



June 16, 2023

Kelli Bergh
Vice President, Environment and Permitting
BMC Minerals Ltd.

By Email: kelli.bergh@bmcm minerals.com

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

Dear Ms. Bergh:

During the May 24, 2023 meeting with BMC Minerals Ltd (BMC), Mineral Resources Branch (MRB) provided an update on the Quartz Mining License (QML) application, including Phase 5b, a preliminary review of the Wildlife Protection Plan Rev 01 (WPP).

As previously discussed with BMC, Yukon government is unable to complete the adequacy review of the WPP at this time, due to Decision Document requirements. The Decision Document has terms and conditions that will directly impact the development of the WPP throughout the regulatory process. These requirements include two years of additional baseline data collection on the Finlayson Caribou Herd and the development of a Caribou Effects Monitoring and Mitigation Program, both of which need to be included in the WPP.

To advance the WPP review prior to determining adequacy, a preliminary review of the WPP has been completed by representatives from the Department of Environment and Canadian Wildlife Services and determined that additional information is required. Their comments have been compiled and enclosed as Information Request 4.

The requests made in the enclosed information request are pertinent to our ability to advance the review of the application. Once you have taken the time to consider the requests, please confirm your estimated timeline for response.

BMC Minerals Ltd
June 16, 2023

MRB remains committed to meeting with BMC on a regular basis to discuss both technical matters and the application review process. Should you have any questions or concerns, I am available at (867) 667-3126 or todd.powell@yukon.ca or you can reach out to Monica Nordling, Mining Technologist, at 667-5604 or monica.nordling@yukon.ca.

Sincerely,



Todd Powell
Director, Mineral Resources Branch

CC: Allan Nixon, VP External Affairs, BMC Minerals Ltd.
Keith Maguire, Director, Major Projects Yukon
Caleb Light, A/Director, Yukon Water Board Secretariat
Chief Charlie, Liard First Nation
Travis Stewart, Lands Department, LFN
Chief Loblaw, Ross River Dena Council
Josh Barichello, Lands Department, RRDC
Chief McCook, Kwadacha Nation
Chief Manygreyhorses, Dease River First Nation

Enclosed: Information Request 4: Phase 5b QML application review

Information Request 4: Phase 5b – Wildlife Protection Plan preliminary review

For: BMC Mineral Ltd. QML application for the Kudz Ze Kayah Mine

Issued: June 16, 2023 by Mineral Resources Branch, Yukon government

Government of Canada	
Quartz Mining Licence – WPP Review	
Project title: Kudz Ze Kayah	
Date: June 9, 2023	
Name: Krupesh Patel	Branch: ECCC – Canadian Wildlife Services
REVIEW COMMENTS	
<u>General Comments</u> ECCC-CWS's scope of review for Kudz Ze Kayah's Wildlife Protection Plan is only focused on aspects relating to migratory birds and avian species at risk. EDITORIAL NOTES <u>Requirement 1:</u> Reference Sections: Section 2 Table 2-1 Requirement: Reformat table to delineate the wildlife groupings more accurately for birds – either include all birds under one header or separate into guilds – passerines/songbirds, waterfowl, raptors, etc. Rationale: It is unclear what the delineation is between the two bird sections within the table. <u>Requirement 2:</u> Reference Sections: Full document Requirement: Ensure there is consistency in the information provided throughout the document. 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. SPECIES AT RISK <u>Requirement 1:</u> Reference Sections: Section 2.1 – Table 2-2	

Requirement: Reformat the table to include an additional column detailing the SARA listing status for all species at risk that may occur within the project area. Lesser Yellowlegs, a COSEWIC assessed species, also has a range that overlaps with the Project area but does not appear to be on this table and should be added. ECCC has included a version of this in the appendix to this document that may be adapted by the Proponent for the purposes of their Wildlife Protection Plan. It is the Proponent's responsibility to ensure that this information is kept updated.

Rationale: The table contains relevant species at risk that may occur in the project area, although is missing the Lesser Yellowlegs, and reflects recent updates to COSEWIC species assessment statuses. COSEWIC assessments and SARA listing status are not always aligned. Of particular note, Barn Swallow was recently re-assessed by COSEWIC as special concern, however, it is still listed as Threatened under the SARA. As such all relevant protections under the general prohibitions for SARA for these species, in addition to those existing under the MBCA and MBR, continue to apply to this species. The Barn Swallow also has a recovery document that should be used to inform management approaches. In order to accurately reflect the assessments and listing statuses, and the varying legal protections that may apply to species under these designations, the Proponent should ensure that both the COSEWIC assessment and SARA listing are included in the table.

MITIGATIONS FOR CLEARING DURING NESTING SEASON

General Comments

The *Migratory Birds Regulations* (MBR) prohibit the disturbance or destruction of migratory birds and their nests or eggs.

All clearing activities and other activities that may disturb nesting birds should be avoided during the general nesting season for migratory birds ([from early May to late August](#))

Determining the presence of nesting migratory birds may help reduce risks, but active nest searches are not recommended as the ability to detect nests is very low while the risk of disturbing and/or damaging active nests is high. Similarly, other forms of non-active nest searches, such as point counts, may be used in limited situations, but otherwise can be ineffective in finding nesting birds in complex habitats.

As detailed in ECCC's [Guidelines to Avoid Harm to Migratory Birds](#), non-intrusive nest surveys to determine nest occupancy may only be appropriate when all these conditions are met:

- Conducted by skilled and experienced observers;
- Using appropriate methodology;
- Only a few nesting spots or a small community of migratory birds is expected; and
- The activities will take place in simple habitats. (*please refer to the website for examples of simple habitats*)

Requirement 1:

Reference Sections: Section 3.3.1 – Table 3-1 on Sensitive Species and Periods
Section 3.4.3 – Birds

Requirement: The primary mitigation should be Avoidance. Activities that may disturb nesting species, including clearing, should be avoided during the nesting season.

Rationale: Although non-intrusive pre-clearing surveys may help with identification of potential nesting individuals within the area, they have limited effectiveness in complex habitats and should only be used in specific circumstances as detailed above and should be conducted by a skilled and experienced observer (Qualified Professional).

Requirement 2:

Reference Sections: Section 3.4.3 – Birds, pg. 3-28

Requirement: In regards to the first bullet, remove 'or delegate under their supervision'.

Rationale: Pre-clearing surveys should, at all times, be conducted by a qualified professional, where it is the person who is skilled and experienced in conducting point counts and identifying migratory birds. 'A delegate under their supervision' may not necessarily be considered as a skilled and experienced observer and thus this statement adds ambiguity as to who would be doing the surveys. Further it is contradictory to other parts of this document, including the first paragraph under section 3.4.3 where it is stated that 'a qualified professional will conduct bird nest surveys' and the second bullet under summary of protocol. The Proponent must ensure the individuals conducting these surveys have the relevant qualifications and experience.

Requirement 3

Reference Sections: Section 3.4.3 – Birds, pg. 3-28

Requirement: In regards to the fourth bullet, clearing should be postponed where nests are found and around the area where nesting behavior has been observed (i.e., active nesting areas).

Rationale: There is ambiguity in the fourth bullet on whether clearing activities would also be avoided in areas where no nests are found, but where nesting behaviour has been observed. It is ECCC' understanding from the third bullet that where the Proponent indicates 'active nesting areas' it alludes to areas where nesting behaviour has been observed, i.e., a bird carrying nesting material is spotted, but where it may not have been possible to specifically identify the physical nest. ECCC' understanding is that a buffer zone would be established in both cases, where a physical nest is identified; and where a physical nest is not identified but where nesting behaviour has been observed. In line with this, the fourth bullet should ensure there is consistency in the protocol and measures are clearly defined.

As a reminder, migratory bird species may nest on the ground, in ground cavities, in grasses, shrubs, cliffs, trees, tree cavities and other sites and that nest sites are often cryptic or camouflaged, making them difficult to locate. It is difficult to spot physical nests when they are hidden within the vegetation and identification of a physical nest should not be the only metric by which mitigations are applied.

Requirement 4

Reference Sections: Appendix B

Requirement: Ensure there is consistency throughout the document on how mitigations are to be applied. Protocols detailed here differ from those detailed in section 3.4.3. In addition, requirements provided in other sections on mitigation approaches, nesting windows, buffers, actions to be taken where nesting behavior is observed but no nests are found, incident reporting, etc. should be included in Appendix B as well.

Rationale: Appendix B is inconsistent with other sections of this document. For example, section 3.4.3 indicates that “clearing activities will be completed within a 3-day window of survey conclusion ... and [where] there is a stoppage in works longer than 3 consecutive days, another survey will be completed”. Appendix B diverges from this protocol, where it indicates that “all surveys at the Project site occur in seven days before clearing”.

NESTING BUFFERS

Requirement 1:

Reference Sections: Section 3.3.1 – Table 3-1 on Sensitive Species and Periods

Requirement: The 20m nominal buffer should be removed to avoid confusion. As a baseline, those buffers included in Appendix B may be appropriate, however these would also need to be adjusted based on the location, species, and the disturbance levels present within the area.

ECCC recommends that the Proponent include details on how these buffer distances would be established and ensure that they align with the guidance provided by ECCC on the [Guidelines to Avoid Harm to Migratory Birds](#) website. These details should also distinguish any variances on how these buffers would be established around identified nests and areas where nesting behavior has been observed but no nests have been physically identified.

Rationale: Within the row on breeding birds, under Mitigations or Activities to Avoid, the Proponent indicates that if there are indications of nesting, a nominal 20m buffer would be established around active nests. This statement is followed by one in parenthesis indicating that buffers would be based on local conditions and bird species). The details contained here appear to be confounding and contradictory. Additionally, in Appendix B the Proponent has also included some initial standard buffer distances for passerines, waterfowl, and raptors which vary from the 20m indicated here. The Proponent has also not provided rationale in the document on how the nominal 20m buffer distance was established.

SENSITIVE PERIODS

Requirement 1:

Reference Sections: Section 3.3.1 – Table 3-1 on Sensitive Species and Periods

Requirement: 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.

Requirement 2:

Reference Sections: Section 3.3.1 – Table 3-1 on Sensitive Species and Periods Appendix B

Requirement/Conclusion: 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. Anecdotaly, 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.

SPECIES-SPECIFIC EFFECTS AND MITIGATIONS

Requirement 1:

Reference Sections: Section 3.4.3 Birds – Table 3-2 – Sandhill Cranes and Trumpeter Swan

Requirement: It is advised that alternative mitigation measures be explored. For water management ponds other deterrents may be available such as bird balls that do not pose a risk to the individuals.

Rationale: Bird netting for large birds like Sandhill Cranes and Trumpeter Swans may likely not be effective and would pose a risk of entanglement.

Requirement 2:

Reference Sections: Section 3.4.3 Birds – Table 3-2 – Perching Birds

Requirement: This section should also include cavity nesting species (e.g., Chickadees and Woodpecker)

Rationale: Species should be added to reflect the full scope of species guilds that are present.

Requirement 3:

Reference Sections: Section 3.4.3 Birds – Table 3-2 – Waterfowl and Shorebirds

Requirement: This section should also include cavity nesting ducks (e.g., Barrow's Goldeneye) and the habitat should also include some forested upland habitat and not just wetlands adjacent to ponds.

Rationale: Species should be added to reflect the full scope of species guilds that are present.

WILDLIFE INCIDENTS

Requirement 1:

Reference Sections: General

Requirement: Addition of section on Wildlife Incidences and Reporting. This section should contain a table indicating who would be contacted, for which species, and under what circumstances. Contact information for all parties should be included here and kept up to date.

ECCC has management responsibilities for migratory birds under the *Migratory Birds Convention Act* (MBCA). ECCC recommends the Proponent notify ECCC's Canadian Wildlife Service (cwsnorth-scfnord@ec.gc.ca) for instances involving:

- Interactions and incidents involving the potential disturbance of individuals or nests and any mortality events of these species;
- Wildlife monitoring reports and annual reports that pertain to these species; and
- Updates to wildlife management and monitoring plans, or their equivalents, in relation to these species

Where incidences involving migratory birds occur the Proponent should ensure information as detailed in their Wildlife Information Report is collected along with pictures of the bird or carcass where found and the nearby location. Prior to disposing of the carcass, the Proponent should contact ECCC and any other relevant agency (such as the YG Animal Health Unit) in case further testing is requested.

Rationale: Although some sections address these issues, such as collisions under section 3.5.1 and problem wildlife management under section 3.8, there does not appear to be a section that specifically speaks to what measures would be taken for wildlife incidences and interactions and specifically what actions would be taken where injured or deceased wildlife have been found and who would be contacted. In addition, due to the prevalence of HPAI (i.e., avian influenza), appropriate measures should be in place to ensure reporting of deceased birds and collection of samples, where requested, in a safe manner.

WILDLIFE MONITORING

Requirement 1:

Reference Sections: Section 4.1 – Table 4-1

Requirement: Include a waterfowl monitoring program around bodies of water within and around the project site.

Rationale: The table only details the Breeding Bird Count monitoring program but has no mention of a waterfowl monitoring program. As previously noted here and throughout the wildlife protection plan, “lakes and small ponds/wetlands in and near the Project area are known to Provide breeding and migratory habitats for waterfowl and shorebirds”. Additionally, concern has been presented by the Proponent in the document that there may be risk of waterfowl and other birds to access and use water management ponds and other water features within and around the project site. As such, a monitoring program should be implemented for waterfowl species to better inform mitigation approaches and adaptive management.

In addition, under section 5 in table 5-1 under Waterfowl, the Proponent mentions waterfowl surveys that will be conducted in standardized locations to inform adaptive management. However, this is not captured in Section 4 and table 4-1.

PILEATED WOODPECKER

General Comments

The amended *Migratory Bird Regulations* (July 2022) include protection measures for the abandoned nests of the Pileated Woodpecker. Per section 5(2)(c) of the *Regulations*, Proponents must notify the Minister of Environment and Climate Change Canada 36 months prior to destroying an abandoned nest of a Pileated Woodpecker.

Requirement 1:

Reference Sections: N/A

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-scfnd@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:

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- 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](#).

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The Table below lists species that may be encountered in the Project area that have been assessed as at risk by COSEWIC as well as their current listing on Schedule 1 of SARA. This list may not include all species identified as at risk by the territorial government. As species are assessed and listed on a regular basis, consult the [Species at Risk registry](#) to maintain the most current information.

Table 1: Terrestrial Species at Risk potentially interacting with project components.

Terrestrial Species at Risk ¹	Scientific Name	COSEWIC Designation	SARA Status	Primary Management Responsibility ²	Available Recovery Documents
Bank Swallow	<i>Riparia riparia</i>	Threatened (2013)	Threatened (2017)	Environment and Climate Change Canada	Recovery Strategy Residence Description Critical Habitat Description
Barn Swallow	<i>Hirundo rustica</i>	Special Concern (2021)	Threatened (2017)	Environment and Climate Change Canada	Action Plan Residence Description
Caribou (Northern Mountain population)	<i>Rangifer tarandus caribou</i>	Special Concern (2014)	Special Concern (2005)	Yukon Government	Management Plan
Collared Pika	<i>Ochotona collaris</i>	Special Concern (2011)	Special Concern (2017)	Yukon Government	Management Plan*
Common Nighthawk	<i>Chordeiles minor</i>	Special Concern (2018)	Special Concern (2023)	Environment and Climate Change Canada	Recovery Strategy
Grizzly Bear (Western population)	<i>Ursus arctos</i>	Special Concern (2012)	Special Concern (2018)	Yukon Government	
Gypsy Cuckoo Bumble Bee	<i>Bombus bohemicus</i>	Endangered (2014)	Endangered (2018)	Yukon Government	Recovery Strategy*
Horned Grebe (Western population)	<i>Podiceps auritus</i>	Special Concern (2009)	Special Concern (2017)	Environment and Climate Change Canada	Management Plan
Lesser Yellowlegs	<i>Tringa flavipes</i>	Threatened (2020)	No Status (Under Consideration for Addition)	Environment and Climate Change Canada	

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Little Brown Myotis	<i>Myotis lucifugus</i>	Endangered (2013)	Endangered (2014)	Yukon Government	Recovery Strategy
Northern Myotis	<i>Myotis septentrionalis</i>	Endangered (2013)	Endangered (2014)	Yukon Government	Recovery Strategy Critical Habitat Description
Olive-sided Flycatcher	<i>Contopus cooperi</i>	Special Concern (2018)	Special Concern (2023)	Environment and Climate Change Canada	Recovery Strategy
Red-necked Phalarope	<i>Phalaropus lobatus</i>	Special Concern (2014)	Special Concern (2019)	Environment and Climate Change Canada	Management Plan*
Rusty Blackbird	<i>Euphagus carolinus</i>	Special Concern (2017)	Special Concern (2009)	Yukon Government	Management Plan
Short-eared Owl	<i>Asio flammeus</i>	Threatened (2021)	Special Concern (2012)	Yukon Government	Management Plan
Western Bumble Bee (mckayi subspecies)	<i>Bombus occidentalis mckayi</i>	Special Concern (2014)	No Status (Under Consideration for Addition)	Yukon Government	
Wolverine	<i>Gulo gulo</i>	Special Concern (2014)	Special Concern (2018)	Yukon Government	
Notes: ¹ Fisheries and Oceans Canada (DFO) has responsibility for aquatic species (not listed here). ² ECCC has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the MBCA. Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of YG. Populations that exist in National Parks are managed under the authority of the Parks Canada Agency (PCA). * Denotes recovery documents that are in the process of being finalized but where a draft/proposed version is available for use					

YG – Department of Environment	
Quartz Mining Licence – WPP Review	
Project title: Kudz Ze Kayah	
Date: June 7, 2023	
Name: Mitch Heynen	Branch: Environmental Protection and Assessment
REVIEW COMMENTS	
GENERAL Environment Yukon's review of caribou as a valued component was limited to existing information included in this version of the WPP with the understanding the BMC is currently collecting additional data that will support further development of an effects monitoring and mitigation program. BMC is currently conducting a camera trap program to collect data on caribou movement within the local study area which will help inform an effects monitoring program. ENV views camera trapping as an option for a long-term program that can be used to monitor effects over the life of the project. ENV has not included comments on the camera trapping program at this time but will review and comment once an effects monitoring program is fully developed. <u>Requirement 1:</u> Reference Sections: Throughout document Requirement: 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. <u>Requirement 2:</u> Reference Sections: N/A Requirement: Update plan with current data collection, beyond 2018. Rationale: The current version of the WPP (Rev 01, July 2022) contains outdated information (i.e., wildlife baseline data is current to 2018, with an additional 4+ years of data collection not incorporated) and BMC's wildlife consultants (EDI) have reviewed this version and have many edits. In consideration of this (i.e., it is likely there will be considerable changes to the WPP), ENV has done a high-level review of sections pertinent to wildlife.	

Requirement 3:

Reference Sections: N/A

Requirement: 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.

Requirement 4:

Reference Sections: Table 5-2

Requirement: Sections that reference “statistically significant” changes should be built out in further detail to describe change by means that is observable and detectable so that actions can be meaningfully taken.

Rationale: Table 5-2 includes action only if “Statistically significant” changes are observed. This will be problematic with the current monitoring actions provided. For most of the monitoring programs the design is not statistically designed/robust, so results are not likely to ever be “significant”. Additionally, focusing on “statistically significant change” completely removes an ability for Local or Traditional Knowledge to trigger management action.

Requirement 5:

Reference Sections: N/A

Requirement: BMC should use the [Back 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.

Requirement 6:

Reference Sections: Section 4

Requirement/Conclusion: 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.

EDITORIAL

Requirement 1:

Reference Sections: Section 3.7.2 – bottom of page 3-38

Requirement: Second bullet under “High risk time and areas” should be corrected.

Rationale: Caribou are known to cross the Alaska Highway and Highway 37 from December 1 to mid-May.

Requirement 2:

Reference Sections: Section 3.8

Requirement: Second-last bullet should be corrected as the Conservation Officer district is Ross River (867-969-2202).

Rationale: Incorrect conservation officer district office referenced.

CARIBOU

Requirement 1:

Reference Sections: 2.3 Valued Components, Table 2-4

Requirement: 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.

Requirement 2:

Reference Sections: 3.1 Wildlife Protection Hierarchy

Requirement: Suggest updating hierarchy to reflect the typical standard of *“Avoid, Minimize, Restore, Offset”*.

Rationale: Existing hierarchy is focused on ‘minimizing’ effects. Above is the standard hierarchy for development projects. The updated hierarchy should be clearly incorporated into all aspects of the revised WPP.

Requirement 3:

Reference Sections: 3.3.1 High Value and Sensitive Habitats and Seasons, Table 3-1

Requirement: Suggest updating for caribou to include calving, post-calving, rut, and winter (all seasonal ranges that overlap with the project). There may be different levels of sensitivity/risk associated with each season; however, if caribou are interacting with the project in any season, there should be appropriate mitigation measures.

Existing timing window for calving is not accurate (ENV uses May 15 to June 15). 'Mitigations or Activities to Avoid' column for caribou is insufficient and uses lenient language. Mitigations should be more prescriptive and also include scheduling around identified timing windows and suspension of activities if caribou are observed near project infrastructure/activities, e.g., "*Schedule project activities that have the potential to cause sensory disturbance to occur outside of the identified timing windows for caribou (e.g., post-calving and rut)*" and "*Implement a project-specific program (i.e., height-of-land surveys) to monitor caribou sightings within 1 km of project activities (that may cause direct or indirect disturbance) during construction, operations, closure. It is recognized that the ability to detect caribou within 1 km of project activities may be limited when operating within densely forested habitat. If caribou are observed within 1 km prior to starting up activities that could lead to sensory disturbance or startling of caribou, delay starting activities until the caribou have moved at least 1 km away from the site of project activities. If caribou approach active project activities within 1 km, monitor and document their behaviour, while allowing them to move through the area.*"

Rationale: Insufficient characterization of sensitive periods for caribou. Language is soft and not prescriptive, e.g., for rut (emphasis added), "***Minimize working in alpine and subalpine areas during this period to the extent practicable.***" Generally, ENV recommends "*The proponent shall not conduct activities within identified caribou fall breeding areas from September 15th – October 15th each year.*" Additional mitigations warranted.

Requirement 4:

Reference Sections: Figures 3-1 and 3-2

Requirement: Update with more current information. Potential crossing areas along road identified, but no habitat identified. Include caribou winter range (in proximity to road).

Rationale: Additional data used to create maps exists and may help to refine and/or identify new areas of potential interaction.

Requirement 5:

Reference Sections: Multiple (3.3.1, 3.4.1.1, 3.7.3)

Requirement: Inconsistent characterization of seasonal interactions, timing, and mitigations.

Rationale: Inconsistency throughout the document regarding seasonal dates, mitigations and language used for mitigations. Revise and ensure consistency throughout the document.

Requirement 6:

Reference Sections: Figure 3-4

Requirement: More detail is needed for mitigation measures; some assumptions of mitigations is incorrect. Examples include:

- When and how will it be decided to use convoys or leave longer periods without traffic? What is the trigger?
- There is no evidence that caribou habituate to noise and vibration from blasting (or disturbance in general). To protect wildlife from the potential direct and indirect consequences of detonating explosives, whether within or outside of sensitive wildlife times and areas, blasting shouldn't occur when wildlife are observed within 500 m of a blast site.
- Rutting areas MUST be avoided during the rut period, not "*where practicable*".
- What are the protocols for caribou on the road?
- What is the design criteria for snow banks and berms (e.g., spacing, height, location)?
- Will flight tracks and altitude be recorded and evaluated to monitor adherence to mitigation measures?
- Trucks are not going east to avoid caribou winter areas (east is the direction of materials transport).

Rationale: Insufficient detail and action to have confidence mitigation measures will be effective.

Requirement 7:

Reference Sections: Figure 3-7

Requirement: 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.

Requirement 8:

Reference Sections: Section 3.4.1.1

Requirement: Flight paths to and from the Finlayson airstrip will be adaptively managed over the entire year to minimize disturbance to caribou and flight paths will avoid flying directly over WKAs or other important wildlife habitat as it is identified.

Rationale: Management of flight paths should occur over all seasons to minimize impacts to caribou and other wildlife during all sensitive timing windows.

Requirement 9:

Reference Sections: Table 5-1

Requirement: More detailed monitoring methodology required to evaluate effectiveness of mitigations and overall monitoring program. How is 'change in distribution' being defined? Health monitoring parameters and methodology not logical.

Rationale: Methodological and logistical details lacking. Additional programs (e.g., camera trapping) have been initiated by BMC, but are not incorporated into the WPP. Update the table to be all encompassing of the proposed monitoring program and provide prescriptive details on objectives, monitoring parameters, triggers, and actions. See [Back River Project – Wildlife mitigation and monitoring program plan](#) as guidance for how to structure these components of the WPP.

Requirement 10:

Reference Sections: Section 3.4

Requirement: Provide additional details on contractor training and additional mitigation measure to prevent vehicle collisions with Caribou.

Rationale: Areas of high risk for collisions can change depending on the time of year, environmental and road conditions and as such static signage is often insufficient to limit animal mortality by vehicle collision. Provide additional details regarding the mitigation and adaptive management measures considered to reduce the risk of collision by contractors.

BEARS

Requirement 11:

Reference Sections: Table 3-1

Requirement: The WPP should include a specific set back distance for Recommendation to protect bears from abandoning their dens and provide certainty that the mitigation is being followed. The setback should be developed and justified based on literature and best practices.

Rationale: the WPP is vague in describing the specific setback distance for bear dens following the pre-construction survey. BMC should provide details on proposed set back distances for different activities based on literature and best practices.

Requirement 12:

Reference Sections: Table 3-1

Requirement: The bear denning period should be extended to May 15

Rationale: The bear denning period should be extended until May 15 as there are many variables that influence when bears may emerge from their dens. May 15 is a reasonable timing window based on variability and our understanding of when bears could emerge from their dens. BMC also noted that bear den emergences is still occurring in May in their baseline report, which would be reflected in the new date.

Requirement 13:

Reference Sections: Table 3-1 and 5-1

Requirement: Provide additional detail on the bear denning survey methodology, frequency and relation to avoidance setbacks.

Rationale: The WPP does not describe the details of bear denning surveys and how the outcome of these relate to set backs, mitigations and adaptive management. Further details should be provided to show how the surveys will inform mitigations and adaptive management. This should include clarity on the method and frequency of checks and what the vicinity of the ABM pit means. Additionally, a plan should be developed prior to a situation arising that describes the appropriate people to be involved, how to react based on the situation and clear steps for options depending on what situation does occur.

Requirement 14:

Reference Sections: Section 3.5.3

Requirement: The camp shall be enclosed with a maintained and functional electric fencing to avoid the loss of wildlife to human-bear conflict.

Rationale: The project location overlaps bear habitat and is in proximity to known denning sites. The camp will support a large number of staff and will be a source of attractants for bears. The camp shall be surrounded by an electric fence to deter bears before becoming habituated at which point is often too late and may result in mortality.

MOOSE

Requirement 15:

Reference Sections: Section 4.1

Requirement: Use moose late-winter survey methodology developed by ENV or provide details describing the methodology and statistical approach to use used to detect changes to habitat use.

Rationale:

Use moose late-winter survey methodology developed by ENV or provide details describing the methodology and statistical approach to detect changes to habitat use. The survey method used by ENV involves collecting 2 years of late-winter data (1 low-snow year and 1 high-snow year) for each phase of a project (pre-construction, construction, various levels of activity in operation). Details can be provided by ENV.

In addition to late-winter surveys, paired cameras should be installed at known game trails that cross the access road (identified in the WPP) to collect data that would detect whether the road is becoming more of a barrier to wildlife movement over time.

HABITAT

Requirement 16:

Reference Sections: N/A

Recommendation: The WPP shall include a component to map and track surface disturbance and linear features on an annual basis. BMC shall discuss with YG the best approach / attributes to capture this information in a way that it can be entered into the YG surface disturbance database.

Rationale: Surface disturbance is key information to track effects to other values through habitat loss and impacts of linear features. YG maintains a surface disturbance database and has draft guidance for collecting surface disturbance and linear feature spatial data.

NOTE from MRB: area of land clearing reporting is required as part of the GHG annual reporting requirements for all QMLs.

Requirement 17:

Reference Sections: 3.3.2

Requirement: 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.

Requirement 18:

Reference Sections: 3.3.1, Table 3-1

Requirement: The proponent shall not conduct activities within 1 km of active nest sites until after August 15th if nesting eagles or falcons are observed.

The proponent shall, when safe to do so, avoid flying over raptor nesting sites, and avoid approaching cliff nests from behind.

Rationale: the WPP shall include specific buffers with limited activity for active raptor nest sites in proximity to the project. As recommended by Hayes and Reid, 2014 (and reference by BMC in the below table), a distance of 800 m is generally advised for active nests. ENV requirement is 1 km (horizontal), 600 m (vertical).

Requirement 19:

Reference Sections: 3.5.1

Requirement: Equipment laydown areas should be greater than 100m from wildlife crossing locations.

Rationale: the current WPP suggests that laydowns should not be developed within 30m of known wildlife trails or road crossings. Equipment laydowns will be areas of increased

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traffic and disturbance and therefor could have a larger displacement effect on wildlife and key trail crossings.

Requirement 20:

Reference Sections: 3.5.5

Requirement: 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.

Mineral Resources	
Quartz Mining Licence – WPP Review	
Project title: Kudz Ze Kayah	
Date: June 13, 2023	
Name: Monica Nordling	Branch: Mineral Resources
REVIEW COMMENTS	
<u>General Comments</u> Further review of the Wildlife Protection Plan is required as part of the QML application review, due to the future requirements set out in the Decision Document. This plan will require a subsequent review as the two-year baseline data collection concludes and the Caribou Effects Monitoring and Mitigation Program is developed. <u>Requirement 1:</u> Reference Sections: Forward Requirement/Conclusion: Provide concordance table as required by the Plan requirement guidance for quartz mining projects. Rationale: The concordance table should be inclusive of the assessment outcomes, decision document terms and conditions, proponent commitments and any other relevant updates or revisions to the plan. Mineral Resources has reviewed the proponent commitments table and identified some gaps, including: • Missing laydown areas and their proximity to wildlife corridors, etc; • Window for clearing activities needs to be consistent across plan and appendices; and • Commitment to minimize Fault Creek fluctuations during nesting period. <u>Requirement 2:</u> Reference Sections: Appendix A Requirement/Conclusion: Provide “No recreational use of ATVs and Snowmobiles” policy. Rationale: This policy is referenced a number of times throughout the plan and should be included for reference and a thorough understanding.	