May 30, 2023

Mr. Dayne Doucet
Consolidated Mining Permit Lead
Oregon Department of Geology and Mineral Industries
Mineral Land Regulation & Reclamation
229 Broadalbin St SW
Albany, Oregon 97321

**RE: Follow-up Response to Comment 458 in October 20, 2022, Comments for the Consolidated Permit Application, Grassy Mountain Mine Project**

Dear Mr. Doucet:

This letter provides a follow-up response to an additional agency comment for Comment 458 provided in the October 20, 2022, Comments for the Consolidated Permit Application. Please see the "Response (May 2023)" information for your consideration in the attached comment response record.

CPA Appendix D2, *Tailings Chemical Monitoring Plan*, was uploaded to DOGAMI on April 3, 2023.

Please contact me at (775) 625-3600, glen@paramountnevada.com if you have questions or need clarification.

Sincerely,

Glen van Treek
President
Calico Resources USA Corp./Paramount Gold Nevada Corp.
(775) 625-3600
glen@paramountnevada.com

Att: Comment Response Record

**Attachment**
**Comment Response Record**

## Comment Number: 458

| **Comment Number:** 458 | **Category:** 2 | **Status:** B |
|---|---|---|
| **Topic:** Ecological risk to wildlife | **CPA Reference:** Ecological Risk Assessment (p.4 Section 2.3) | |

**Commentor:** USFWS

Acid mine drainage would be expected to result from this operation. Acid mine drainage has had adverse effects to fish and other aquatic resources, as well as to wildlife, at other mine sites. Please indicate more specifically how acid mine drainage will be managed at this site (specifically how drainage will be treated, including how long lime will be needed to be added to wastewater to maintain a more neutral solution and the source of the lime (e.g., were will the lime be sourced, and will it be stored on site in sufficient quantities to maintain a more neutral solution?)

**Initial Response to Comment:** The Geochemistry BDR (Appendix B6 of the CPA) indicates that the tailings and waste rock generated by this project are potentially acid-generating. The mine design, operations plans, and closure/reclamation plans have been developed on the basis that the environment must be protected from acidic drainage and leaching metals. Section 3 of the CPA describes the design and operations, including underground mining and backfilling (Section 3.2.2), mine drainage/seepage (Section 3.2.3), cyanide detoxification and tailings deposition (Section 3.3.9), surface contact water (Section 3.3.11), tailings storage facility design (Section 3.6), waste rock management (Section 3.7), chemical storage and use (including lime storage; Section 3.8), water supply and management (Section 3.9.3), water management (Section 3.10), monitoring (Section 3.12)and reclamation and closure (Section 4). Together, this information indicates very specifically how acid mine drainage will be managed at this site.

| **Stantec – Comment Addressed as Indicated?** NA | **Stantec – Preliminary Assessment – Sufficient Response?** NA | **TRT Response:**<br><br>Section 3 of the CPA does address specific concerns regarding how acid mine drainage will be handled at the site. A key concern remains as to how long after closure acid waste waters will need to be treated with lime, and how will this be managed after closure (this also applies to maintenance of the tailings supernatant pond). FWS has not had time to review the Geochemistry BDR Appendix mentioned in Calico's comment in detail at this point and would welcome the opportunity to review this with other subject matter experts. |
|---|---|---|

**Agency Comment:** Section 3 of the CPA does address specific concerns regarding how acid mine drainage will be handled at the site. A key concern remains as to how long after closure acid waste waters will need to be treated with lime, and how will this be managed after closure (this also applies to maintenance of the tailings supernatant pond). FWS has not had time to review the Geochemistry BDR Appendix mentioned in Calico's comment in detail at this point and would welcome the opportunity to review this with other subject matter experts.

**Response to Comment (Feb 2023):** Lime is being added to the tailings to meet the requirements of OAR 340-043-0130(2), which require adjusting the Net Neutralization Potential and the Neutralization Potential Ratio of the tailings to levels that render the tailings non-acid generating (i.e., net neutralizing). There is no treatment of wastewater with lime.

Also, as described in the Reclamation and Closure Plans, the supernatant pond is removed as part of closure of the TSF. The TSF is then closed with an impermeable cover so no further water infiltrates the tailings. The Reclaim

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Pond is used for a period of time to manage residual draindown from the tailings mass after TSF closure, then the Reclaim Pond is converted to an evaporation cell (a lined pond full of moist/wet soil). All other process equipment will be decommissioned, so no other wastewater will be generated following closure.

**Agency Comment (May 2023):** The Service shares the concern raised by Oregon DEQ related to the risk of future generation of acid rock drainage. We remain concerned that the applicant has not demonstrated that all possible preventative measures will be taken to address production of acid rock drainage. At a minimum, waste rock and basalt should be mixed with concrete and lime to offset pH, and this mixture should be allowed to solidify at the most bottom layer of the underground workings before work can begin on the next layer. This process to minimize the threat of acid rock drainage from entering groundwater should be clearly documented. In addition, other alternatives such as cement additives and pastes have not been thoroughly explored or vetted. All alternatives for minimizing production of acid rock drainage should be documented. In order to monitor pH in the underground workings, monitoring wells should be installed in the backfilled concrete areas at the time of reclamation, and, if needed, lime injected into wells to help control pH.

Acid will be generated in the TSF water as well. Lime will be added to help monitor pH, but the water could become too acidic or too much lime could be added and become too caustic. Overly acid or caustic conditions would be a threat to waterbirds using the TSF pond, and low pH could also mobilize some metals (potentially above levels of concern). These waters should remain about neutral and the process for monitoring pH and other water quality parameters should be clearly documented in the Wildlife Protection Plan or elsewhere, along with options that will be available to deter wildlife use of the ponds if pH or other parameters are outside target values.

**Response to Comment (May 2023):** Regarding the potential for acid generation by waste rock and basalt mixed with binders that will be used to backfill the underground mine, see the responses to Comment 90. Calico commissioned SRK Consulting to perform specialized geochemical testing to characterize the backfill material. The testing and results are presented in a report submitted to the TRT and the results are summarized in the responses to Comment 90.

Regarding the potential for acidic discharges from the mine during the post-closure period, see the responses to Comment 241. Calico commissioned Lorax Environmental to perform additional groundwater modeling to characterize the effects of mining on groundwater conditions and flows. The model development and results are described in a report submitted to the TRT. The modeling predicts that there will be no discharges of groundwater (springs or seeps) in the vicinity of the underground mine during the post-closure period.

Regarding the pH of the supernatant pond in the TSF, previous responses to this comment chain describe how lime is added to the tailings slurry during deposition in the TSF in compliance with requirements of the OAR so that tailings no longer have a potential to generate acid. Therefore, the supernatant pond will not be acidic. Additionally, the water from the supernatant pond will be pumped back to the processing facility for reuse; therefore, the water chemistry would not change significantly due to evaporation because it will be in continuous circulation with make-up water and controlled within the process.

A *Tailings Chemical Monitoring Plan* has been included with the revised CPA as Appendix D2 in response to other comments from the TRT. One of the objectives of the *Tailings Chemical Monitoring Plan* is to monitor the acid generation potential of the tailings and slurry (i.e., to regulate the addition of lime to the tailings) and assure that the tailings and water going into the TSF is not too basic or acidic. The Tailings Chemical Monitoring Plan also includes monitoring of the supernatant and reclaim pond water to assure that the water quality will not be harmful to birds.

CPA Appendix D2, *Tailings Chemical Monitoring Plan*, was uploaded to DOGAMI on April 3, 2023.