Dec 7:</b> Agreed	Noted.

10	Stream Crossings	<p><b>Comment</b> The Stream Crossings appendix notes that the maximum depth of M28 is 2.7 m and notes that it is unlikely to be aquatic habitat due to complete freezing in winter. Evidence supporting 2.7m ice thickness in this area has not been provided or referenced.</p> <p><b>Recommendation</b> The GNWT recommends that KDI provide a reference supporting ice depths of 2.7m in the project area.</p>	<p><b>Dec 7:</b> Bathymetric surveys were conducted by Aurora Geosciences and the data remains unpublished. KDI would be pleased to provide the information for GNWT verification if required. It should be noted that KDI is not proposing to affect, harm, or alter the lake named M28 - infrastructure will be located greater than 100 meters away from the body of water.</p>	Noted.
11	PAG in Construction	<p><b>Comment</b> KDI stated at the technical session that they were unsure if PAG material would be required for construction. Due to an increased risk associated with the use of PAG material in construction, PAG material should be sequestered appropriately in approved methods such as under water, returned to the decline or with an appropriate cover.</p> <p><b>Recommendation</b> The GNWT recommends that only non-PAG material be used in construction.</p>	<p><b>Dec 7:</b> Please see the detailed responses to similar questions given in MVLWB-1</p>	Response to MVLWB -1 noted. Including a condition in a water licence requiring submittal of an updated Rock Management Plan prior to decline development will mitigate this concern.
12	Winter Road	<p><b>Comment</b> The GNWT understands that KDI is responsible for constructing the 10 km spur off of the Gahcho Kue access road, and cost shares the portion from the spur to the Tibbit to Contwoyto Ice Road with Gahcho Kue. KDI has used the RECLAIM km/tonne for usage unit cost to account for use of the Gahcho Kue portion of the winter road. ENR understands that KDI is currently negotiating an access agreement with Gahcho Kue.</p> <p><b>Recommendation</b> The GNWT recommends that this usage amount be reviewed in the future as information on the cost of accessing this road becomes more defined and update the RECLAIM estimate if required.</p>	<p><b>Dec 7:</b> Agreed</p>	Noted.
13	Post Closure Monitoring	<p><b>Comment</b> KDI has included an estimate for 5 years of post-closure monitoring at \$100,000 per year. The GNWT is concerned that there is currently some uncertainty remaining regarding the PAG material that is expected from the decline. The final management strategy for the PAG rock has not been confirmed, and the results of the geochemical testing of the PK have not been provided. Both the</p>	<p><b>Dec 7:</b> Agreed</p>	Noted.

		<p>selected PAG rock management strategy as well as whether or not the PK is PAG will influence the required length of post-closure monitoring. ENR understands that the allowance provided for post-closure monitoring and maintenance will be sufficient to accelerate (i.e. use pumps) the flooding and submergence of any PAG material in the quarry.</p> <p><b>Recommendation</b> The GNWT recommends that the post closure monitoring period and associated security amount should be re-evaluated in the future once the PAG rock disposal location has been confirmed and the results of the PK geochemical test work has been completed and provided for review.</p>		
14	Security Scheduling	<p><b>Comment</b> KDI has proposed to phase security payments according to the following schedule: Please see attached table. ENR notes that the intent of the Mine Site Reclamation Policy is to ensure that the GNWT is covered for the highest liability that will be encountered during the work year, as calculated at the beginning of the work year. GNWT is amenable to the phasing propose by KDI, but is of the opinion that security should be posted in advance for all work that will be completed in a given work year. For example, if in year 1 KDI were to plan to complete Airstrip Phase 1 and both declines, GNWT would expect that security sufficient to ensure all of these activities would be posted in a single payment prior to initiating the work.</p> <p><b>Recommendation</b> The GNWT recommends that the security phasing proposed by KDI is acceptable; however, ENR's preference is that the number of individual payments be kept as efficient as possible. ENR proposes that this could be achieved by requiring KDI to post security for all work that is proposed to be completed in a work year, at the beginning of said work year.</p>	<p><b>Dec 7:</b> Agreed. However, KDI wishes to maintain flexibility for within year security adjustment. For example, should an element of development be initiated part-way through a calendar year, KDI would wish to post security and implement the approved development.</p>	Noted.
15	Waste Management Plan	<p><b>Comment</b> Page 1 Waste Management Plan, Hazardous Waste Management. The Waste Management Plan states the following: Aurora Geosciences Ltd. has been contracted by KDI to manage and operate the exploration site since the beginning of exploration. With the initiation of the AEP, KDI will self perform and/or</p>	<p><b>Dec 7:</b> KDI would be pleased to discuss the recommendation with the GNWT in order to better understand the registration program, its objectives, reporting requirements, and guidelines. Following these</p>	Including a condition in a water licence requiring an update and re-submittal of the Waste Management Plan

		<p>appoint additional experienced and qualified contractors as required to support advanced exploration activities. ENR understands that Kennedy Diamonds Inc. (KDI) is the generator of hazardous waste for this activity. To date we have understood that Aurora Geosciences was more actively engaged in the disposal of hazardous waste from the activities on-site and they were registered as the generator of hazardous waste as "NTG520". The Guideline for the Management of Hazardous Waste in the NWT defines hazardous waste and outlines the roles and responsibilities of generators, carriers, and receivers of hazardous waste in the NWT. The Environment Division (ED), ENR registers all generators, carriers, and receivers of hazardous wastes, and tracks the disposal of hazardous wastes generated in the NWT to registered receiving facilities through the use of hazardous waste movement documents (manifests).</p> <p><b>Recommendation</b> The GNWT recommends that KDI register as a generator of hazardous waste by contacting the Environmental Protection Section in the Environment Division, ENR. The GNWT recommends KDI reference the Guideline for the Management of Hazardous Waste in the NWT in the Waste Management Plan. It is recommended that KDI outline in the Waste Management Plan that the ultimate disposal of hazardous waste from KDI's activities on-site will be confirmed on hazardous waste movement documents.</p>	<p>discussions, KDI may revise the Waste Management Plan to reflect any changes related to this recommendation. KDI believes this recommendation should be addressed outside of this permit application process.</p>	<p>will mitigate this concern.</p>
16	Incineration of Human Waste	<p><b>Comment</b> The Waste Management Plan states the following: At the Bob and Old Kelvin camps, Pacto toilets are used for the collection of human waste - the sealed bags are removed from the toilets daily for incineration. The Pacto toilets works so that after each individual use the bags are sealed to prevent escape of odours or waste materials. Based on the limited information provided for the incinerator units, it is impossible to determine if the units are suitable for incineration of sewage in the manner outlined in the Waste Management Plan. In discussions with Ecowaste it was determined that certainly the Ecowaste CA100 is not</p>	<p><b>Dec 7:</b> Following several months of regulatory engagement with GNWT and over 3 years of incinerator operation, it comes as a surprise to KDI that GNWT has concerns with waste management practices on site. Given late notification of such an important issue, it is not appropriate for KDI to devise alternatives to biological waste management within a few days of notification. KDI would welcome a thorough</p>	<p>Noted. Including a condition requiring update and re-submittal of the Waste Management Plan in a water licence will mitigate this concern. Incineration related to Bob and Old Kelvin camps is a previously screened activity, and is not considered in the</p>

		<p>capable of incinerating waste from the Pacto toilets. For proper incineration to occur, sewage must be dewatered and mixed with a variety of household waste before being placed into the incinerator.</p> <p><b>Recommendation</b> The GNWT recommends that: 1) KDI provide an alternate method of disposal of the waste from the Pacto toilets, or provide additional evidence that human waste can be managed in a way to ensure safe on-site incineration by the Ecowaste CA100 or another incinerator. 2) KDI provide more detailed information on the incinerators to be used in the new camp.</p>	<p>and informed discussion with GNWT on management of biological waste in exploration camps and would also welcome the development of standardized guidance by the appropriate regulator. Management of human waste in exploration camps offers few opportunities. Waste can be a) buried on site, b) packaged and shipped for offsite disposal, or c) packaged and incinerated on-site. Each of these management practices come with environmental costs, risks, and benefits. Currently, KDI uses approach b) and c) in order to minimize environmental effects, reduce risks to human health, and maximize waste management effectiveness. When incinerating biological waste, KDI uses dual-chamber biomedical-grade incinerators capable of handling human waste (Inciner8 I8-40 <a href="http://www.inciner8.com/medical-incinerator/I8-40A">http://www.inciner8.com/medical-incinerator/I8-40A</a>). This is the current practice at Bob Camp and the existing Kelvin Camp. Note that for the new Kelvin Camp, sewage will be treated prior to discharge. KDI recommends to the MVLWB that 1) the Board work with the GNWT to develop best management practices or guidelines for management of human waste in exploration camps in consultation with industry, and 2) that KDI's Waste Management Plan be revised within 6 months of license issuance to describe appropriate changes and/or provide further rationale on management of biological waste.</p>	<p>current screening before the Board.</p>
--	--	---	---	--

Lutsel K'e Dene First Nation - Chief or Wildlife, Lands and Environment: Lauren King

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Decision
1	Project Description-environmental monitoring section, p 19	<p><b>Comment</b> According to the Project Description document, the quality of water in the quarry sump will be sampled for a number of difference substances (e.g., TSS, TDS, pH, etc.).</p> <p><b>Recommendation</b> Is this an exhaustive list of substances that KDI should be testing the quality of water in the quarry sump?</p>	<p><b>Nov 21:</b> The list of parameters sunmmarized on p.19 or the Project Description are typical for the diamond industry. KDI expects the specific parameters requiring monitoring in the quarry sump to be discussed during the review. KDI suggest the following parameters could be useful to monitor in the quarry sump: Ammonia, Chloride, Fluoride, Hardness, Nitrate, Nitrite, pH, Sodium, Sulphate, Total dissolved solids (TDS), Total suspended solids (TSS) plus the total and dissolved fractions of metals includng Aluminum, Antimony, Arsenic, Barium, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Uranium, Zinc. Water quality tests conducted on the PK fraction (Water License Application Questionnaire Question 4.7, p.14 of 20 in PDF) show water quality at non-harmfull levels (after TSS settles).</p>	Noted.
2	Engagement Plan V 3.0, types of engagement, p. 5	<p><b>Comment</b> KDI lists four primary types of engagement types</p> <p><b>Recommendation</b> LKDFN recommends that KDI consider the audience for their engagement activities and expand the standard repertoire of engagement types to include concise, plain language reports, posters, and community bulletin board posts.</p>	<p><b>Nov 21:</b> KDI's Engagement Plan has grown since the early exploration phase and does require adding additional categories such as that recommended by LKDFN. KDI will add such engagement type categories to future versions of its engagement plan for its advanced exploration project.</p>	Noted. Including a condition in a water licence requiring an update and re-submittal of the Engagement Plan will mitigate this concern.
3	Engagement Plan V 3.0, summary of project modifications, p. 6-7	<p><b>Comment</b> KDI provides a list of general issues and proposed resolutions</p> <p><b>Recommendation</b> LKDFN strongly recommends that KDI integrate Traditional Knowledge throughout the entire life of the project; not just for a baseline study.</p>	<p><b>Nov 21:</b> KDI would be pleased to integrate TK throughout the project life and beleives such inclusion would benefit the project. KDI looks forward to holding</p>	Noted.

			specific discussions with LKDFN to discuss implementing this recommendation for the advanced exploration phase and beyond.	
4	Engagement Plan V 3.0, general comment	<p><b>Comment</b> The current iteration of the engagement plan lacked in detail</p> <p><b>Recommendation</b> LKDFN strongly recommends that KDI specify the minimum frequency of the different types of engagement activities with affected Indigenous Parties.</p>	<p><b>Nov 21:</b> KDI's engagement strategy has been to develop the engagement process with individual Indigenous Parties to help ensure the needs of the parties are met. KDI would be pleased to devise a minimum frequency of engagement activities by type with LKDFN. KDI will follow-up with LKDFN directly to discuss implementing this approach.</p>	Noted. Including a condition in a water licence requiring an update and re-submittal of the Engagement Plan will mitigate this concern.
5	Conceptual Closure and Reclamation Plan V 3.0	<p><b>Comment</b> Comment pertaining to the long term quality of quarry water</p> <p><b>Recommendation</b> How can KDI ensure the quarry water does not migrate to surrounding bodies of water or groundwater in the long term? How many years after closure does KDI propose to monitor quarry water quality and what methods will you use?</p>	<p><b>Nov 21:</b> Quarry Water quality: 1) The quarry as proposed is in an area of consisting of solid rock surrounded by competent permafrost, it is not located on or near not porous material. 2) The sump (within the quarry) that will hold the processed kimberlite water, is small consisting of approximately 6% of the volume of the quarry (process water ~6,000 m3 vs quarry ~400,000 m3). This reflects how little processed water will be generated by KDI for the advanced exploration project. 3) Current tests indicate water quality levels to be non-harmful after suspended sediments are allowed to settle out. 4) Finally, KDI proposed to monitor water quality in the quarry sump during operation, and for 5 years post-closure in order to confirm predictions or adapt project activities if required.</p>	Noted.

6	Conceptual Closure and Reclamation Plan V 3.0	<p><b>Comment</b> Comment pertaining to the goals of the CCRP</p> <p><b>Recommendation</b> LKDFN strongly recommends that one of the primary goals of the CCRP should be to ensure the site is compatible with traditional uses and returned to useable caribou habitat. The plan currently follows minimum standards, rather than best practices.</p>	<p><b>Nov 21:</b> Protection of caribou habitat during operation is important to KDI. Reclaiming land at closure in a manner that is compatible with traditional use and caribou habitat is also important to KDI. Though the advanced exploration project footprint is small, KDI would be pleased to discuss additional best practices that could be used in the closure plan.</p>	Noted.
7	Conceptual Closure and Reclamation Plan V 3.0	<p><b>Comment</b> Comment pertaining to the goals of the CCRP</p> <p><b>Recommendation</b> There are no closure goals for the individual components. This needs to be included in the plan.</p>	<p><b>Nov 21:</b> KDI's closure goals identified in section 2.2 of the Conceptual Closure and Reclamation Plan (Version 3.0) were meant to apply to the entirety of the document. It was KDI's opinion that the advanced exploration project footprint and infrastructure were not sufficiently complex to warrant specific goals for individual components. However, KDI would be pleased to consider component-specific goals but would need more information to understand LKDFN's needs and expectations.</p>	Noted. A condition requiring submittal of a final closure and reclamation plan prior to the end of the project is a condition typically included in licences issued by the Board. Inclusion of such a condition in a water licence will mitigate this concern.
8	Conceptual Closure and Reclamation Plan V 3.0	<p><b>Comment</b> Comment pertaining to progressive reclamation</p> <p><b>Recommendation</b> Can progressive reclamation be undertaken for the Old Kelvin Camp when the new Kelvin Camp is constructed? Please provide a rationale and describe how progressive reclamation activities will be undertaken</p>	<p><b>Nov 21:</b> It is KDI's intention to progressively reclaim and move Old Kelvin Camp should New Kelvin Camp be commissioned. KDI's intention to do so is outlined in the Project Description Table D2 - "<i>The existing Kelvin Camp will be used for staff during the construction of the new Kelvin Camp. Once the new camp is open, tents/structures from the old camp may be moved to the new location camp pad.</i>".</p>	Noted.

9	Conceptual Closure and Reclamation Plan V 3.0	<p><b>Comment</b> Comment pertaining to temporary closure</p> <p><b>Recommendation</b> LKDFN recommends that KDI more clearly define temporary closure. More specifically, KDI should specify what triggers temporary closure and anticipated durations</p>	<p><b>Nov 21:</b> Temporary closure may be triggered by several factors such as the results of exploration, diamond prices, market conditions, or seasonal changes preventing safe working conditions. Such triggers are difficult to predict in advance and difficult to control. KDI would be pleased to discuss requirements for notification and provide anticipated durations for such closures to provide greater certainty to regulators and parties.</p>	Noted. Including a condition in a water licence requiring an interim closure and reclamation plan will mitigate this concern.
10	Conceptual Closure and Reclamation Plan V 3.0	<p><b>Comment</b> Comment pertaining to progressive reclamation</p> <p><b>Recommendation</b> Explain how progressive reclamation of the roads will be done. There is too little detail at the moment.</p>	<p><b>Nov 21:</b> Roads for the advanced exploration project will be narrower and shorter than regular haul roads because the traffic volumes and weights for an advanced exploration project are several orders of magnitude lower than that of a project with large hauling. For this reason, roads will be smaller and reclamation as described in section 5.2.1 of the closure plan will consist of scarifying and placement of overburden to encourage revegetation.</p>	Noted.
11	Conceptual Closure and Reclamation Plan V 3.0	<p><b>Comment</b> Comment on the closure of the quarry</p> <p><b>Recommendation</b> It is unclear what criteria will be considered to determine whether or not the quarry will require reclamation. Criteria needs to be included in the plan.</p>	<p><b>Nov 21:</b> Reclamation of the quarry in any scenario involves removal of equipment, water monitoring, testing for hydrocarbon, profiling (re-shaping) of overburden to prevent hazards, and wildlife deterrents such as berms around the perimeter (sect 5.2.3 Closure Plan v3.0). In scenarios where PAG rock is included, a water cover (flooding) would also be added to the quarry at closure to prevent oxidation and metal leaching.</p>	Noted.

12	Conceptual Closure and Reclamation Plan V 3.0	<p><b>Comment</b> Comment on potential PAG rock</p> <p><b>Recommendation</b> The PAG management contringencies lack any details. For example, under what circumstances would backhauling be considered? Or is quarry was allowed to fill with water, what would be the monitoring mechanism to ensure water was safe for wildlife and humans? There needs to be more detail.</p>	<p><b>Nov 21:</b> Management and closure considerations associated with PAG rock can be found in the Rock Management Plan (Version 1.1). As a general rule, rock extracted from a decline and stockpiled near the portal entrance, would be backhauled to the decline (sect 3 RMP v1.1). Should space in the decline not allow return of all country rock, the quarry sump could also be used to store PAG as this is an isolated facility that can be covered with water to mitigate acid-generation. Monitoring during operation and closure would be used to verify water quality in the quarry.</p>	<p>Noted. Including a condition in a water licence requiring submittal of an updated Rock Management Plan prior to decline development will mitigate this concern.</p>
13	Wildlife Mitigation and Monitoring Plan V 2.0	<p><b>Comment</b> Comment pertaining to reducing indirect habitat loss</p> <p><b>Recommendation</b> LKDFN strongly recommends limiting or suspending activities that may have a detrimental impact on barren-ground caribou while caribou are near or on the site. For example, suspending drilling when caribou on near or on site.</p>	<p><b>Nov 21:</b> KDI is supportive of limiting or suspending activities known to present hazards to caribou. For example, in section 2.7 of the WMMP v2.0 KDI would provide wildlife with right-of-way. KDI would be interested in discussing activities that could be suspended should caribou be present on site. KDI could enhance mitigation measures when caribou are sighted by avoiding overflight areas, or delaying startup of drills.</p>	<p>Noted.</p>
14	Wildlife Mitigation and Monitoring Plan V 2.0	<p><b>Comment</b> Comment pertaining to barren-ground caribou monitoring methods</p> <p><b>Recommendation</b> Is KDI using the geo-fence collar data to track caribou moving through the site? Please explain. If this method is being used, then include it in the Plan.</p>	<p><b>Nov 21:</b> GNWT collars on Bathurst caribou are geofenced to provide increased resolution of movement as caribou approach developments, including the Gahcho Kue Mine (also encompassing the Kennady North Project). Assuming collared caribou approach the Project, this data will be useful to assess impacts to caribou from a mine, during a possible future environmental assessment.</p>	<p>Noted.</p>

15	Wildlife Mitigation and Monitoring Plan V 2.0	<p><b>Comment</b> Comment pertaining to barren-ground caribou monitoring methods</p> <p><b>Recommendation</b> The plan does not specify how frequent the road will be monitored or the method. This needs to be made clear in the plan</p>	<p><b>Nov 21:</b> The Winter Access Road will be surveyed weekly for evidence of public use of the road for harvesting (WMMP Section 3.1).</p>	Noted.
16	Wildlife Mitigation and Monitoring Plan V 2.0	<p><b>Comment</b> Comment pertaining to barren-ground caribou monitoring methods</p> <p><b>Recommendation</b> Currently, caribou monitoring is limited to 40 mins/week. That is not enough and should be increased. This should be reflected in a revised plan.</p>	<p><b>Nov 21:</b> Considering the Wildlife Sightings Monitoring, the Site Surveillance Monitoring and the Caribou Surveillance Monitoring, monitoring for caribou and responding to their presence will be continual.</p>	Noted.
17	Wildlife Mitigation and Monitoring Plan V 2.0	<p><b>Comment</b> Comment pertaining to barren-ground caribou monitoring methods</p> <p><b>Recommendation</b> It is unclear how caribou behavior will be monitored and reported on. How will the monitoring plan detect unusual behavior or stress to the caribou? This should be reflected in the revised plan.</p>	<p><b>Nov 21:</b> Extensive monitoring of caribou behaviour at Ekati and Diavik have indicated that caribou do not typically exhibit strong reactions to activity. Often, caribou can be observed feeding near the mine or by the side of the road. Monitoring of caribou behaviour is included in the Gahcho Kue Wildlife Effects Monitoring Program, and includes the Kennady North Project area.</p>	Noted. Including a condition in a water licence requiring a WMMP update and re-submittal will mitigate this concern.
18	General comment	<p><b>Comment</b> Need to establish baseline using TK and science</p> <p><b>Recommendation</b> LKDFN submitted comments on KDI application for a ARI research licence #3447. Our comments would never formally addressed and it is unclear whether or not TK will be used to establish a baseline. LKDFN strongly recommends that TK studies are conducted for the land, wildlife, fish and water.</p>	<p><b>Nov 21:</b> KDI proposes to conduct baseline monitoring and TK studies during the advanced exploration phase, in anticipation of such information being required for a future mining application. KDI looks forward to discussing TK study design with LKDFN should the advanced exploration work proceed.</p>	Noted.

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Decision
1	RMP Section 3, Geochemical Criteria for Rock Use and Management	<p><b>Comment</b> KDI commits to ensuring no PAG rock will be used for construction of infrastructure, but goes on to define PAG as that having an NP/AP3. It is not clear whether or not KDI will manage uncertain rock as PAG or whether the commitment only pertains to rock with an NP/AP&lt;1.</p> <p><b>Recommendation</b> Could KDI change the wording in the RMP to reflect the commitment to only use non-PAG rock for construction which would therefore be clear as to the intent of the uncertain rock?</p>	<p><b>Dec 7:</b> KDI can confirm that all rock that is classified as "uncertain" (i.e., with a NP/AP ratio between 1 and 3) will be managed as PAG rock. KDI can also confirm that rock from the decline that is identified as PAG or uncertain will not be used for general construction purposes as recommended by SRK in their memo attached as appendix B to the Rock Management Plan. However, with respect to PAG rock from the decline, SRK also noted that: "There may be specific construction uses that would inherently prevent ML/ARD such as encapsulation, or saturated conditions, that could be considered. A robust management plan for this rock will be required to prevent oxidation of sulphide minerals and development of acidic conditions." KDI notes that, based on SRK's analyses, the handling, storage and/or use of PAG rock will only become an issue once development of the decline begins. Therefore, KDI proposes to update the Rock Management Plan prior to decline development with a description of a robust management plan for PAG that, if appropriate, may include the encapsulation of PAG rock for specific construction uses. The details of what the encapsulation would entail (so as to prevent acid rock drainage) would be provided at that time with rationale. KDI assumes that the MVLWB would have to approve the updated Rock</p>	<p>Noted. Including a condition in a water licence requiring submittal of an updated Rock Management Plan prior to decline development will mitigate this concern.</p>

			Management Plan prior to KDI initiating decline development.	
2	RMP Section 4.1.3 Geochemical Testing and Monitoring [of quarry rock]	<p><b>Comment</b> Rock characterization during quarry development is proposed to consist of visual inspection to confirm no sulphides are present, and limited sampling and testing to verify the geochemical characteristics of the quarry rock. Because the NP of the quarry rock is so low (ranging between 3 to 11 kg CaCO<sub>3</sub>/t), it takes very little sulphide to change the classification from non-PAG to PAG (an NP/AP of 1 would require only ~ 0.1 to 0.35% S). It is very difficult if not impossible to visually identify sulphides at those levels.</p> <p><b>Recommendation</b> Visual inspection is an important part of a program but should not be relied upon to verify the non-PAG nature of quarry rock, rather it would be expected that the sampling and analysis be sufficient to fulfill that purpose. What are KDI's plans for sampling and analyzing quarry rock to verify visual characterization?</p>	<p><b>Dec 7:</b> The characterization completed in support of the Type B water licence application has shown that the granitic rock (i.e., the quarry rock) has a consistently low sulphur content, and does not pose an appreciable risk for ML/ARD. In determining the suitability of the quarry rock for use in construction, KDI are relying on the test work that has already been completed at the quarry sites, as well as geological information and information from the Gatcho Kue site. The visual inspections proposed in the management plan are intended to provide more localized verification that the rock does not contain atypical amounts of sulphide. In the quarry area, this will be defined as presence of any sulphide that is visible in hand samples. KDI agrees that sulphides can be difficult to see in some rock types (typically darker or fine grained rock), and that quantification of trace amounts of sulphide is even more challenging. However, geological observations on the rock from the quarry area indicate that it would be possible for a trained geologist to see even very small amounts of sulphide in these light coloured and coarse grained rocks, and there is no intent to try to quantify the amount of sulphides. KDI anticipates that geologists will be available during quarry development to complete regular inspections. In addition to the visual</p>	Noted. Including a condition in a water licence requiring sampling and verification of quarry rock will mitigate this concern.

			inspections, KDI are planning to complete a limited verification program after excavation of the quarry is complete. This would likely include sampling and analysis of construction rock from the airstrip and camp pad at a minimum frequency of 1 sample per 20,000 tonnes of rock. The samples would be subjected to TIC, sulphur content, and trace element analyses, with a subset analyzed for full acid base accounting tests.	
3	RMP Section 4.1.5 Closure Considerations [of quarry]	<p><b>Comment</b> KDI has proposed that any PK and process water that has been deposited in the quarry sump during operations will be left in place after closure. In addition, one of the options for reclaiming any PAG materials that may be extracted during operations is to place it in the quarry. Either way, KDI proposes to let the quarry naturally fill with water over time. The topic of the anticipated hydrological conditions of the quarry was discussed to some extent during the technical workshop. There remains some uncertainty as to the long-term sustainability of the water (if required for management of PAG rock), as well as the height or level of the steady state quarry 'lake'. It would seem that there is a need to balance maintenance of a water cover over the PAG rock and water level such that it does not rise to the height where water discharge from the quarry could occur into the active layer (or shallow groundwater system).</p> <p><b>Recommendation</b> Could KDI provide additional information on the hydrological conditions related to the quarry and the closure objectives of the water ponded in the quarry (i.e. is there a design level that must be maintained that strikes the balance between enough water but not too much?). In the absence of that information, what program would be necessary to gain that understanding prior to closure and what PAG management contingencies would be required should a water cover be unsustainable?</p>	<p><b>Dec 7:</b> As noted by the reviewer, one of the options KDI has identified for preventing acid rock drainage from PAG rock that is extracted from the decline is to sequester it underwater in the quarry. KDI understands the importance of demonstrating, through additional studies and evaluations, that any PAG rock in the quarry remains submerged post-closure. Once KDI has finalized the location of the decline, it will be able to provide, prior to decline development, a detailed and robust plan for how PAG rock originating from the decline will be handled and stored so as to prevent acid rock drainage. If the quarry is selected as the preferred option, and evaluation of the water balance will be completed to determine the rate of flooding and demonstrate that the material will remain flooded. Therefore, KDI proposes to provide, prior to decline development, a detailed and robust plan for how PAG rock originating from the decline will be handled and stored so as to prevent acid rock drainage. The required</p>	Noted. Including conditions in a water licence requiring submittal of an updated Rock Management Plan and Quarry Management Plan prior to decline development will mitigate this concern.

			<p>information with respect to the characteristics of the PAG rock and how it will have to be managed will be provided in an update to the Rock Management Plan prior to decline development. Information about placement of PAG in the quarry and about how KDI will ensure the PAG remains submerged (i.e., a water balance analysis) will be provided in an update to the Quarry Management Plan that will also be provided prior to decline development. KDI assumes that MVLWB approval of the updated Plans will be necessary before it can initiate decline development. In the meantime and in the response to comment ECCC-3, KDI has provided some hydrological data to show that water is expected to accumulate in the quarry. The maximum amount that would be expected to accumulate due to precipitation alone would be about 17,600 m<sup>3</sup> per year (note that this value does not account for evaporation). Given that the maximum volume of the quarry is 400,000 m<sup>3</sup>, there is no expectation that the quarry would fill and either overtop or intersect with the active layer during operations. However, the quarry would be expected to fill naturally during the post-closure period and will eventually discharge into the environment. KDI will be monitoring the water quality in the quarry during operations so that modelling of post-closure water quality and quantity in the quarry can be performed and provided in updates to the</p>	
--	--	--	--	--

			<p>Closure and Reclamation Plan. Note that the initial testing results of process water that KDI proposes to deposit in the quarry was provided in response to question 4.7 of the Water Licence Application Questionnaire; based on the relatively low concentrations of dissolved metals and salts, KDI expects that, at closure, the water quality in the quarry will not be an issue once the PK settles out.</p>	
4	RMP Section 4.2 Decline and 4.2.2 Geochemical Testing and Monitoring therein	<p><b>Comment</b> KDI indicates that subject to geochemical testing (as per Section 4.2.2) the rock will be classified as non-PAG or PAG. Non-PAG rock will be loaded, hauled and placed on surface for use as site development rock. PAG rock will be stored on an aggregate pad near the decline for the purpose of refilling the decline or relocated to the quarry for site closure. Section 4.2.2 states that based on the geochemical studies presented in Appendix B, rock obtained from the decline will be assumed to be PAG and handled accordingly. Limited testing of rock during decline development will be undertaken to confirm the geochemical predictions. The limited testing as indicated in Section 4.2.2 would not likely be sufficient or robust enough to allow operational classification and sorting of PAG from non-PAG rock.</p> <p><b>Recommendation</b> If geochemical sorting is being proposed for decline rock, an operational testing and sorting program should be developed. If geochemical sorting will not be included as an operational management tool, please confirm if all decline rock will be managed as if PAG.</p>	<p><b>Dec 7:</b> KDI has proposed to submit an updated Rock Management Plan at least 60 days prior to decline development. Updates to the Plan will either confirm that all decline rock will be managed as PAG or an operational testing/sorting program will be proposed at that time as per the recommendation.</p>	<p>Noted. Including a condition in a water licence requiring submittal of an updated Rock Management Plan prior to decline development will mitigate this concern.</p>
5	RMP Section 4.2.3 Closure Considerations [of decline rock]	<p><b>Comment</b> Any PAG material that is extracted from the decline will be segregated and stored on-site until the end of the advanced exploration activities. Options available for reclaiming PAG rock include: ? encapsulating PAG either in deeper fill sites on surface or in the quarry perimeter and then covering it with sufficient non-PAG rock to mitigate the potential for contact with runoff water; ? backhauling it into the decline prior to</p>	<p><b>Dec 7:</b> As noted in the response to MVLWB-5, an update to the Rock Management Plan will be submitted to the MVLWB prior to decline development that will 1) confirm either that all rock from the decline will be handled as PAG or will propose an appropriate sorting/management plan; 2)</p>	<p>Noted. Including conditions in a water licence requiring submittal of an updated Rock Management Plan and Quarry Management Plan prior to decline development will</p>

		<p>closure; or ? placing it in the quarry and allowing it to be covered naturally with water.</p> <p><b>Recommendation</b> Please confirm how PAG material will be identified or if all decline rock will be managed as if PAG. In that confirmation, please include discussion about rock that classifies as uncertain. Has KDI considered placing decline rock on some kind of liner so as to collect and monitor contact water during activities? Please provide more details and prioritization of PAG reclamation options. Specifically: -will encapsulation (cover thickness) aim to create a system in which only non-PAG rock occurs within the active layer as well as providing benefits for runoff? -will a water cover in the quarry be sustainable?</p>	<p>that rock identified as "uncertain" will be treated as PAG; 3) will provide details of how decline rock will be handled/stored on surface to prevent acid rock drainage. If encapsulation of PAG is proposed, a cover design would be based on work done at other northern locations with a sufficiently thick cover of clean rock to ensure that any PAG rock is kept out of the active zone. As discussed in response to ECCC-4 and MVLWB-3, regional hydrological data indicates that there is a net positive water balance such that water will continue to accumulate in the quarry and provide a sustainable cover for PAG rock; detailed water balance calculations will be provided prior to development of the decline and extraction of PAG rock.</p>	<p>mitigate this concern.</p>
6	<p>RMP Sections 5.1. and 5.2 Geochemistry of PK and Geochemical Monitoring and Testing</p>	<p><b>Comment</b> KDI indicates that samples of PK have been undergoing analysis and results would be available late fall 2016. Further, it was noted that testing of kimberlite and process water will be sampled during processing.</p> <p><b>Recommendation</b> Please provide any results as they are available. Please also provide additional detail on the planned testing program. Since storage of the PK (fine and coarse?) will be placed underwater in the quarry, please verify if the testing program will include sub-aqueous kinetic testing. Also please confirm that representative samples of DMS (coarse PK) and fine PK will be incorporated into the field barrel program.</p>	<p><b>Dec 7:</b> The quoted section of the Rock Management Plan (5.1 and 5.2) was unfortunately not fully updated prior to the final submission of the water licence amendment application - in fact some testing results on the PK were available and reported as requested under question 4.8 of the submitted Water Licence Questionnaire. The testing was initially done only to determine metal concentrations (as requested in the Questionnaire) and analysis of the PK for acid/base properties has not yet been completed. Note that KDI does not intend to complete sub-aqueous kinetic tests or field barrel tests on the PK. Experience from other northern diamond mines indicates that there is limited mobility of metals</p>	<p>Noted. Including a condition in a water licence requiring submittal of an updated Rock Management Plan prior to decline development will mitigate this concern.</p>

			<p>from kimberlites that are stored under saturated conditions. Additionally, for the proposed bulk sample, the total amount of PK solids (including fines, coarse PK and DMS) is expected to be very small. Barrel tests on the other hand will not be representative of the proposed storage conditions found in the quarry, and in any case, it typically takes two to three years before barrel tests yield any useful results. KDI does however recognize that the bulk sampling program would provide an opportunity to obtain large scale representative samples of all of these materials that could be tested in support of approvals for any future mine development activities, and is willing to consider these types of test should the project proceed to that stage of development. The update of the Rock Management Plan that KDI plans to submit prior to decline development will contain additional results of PK testing and analysis.</p>	
7	Waste Management Plan, Appendix F	<p><b>Comment</b> KDI indicates that water from the quarry sump will be used for dust suppression on roads.  <b>Recommendation</b> Why is this practice preferred to using raw lake water? Does KDI foresee it being necessary in terms of water balance in the quarry sump or keeping water use below threshold?</p>	<p><b>Dec 7:</b> In responding to this comment, it is important to distinguish the two types of water that will accumulate and/or be stored in the quarry during operations. Prior to the development of the decline, the only source of water in the quarry will be precipitation from rain and snowmelt. As described in the Quarry Management Plan, periodic discharges of this water (e.g., after freshet) will be necessary to allow continued development of the quarry (i.e., blasting and hauling). As is done with other exploration operations, KDI proposes to seek</p>	<p>Noted. Including conditions in a water licence requiring submittal of an updated Rock Management Plan and Quarry Management Plan prior to decline development will mitigate this concern. Also, including a condition in a water licence requiring Inspector approval prior to discharge of</p>

			<p>Inspector approval prior to discharges of the water to land. The only potential contaminants in that water would be small amounts of residual ammonia and nitrate from blasting and hydrocarbons. As the discharges would be to land only, at a location at least 100 m from any water body, the only contaminant of concern would be hydrocarbons. The Inspector can review results of ongoing monitoring of the quarry water (as discussed in response to MVLWB-8) and/or visually inspect the quarry water for any visible sheen due to hydrocarbons and, if present, the water can be run through an oil/water separator prior to discharge. KDI proposes that a condition be added to the water licence to require Inspector approval prior to discharges of water from the quarry to land. With respect to dust suppression, KDI has proposed using the quarry water (that accumulates due to precipitation) for dust suppression as this practice would reduce the amount of fresh water required for the Project. Although KDI can use only fresh water if required, it seems reasonable to use clean water from the quarry if it is available. It is our understanding from comments made by the Inspector at the Technical Workshop that this is a relatively standard practice. Note that during periods when dust suppression is necessary, the roads/pads that will be watered will be very dry and we would expect the water to evaporate quickly and not to</p>	<p>quarry water to land will mitigate this concern.</p>
--	--	--	---	---

			<p>flow away from those structures. The second source of water that will be stored in the quarry is process water - that is, that water that is used to process kimberlite in the portable bulk sample processing plant. PK and process water will only be stored in the quarry after the development of the decline. Note that the quarry design can accommodate separate sumps for PK/process water and for precipitation. Therefore, the use of precipitation that accumulates in the quarry for dust suppression or discharge to land can continue as described above. Process water will not need to be discharged to land - it can remain in the quarry during the operations and post-closure. Process water does not need to be used for dust suppression; however, if the process water is clean then it may be helpful in future to use it for dust suppression again to reduce the amount of fresh water needed. Initial results from testing of the process water indicates that the quality of the process water will be good once the PK settles out (see Water Licence Application Questionnaire, question 4.7, p.14 of 20 in PDF) but this will be confirmed through monitoring. If the water quality is sufficient, KDI can propose to use it for dust suppression in future through an update to the Quarry Management Plan for example.</p>	
--	--	--	--	--

8	Waste Management Plan, Appendix F	<p><b>Comment</b> As per KDI's waste management plan, inputs to the quarry sump include precipitation and processed kimerblite slurry. As per the Board's Water and Effluent Quality Management Policy, the discharge (by road watering) of the quarry sump water must be managed so that (1) water quality in the receiving environment is maintained at a level that allows for current and future water uses, and (2) the amount of waste to be deposited to the receiving environment is minimized. For KDI's consideration, Board staff note the authorizations granted by the MVLWB and WLWB for water use for dust suppression under MV2005L2-0015, Part D, item 4 and the criteria outlined in Part G, items 30 and 31 (De Beers Canada Inc. - Gahcho KuE Project), and also W2012L2-0001, Part D, item 3 and the criteria outlined in Part H, item 12 (Dominion Diamond Ekati Corporation). Board staff also note that these type A licence conditions and criteria were set for larger operations than those proposed by KDI and that these criteria were not only established for road watering/dust suppression but discharge from the water management areas to which they apply.</p> <p><b>Recommendation</b> What management practices and/or discharge criteria does KDI propose to manage this use/discharge by? Does KDI plan to monitor the quality of water in the sump prior to dust suppression use?</p>	<p><b>Dec 7:</b> Prior to commissioning of the portable bulk sample processing plant, the only source of water in the quarry will be from natural precipitation. Due to quarry operations, that water may become contaminated by residual ammonia, nitrate, suspended sediments and hydrocarbons from blasting. Rather than testing the water immediately prior to planned discharges to land or to use for dust suppression, KDI proposes to sample and analyze samples from the quarry sump monthly when water is present to test for ammonia, nitrate, TSS and total petroleum hydrocarbons. Due to the long winter, we would expect there to be water to sample in the months of June, July, August, September and possibly October depending on ambient temperature. These results would then be available to the Inspector to inform approvals for the periodic discharge of quarry sump water to land as discussed in the response to MVLWB-7. As per the Quarry Management Plan, if hydrocarbons are detected in the quarry water, it will be treated with an oil/water separator prior to discharge to land or used for dust suppression. No criteria are proposed for ammonia or nitrate as the concentrations are expected to be very low and there is no evidence to suggest that these nutrients will adversely affect vegetation (e.g., there are no Canadian guidelines for discharges of water containing these nutrients to land). Discharges of water from the quarry sump to land</p>	<p>Noted. Including a condition in a water licence requiring an update and re-submittal of the Quarry Management Plan prior to decline development will mitigate this concern. Also, including a condition in a water licence requiring Inspector approval prior to discharge of quarry water to land will mitigate this concern. Including sampling requirements in a water licence will mitigate this concern.</p>
---	-----------------------------------	--	--	--

			<p>will be done at a location approved by the Inspector at least 100 m from any water body to ensure that the water does not flow into the aquatic receiving environment. Under the dry conditions in which dust suppression would become necessary, the water will quickly evaporate on the road/pad surfaces again ensuring that water does not flow into receiving waters. For these reasons, KDI believes that specific discharge criteria for this source of quarry water are not required although, as already stated, Inspector approval prior to discharge is reasonable. After decline development and commissioning of the portable bulk sample processing plant, KDI proposes to store process water in the quarry. As per section 8 of the Project Description, KDI proposes to sample the process water quarterly when the process plant is in operation and to test it for the following parameters: Ammonia, Chloride, Fluoride, Hardness, Nitrate, Nitrite, pH, Sodium, Sulphate, Total dissolved solids (TDS), Total suspended solids (TSS) plus the total and dissolved fractions of metals including Aluminum, Antimony, Arsenic, Barium, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Uranium, Zinc. As discussed in MVLWB-7, KDI does not need to discharge this water to land; instead, the main purpose of monitoring the process water quality is to provide the information necessary for final closure</p>	
--	--	--	--	--

			planning. As also discussed in MVLWB-7, process water does not need to be used for dust suppression.	
9	Waste Management Plan, Appendix F	<p><b>Comment</b> As shown in the diagram in Appendix F, bulk sample processing will use water from the quarry sump in a closed loop so that the process water does not need to be discharged. Any processed kimberlite generated from the plant will also be placed within the sump.</p> <p><b>Recommendation</b> In the planning and construction of the quarry, what measures will be taken to ensure the sump is a closed loop system? I.e. how will KDI ensure that the sump will remain encased in permafrost and that there will be no in or outflow of groundwater? How does KDI propose that this information will be presented to the Board, i.e. what Plan/submission? Also, does KDI plan to model the water balance of the quarry and develop a plan to manage it?</p>	<p><b>Dec 7:</b> 1) The quarry as proposed is in an area of consisting of solid rock surrounded by competent permafrost, it is not located on or near porous material. 2) The sump (within the quarry) that will hold the processed kimberlite water is proposed to be relatively small consisting of approximately 6% of the volume of the quarry (process water ~6,000 m3 vs quarry ~400,000 m3). This reflects how little processed water will be generated by KDI for the advanced exploration project. 3) Current tests indicate water quality levels to be non-harmful after suspended sediments are allowed to settle out (e.g., see levels of dissolved salts and metals in process water as reported under question 4.7 in the Water Licence Application Questionnaire). 4) Finally, KDI proposed to monitor process water quality in the quarry sump during operations, and for 5 years post-closure in order to confirm predictions or adapt project activities if required. KDI can present further evidence about the quarry bedrock competency and permafrost presence as part of the proposed update to the Quarry Management Plan prior to decline development and commissioning of the portable bulk sample processing plant. With respect to modelling the water balance in the quarry, please also see the response to MVLWB-3.</p>	Noted. Including a condition in a water licence requiring an update and re-submittal of the Quarry Management Plan prior to decline development will mitigate this concern.

10	Waste Management Plan - Sewage Treatment Plant Discharge	<p><b>Comment</b> KDI indicates that "a sewage treatment plant will be installed at the New Kelvin Camp to treat sewage from flush toilets as well as greywater. STP options, including a rotating biological contactor or membrane bioreactor type plant, are still being investigated by KDI, however, KDI will choose a technology and plant that will produce treated effluent of sufficient quality to be discharged to land at a location, approved by the GNWT Inspector, that is 100m from the nearest waterbody. This plan will be updated upon installation of the STP at the New Kelvin Camp." As per the Board's Water and Effluent Quality Management Policy, the discharge effluent must be managed so that (1) water quality in the receiving environment is maintained at a level that allows for current and future water uses, and (2) the amount of waste to be deposited to the receiving environment is minimized.</p> <p><b>Recommendation</b> By what criteria or methods does KDI plan to manage discharge effluent from the sewage treatment plant? Are technologically-achievable effluent criteria available for the treatment units that KDI is considering? If not, does KDI have effluent quality criteria which they plan to meet by the installation of the sewage treatment plant?</p>	<p><b>Dec 7:</b> KDI notes that there are currently no territorial or Canadian guidelines for discharges of treated sewage to land. As noted in the comment, KDI has not yet finalized its decision on exactly which sewage treatment plant it will purchase and install for the New Kelvin Camp. Currently, KDI is considering either a rotating biological contactor or a membrane bioreactor type plant. Although the final plant specifications are not yet available, KDI can commit to meeting the discharge criteria that were applied to the Gahcho Kue project during its exploration phase (i.e., as per the October 2005 version of MV2003L2-0005: average monthly limit of 5.0 mg/L oil and grease, 1000 CFU/100mL fecal coliforms, and 35 mg/L total suspended solids). As proposed by KDI for the New Kelvin Camp, treated sewage from Gahcho Kue's exploration camp was discharged to land at a location approved by the Inspector. At these levels and when discharged at a location at least 100 m from any waterbody, water quality in the aquatic receiving environment will not be negatively affected. Details of sewage treatment plant operation will depend on the exact unit purchased and the Waste Management Plan will be updated with this information prior to commissioning the new plant.</p>	<p>Noted. Including sewage discharge criteria in a water licence will mitigate this concern. Also, including a condition in a water licence requiring an update and re-submittal of the waste management plan will mitigate this concern.</p>
----	--	---	---	---

North Slave Metis Alliance: Shin Shiga

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Decision
1	Wildlife Mitigation and Monitoring Plan 2.6 Indirect Habitat Loss	<p><b>Comment</b> Proponent lists three potential mitigations for indirect caribou habitat loss. NSMA recommends further mitigations in light of rapidly declining Bathurst caribou population and recent environmental assessment findings in NWT and Nunavut.</p> <p><b>Recommendation</b> 1. NSMA recommends that the proponent suspends surface blasting when caribou are within affecting distance of the blasting area to minimize noise disturbance to caribou. The distance maybe based on noise level. 2. NSMA recommends suspension of heavy equipment traffic (e.g. large haul trucks) when caribou are within 4 km of the on-site roads, based on a study of ZOI along roads. 3. NSMA recommends no overflight of caribou except for safety reasons</p>	<p><b>Dec 7:</b> 1. KDI will suspend blasting operations when wildlife are observed within the danger zone prescribed for humans, to avoid hazards to caribou and other wildlife. 2. The Wildlife Mitigation and Management Plan includes monitoring to detect caribou and measures to reduce hazards to caribou. Wildlife are provided the right-of-way on roads, and any caribou observed near the Project will be reported to the Camp Manager who may issue any instructions for additional mitigation. The KDI Camp Manager consults with the Aboriginal Community Monitor on site to establish deploy optimal wildlife mitigation measures. The Aboriginal Community Monitor can report on wildlife occurrences and KDI mitigation effectiveness to communities directly thereby enhancing KDI's wildlife mitigation accountability. It should be noted that caribou cannot effectively be detected at a distance of 4 km without use of aerial surveys. Studies at Ekati have indicated that caribou approach and cross active roads regularly, and that behavioural response to traffic is minimal. 3. Behavioural studies of caribou at Ekati found no significant difference in caribou alertness or feeding in response to aircraft or helicopters. Regardless, the Camp Manager may issue guidance to pilots to reduce disturbance to caribou.</p>	Noted. Including a condition in a water licence requiring an update and re-submittal of the WMMP will mitigate this concern.

2	Wildlife Mitigation and Monitoring Plan 2.7 Wildlife Mortality or Injury	<p><b>Comment</b> Proponent commits to establishing and enforcing speed limits on the roads.</p> <p><b>Recommendation</b> Proponent please describe the following details: 1. How close do caribou approach the road before these mitigations are implemented? 2. What is the speed limit? 3. Does the proponent commit to stopping traffic until wildlife move off and prescribed distance away from the road?</p>	<p><b>Dec 7:</b> 1. The Wildlife Mitigation and Management Plan will be amended to clarify that drivers should be ready to slow and/or give caribou the right-of-way to caribou within 100 metres of a road (as per the Ekati Caribou Road Mitigation Plan). 2. Speed limits are yet to be determined, but will be low considering the short roads. 3. Wildlife have the right-of-way on roads.</p>	Noted. Including a condition in a water licence requiring an update and re-submittal of the WMMP will mitigate this concern.
3	Wildlife Mitigation and Monitoring Plan 2.8 Mitigation for Species at Risk	<p><b>Comment</b> Proponent lists climate change as a potential threat to all three species of concern that the project may interact with. The proponent concludes that project contribution to climate change is negligible and therefore does not propose any mitigation for climate change. Setting the threshold for climate change mitigation at the project level contribution to climate change is unreasonable. It would be difficult to find any single project that contributes to climate change significantly.</p> <p><b>Recommendation</b> NSMA recommends that the proponent explores ways to reduce GHG emission from the project. Where feasible, please consider renewable energy sources and high efficiency vehicles/equipments.</p>	<p><b>Dec 7:</b> Agreed</p>	Noted.
4	Wildlife Mitigation and Monitoring Plan 3	<p><b>Comment</b> Wildlife regional study area for Kennady North project and De Beers Gahcho Kue mine overlap. Proponent cites De Beers wildlife monitoring program (e.g. behavioral monitoring in response to LKDFN comments) as forming a part of overall wildlife mitigation at Kennady North. NSMA recognizes that efficiency can be gained from cooperation with neighboring projects.</p> <p><b>Recommendation</b> NSMA recommends that the proponent seek cooperation with De Beers Gahcho Kue mine for environmental monitoring and management activities. NSMA would like the cooperative arrangement clearly outlined and made available for public. This should include information sharing, AEMP, wildlife monitoring and mitigation, and any other relevant environmental management plans.</p>	<p><b>Dec 7:</b> KDI proposes to conduct baseline monitoring as well as enhanced cooperation with DeBeers Canada and other regional information holders during the advanced exploration phase, in anticipation of such information being required for a future mining application. This overlap is described in the Wildlife Monitoring and Management Plan. KDI would be pleased to engage with affected Aboriginal groups and share any monitoring cooperative arrangements for input. In addition, KDI drafted a comprehensive monitoring and studies plan for advanced exploration</p>	Noted.

			(Appendix D Screening Level Environmental Impact Assessment for the EAP) and would very much appreciate input and participation in such a plan by the NSMA.	
5	Wildlife Mitigation and Monitoring Plan 3.5 Caribou Surveillance Monitoring	<p><b>Comment</b> It is unclear how monitoring results will inform mitigation actions.</p> <p><b>Recommendation</b> NSMA recommends that proponent to clarify how monitoring will lead to mitigation actions. NSMA recommends the mitigation actions to include our suggestions above.</p>	<p><b>Dec 7:</b> Monitoring is intended to both confirm the success of mitigation, and identify new opportunities for mitigation. The Wildlife Mitigation and Management Plan includes a Mitigation Audit, which will be used to review mitigation, assess effectiveness, and identify if any mitigation is redundant or if new mitigation should be adopted.</p>	Noted. Including a condition in a water licence requiring an update and re-submittal of the WMMP will mitigate this concern.
6	Conceptual Closure and Reclamation Plan 2.2 Goal of Closure and Reclamation	<p><b>Comment</b> Proponent lists goals as: physically stable, chemically inert, zero long-term active care and maintenance, and compatibility with future land use, including aesthetic values.</p> <p><b>Recommendation</b> NSMA recommends that the goal of closure and reclamation to include returning/restoring the land to pre-development condition as much as possible, aesthetically, ecologically, and geo-physico-chemically.</p>	<p><b>Dec 7:</b> Reclaiming land at closure in a manner that is compatible with wildlife habitat, facilitating its return to pre-development condition as much as possible is also important to KDI. Though the advanced exploration project footprint is small, KDI would be pleased to discuss additional best practices that could be used in the closure plan. The closure goal and objectives listed in the current Conceptual Closure and Reclamation Plan are consistent with those recommended in the Board's Guidelines for Closure and Reclamation Plans.</p>	Noted.

7	Rock Management Plan 4.2.2 Geochemical Testing and Monitoring (Decline)	<p><b>Comment</b> Proponent proposes to place PAG rock from Faraday decline near the portal on an aggregate pad.</p> <p><b>Recommendation</b> NSMA recommends that seepage from this pile periodically tested prior to placement in the the decline, quarry pit, or if at all, other areas within the site.</p>	<p><b>Dec 7:</b> Please see the response to ECCC-3.</p>	<p>Proponent response to ECCC-3 Noted.</p>
8	Rock Management Plan 4.2.2 Geochemical Testing and Monitoring (Decline)	<p><b>Comment</b> Proponent proposes to use waste water in the quarry pit to control dust from the roads.</p> <p><b>Recommendation</b> To MVLWB: NSMA recommends water quality criteria to be set for the use of waste water for dust controlling purpose.</p>	<p><b>Dec 7:</b> Please see the detailed responses to similar questions given in MVLWB-7 and MVLWB-8.</p>	<p>Noted. Including a condition in a water licence requiring an update and re-submittal of the Quarry Management Plan prior to decline development will mitigate this concern. Also, including a condition in a water licence requiring Inspector approval prior to discharge of quarry water to land mitigate this concern. And, including sampling requirements in a water licence will mitigate this concern.</p>
9	Proposed Study Plans, Caribou Behavioral Monitoring	<p><b>Comment</b> Proponent lists a number of instances (e.g. base line studies and caribou behavioral monitoring in response to LKDFN comments), where the Proponent references environmental programs at De Beers Gahcho Kue mine. NSMA agrees that utilization of existing data and programs will result in increased efficiency and, potentially, effectiveness. Proponent also notes that utility of Gahcho Kue data are dependent on De Beers' program design.</p>	<p><b>Dec 7:</b> KDI proposes to conduct baseline monitoring as well as enhanced cooperation with DeBeers Canada and other regional information holders during the advanced exploration phase, in anticipation of such information being required for a future mining application. KDI would be pleased to engage with affected Aboriginal groups on monitoring, impact assessment, as well as collection and use of Traditional Knowledge. KDI drafted a comprehensive</p>	<p>Noted.</p>

	<p><b>Recommendation</b> NSMA would like clarification on how KDI and De Beers Canada are cooperating in the studies and monitoring of the regional environment and cumulative impacts of the two projects. NSMA recommends KDI and De Beers Canada start a discussion on how the two projects will monitor and mitigate their respective and cumulative environmental impacts. NSMA recommends that affected Aboriginal groups to be informed of the progress of the discussion.</p>	<p>monitoring and studies plan for advanced exploration (Appendix D Screening Level Environmental Impact Assessment for the EAP) and would very much appreciate input and participation in such a plan by the NSMA.</p>	
--	---	---	--

## KDI - Kennady North Project Proposed Security Scheduling

Phase	Description	Value
1	Quarrying up to 200,000m3, Roads, Pads and Airstrip Phase 1	\$1,455,000.00
2	Quarrying up to 200,000m3, Airstrip Phase 2	\$1,455,000.00
3	Decline #1	\$500,000.00
4	Decline #2	\$500,000.00
5	Bulk Sample Plant	\$350,847.00
		<b>\$4,260,847.00</b>

## Appendix A

**Table 1.** Recommended setback distances for tundra-nesting birds

<b>Migratory Bird Species Group</b>	<b>Setback Distance for Pedestrians / ATVs (m)</b>	<b>Setback Distance for Roads / Construction / Industrial Activities (m)</b>
Songbirds	30	100
Shorebirds	50 <sup>a</sup>	100 <sup>a</sup>
Terns/Gulls	200	300
Ducks	100	150
Geese	300	500
Swans/Loons/Cranes	500	750

<sup>a</sup> If project activities are within the breeding ranges of American Golden Plover or Ruddy Turnstone, these setbacks should be increased to 150 m for pedestrians/ATVs and 300 m for roads/construction/industrial activities respectively. If field crew are trained in the identification of these species then these higher setbacks need only apply to these more sensitive species, and lower setbacks can be used for the remaining shorebird species. In areas where several species are nesting in proximity, setbacks for the most sensitive species should be used.



Floyd Adlem, Acting Chair  
Mackenzie Valley Land and Water Board  
P.O. Box 2130  
YELLOWKNIFE NT  
X1A 2P6

Dear Mr. Adlem,

**Preliminary Screening of Kennady Diamonds Inc. Advanced Exploration Type A Land Use Permit (MV2016C0030) Application and Water Licence (MV2013L2-0005) Amendment Application.**

In response to the Mackenzie Valley Land and Water Board (MVLWB) ORS notification distributed on October 7, 2016, requesting comments on Land Use Permit application MV2016C0030 and Water Licence amendment application MV2013L2-0005, the Government of the Northwest Territories (GNWT) provides the attached comments and recommendations for the consideration of the Board.

All applicable GNWT departments have reviewed the submitted applications as per their mandated responsibilities. If the MVLWB or Kennady Diamonds Inc. have questions related to the GNWT submission, please contact Darren Campbell, Project Assessment Analyst, at 867-765-9180 ext. 24024 or [darren\\_campbell@gov.nt.ca](mailto:darren_campbell@gov.nt.ca).

Sincerely,

  
A/DIRECTOR

Lorraine Seale  
Director, Securities and Project Assessment  
Department of Lands

Attachments: Kennedy Diamonds Inc. – Kennady North Project Water Licence  
Securities Table



Environmental Protection Operations Directorate  
Prairie & Northern Region  
5019 52<sup>nd</sup> Street, 4<sup>th</sup> Floor  
P.O. Box 2310  
Yellowknife, NT X1A 2P7

November 30, 2016

ECCC File: 5100 000 041/002 & 5100 000 041/003  
MVLWB File: MV2013L2-0005 & MV2016C0030

Julian Morse  
Regulatory Officer  
Mackenzie Valley Land and Water Board  
7<sup>th</sup> Floor, 4922 48<sup>th</sup> Street  
P.O. Box 2130  
Yellowknife, NT X1A 2P6

Via online submission

**RE: MV2013L2-0005 & MV2016C0030 – Kennady Diamonds Inc. – Advanced Exploration Program – New Type A Land Use Permit and Type B Water License Amendment Application**

Attention: Julian Morse

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Mackenzie Valley Land and Water Board regarding the above-mentioned land use permit application. ECCC's specialist advice is provided based on our mandate, in the context of the *Canadian Environmental Protection Act*, the pollution prevention provisions of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

Should you require further information, please do not hesitate to contact me at (867) 669-4746 or [Gabriel.Bernard-Lacaille@canada.ca](mailto:Gabriel.Bernard-Lacaille@canada.ca).

Sincerely,

Gabriel Bernard-Lacaille  
Environmental Assessment Coordinator

Attachment(s): ECCC Comments Excel Sheet  
Appendix A : Recommended setback distances for tundra-nesting birds

cc: Georgina Williston, Head, Environmental Assessment North (NT and NU)