



August 28, 2023

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

By Email: kelli.bergh@bmcm minerals.com

Re: EMR-MRB review of BMC's Tailings and Waste Rock facility classification

Dear Ms. Bergh:

As a partial response to the Phase 1 Information Request, issued April 11, 2023, BMC Minerals provided Knight Piesold's letter, dated July 5, 2023, regarding their Kudz Ze Kayah waste storage facilities classification review in accordance with the Guidelines for Mine Waste Management Facilities (Yukon government, 2023). Thank you for providing this information for our review.

Mineral Resources Branch has reviewed the letter and engaged our consultant, Grit Engineering, for their feedback. After our review of Knight Piesold's letter (the "letter"), we have concluded that we are unable to agree or disagree with the classification provided at this time. Outlined below are our comments and feedback for your consideration.

General feedback

Generally, the letter provided the classification conclusion but did not provide all substantiating information needed for MRB to agree or disagree with the conclusion. Examples of information, some of which are contained within the Phase 1 IR, that would support our ability to agree/disagree with the classification are:

- The maximum height of the facilities;
- Areas of permafrost that will be removed and a description of material replacement;
- Locations of artesian pressure that could potentially have water inflow into the waste PAG;
- The predicted water quality of facility seepage;
- Commentary on what would happen if surface diversion above the facility were to overtop or fail; and
- The failure hazard zone for each facility.

Understanding that only one or a combination of factors (such as the information suggested above) can be the defining factor(s) for classification, the letter needs to identify and substantiate all defining factors for classification and explain what factors were considered to support the conclusion.

As is discussed in the Guidelines for Mine Waste Management Facilities, while mine waste management infrastructure is expected to represent their peak hazard level at their full build-out, the classification process must examine all phases and stages to determine the critical phase and stage for classification purposes.

Comments

The letter and application make claim that should the toe berm of the Class A facility fail the SPAG waste rock and tailings would not mobilize. There is no substantiation of this claim that we have been able to reference. Without justification, it would be unreasonable to assume zero mobilization of material.

The only failure mode discussed in the letter is the mobilization of material due to a toe berm failure on the Class A facility. Failure modes must include both physical failures and operational failures and are required to consider how potential failure modes change in different mine phases. Failure modes must also consider all aspects of the mine waste management facility including ancillary infrastructure, interim infrastructure, and closure covers.

The water management plan clearly outlines the possibility of the seepage collection pond for the Class A facility requiring treatment prior to discharge, as it will be collecting contact water from the Class A facility which contains SPAG tailings and waste rock. The classification presents as if water stored in the facility is not expected to contain higher levels (greater than 10x the receiving environment) of contaminant of concerns. Ensero's 2020 Water Quality Model was not submitted as part of the QML application but was reviewed to support YG's intervention into the water licencing process. It appears that the information in Ensero's report does not align with the information provided in the letter regarding expected water quality of the Class A facility collection pond.

Neither the letter nor the application seems to consider the seepage collection ponds as part of the Class A and Class B facilities. Classification of mine waste management facilities is meant to be done as a system rather than individual components to ensure the hazards of the facility are fully recognized, this includes consideration of supporting infrastructure such as collection ponds and water conveyance infrastructure. After review of the provided section for the Class A facility (same as the application), the embankment height is over 30 m and would contain water that may not meet discharge criteria. Classification of the seepage collection ponds, and

other ancillary infrastructure required for the design, construction, and operation of the mine waste management facilities, must be included in the classification.

The letter states that no people (including mine workers) permanently live or work in the failure hazard zone of the facilities. The failure hazard zone for the Class A and Class B facilities have not been defined in the letter. There are facilities that may be considered permanent worksites near all facilities included in the classification. These facilities possibly being in the failure hazard zone may be defining factors for the facility classifications.

- a. The Class B pile is upslope and slightly south of the process plant and its laydown areas, which would be considered permanent worksites. It is also immediately upslope of the run-of-mine and low-grade ore stockpiles, where hauled ore is stored before being fed to the process plant and would have equipment regularly accessing it. This would also be considered a permanent work area.
- b. The Class A facility has a Waste Management Facility immediately adjacent to the southeast edge of the pile. It is unclear if this facility would be considered a permanent workplace or if it is in the failure hazard zone for the pile.
- c. The Class C facility and overburden pile have the shop and fuel bay downslope of them. These would be considered permanent worksites, but it is unclear if they are in the failure hazard zone of either or both facilities.

Required Information

In order for MRB to agree or disagree with a classification conclusion, the classification must speak to and provide additional details or substantiating information on the comments outlined above and all defining factors for classification.

We require a written response in the form of an updated technical memo or letter for the classification of the proposed mine waste management facilities with all additional and substantiating information to support the classifications. This will be maintained as a record in our files.

Please do not hesitate to contact me or Monica Nordling, Mining Technologist, at monica.nordling@yukon.ca or 867-667-5604.

Sincerely,



Todd Powell

Director, Mineral Resources Branch

CC: Allan Nixon, VP External Affairs, BMC Minerals Ltd.
Keith Maguire, Director, Major Projects Yukon