COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources
1313 Sherman Street, Room 215
Denver, CO 80203

June 24, 2021

Brian Briggs
Ouray Silver Mines, Inc.
PO Box 564
Ouray, CO 81427

RE: Revenue Mine, Permit No. M-2012-032, Technical Revision (TR-15), Adequacy Review-1

Dear Mr. Briggs:

The Division of Reclamation, Mining and Safety (Division) is in the process of reviewing the above referenced Technical Revision in order to ensure that it adequately satisfies the requirements of the Colorado Mined Land Reclamation Act (Act) and the associated Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal, and Designated Mining Operations (Rules). During review of the material submitted, the Division determined that the following issue(s) of concern need to be adequately addressed before the Technical Revision can be considered for approval. Please provide the following:

1. Will any improvements to County Road 26 be necessary for hauling to the Atlas Tailing Storage Facility (Atlas TSF)? Does OSMI have permission from Ouray County to use County Road 26 to access the Atlas TSF?
2. While the Tailings storage facility designs are understood to be revised and the adequacy of those designs are not part of this review, please include copies of the design specifications of both the Revenue and Atlas Tailings storage facilities as approved to provide a holistic view of the milling process through tailings handling.
    a. How is the compaction requirement of 94% for the TSF being verified in the field?

<u>Mill Facility- Construction/Design Specifications</u>

3. General Design Summary
    a. Provide a list of all equipment and tanks present throughout the mill circuit. Specify the contents, location and sizes.
    b. If available, provide a 3D rendering of the mill and the various areas throughout the circuit.
4. Details regarding how the concrete foundation and containment structures were designed and built, including any coatings applied to the floor and or walls. If QA/QC documentation is available for the construction this should also be included.
    a. Include a narrative summary to address the item above. Detailed drawings have been provided.
    b. Additional information regarding secondary containments features are address in a later section

5. Include drawings and narrative of all piping and delivery systems that contain designated chemicals
    a. Verify that the entire length of delivery lines exist within a form of secondary containment (also see Secondary/Tertiary Containment Structures section)
6. On page 6 it is noted that drawing 300-PI-004 has the Zn rougher conditioning tank mislabeled.
    a. Drawing 300-PI-004 was not referenced in Appendix 1 nor has it been provided to the Division. Provide the Division with the reference drawing.
7. On page 7 it is noted that drawings 800-PI-003 and 800-MF-003 show a water treatment plant that is not going to be installed. Please update/revise the drawings to be accurate to the process at the time of permitting. Note that in the future if a water treatment plant with a leach field would like to be used it must first be addressed through the Revision process.
8. Drawings 800-PI-003 and 800-MF-003 were not referenced in Appendix 1 nor have they been provided to the Division. Provide the Division with the referenced drawings.
9. Why are "obsolete" or inaccurate drawings being submitted for the Division's review? See Item 34 of this review, commit to providing the revised or updated drawings where applicable as part of the As-built Package.

Mill Facility-Processing of Ore

10. Section 3. Mill Design Discussion states that the mill capacity is 540 tons per day. Is this the mill's maximum output? What is the average range of material to be processed daily? Can it be assumed that the mill will operate 365 days a year if possible?
11. In addition to item 3a, include the crossover documentation from the Reagent Room, discussing the nature of the chemicals, their hazards, SDS sheets (provided), all storage locations within the Mill Facility, delivery of reagents into the milling process, piping systems etc.
12. If the two 12,690 gallon slurry storage tanks that are proposed to be installed after the commissioning of the mill would like to be approved under this certification please provide the following information;
    a. Composition of the slurry stored in the tanks (ratio of ore to water);
    b. Their location depicted on the appropriate drawing;
    c. A commitment that the size and location of the tanks as proposed is what will be installed, even if that installation occurs after the mill commissioning.
13. Section 3.2 Lead Concentrate lists that there are two sets of tanks that make up the Pb Rougher Scavenger Flotation Cells, and each tank will be 1,320 gallons each. The Pb Rougher Scavenger Flotation Cells are not listed on Table 1, please update Table 1 to include these volumes. It is also stated that this stage will create two products, concentrate and tails, please clarify if those are two separate tanks which would make a total of four tanks at 1,320 gallons each or if the two products come from the same tank and the system only has two tanks at 1,320 gallons each.
14. Section 3.2 it is stated that the slurry enters the Pb cleaner flotation cells which consists of two banks that both have two tank cells, one at 449 gallons and one at 290 gallons, totaling four tanks, two at each respective size. Table 1 only shows one tank of each size, please update table 1 to reflect the accurate number of tanks in this stage and their volumes.

15. The narrative details that the tails from the Pb circuit are sent to the Zn condition tanks at 1,064 gallons each. It is inferred that this means there are two tanks, please clarify the number of Zn conditioner tanks in this step.
16. Please clarify the number of tanks associated with the Zn Rougher Scavenger Flotation Cells and their capacity.
17. It is also stated that the Zn Rougher Flotation Cells consists of two banks at 1320 gallons each, however Table 1 lists only one tank at 1320 gallons. Please clarify the number of tanks associated with this stage of the circuit and update Table 1.
18. Several depictions of tanks and circuitry on Figure 1 are not labeled. Please update Figure 1 to include all labels.
19. Provide a summary of the day tanks that are to be located in the mill tunnel.
    a. Include the location, chemical type, volume, quantity (where applicable) and referenced drawing(s)
    b. Section 4 discusses the new reagent tanks, pump boxes and pumps to be added to support the new Pb and Zn flotation circuits and references Table 2 for their volume and secondary containment. Table 2 appears to be consistent with the tables submitted for reagent storage in the Reagent Building that is currently under review as part of TR-14. Please clarify if this section is applicable to the Reagent Building or if additional mixing and storage tanks will be located in the mill tunnel in addition to the day tanks.
    c. Section 6 - Chemical Handling Systems and Containment states that "Reagents are stored in the reagent room located on the east side of the mill filter building except the lime day tank of 9200 gallons." Conversely the updated Table 1 on page 24 of the Second Adequacy Review submitted for TR-14 states that day tanks for ALL chemicals EXCEPT lime and Floc AF-309 have 70 gallon day tanks located in the mill tunnel. Please clarify what chemicals have a day tank associated with them, if that tank houses concentrated chemicals or mixed solution, the locations of the day tanks and update Table 1 of TR-15 to reflect the storage of those materials within the mill tunnel.
20. Commit to providing SDS sheets of the bagged concentrated product being shipped out. Given that each load may be slightly different a general concentrate SDS sheet for each product type is acceptable. Copies of each individual bagged load should be retained on site for verification upon request of the Division.
21. The mill circuit as proposed only mentions the extraction of Lead and Zinc minerals from the ore body. In previous discussions with OSMI it was indicated that all minerals of value were to be removed. Please clarify what minerals are to be extracted within each circuit of the mill.

Secondary/Tertiary Containment Structures

22. Details regarding the secondary containment structure(s). Include calculations demonstrating maximum containment volumes of each area, all equipment stored in that location, details regarding the sump systems and where they report to.
    a. Provide volumetric calculations of storage capacity of the Mill Tunnel and crusher gallery, including areas where the floor square footage has been increased by new rock cuts.

23. In order to install new equipment several of the areas require new rock cuts to increase the size of that area.
    a. Include details regarding any epoxy or coatings required to create an impermeable secondary containment area.
24. Similarly in addition to secondary containment structures will the other new rock cut areas receive coatings to control possible infiltrating water?
25. Description of any tertiary containment structures.
26. In the Chemical Handling Section on Page 11 it states "If water, slurry or liquid chemical is spilled in the reagent room area, it will flow to a sump, where it will be pumped back to the 18,000 gallon process water tank or reagent mixing tanks depending on the material spilled." This does not match with what was proposed in TR-14. Please revise the statement to be accurate to the process. If necessary TR-14 (Reagent Room EPF certification) may also need to be revised
27. After updating Table 1, please add a column to Table 1 identifying the number of tanks and a separate column including the total volume of the tanks. This will allow for an accurate calculation of the total volume in the circuitry
28. Drawing 300-GA-010 depicts the electrical room at the back of the Mill Tunnel. Please provide information regarding what systems are in place to prevent a major spill from entering the room and possibly causing damage to the electrical components inside.
29. Section 3.4 discusses the handling of tailings as it relates to the mill circuit process and Section 5.3 discusses the thickener including the tailings delivery and return lines. In verifying the information contained in the revision as well as previous permit documents it is unclear if the tailings delivery and return lines on the pipe rack are double walled. If the pipes are double walled please provide verification of construction. If they are not, a double walled system will need to be installed to provide secondary containment of those lines.
    a. As is the case in the details of TR-14 if the double walled construction is to be field fit during construction please provide a narrative discussing the size and type of pipe to be used and commit to providing the as built designs upon completion.
30. For all sumps depicted in the various drawings throughout the entire facility, please provide a narrative or table identifying their location, pump capacity, reporting location and drawing sheet references to verify the details of each respective sump.
31. Address the procedures related to spills or waste that cannot be reintroduced into the system as a method of disposal and which would require off-site disposal.
    a. Include a commitment to conducting TCLP testing of all waste prior to disposal in order to make a proper Hazardous Waste Determination.
    b. Commit to storing all waste in secondary containment while awaiting the TCLP test results.
32. Regarding Process Water:
    a. Please state the anticipated total volume of processed water to be stored on site at any given time pursuant to Rule 6.4.21(6)(b)(i). Is there a storage tank location or is the total volume stored throughout the piping of the facility and the various equipment?
    b. Eventually the process water will need to be disposed of. How will the system be drained into trucks for transport off site? Rule 6.4.21(6)

As-Built Certifications

33. Engineering evaluations and stamped certified as-built documentation should be submitted for the Mill building foundation and concrete superstructure, secondary containment structures for all circuits, and for the milling and tailings handling equipment.
    a. The certifications should also include the credentials of the individual or team certifying the review.
34. Commit to providing updated as-built drawings for any "obsolete" or inaccurate drawings that were submitted throughout TR-15. This includes any drawings updated after field fitting.

Commissioning and Wet Testing

The following items must be completed/ addressed by OSMI during the Commissioning/ Wet Testing of the mill. The Division will incrementally grant approvals to continue testing throughout the certification process. Upon completion of testing and all documentation being provided for final mill certification will be evaluated.

35. Prior to placing any tailings in the tailing storage facilities (TSF) and/or resale of blended waste rock and tailings OSMI must first provide the Division with the SPLP and TCLP results.
    a. AM-01 approved that "Synthetic Precipitation Leaching Procedure (SPLP) tests will be conducted on representative tailings samples to determine the waste's potential for leaching any toxic or acid forming materials. The initial test will be conducted once the mill is running and before any tailings are placed in their permanent location. The test results will be presented to the Division and no placement will occur until the Division has approved the results and the overall placement plan. Based on the premise that the tailings are inert, no base liners or special capping layers will be required for the 2 tailings piles."
    b. Tailings while awaiting test results should remain on site in a lined container or some form of secondary containment until such time as the test results can verify the tailings are inert.
36. In addition to item 35, complete testing for SPLP, ABA, TCLP Etc. as applicable for all waste streams, including process water, generated at the Revenue Mine.
    a. Provide updated values of Table 5 for; raw ore, Pb Concentrate, Zn Concentrate, and tailings upon commencement of wet testing.
    b. Provide updated values of Table 6 for raw ore and tailings upon commencement of wet testing.
37. Provide a summary table that compares all TCLP results to the EPS's 40 CFR 268.40 Table 7-1 (Maximum Concentration of Contaminants for Toxicity Characteristics).
    a. Provide TCLP results and Table 7-1 in the same units for comparison
    b. Specifically identify any contaminant that is over the regulatory limit

*Note that chemical make ups of concentrates and waste streams may change depending on the geochemistry of the ore body being mined. If OSMI encounters a significantly different ore body in regards to geochemistry, a re-evaluation of the waste stream, tailings and concentrate chemistry will be required to ensure that waste streams are properly characterized (i.e. a Hazardous Waste Determination).

38. Please commit to notifying the Division and submitting new test results if such a change is encountered.

Note the Division cannot evaluate/certify any mill features without complete and finalized information. All necessary information should be provided at time of the Revision request. If the information cannot be provided at the time of the request or if in the future, additional features are to be added to the mill circuit they will first need to be addressed through the Revision process prior to implementation.

Please submit your responses to the above listed issues by Tuesday, July 6, 2021 in order to allow the Division sufficient time for review. If you cannot address the above issues by July 6, 2021 please request an extension to the decision due date to ensure adequate time for the Division to review materials. A decision due date of **July 14, 2021** has been set. If any adequacy issues remain by the decision due date the Division may deny your request.

The Division will continue to review your Technical Revision and will contact you if additional information is needed. If you require additional information, or have questions or concerns, please feel free to contact me.

Sincerely,

Lucas West
Environmental Protection Specialist
Division of Reclamation, Mining and Safety

Ec: Travis Marshall, Senior EPS, DRMS
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