



COLORADO
Division of Reclamation,
Mining and Safety
Department of Natural Resources

August 2, 2022

Poppy Staub
Ouray Silver Mines, Inc.
P.O. Box 564
Ouray, CO 81427

RE: Revenue Mine, File No. M-2012-032, 112d Designated Mining Operation Amendment Application (AM-02), Adequacy Review-2

Mrs. Staub:

The Division of Reclamation, Mining and Safety (Division) is in the process of reviewing the above referenced application 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 shall be adequately addressed before the application can be considered for approval.

*Note that all Rule citations are based on the Hard Rock and Metals Mining Rules as amended, effective date of July 15, 2022.

6.4.2 EXHIBIT B - Index Map

1. While a regional map (Map B-1) was included due to the scale, all roads and other access to the permit area was illegible. Either provide an additional smaller scale map depicting the access roads utilized to enter each of the sites associated with this permit or highlight on the current map, all access roads utilized to enter all areas of the affected lands pursuant to Rule 6.4.2. This should also include the road used to access the Yellow Rose Vent Shaft Area.



6.4.3 EXHIBIT C - Pre-mining and Mining Plan Map(s) of Affected Lands

2. The requirements of Rule 6.4.3(e) are not sufficiently addressed on maps C-1A or C-1B presented in Exhibit C. Although sufficient maps were provided in Exhibit J, Vegetation Information, they are required under Exhibit C pursuant to Rule 6.4.3(e). Please duplicate the vegetation maps in Exhibit C. Additional vegetation information may be presented on a map in Exhibit J in addition to Exhibit C, if desired.
3. On Map C-1B roads are a depicted feature. However the name of the road is not clearly defined as required by Rule 6.4.3(b) please revise Map C-1B.g
4. Maps C-4 (Groundwater Flow) and C-5 (Regional Geology) should be included within Exhibit G as they are used to demonstrate groundwater flow regimes in the area. Please remove these maps from Exhibit C and insert them in Exhibit G with appropriate labels. Please also update applicable references as necessary. Additionally please locate the Governors basin and Yellow Rose Permit Areas on Map C-5 (Regional Geology).
5. On Map C-3 please clarify if the 'baseline conditions' depicted in orange are the current site conditions or prior to construction of the Tailings Storage Facility (TSF). If not please include another cross-section layer that depicts the current site conditions.
6. In the Mining Plan (Exhibit D) on page D-17 section 4.2, it stated that the avalanche paths are shown on map C-1A. Map C-1A does not depict avalanche flow path information. Though this information is not required under Rules 6.4.3 or 6.4.4, given the nature of the site and its high risk for avalanches, it is good information to to include. Please include a separate map with the local avalanche flow paths and update references(s) as necessary.
7. On Map C-1A please label Sediment Pond #1, located on the east side of the Atlas TSF.
8. Map C-1A is a map of the current/baseline conditions. Several features are proposed in this amendment such as the Tailings Thickener Superstructure, proposed groundwater monitoring wells and Sediment Pond #2 but are not included on Map C-1A because they have not yet been constructed. Please provide an additional map that shows all proposed features as this will be used as the Mine Plan Map moving forward.

6.4.4. EXHIBIT D - Mining Plan

9. Sections 4.2.1 reflects a change in total height of the Revenue TSF that is inconsistent with the table responses, associated maps and approved 2015 Tailings and Wasterock Management Plan (TWMP). Please revise the narrative to reflect the previously approved height, slope and benching requirements of the 2015 TWMP. Also, the table responses to questions number 123 and 124 of the PAR provide additional information that clarifies the TSF design specifications. Please include that information in the narrative of Exhibit D.
10. The 'typical' raise info provided under section 3.3 does not coincide with what was built at the Governors Basin Raise Bore. Describe the surface structure(s) and equipment currently present or to be installed at the Governors Basin Raise Bore. Explicitly state the existing shaft diameter, concrete pad(s) size, hoist housing/shed construction type (or other buildings) and dimensions that will eventually need reclaimed.

11. Section 4.9 of Exhibit D states that Ouray Silver Mines, Inc. (OSMI) is in process of obtaining a Road Use Agreement with the USFS for Road 869.3A. Once the agreement has been obtained please provide the Division with a copy.
12. Within the Mining Plan (Exhibit D) please clarify that a new building, the superstructure over the Tailings thickener, is also being proposed under this amendment. Briefly provide a description of the building, footers/foundations, dimensions, building materials, etc. and any other improvements to the existing structure necessary for construction. Additional questions regarding final reclamation and demolition of the tailings thickener superstructure are also included in Exhibit L.
13. On Table D-3 please include a quantity column or otherwise specify how many tanks of each type are contained in the mill.
14. Under section 4.12 (page D-22) please briefly describe all water diversion and impoundments for the entire Revenue site, pursuant to Rule 6.4.4.(c). A more detailed description can be referenced under Appendix 2 (SWMP).
15. Other exhibits mention a proposed SW Pond #2, however it is not explicitly proposed under Exhibit D, Section 4.12. Please provide information detailing the pond's location, size, time of construction, etc. Please note that this pond will be considered an (Environmental Protection Facility) EPF and need to be designed and certified in accordance with Rules 6.4.21(10) and 7.3.1(3). Please update all applicable exhibits, maps and figures to reflect this change.

Given the extreme location and weather of this site the Permittee may wish to be considered an intermittent operation as defined by C.R.S. 34-32-103(3)(6)(a)(II). If this is the case the applicant should include in this exhibit a statement that conforms to the provisions of Section 34-32-103(6)(a)(II), C.R.S.

6.4.5 EXHIBIT E - Reclamation Plan

16. As required by Rule 6.4.5(2)(a), Table E-1 does not clearly state the amount of affected land associated with each of the post-mine land use (wildlife or commercial) and the various reclamation treatments, waste rock or revegetation being performed at each area. Please revise Table E-1 to define the number of acres that will receive various reclamation treatments (# of acres revegetated, # of acres capped with waste rock) by location. This information will be used to ensure an accurate Reclamation Cost Estimate.
17. Similarly, under section 4, the acreages and volumes of areas to receive various reclamation treatments (topsoil and waste rock) are unclear.
 - a. Based on the narrative provided on page E-9 the Division is unclear as to how much total topsoil is required for reclamation vs. how much additional topsoil will need to be imported to complete reclamation. Is the total amount of topsoil to be applied 4,747 cy or 6,247 cy (1,500 onsite + 4,474 imported)? If the larger amount, where will the additional 1,500 cy be applied (not accounted for on table E-3)?
 - b. Table E-3 is titled 'topsoil import requirements'. The table lists out all areas requiring topsoil. This table should be renamed "topsoil requirements".

- c. Please revise table E-3 or create a new table to list out the volumes, depths and acreage for each area to receive waste rock treatments.
 - d. Please ensure that all tables depicting acreages and volumes of areas receiving various reclamation treatments are consistent throughout Exhibit E and Exhibit L.
- 18. The letter provided under Exhibit S from Ouray County regarding the end use of the structures to remain contains inspection and maintenance requirements as well as potential permitting requirements for an alternative use.
 - a. Please provide a commitment to inspect and maintain all buildings that are to remain onsite post-reclamation
 - b. It is noted that Ouray County will require a Certificate of Occupancy (CO) for use of the Admin Building post reclamation. Please secure and provide the Division the approved CO for the Admin Building. Until the CO is provided, the Division will bond for the removal of the Admin Building. If the Admin Building is to be removed please update all maps, tables and exhibits accordingly.
- 19. Section 3.1 states that “the final slope of the (Revenue) TSF will be 3H: 1V, where practical. If needed, the final slope configuration for the Revenue TSF may be a maximum of 2H: 1V.” The Division acknowledges that the Geotechnical Data provided supports the final slope configuration being 2H: 1V. However all submitted maps, narratives, etc. primarily reference the 3H:1V slopes being utilized. If OSMI wishes to utilize the 2H:1V slope configuration at the Revenue TSF at a later date, please notify the in writing Division prior to construction. Until such notification is made, 3H:1V slopes shall be implemented. Please note that deviations from 3H:1V slopes at the Atlas TSF, will require additional certifications and analysis.
- 20. Please revise the table in Section 3.4, page E-7 to show the volume of waste rock to place underground for each portal location. If no waste rock will be placed in the underground workings, please revise the table to omit that statement. Volumes provided in Exhibit E should match the volumes in Exhibit L.
- 21. For all areas receiving topsoil and revegetation reclamation treatment, please commit to decompaction of those areas prior to topsoil application.
- 22. Volumes are provided in Exhibit L for grading to achieve the applicable post reclamation topography however the narrative does not include this information. Please revise Section 4 of Exhibit E to include the total volume of base material to be moved to achieve the post reclamation topography prior to topsoil application. This information should also specify what volumes are associated with the reclamation of the Governors Basin Raise Bore area.

23. Section 4 of the narrative of Exhibit E does not address the requirements of Rules 3.1.9 and 6.4.5(2)(d) describing topsoil preservation. The PAR table responses #38 states “The topsoil stored on site in the stockpile will be seeded in spring of 2022 and will be protected by a vegetative cover to prevent erosion. Imported topsoil will not be brought on site until it is needed for reclamation and will be directly hauled to the site as reclamation is occurring.” This response should be incorporated into section 4 of Exhibit E. Note that Page D-20, section 4.4 of the mine plan contradicts this statement by stating “topsoil will be imported over the life of the mine...”, as does Exhibit I. Please revise all exhibits to consistently reflect topsoil importation timing.
24. Please specify the number of acres to receive hydromulch application and the number of acres to receive hand mulch.
25. Plugging and abandonment of monitoring wells was not sufficiently discussed within the reclamation plan. Please describe the methods to be employed and ensure the requirements of Rule 5 are sufficiently addressed. The methods described in Exhibit E should also be accounted for in Exhibit L.
26. Sec 9, page E-13 states, one annual weed survey will be conducted immediately following snowmelt. This is not sufficient. Plants germinate at different times, several surveys and/or treatments should be made throughout the growing season in order to effectively manage potential noxious weed populations on site. Please propose a more robust noxious weed monitoring and management plan.
27. Section 3.3 lists buildings to be removed and generally states they have foundations. Please commit to removing the foundations of demolished buildings or utilizing in place capping at a depth of no less than three feet below reclamation grade.

6.4.6 EXHIBIT F - Reclamation Plan Map

28. Map C-3, TSF Cross Sections, is presented in Exhibit C, it is more applicable to the Reclamation Plan Maps, please duplicate Map C-3 in Exhibit F.
29. Neither Map F-1 and F-2 contain topo lines depicting the final reclamation topography. Pursuant to Rule 6.4.6(a) the reclamation plan map must show the proposed topography of the area with contour lines of sufficient detail to portray the direction and rate of slope of all reclaimed lands.
30. Updated map F-1 and map F-1a to correspond with approvals from Ouray County (CO for Admin Building) regarding which buildings are to remain post reclamation.
31. Surrounding the treatment ponds are currently rock with a split rail fence, map F-1 depicts no fence and revegetation. Will the fence and rock be removed upon final reclamation? If so please update the reclamation plan narrative to support map F-1 as currently depicted. OR revise map F-1 to include these features post-reclamation.

6.4.7 Exhibit G - Water information

32. In order to completely address the requirements of Rule 6.4.7(2)(d) for the Atlas TSF, please incorporate the more in depth PAR table response #61 into the narrative portion of Section 2.3 of Exhibit G.

33. Two maps labeled G-1 were provided under Exhibit G. Please rename one of the maps to differentiate between the two. And update references to the maps within the narrative portion of Exhibit G.
34. Section 2.2 of Exhibit G references new proposed groundwater monitoring wells downgradient of the Mill Facility to be constructed in the summer of 2022. Please clarify if Summer of 2022 is still an appropriate estimate for completion. Also please see additional comments in Exhibit U.
35. The wetlands on Map G-1, Mine Area Surface Hydrology, are slightly different from maps F-1, C-1a (between TSF). Please revise Map G-1 accordingly.
36. The Division agrees that the areas of influence identified on Map G-2 are appropriate though smaller than the two miles as required under Rule 6.4.21. However please provide a narrative describing the justification for the smaller area.
37. Please revise Map G-2a to depict the permit area pursuant to Rule 6.2.1.

6.4.9 EXHIBIT I - Soils Information

38. Please include a soil map similar to Map I-1 for the Yellow Rose area pursuant to Rule 6.4.9(1).

6.4.10 EXHIBIT J - Vegetation Information

39. Pursuant to Rule 6.4.10(1)(a) provide descriptions of present vegetation types, which include **quantitative** estimates of cover and height for the principal species in each lifeform represented (i.e., trees, tall shrubs, low shrubs, grasses, forbs). Only general life forms were discussed in the information provided. Please submit a revised narrative addressing all requirements of Rule 6.4.10(1).
40. With regards to the requirements of Rule 6.4.10(1)(b) the PAR table response #68, more adequately addresses the correlation between soils and vegetation as compared to the narrative provided in Exhibit J. Please incorporate the table response into the narrative.

6.4.11 EXHIBIT K - Climate

41. Pursuant to Rule 6.4.21(13)(b)(i) please provide under Exhibit K one set of data for the wettest year on record for the area.

6.4.12 EXHIBIT L - Reclamation Costs

42. Please provide the input data to calculate demolition for the Admin bldg until the CO is provided. This includes a detailed list of building dimensions, construction type, equipment used, task hours associated with activity, volumes of waste generated and its disposal location, etc.

43. Throughout the Reclamation Cost Estimate, several “User Provided” items are included. User provided costs are primarily associated with the demolition of structures (or building clean out). Figures provided have largely remained unchanged over a period of several years. For those items calculated based on User Provide cost please provide updated estimates and provide supporting documentation that the proposed costs are accurate. Alternatively provide input details such as volume of waste generated, dimensions and building materials requiring demolition, total task hours associated with various activities, etc. *Please note that the Division does not allow for salvage credit.
44. Ensure that volumes of material to be sloped, graded, transported and spread are consistent between exhibits. Total volumes imported and moved as well as volumes by area should correlate to those volumes to be reclaimed as presented under Exhibit E.
45. If the tailings thickener superstructure is being proposed under AM-2, then demolition cost even if the building has not yet been constructed will be bonded for. General construction details are requested under Exhibit D. Additionally please provide the overall volume of waste generated from dismantling the building, which will be placed underground and the hrs associated with its removal. Task 01a should also include an item for removal of the cement footers.
46. Task 05a is the importation of topsoil. The total cost (User Provided) has decreased despite the fact that additional topsoil importation is now required. In order to verify the import costs please provide three bids/ contracts for the importation (cost plus delivery) of 4,747 cy of topsoil. These bids must be honorable to both OSMI and the Division.
47. Task 06b is provided for revegetation of the vent shaft areas. If neither the Yellow Rose or the 960 Raise are being proposed at this time, and Governors Basin has no revegetation, what is this task designed to cover?

Rule 6.4.14 Exhibit N- Source of Legal right to enter

48. The table provided under Exhibit N correlates to Map C-2. Please revise the table to include County Parcel ID numbers.

6.4.15 EXHIBIT O - Owner(s) of Record of Affected Land (Surface Area) and Owners of Substance to be Mined

49. The table response to question #73 of the PAR, more adequacy addresses the requirements of Rule 6.4.15 regarding less than 100% mineral ownership of the substance to be mined by OSMI. Please incorporate the table responses into the narrative portion of Exhibits O.

6.4.19 EXHIBIT S - Permanent Man-Made Structures

50. Please provide the original notarized copy of the Structure Agreement included in Exhibits S between Six Basins and OSMI for the public restrooms located on CR 26.

6.4.21 EXHIBIT U - Designated Mining Operation Environmental Protection Plan (EPP)

51. Pursuant to Rule 6.4.21(10)(a) all stormwater control features and diversions to control run on/off water are considered EPF's.
 - a. Pursuant to Rule 6.4.21(2) all EPFs shall be identified on a map. Please update map U-1 accordingly, note a second map for Governors Basin may be necessary.
 - b. Please update the list of EPF's on page U-6 to incorporate stormwater features identified above. Additionally revise table U-4 to include all EPF's.
52. On Table U-1 the designated chemical name for Sodium Isopropyl Xanthate is blank on column 1, please revise Table U-1.
53. Under TR-14, Copper Sulfate is only authorized to be stored in 26 gallon or 50 lb sacks for a total volume to be stored on site of 336 gallons or 500 lbs. Tables U-2 and U-3 reference storing a significantly larger volume of reagent, please revise the tables to coincide with the approved volumes of TR-14.
54. Table U-3 lists Lime packaging size as a 100 lb super sack. Please clarify the Reagent Packaging Size in Table U-3.
55. Page U-26 of Section 7.2.5 (references section 9.3, which does not exist) does not provide sufficient discussion to address the requirements of Rule 6.4.21(7) with regards to the Passive Mine Water Treatment System. Please update this section.
56. Page U-30, in addition to other exhibits throughout the application materials references the completion of new groundwater monitoring wells at a later date. Please provide additional details regarding this set of wells such as; a more precise location, estimated drill depth, construction information and tentative construction schedule. Please note that these wells will be required to be completed and sampled in accordance with the approved Groundwater Monitoring Program prior to the resumption of milling activities at the site. Please update all other exhibit references and maps as necessary to support this proposal.
57. Page U-29 section 8.4 references section 7.3 for more info, however this section does not exist under Exhibit U. Please update this reference.
58. On Page U-37 section 10.1.1 "A proposed new sediment pond will capture stormwater to infiltrate groundwater." The Division infers this to be regarding the new stormwater pond located near the entrance to the site depicted on Map U-1. If so please provide more information including design specifications, drawings and estimated construction schedule. Please note that this pond, like all other stormwater control features, will be considered an EPF and subject to all applicable Rules. Ensure that all other exhibits are updated to reflect this new feature.
59. Table U-11 provides Surface Water Sampling Results. Additional samples that do not correlate to those listed on map U-1 were provided. Please clarify specifically for samples SW-0 and SW-99 what/where these locations are.
60. Page U-46 section 12.2 references table U-8, this should be table U-10. Please update table reference.

Rule 6.5 - GEOTECHNICAL STABILITY EXHIBIT

61. No revised exhibit was submitted, only table responses. Please incorporate changes specified in the PAR response table into the exhibit language as appropriate and submit the revised Exhibit.

Appendix 1: Spill Prevention Control and Countermeasures (SPCC) Plan, Emergency Response Plan (ERP) and Materials Containment Plan (MCP)

A revised SPCC Plan was not submitted as part of the PAR response of AM-2. Please provide an updated plan which addresses the adequacy questions listed below.

62. SPCC table on page 24 does not include containers C-10 and C-11. Please revise the table to include all applicable containers.
63. Update the SPCC to reflect that the Material Warehouse Buildings has replaced the Material Storage connex as storage location C-3.

Appendix 2: Stormwater Management Plan (SWMP)

64. The interpretation of Rule 6.4.21(10)(a) is incorrect. Section ii of this Rule identifies features intended to convey, transport or divert surface water around or away from acid mine drainage or toxic or acid forming materials as EPF's. By this definition, that includes features and (Best Management Practices) BMPs which mitigate or control run-on-water. The Division requires these EPFs to be designed and certified by a licensed professional engineer in accordance with the Rules. Please provide the required information for all Stormwater control features.
65. The GB Stormwater Diversion Ditch #1 intercepts run-on water at Governors Basin and routes it around the site. While a stormwater channel will convey stormwater from the disturbed areas off location. Will either of these ditches/channels employ the use of collection/settling ponds prior to discharging off site. Otherwise how will erosion and sedimentation be mitigated?
66. Page 5 of Appendix 2 states "All disturbed areas have collection systems in place that will direct runoff to the passive water treatment system..." This statement is inaccurate because disturbed areas of Governors Basin and the Atlas TSF receiving stormwater do not report to the passive water system. Please revise this statement to clarify that only the main Revenue site reports to the passive water treatment system. As well as expand the statement to describe where water from the disturbed areas of the Governors Basin and Atlas TSF report to.
67. The use of erosion logs, wattles, silt fencing, etc are mentioned on pages 11-12 (of Appendix 2: SWMP). However, where and how they will be utilized is not specifically mentioned. Please fully describe the applications (when and where) these BMP features will be utilized.

Appendix 6: 2015 Tailings and Waste Rock Management Plan (2015 TWMP)

68. The cross sections for the Atlas TSF included in the 2015 TWMP are for the proposed location and do not reflect the actual location that the TSF was built. Please include the Cross Section Map, C-3 in this section as the accurate cross sectional map given the TSF's constructed location.

Appendix 8: Reagent Safety Data Sheets (SDS)

69. An SDS sheet for Sodium Metabisulfite by manufactured Quadra Chemicals LTD has not been provided under the AM-2 materials pursuant to Rule 6.4.21(5)(c). Please provide a comprehensive packet with all 13 SDS sheets as Appendix 8 for the permit file.

Please submit your response(s) to the above listed issue(s) by **Friday August 19, 2022** in order to allow the Division sufficient time for review. The decision date for your application is scheduled for September 1, 2022. If you require additional time to address these items please submit a Decision Date Extension Request in writing. The Division will continue to review your application 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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