July 5, 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: Response to Additional Comments for Comments 90, 96, and 99 in October 20, 2022, Comments for the Consolidated Permit Application, Grassy Mountain Mine Project

Dear Mr. Doucet:

This provides responses to additional agency comments received in May 2023 for Comments 90, 96, and 99 in the October 20, 2022, Comments for the Consolidated Permit Application.

The comment response records for the above-referenced comments are attached. Please see the "Response (July 2023)" information for your consideration.

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: Document Response Records

Attachment
Document Response Records

Comment Number: 90

Comment Number: 90	**Category:** 3	**Status:** C
Topic: 3 Baseline Data Reports	**CPA Reference:** Geochemistry Baseline Geochemistry Section 7.4	

Commentor: DEQ

Comment: Baseline Geochemistry Section 7.4 Cemented Rock Fill (CRF) – as determined by the geochemical testing results at section 000.000, a majority of the waste rock has potential to generate acid and leach metals. This section of the Geochemistry Baseline report proposes that 5% cement be added to waste rock to be used as backfill in the mine. However, Calico specifies 7% cement in CRF in 3.3.5.1 of the Consolidated Permit Application. There is no apparent resolution of this conflict and no geochemical assessment of it. Indeed, the does not seem to be any geochemical characterization of CRF as proposed. These conflicts cloud the assessment of existing conditions.

This section also states that CRF made from waste rock would be placed only in locations above the water table. How will pH in the underground workings (inclusive of material in situ and all backfill materials) be best managed to prevent acid generation and the mobilization of metals?

In Section 3.3.5 of the Consolidated Application it is stated that waste rock would be used as backfill "to extent possible". In Section 4.6.2 of the Consolidated Application it is stated that "all 0.2 million tons of waste rock" would be added to the TSF. These contradictions need to be resolved – the proposed volumetric range of the TSF is 1.76 to 3.2 million tons, and the TSF volume is dedicated to the Grassy Mountain project. Does reconciling of the above mean that there is a total of 200,000 tons, only, of waste rock? Due to the potential for acid generation and leaching of metals, none of the waste rock should be placed in underground workings. These conflicts cloud the assessment of existing conditions.

Proposed Resolution: (a) Determine if 5% or 7% cement will be added to waste rock, and make consistent in the CPA and the BDR. (b) Explain how pH in the underground workings will be best managed to prevent acid generation and the mobilization of metals. (c) Clarify how waste rock will be disposed of, and make consistent throughout the CPA.

Initial Response to Comment: See response to comment 56.

Stantec – Comment Addressed as Indicated? a) Yes, consistent with 7% b) No, doesn't address how waste rock will affect pH in geo chem report. c) Yes, indicates how waste rock is disposed of.	**Stantec – Preliminary Assessment – Sufficient Response?** Partially. DEQ to evaluate sufficiency of response and BDR revision.	**TRT Response:** Adequate. DEQ has affirmed, and the TRT accepted, the Geochemistry Baseline Data Report as meeting the requirements of the 2017 Environmental Baseline Data Work Plans. Not adequate. The Cemented Rock Fill plan design and details are not complete and its content cannot be reviewed in its current form (section 2.6.2.4). From the CPA text DEQ notes that the CRF purpose as expressed is to provide stability for the production drifts by blending Portland cement with all of the waste rock generated. The CRF plan section 2.6.2.4 makes no reference to how the CRF design will prevent Acid Rock Drainage by providing acid neutralizing potential confirmed by monitoring data.

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Preliminary Response to Comment: The referenced section of the CPA (Section 2.6.2.4) describes how there is additional testing being performed to determine the geochemical characteristics of CRF made with waste rock. The results of the additional testing will be used to establish backfill plans to mitigate potential impacts (e.g., generation of acid in the underground). The text goes on to describe measures that may be included in the backfill plan such as not using waste rock in CRF, or placing CRF made with waste rock above or below the predicted post-closure phreatic surface.

The measures described in the text explain how the CRF design will prevent Acid Rock Drainage. Further, the testing program has been completed and a report of results has been prepared. The results indicate that CRF made with waste rock and 5% to 7% binder (cement and/or fly ash) is very strongly net neutralizing so will not generate acidic leachate. Further, the binder in the CRF (made with either basalt or waste rock) provides a substantial amount of neutralization capacity and will reduce the potential for acidic groundwater in the mine area.

Because the measures described in the CPA are effective for preventing CRF made with waste rock from generating acid, the comment is addressed.

The report of results will be submitted to the TRT for review.

Agency Comment:

Response to Comment (Feb 2023): Additional geochemical characterization testing has been performed to determine the geochemical characteristics of CRF. The testing program and results are described in detail in Grassy Mountain Cemented Rock Fill Characterization Report, which will be included as an appendix to the next revision of the CPA. Briefly, the testing program included preparing a variety of samples representative of CRF using waste rock, basalt, and binder material (Portland Cement and Fly Ash), and then subjecting the samples to a number of geochemical characterization tests, including ABA, mineralogical analysis, whole rock metals analysis, and two specialized leaching tests. The binder content of CRF ranged from 5% to 7%.

The results of geochemical characterization of the CRF can be summarized as follows:

- All the CRF samples have significant buffering capacity due to the addition of the binder material. Based on the test results, the CRF is not expected to generate acid.
- Cementation of the waste rock results in overall lower metal releases under higher pH conditions (in comparison to testing results of waste rock with no binders).
- There are no appreciable differences in the results for the types of binders or the amount mixed in:
  - Fly ash is comparable to cement, and
  - Additional binder does not change the results in terms of potential for acid generation and/or metal leaching.
- The concentrations of several constituents (i.e., arsenic, chloride, fluoride, mercury, and sulfate) are lower in leachate than in the lixiviant (groundwater from the site), indicating the potential for attenuation of some naturally-occurring constituents in groundwater due to interaction with CRF.
- Very low metal/sulfate was released from the CRF in the leach tests involving intact cemented aggregate (some of the leach tests are performed on crushed CRF).

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The reduction in the mobility of soluble constituents in the CRF occurs for several reasons:

- The hydraulic conductivity and exposed surface area of the material is greatly diminished due to the solidification process.
- The alkaline nature of the binders reduces solubility of most metals.
- Some metals become less soluble due to their inclusion in the mineral structure of the calcium silicate hydrate gels resulting from cementation.
- The mobility of most trace constituents in water contacting CRF will be controlled by diffusion rather than solubility reactions.

Overall, based on the results of the CRF characterization program, the CRF made with basalt or waste rock does not show a significant potential to degrade groundwater quality, with most constituents leached at very low levels for all tests, and will be used to establish backfill plans to mitigate potential impacts, if necessary.

Agency Comment (May 2023): The October 2022 Cemented Rock Fill Characterization Report, prepared by SRK, is a substantial explanation of additional net neutralizing capacity that would be added to the underground workings environment during and after operations. Based on laboratory testing of the variety of rock types that will become waste rock used in the CRF backfill, SRK has ably demonstrated that the CRF at between 5 and 7 percent cement and/or fly ash will not in itself have undue potential to generate acid drainage. It is less clear from the Report what effect, if any, the CRF backfill will measurably have on either ARD or background groundwater pH for the volume of CRF backfill emplaced below phreatic surfaces. I.e., the question of actually knowing what impact CRF will have in managing pH over very long time frames has not been demonstrated. Proposed solution: In any portion of the underground workings backfilled below static groundwater or phreatic surfaces, there remains need to clarify monitoring technologies and processes to provide real-time in-situ pH and weekly metals data to guide appropriate operational process adjustments and/or mitigation responses needed. No alteration of baseline groundwater quality will be permitted: data must be generated to demonstrate those outcomes. This will be an explicit permit condition. This comment remains a Category 3.

Response to Comment (July 2023): Calico is confident that DEQ requirements regarding ARD and CRF can be addressed during the permitting process using available data and knowledge.

Comment Number: 96

Comment Number: 96	**Category:** 3	**Status:** C
Topic: 3 Baseline Data Reports	**CPA Reference:** Geochemistry	

Commentor: DEQ

Comment: Assumptions that cement will encapsulate the potentially toxic and acidic waste rock. The cement in the CRF may buffer acidic nature of rock, but there should be explicit analysis of this in a "pH, Waste Rock and Tailings Facility Management Plan" to guarantee, not assume that Acid Generation is effectively mitigated. This Plan must also consider and incorporate pertinent DEQ Solid Waste Program requirements relative to CRF and basalt aggregate rock fill (RF) and CRF as backfill at all levels of the mine.

Proposed Resolution: Provide a pH, Waste Rock and Tailings Facility Management Plan, including an analysis on how effectively cement would encapsulate the potentially toxic and acidic waste rock. Incorporate pertinent DEQ Solid Waste Program requirements relative to CRF and basalt aggregate rock fill (RF) and CRF as backfill at all levels of the mine

Initial Response to Comment: Related to comment 56 (about testing cemented waste rock) and 48 (about managing high pH of treated tailings).

Geochemical baseline study results have been used in the engineering of the mine to develop management strategies that are proven effective for acid generating mine wastes. Monitoring and adaptive management plans will further inform during operations.

See response comment 56.

Stantec – Comment Addressed as Indicated?	**Stantec – Preliminary Assessment – Sufficient Response?**	**TRT Response:**
No, no addition of Waste Rock and Tailings Facility Management Plan.	No; however, monitoring and adaptive management plans will theoretically provide further relevant information.	Not adequate. The Cemented Rock Fill plan design and details are not complete and its regulatory responsiveness and purpose cannot be assessed in its current form (section 2.6.2.4). The application cites that additional [CRF] testing is being performed to determine the geochemical characteristics of CRF made with waste rock. No backfill plan is contained to evaluate CRF efficacy to mitigate potential impacts of acid rock drainage and the mobilization of metals. From the CPA text DEQ notes that the CRF purpose as expressed is to provide stability for the production drifts by blending Portland cement with all of the waste rock generated. This is an operation purpose statement, but does not adequately address core regulatory requirements. DEQ notes the generalized and preliminary statement of a Portland cement addition, in CRF, of between 5 and 7%. Proposed Resolution: Develop a Backfill Plan that is sufficiently prescriptive to prevent any Acid Rock Drainage, in the short term and especially the long term. Provide details on monitoring specifications and technologies adequate to assure such

Comment Number: 96	**Category:** 3	**Status:** C
		mitigation at all levels of the mine. In addition, provide a detailed description of how pH conditions at depth will be managed to prevent any metals mobilization attributable to mining operations.

Preliminary Response to Comment: 1) Category 3 comment

2) Geochemical tests on CRF are complete and the report of results will be submitted to the TRT for review.

3) The results of the CRF testing indicate that the CRF made with waste rock has so much net neutralization potential that monitoring is unnecessary (i.e., CRF made with the goal of providing structural stability in the underground will not generate acid).

Agency Comment: Check comment 48 inorganic leaching potential & TSF stability issues. (Comment #90 -assigned to Stantec may also address this)

Response to Comment (Feb 2023): See the revised response to Comment 90.

Agency Comment (May 2023): The applicant's responses and the language in the 2022 CRF Characterization Report are not adequate. Neither has suggested language that demonstrate certainty the proposed technologies and methods will eliminate the risk of Acid Rock Drainage and the mobilization of metals in the underground workings. Nor has there been any improvement in any proposed monitoring to understand the desired effect of CRF during operations and in the long-term.

Response to Comment (July 2023): Calico is confident that DEQ requirements regarding ARD and CRF can be addressed during the permitting process using available data and knowledge.

Comment Number: 99

Comment Number: 99	**Category:** 2	**Status:** B
Topic: 3 Baseline Data Reports	**CPA Reference:** Geochemistry	

Commentor: DEQ

Comment: Lime amendment is proposed for the tailings and waste rock going to the TSF, but only one sample of amended tailings was subject to geochemical testing.

Proposed Resolution: Provide additional geochemical test results of amended tailings to ensure amendments are adequate to prevent acid generation within the TSF.

Initial Response to Comment: The purpose of the SPLP testing was to evaluate the change in metal mobility under high pH conditions resulting from the addition of lime. This was done for the three different tailings types. See response to Comment 48 for a discussion on the representativeness of the tailings samples.

Stantec – Comment Addressed as Indicated?	**Stantec – Preliminary Assessment – Sufficient Response?**	**TRT Response:**
Yes, additional samples of lime-amended tailing samples and explanation.	Uncertain. DEQ to determine sufficiency of response and revision.	Comment: Acid formation and metals mobilization in the TSF tailings remains a concern, especially in light of uncertainties in the long term stability of the geotextile liner system proposed. Proposed Resolution: Submit for review proposed monitoring specifications of tailings chemistry at the point of discharge, along with a plan for said correction and disposal (i.e., management of pH extremes, prevention of acid formation and metals mobilization).

Preliminary Response to Comment: A tailings chemical monitoring plan was included with the CPA that addressed the resolution proposed by the TRT. Refinements to the monitoring plan may be necessary as permitting progresses.

Agency Comment: Check comment 48 inorganic leaching potential & TSF stability issues. (Comment #90 -assigned to Stantec may also address this)

Response to Comment (Feb 2023): It is now about the Tailings Chemical Monitoring Plan (originally it was about geochemical testing of lime-amended tailings). However, the response after SLR's preliminary response on 11/7 is: Check comment 48 inorganic leaching potential & TSF stability issues. (Comment #90 -assigned to Stantec may also address this). Comment 48 talks about using limestone instead of lime to amend the tailings before they go into the TSF, which is not relevant to the tailings chemical monitoring plan or geochemical testing of lime-amended tailings. Comment 90 is about the geochemistry of CRF, which is also not relevant to the monitoring plan or geochemical testing of tailings. We need some clarification on what is being requested or if there is something additional we need to do.

Agency Comment (May 2023): It is understood that technologies have changed since the Division 43 rules were written and adopted in the early 1990s. As discussed with the applicant, the goals expressed in OAR 340-043-0130 are to guide the disposal of mill tailings. Relative to this comment, particular focus is on the management of the pH of tailings at discharge. It is understood that the discharge of tailings with very low or very high pH has potential undesirable consequences -- perhaps mainly for metals mobilization. If, in the context of a complete

Comment Number: 99	**Category:** 2	**Status:** B
application, it can reasonably be assumed that this proposed process technology will be determined to be the best available, it may be a reasonable to not consider the language at OAR 340-043-0130(2) as absolute or exactly prescriptive, but rather to consider lime amendment ratios and proper pH management of the tailings slurry (e.g., managing pH to near neutral) during the permitting stages. If so, this comment is close to becoming a Category 3 comment.		
Response to Comment (July 2023): Calico is confident that DEQ requirements regarding OAR-340-043-0130(2) can be addressed during the permitting process using available data and knowledge. Note also that the category for this comment is now Category 3.		