



BMC MINERALS LTD

February 26, 2024

Erin Dowd, Manager, Major Mines Licencing
Mineral Resources Branch
Department of Energy Mines and Resources
Government of Yukon
211 Main Street
Whitehorse, YT Y1A 2B2

Dear Ms. Dowd,

Re: Quartz Mining License Application, Information Request 4 – Phase 5b review

BMC received your Information Request 4 (IR4) (Phase 5b review) on our Quartz Mining Licence Application on June 16th, 2023, which was specific to BMC's Wildlife Protection Plan (Rev 01). We have reviewed the IR in detail and where appropriate have updated the Wildlife Protection Plan (attached is Rev 02). A Table of Revisions has been added to the Plan which lists each individual IR and how and where in the Plan the IR has been addressed. In a several instances, the IR did not result in a change to the Plan and/or additional context for an IR was warranted, for these IRs BMC has prepared responses (below).

In addition to updating the Wildlife Protection Plan, in response to the IR4, BMC's new team of biologists (EDI Environmental Dynamics Inc.) conducted a thorough review of the WPP. This resulted in amendments and a re-organization of the Plan; therefore, when referencing where a particular IR was addressed, the new section numbers are referenced in the Table of Revisions rather than the sections referenced in EMR's IR4. BMC encourages EMR and ENV to review Rev02 in its entirety as additional details and mitigations were added and the WPP was somewhat re-organized for improved flow. Given the nature of the changes, these have not been fully tracked in the Table of Revisions in the WPP.

Sensitive Periods

EMR Requirement 1 (Section 3.3.1 – Table 3-1): Migratory periods should be added to the Sensitive Species and Periods table along with appropriate mitigations and activities to avoid.

Rationale: In Section 2 on Wildlife Resources, the Proponent indicated the following: "The Finlayson Lake / River area and the east slope of the Pelly Mountains (part of the Tintina Trench flyway) are recognized as a major flightpath for migratory birds. Additionally, lakes and small ponds/wetlands in and near the Project area are known to Provide breeding and migratory habitats for waterfowl and shorebirds". However, the significance of these areas as fly ways and areas for stop over for migratory waterfowl is not reflected in Table 3- 1 on Sensitive Species and Periods does not include migratory periods for birds.

BMC Response: To address the IR, migratory periods were added to Table 3-1 and additional avoidance strategies and mitigations were added to Section 6.3 to address sensory disturbance to

migrating birds. However, the reviewer appears to have over-estimated the importance of the Project area to migratory waterfowl. The Project area is located adjacent to the Tintina Trench. It is the lakes, rivers, and wetlands within the Tintina Trench that are used as staging sites by migrating waterfowl follows the lowlands along the eastern slopes of the Pelly Mountains and is indeed an important migration corridor for some bird species, namely Sandhill Crane, Trumpeter Swan, and waterfowl breeding in northern Yukon and Alaska. However, except for the northern portions of the Access Road which is in open spruce forest near the trench, the Project area is located at high elevation in alpine and subalpine ecosystems and does not interact with this migration corridor and migration stop-over waterbodies and wetlands. The limited number of small lakes, ponds, and creeks in the LSA does provide some habitat for migrating and breeding waterfowl and shorebirds; however, the extent of these ecosystems is small and the abundance of these species detected in the Project area during baseline studies was very low.

Requirement 2/Conclusion (Section 3.3.1 – Table 3-1 and Appendix B): The Proponent broaden the approximate dates for Breeding Birds to indicate Early May to late August, with a note highlighting the potential for annual variance of these dates as noted above.

Rationale: It should be noted that the general breeding/nesting season for migratory birds in the project area extends from Early May to Late August. It is important to note that nesting periods may vary from year to year due to climatic conditions and some species may nest outside the dates provided if conditions are favourable. Anecdotally, due to earlier spring conditions, mines in Nunavut have reported species appearing and exhibiting nesting behavior 1.5-2 weeks earlier compared to last year. It is important that this nuance is reflected in wildlife protection plans so that staff are aware of the potential for these nesting periods to vary and adapt to changes in the nesting period that are observed locally and that application of mitigation measures adapts to when birds are first found nesting within the area.

A further comment on consistency throughout the document. In some parts, these nesting dates are characterized as approximate and others the hard May 1 to August 15 dates are used to identify when mitigations would be implemented. The nuances detailed above and the need to adapt how and when mitigations are applied should be applied throughout the document to ensure consistency and clarity on how and when mitigations will be applied.

BMC Response: The bird nesting window identified in the WPP was revised to the nesting window identified by ECCC for bird nesting zone B8 of the Bird Conservation Region 4 – Northwestern Interior Forest (<https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods.html>). The breeding bird season specified by ECCC for Zone B8 is as follows:

- *Wetland ecosystems: 10 May to 10 August;*
- *Open ecosystems: 5 May to 21 August; and,*
- *Forest ecosystems: 5 May 13 August*

The bird nesting window for Zone B8 considers extremes in variability in the initiation and termination of the bird breeding season. However, it is important to note that nesting periods may vary further from year to year due to climatic and site-specific conditions and that birds may start nesting earlier or later than the dates provided above if conditions are favourable or unfavourable, respectively. Environmental Department personnel will be vigilant for the first signs of nesting behaviour and the application of avoidance or mitigation measures will be adapted to when birds are first found nesting within the area.

Pileated Woodpecker

EMR Requirement: ECCC provides the following general recommendation to Proponents whose projects may fall within the range of the Pileated Woodpecker:

- a) Review and understand their responsibilities under the amended Migratory Bird Regulations
- b) Conduct a survey to identify suitable nesting habitat within the area planned for vegetation clearing.
- c) Inspect identified suitable nesting trees /and wooden utility poles for any Pileated Woodpecker cavities and determine occupancy
- d) Where nesting cavities are found within trees /and wooden utility poles, whether active or not, avoid any activities that could damage, destroy, remove or disturb the nesting cavity.
- e) Notify the ECCC Minister through the Abandoned Nest Registry should any abandoned cavities be found on trees /and wooden utility poles that require removal.
- f) Prohibitions are lifted and nest cavities can be removed once the designated time-period has passed (36 months for Pileated Woodpecker nest cavities), and if the nest has not been reused by migratory birds during this time.

Where nesting cavities are found within wooden utility poles:

- a) Buddy new poles with old poles to avoid disturbing nesting cavity
- b) If possible, move new utility poles to opposite side of road to avoid disturbance of original posts.

Proponents are encouraged to contact ECCC (cwsnorth-scfnord@ec.gc.ca) for further advice where needed.

Rationale: Pileated Woodpeckers have been found to be present in southern Yukon and NWT. As the planned vegetation clearing and may also include the installation of wooden utility poles around the site, the Proponent should be aware that there is potential for this species to be found in the area and should reflect this information within the Wildlife Protection Plan. Pileated Woodpeckers excavate nesting cavities in trees in proportion to the availability of suitable nest trees on the landscape. Factors that determine suitable nest trees include:

- Prevalence of tree diseases, insects, and physical conditions (rot, breaks, cracks) that can weaken trees and make them more suitable for cavity excavation.
- The tree's size. Nesting cavities have been found in trees as small as 25 cm dbh (diameter at breast height), but are more often found in trees > 40cm dbh.

Pileated Woodpecker nests may [also] be found within wooden utility poles as a result of opportunistic nest-site selection. Factors that contribute to the selection of wooden utility poles for nesting cavities include areas where utility poles:

- Are the largest tree-like structures available
- Provide strategic locations for territorial defense
- Provide sturdy nest sites that reduce nest predation and less likely to break at the nesting site compared to rotten trees Nesting cavity entrance holes are about 10cm in diameter and found 8-15m above the ground.

More information on nest cavities can be found on ECCC's Pileated Woodpecker Cavity Identification Guide.

For more information on the amended nest protections, frequently asked questions on how these protections apply to migratory birds, including Pileated Woodpecker, and your responsibilities for reporting abandoned nests, please visit Fact Sheet Nest Protection Under the Migratory Birds Regulations, 2022 and Frequently Asked Question, Migratory Birds Regulations, 2022.

BMC Response: *Considerations for Pileated Woodpecker were not added to the WPP. The Project occurs outside the known distribution for this species and no occurrences have been documented in eBird within 200 km of the Project. Habitat suitability for this species within the Project footprint area is nil given its elevation and ecosystems present at the site and is very low along the Access Road given the low abundance of large diameter trees. Power lines for the Project will be buried and will not use wooden utility poles.*

General

EMR Requirement 1: Further clarity on what is meant by “where practicable” or “to the extent possible” must be defined for each use.

Rationale: The plan lacks specificity and enforceability throughout by means of language “where practicable” or “to the extent possible”. Further clarity needs to be provided to clearly define these situations and provide certainty around when monitoring and actions will be taken.

BMC Response:

The Oxford dictionary defines “practicable” as follows:

practicable, adj. & n.

Able to be done or put into practice successfully; feasible; able to be used; useful, practical, effective.

Terms like “where practicable” and “to the extent possible” were largely removed from the WPP to demonstrate BMC’s commitment to the mitigations presented in the WPP and to provide additional specificity and enforceability. However, BMC cannot foresee every eventuality or circumstance when some mitigations cannot be applied and developing a fulsome list is unfeasible. General examples of circumstances when mitigations could not be applied include, but are not limited to, circumstances when doing so:

- Puts the health and safety of Project personnel at risk;*
- Puts equipment or infrastructure at risk;*
- Increases the risk of disturbance, health, injury, or mortality to wildlife; or*
- There are reasons a certain action is impractical, not realistic or achievable or is likely to not achieve the desired effect.*

For context, Section 1.5.4 has been added to the wildlife plan.

Note that that similar terms are also found in licences issued by government regulators (e.g., Conditions 17, 52, 64, 76, 81 of MLUA LQ00424b), likely to provide flexibility to licensees, and that these were not removed for purpose of consistency when licence conditions were included in the WPP.

For mitigations that may not always be practicable or feasible, alternative mitigative approaches were added throughout the WPP and include, but are not limited to, the development of site-specific management plans (Sections 3.3.3, 4.2, 4.6, 6.2, 6.3, 6.4, 6.5, 6.7, 7.1, and Chapter 8).

EMR Requirement 3: BMC should adopt the highest standard of mitigations to avoid and/or minimize effects to caribou.

Rationale: The assessment process determined significant, residual effects to Finlayson caribou in the Decision Document. Currently, this WPP does not reflect the highest standard of mitigations.

BMC Response: BMC would like to clarify the record of EMR's rationale in this Information Request. The Decision Document states: "The Decision Bodies accept the Executive Committee's determination of the significance of adverse effects and are confident that the significant adverse effects can be eliminated, controlled or reduced through the application of the mitigation measures set out in the varied terms and conditions". Both the Executive Committee and Decision Bodies concluded that the significant adverse effects to the herd can be mitigated. All mitigations proposed by BMC throughout the YESAB Process and those of the Decision Document are included in the Wildlife Protection Plan.

To the best of our knowledge, Rev02 of this WPP has the highest standard of mitigations, monitoring, and adaptive management strategies that has ever been proposed for a project in the Yukon. EDI conducted a thorough review of Rev01. BMC encourages EMR and ENV to review Rev02 in its entirety as additional details and mitigations were added and the WPP was somewhat re-organized for improved flow. A Section on Regulatory Context was added to the WPP (Section 1.4) to show the extensive scope of documents that were reviewed, considered, and used in the development of the WPP including acts and regulations, best management practices and guidelines, and existing licences terms and conditions. Further, the WPP also makes extensive use of published literature.

Further, several caribou studies are ongoing (to meet the Decisions Document's condition #11(b) and BMC expects that field observations over the life of the Project will also add to the body of knowledge in relation to the regional data set. The WPP is an adaptive plan and as such new information will be assessed as it becomes available and over time it is likely that the Plan and the mitigative measures etc. will change and be adapted to the new information. These results and analyses will be added to the BMC's annual ungulate report once they are completed and will inform the development of additional mitigation measures for caribou within the WPP.

EMR Requirement 5: BMC should use the Black River Project wildlife mitigation and monitoring program plan as a resources to further develop their WPP.

Rationale: The Black River Project has set very clear goals, objectives, triggers, and methods for monitoring and adaptive management that would serve as a good reference for BMC to further develop the WPP.

BMC Response: BMC reviewed the Back River Project Wildlife Mitigation and Monitoring Program Plan – Version 10. Based on this review additional details were added on monitoring commitments for all programs in Chapter 7 of the WPP. To the best of our knowledge, Rev02 of BMC's WPP not only has the highest standard of mitigations, monitoring, and adaptive management strategies that has ever been proposed for a project in the Yukon but the mitigations are also tailored specifically for the herd in question based on over 40 years of analytical data. However, the structure of BMC's and Sabina's plans differ in that Sabina's uses a species approach with mitigation, monitoring, and management subsections with frequent redundancies between species. Whereas BMC's Rev02 WPP uses an approach where design and control measures and activity-specific mitigations applicable to several species and species groups are first presented,

followed by species-specific mitigations, and lastly monitoring commitments. Although these approaches differ, neither is superior to the other.

Baseline studies for the Project are ongoing and include several studies initiated by BMC to fulfill its obligations under Term 11b of the Project's Decision Document and BMC expects that field observations over the life of the Project will also add to the body of knowledge in relation to the regional data set. The WPP is an adaptive plan and as such new information will be assessed as it becomes available and over time it is likely that the Plans and the mitigative measures will change and be adapted to the new information. Once the scope of the additional studies is complete, their results will be used to improve the development of a monitoring and mitigation program for caribou to be presented within the WPP as appropriate.

Requirement/Conclusion 6: cross reference existing wildlife monitoring requirements under the KZK tote road surface lease agreement (Schedule 2), confirm existing scale, scope, and reporting requirements of those existing license requirements, and elaborate in the next version of the WPP on those lease survey requirements and any gaps in coverage that the WPP will address.

Rationale: All monitoring activities need to be captured within the QML.

***BMC Response:** Lease Agreement 105G07-001, including Schedule 2, was reviewed and all mitigation, monitoring, and reporting elements that were not already captured in the WPP were included in Rev02. A concordance table was prepared and is presented in Appendix F of the WPP. MLUA LQ00424b was also reviewed and all mitigation, monitoring, and reporting elements that were not already captured in the WPP were included in Rev02. A concordance table was prepared and is presented in Appendix F of the WPP.*

Note that the Wildlife Protection Plan was submitted to EMR and Lands to support both its QML Application and Lands Lease Amendment Application, respectively. When the Tote Road Lease is amended, it is BMC's expectation that the WPP will replace Schedule 2 of the Lands Lease Agreement and that redundant conditions or conditions that don't apply or require modifications in the current regulatory context will be removed from the WPP (e.g., Clause 2.2iii of 105G07-001). Thus, both the QML and Lands Lease will be governed under one Wildlife Protection Plan. This approach will streamline BMC's implementation of wildlife protection and monitoring measures and as well as simplify Yukon Government's compliance and inspection programs as the entire Project's wildlife management program will be in one document. It will also reduce the administrative burden for both BMC and Yukon Government while not detracting from the government's desired outcomes or controls.

Caribou

Requirement 1: Reasons for selection column states: "Calving and rut habitat, and migration corridors are a conservation concern for Environment Yukon." Suggest re-wording to "All seasonal habitat and movement areas are a conservation concern for Environment Yukon."

Rationale: The original focus on calving and rut habitat may come from our Wildlife Key Area program which highlights certain seasons of sensitivity, but conservation concern goes beyond these seasons.

***BMC Response:** "All seasonal habitat and movement areas are a conservation concern for*

Environment Yukon” was added to Section 6.1.1 to acknowledge Environment Yukon’s broader conservation concerns. However, the text for the column in Table 2-4 can’t be edited because it lists the reasons for selection of Valued Components, based on consultation during the YESAB assessment of the Project. BMC is not in a position to amend the historical consultation record for the Project, or to deny the results of consultation.

Requirement 7: It’s not clear how this map shows ‘wildlife key areas for flights’ and what the associated observations represent?

Rationale: Unclear how map features are linked to flight mitigations. Update map to provide all wildlife key areas being considered for flight mitigations along with any proposed flight paths and information that supports how this would be used for mitigations.

***BMC Response:** Figure 3-1 displays all key areas identified by the Yukon Government’s Wildlife Key Area (WKA) Inventory Program. Additional mitigations and clarifications on the management of aircrafts relative to important seasonal wildlife habitats, including those for caribou and sheep, are provided in Sections 5.2.3, 6.1, and 6.6. Additional baseline studies for the Project to fill the obligations under Term 11b of the Project’s Decision Document are ongoing and additional data collection and observational information will continue throughout the project life. Once the scope of the additional studies is complete, BMC will review this WPP and update it where required. For example, seasonal habitat models for caribou developed for the Project assessment will be updated using the full baseline dataset from 2015 to 2024 to accurately identify high value seasonal habitats. Further, early winter and spring movement corridors will be delineated based on the results of the intensive caribou surveys. The results of these studies will be used to improve the development of mitigations measures presented in this WPP and will replace most of the information presented in this section of the WPP.*

Habitat

Requirement 17: Provide details on how new sensitive microsites will be identified and considered in the WPP.

Rationale: the WPP should set out a process for finding and considering new sensitive microsites. This should a qualified person who is responsible for identifying sensitive habitats and a process for mitigating impacts to these sites once identified.

***BMC Response:** BMC conducted seasonal baseline studies from 2015 to 2023. These include 37 seasonal ungulate aerial surveys and multiple other surveys and studies including, but not limited to, bear den surveys and raptor surveys. In all the baseline surveys and studies completed to date, the only sensitive microsite/habitat feature documented in the entire Geona Creek watershed consists of one Golden Eagle nest. BMC will complete pre-disturbance grizzly bear dens surveys ahead of winter and early spring activities (Section 6.2) and pre-activity surveys at known raptor nests (Section 6.3.1). However, BMC believes that other dedicated habitat feature surveys are not required given the extent of studies completed to date and the ongoing baseline studies. Other habitat features will be documented incidentally if any are identified during ongoing Project activities, baseline studies, and Project monitoring.*

Requirement 20: Provide additional information on wildlife habitat enhancement in reference to restoration planning.

Rationale: The WPP includes reference to wildlife habitat enhancement as an option to be considered as part of progressive reclamation. Provide additional details in the plan on what habitat enhancement would include.

BMC Response: EDI conducted a thorough review of this section of the WPP (Rev01). It is unclear what the original authors of the WPP intended in terms of wildlife habitat enhancement considerations. Opportunities for habitat enhancement are likely to be limited, especially given the narrow habitat requirements of species of conservation concern. Therefore, this was removed from the WPP. Reclamation efforts will focus on establishing reclaimed footprint on a vegetation successional path to those of adjacent ecosystems. BMC remains receptive to wildlife habitat enhancement within the bounds of the Project footprint should opportunities arise during reclamation and these will be adopted if identified as part of the adaptive management process.

Editorial Notes

EMR Requirement: Ensure there is consistency in the information provided throughout the document.

EMR Rationale: This issue is highlighted in other comments, but worth noting again. There are several instances where information on the same topic varies between different sections. The Proponent should do a thorough review of this document and ensure that the information presented throughout this document on wildlife impacts, mitigations, monitoring and incidences is consistent to avoid contradictions and confounding details.

BMC Response: A thorough review of the WPP was conducted and inconsistencies that were identified have been addressed. Survey and monitoring protocols were removed from the main body of the WPP and added as appendices to eliminate inconsistencies between sections. To the extent possible or logical, redundancy and repetition of mitigations between sections was reduced to minimize the risk of inconsistencies. However, it would be helpful to BMC if EMR could highlight specific inconsistencies in its IRs so that BMC can ensure that they are all addressed.

Per your letter, accompanying IR4, we acknowledge EMR's review of the Wildlife Protection Plan (Rev 01) was preliminary, pending the additional two years of caribou data collection. The caribou sections of WPP that may be updated with the additional data have been identified within the Plan. All other sections of the report are considered comprehensive and complete. It is BMC's expectation that sections not related to the additional data will be now reviewed in detail by EMR for adequacy.

Regards,



Kelli Bergh,
VP Environment & Permitting