



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

February 16, 2022

Todd Jesse  
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-1**

Dear Mr. Jesse:

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.

**APPLICATION FORM**

1. The application form states the #2 Operation Name as “Revenue-Virginus Mine” while other documentation and DRMS previously refers to the site as the “Revenue Mine”. Please clarify the Operation Name going forward. If name is changed please update throughout all Exhibits to ensure consistency.

**6.4.1 EXHIBIT A - Legal Description**

2. Include a USGS map with the mine entrance location shown in latitude and longitude or Universal Transverse Mercator (UTM). Pursuant to Rule 6.4.1(2)
3. Please provide the GPS coordinate of the approximate location of the Yellow Rose, 960 Raise and Monongahela Raise locations.



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

4. All Maps indicate Affected Area Boundary, which is inferred to also be the Permit Boundary. Please revise all maps to indicate the "Affected Lands/ Permit Boundary". Also please indicate in the narrative portion of Exhibit D and all other applicable Exhibits, that the Affected Lands Boundary is synonymous with the Permit Boundary.
5. Please submit maps of the underground mine workings in plan view and cross section, including areas of potential future mining, to the extent possible. The maps should depict all raises, stopes and tunnels. These maps will be used for reference material only, and not subject to further adequacy review.
6. Are all of the claims listed in table S-1 patented (therefore private surface)? If not, provide the surface owner for all unpatented claims pursuant to Rule 6.4.3(a).
7. Requirements of 6.4.3(e) are not sufficiently addressed under Exhibit C, please revise the applicable maps to include the required vegetation information.
  - a. Maps presented in Exhibit C need to also present the vegetative cover information of the 960 Raise, Yellow Rose or Governors Basin pursuant to 6.4.3(e). Please revise the applicable maps, and or submit additional maps to present this information in Exhibit C.
8. No map depicting water information for the 960 Incline or the Yellow Rose was provided pursuant to 6.4.3(f). If desired this information may also be presented in Exhibit G through a revised or new map. See adequacy question(s) under Exhibit G
9. No map was included in Exhibit C or S that depicts the owner's name, type of structures, and location of all structures contained in the area of affected land and within two hundred (200) feet of the affected land, pursuant to 6.4.3(g). Please submit a separate structure map, depicting the required information of this section. Please note that also in Exhibit S, the informational sign located North of Pond 2 is not identified; be sure to include this in the revised map and appropriate Exhibits.
10. Requirements of 6.4.3(h) are not sufficiently addressed for the vent raises under Exhibit I, see further comments under the Exhibit I adequacy.
11. Where are the existing topsoil piles located? Will imported topsoil be stored in the same location? Depict all stockpiles location on the appropriate maps.
  - a. The 2015 TWRMP states that during the Atlas Tailings Storage Facility (TSF) construction up to 12" of topsoil may be harvested. This facility has recently been constructed, if a new topsoil stockpile was created also indicate the new location on all applicable maps.
12. It is difficult to distinguish if the wetlands delineated on map C-1A coincides with the information presented in Appendix 5. Please see comments under Appendix 5 and revise maps as necessary.

#### **6.4.4. EXHIBIT D - Mining Plan**

13. Section 3.5 refers to the Peak Particle Velocity calculations that have been conducted by OSMI. Please submit those calculations, in the Geotechnical Stability Exhibit, as required by Rule 6.5(4) and if necessary demonstrate that any permanent man-made structures in the vicinity of the blasting area will not be adversely affected.
14. AM-2 Moisture content of tailings stated in section 4.4 is 13-20% while section 5.2 states 13-18%. The approved 2015 Tailings and Waste Rock Management Plan (TWRMP) identifies the moisture content shall be 13-18%. Please ensure all references to the moisture content of the tailings in the applicable Exhibits are consistent and adhere to the 2015 TWRMP.
15. Section 4.4 page D-12 it is stated that “a zero-discharge mill water conditioning facility will be installed” please note that this type of modification to the mill will need to be addressed through the Division’s Revision process prior to installation and use.
16. Page D-15 of Section 5.2, Exhibit D states that “quality control density samples of the compacted materials will be conducted using a field density instrument every 2,000 tons of tailings that are placed.” However Page 1 of Section 4 of the approved 2015 TWRMP included in Appendix 6 states that “The compacted tailings and waste rock shall be tested for proper compaction at a minimum rate of one test per 100 tons until such time as procedures and methodology have been worked out. Please commit to quality control density sampling every 100 tons as stated in the approved 2015 TWRMP. Any deviation from this testing requirement will need to be reviewed and accepted by the Division prior to a change in testing frequency.
17. Production tonnages provided throughout the application are inconsistent please revise appropriately, to ensure consistency. Also see comments in the Exhibit U section of this review.
18. Section 5.2 discusses the Geotechnical Stability Analysis for the Tailings Storage Facilities. Please see comments under the Geotechnical Stability analysis section of this review.
19. In accordance with the approved 2015 TWRMP, as build certifications for the construction of the foundation for the Atlas TSF was requested under a separate correspondence from the Division dated January 21, 2022. Please also include the as-built certifications in your response to this review.
20. Will the jurisdictional wetlands mentioned in section 5.2.2 (Atlas TSF) be field delineated during all phases of the operations at that facility?
21. Sections 5.2.1 and 5.2.2 discuss the construction and sloping of the two respective TSF’s. Section 5.2.2 states that the Atlas TSF will have a 10 foot bench at 50 feet. However item e, in Section 7 of the approved 2015 TWRMP (Appendix 6) states that every 30 feet vertically, a bench of 10 feet will be installed. This means that the Revenue TSF would have 1 bench and Atlas TSF should have 2 benches at their final construction. Revise the narrative to reflect the benching requirements of the approved 2015 TWRMP. Submit revised drawings and maps in all applicable Exhibits as necessary to depict these

features. Please also see adequacy items under Exhibit F and Section 6.5- Geotechnical Stability Exhibit.

22. Describe the surface structure(s) and equipment currently existing or to be installed at each of the vent shaft areas. Explicitly state the proposed (or existing) shaft diameter, concrete pad size, hoist housing/shed construction type and dimensions, and other supporting structures that will eventually need reclaimed. If the vent shafts are conceptual in nature, please commit to addressing them through the Division's revision process.
23. No roads are depicted on the mining maps leading to the 960 Raise or Yellow Rose. The Division understands that the hole will be bored from underground to the surface however placement of surface structures and completion of reclamation will require surface access. Please identify how access to these areas will be achieved.
24. During recent discussion, OSMI has indicated the desire to construct a superstructure around the Tailings Thickener Tank located on the surface. Please provide a general description of the proposed structure and the construction drawings (building and foundation). Also please revise all other applicable Exhibits and Maps to include these changes. Specifically address reclamation requirements and bonding implication of a new structure.

#### **6.4.5 EXHIBIT E - Reclamation Plan**

25. The post-mining land use designated on the application form is Commercial industrial and wildlife habitat. The introduction of the reclamation plan states the post-mining land use is high-altitude rangeland. This needs to be consistent throughout the application and supported by narrative descriptions and maps.
26. Please provide a comparison of the proposed post-mining land use types to other land uses in the vicinity as well as why each was chosen. Include evidence to support the reasonableness of each land use type selected. State the amount of acreage associated with each type. Pursuant to Rule 6.4.5(2). A depiction of the areas of varying Post Mining Land use can also be displayed on revised Reclamation Plan Maps.
27. For the structures to remain post-mining provide a justification for their use and authorization from the county. What reclamation measures/tasks are required for the structure(s) to remain? Please list specific items as they relate to each individual building.
28. Section 3.1 "If needed, the final slope configuration may be a maximum of 2H: 1V. This is a conflicting statement to what was approved in the 2015 TWRMP (Jul 2015) and what is stated in Exhibit D of this application. Also, the submitted materials under Section 6.5 - Geotechnical Stability Exhibit (Nov 2015) appear to demonstrate that the Revenue TSF was evaluated at a 2H: 1V and the Atlas TSF was evaluated at a 3H: 1V. If OSMI wishes to construct slopes steeper than a 3H1: V on the TSF's then a demonstration shall first be made under Section 6.5- Geotechnical Stability Exhibit. Appendix 6, the 2015 TWMP shall also be revised to support this practice. See additional adequacy comments in these sections for more specific guidance.

29. Section 3.1 states that only portions of the TSF will receive topsoil and be revegetated. Describe in more detail how the areas not being revegetated will be reclaimed. Additionally state the acreages of each TSF receiving various reclamation methods/treatments.
30. Section 3.2 describes placing topsoil or other native soil material over the backfilled areas of the vent shafts and secondary escapeway. Please include a narrative detailing the reclamation of those specific areas as well as any revegetation of the applicable areas.
31. Section 3.3 states that the "Reagent Room" will be removed during reclamation. Please clarify if this is the Reagent Building currently under construction, or the small Reagent Room attached to the mill building. If it's the Reagent Building please provide more detail regarding its removal.
32. For section 3.4 please provide the quantitative details regarding portal reclamation. I.e portal opening dimensions, volume of material needed for backfill and regrade, job hours for each task, etc.
33. Describe in detail the collection ditches mentioned in section 3.5 that will be reclaimed. Provide volumetric estimates of material handled, topsoil placement and seeded, as applicable.
34. Table E-3 lists "non-waste disturbed areas" totaling 2.14 acres. Areas outside of the Tailings Storage Facilities requiring revegetation are not identified on map F-1. Please provide a narrative detailing the reclamation of this area including the need for decompaction as well as all other applicable details. Please also ensure this area is reflected in the revised Reclamation Plan Map(s).
35. Section 4 states that "the Revenue Mine will be regraded, as needed to achieve a final grade of 3H: 1V slope". Please describe the anticipated scope of this work. What is the anticipated volume of material requiring grading, the location(s) needing grading, material type/source, cut/fill or backfill, etc.? This information should also be reflected in Exhibit L.
36. Page E-8, Section 4 mentions "The ore pad will be buried with tailings prior to the final capping of the Revenue TSF." It is inferred that the referenced storage pad is the existing temporary tailings storage pad. The Division has not approved this pad as a surface ore storage facility to date, see comments under Exhibit U relating to this topic. Please clarify what storage pad is being referred to in the reclamation plan.
37. Beyond placement of topsoil, what sort of soil condition/ seed bed preparation will occur prior to broadcast seeding? I.e. disking, ripping, etc.?
38. Please identify how the limited topsoil on site and the imported topsoil be preserved until final placement Pursuant to Rules 3.1.9 and 6.4.5(2)(d).
39. On Table E-4 please provide the specific varieties of plant species to be used for reclamation.
40. Rule 6.4.5 (2)(d)-State the proposed time of planting (i.e. planting season window(s)).
41. Will the areas receiving hydro-mulching also have the seed included in the spray, or will these areas first be broadcast seeded then hydro mulched? Similarly will the areas receiving hand spread mulch also require hand broadcast seeding?

42. Please specify the total acreages to receive various methods of reclamation. I.e. broadcast seeding, hand broadcast seeding, hydro-mulch, and hand spread mulching.
43. State if any fertilizer will be used. If so specify types, mixtures, quantities and time of application; pursuant to Rule 6.4.5 (2)(f)(iii).
44. State if any container stock will be used during reclamation pursuant to Rule 6.4.5 (2)(f)(iv).
45. Address how the 960 Raise and Yellow Rose will be accessed to conduct surface reclamation. Access even with small equipment will likely result in some surface disturbance requiring reclamation, please address these concerns.

#### **6.4.6 EXHIBIT F - Reclamation Plan Map**

46. Explain in more detail the table provided on map F-1 regarding the TSF. The table suggests that 6.1 Acres of the Revenue TSF and 3.6 Acres of the Atlas TSF will have exposed tailings however, the map shows areas not to receive revegetation will be capped with waste rock which is consistent with the narrative (2015 TWRMP). The table appears to not match the shaded areas depicted in Map F-1 please clarify the table regarding applicable acreages of the reclamation. Please revise the included table to accurately demonstrate the reclamation measures in the narrative.
47. Map F-1 explicitly states that "All regraded slopes will be no steeper than 3H: 1V." This is inconsistent with discussions in the Mining and Reclamation Plans, please see adequacy items in Exhibits D, E, and 6.5.
48. Map F-1 appears to depict the bridge and an access road at the Atlas TSF leading to the sediment pond. This feature is depicted as both covered in waste rock and remaining as dirt. Please clarify if these are post reclamation features. If they are to be reclaimed please provide details in the reclamation narrative regarding the reclamation of the bridge, sediment pond and access road as well as update on applicable maps.
49. If certain figures are to be removed upon final reclamation they should not be depicted on the final reclamation plan map (Map F-1). Map F-1a adequately demonstrated which structures stay or will be removed. Map F-1 should depict the site as will be upon completion of final reclamation.
50. Map F-2 is of insufficient detail to depict the expected physical appearance of the area of the affected land upon completion of reclamation. Please provide additional maps of sufficient scale to depict reclamation of the vent shaft areas including anticipated topography, remaining structures, reclamation measures (seeding, caprock, etc.)
51. A Surface Exit Raise (not within the affected lands boundary as proposed) is depicted in the bottom left of Map F-2 but is not labeled. Clarify what this shaft currently is and the proposed future use. Explicitly state if this raise currently goes to the surface or if construction to surface is being proposed at this time.
52. Map F-2 does not correctly depict the location of the Monongahela/ Hubb Reed Raise within the proposed permit boundary. Please update Map F-2 to accurately depict the raise location within the Permit Boundary/ Affected Lands.

53. What is the vegetated areas depicted on map F-2 due north of the Monongahela/ Hubb Reed Raise area located outside of the permit boundary. If this is a map error, please remove the feature in the revised Map F-2.
54. For all features depicted on map F-1a as remaining structures, provide documentation from Ouray County that they are allowed to remain since they are no longer used for mining purposes.
55. Areas outside of the Tailings Storage Facilities requiring revegetation are not identified on map F-1. Table E-3 of the reclamation plan states a total of 5.43 acres will receive topsoil and be revegetated while the map F-1 only depicts a total of 3.3 acres associated with the TSFs. Please revise the map and/or narrative to provide consistency between Exhibits.
56. Sections 5.2.1 and 5.2.2 discuss the construction and sloping of the two respective TSF's. Section 5.2.2 states that the Atlas TSF will have a 10 foot bench at 50 feet. However item e, in Section 7 of the approved 2015 TWRMP included in Appendix 6 states that every 30 feet vertically, a bench of 10 feet will be installed. This means that the Revenue TSF would have 1 bench and Atlas TSF should have 2 benches at their final construction. Revise the associated maps to reflect the benching requirements of the approved 2015 TWRMP. Please also see adequacy items under Exhibit D and Section 6.5- Geotechnical Stability Exhibit.

#### **6.4.7 Exhibit G - Water information**

57. Please revise or submit new maps addressing Rule 6.4.7(2)(a) for the Yellow Rose and 960 areas.
58. Map G-1b does address the requirements of Rule 6.4.7(2)(a). However stormwater Best Management Practices (BMP) features depicted on map are of an insufficient scale. Please provide details regarding stormwater BMPs under Exhibit G and Appendix 2 at an appropriate scale.
59. Watershed drainages are described throughout the narrative, please provide a new corresponding map(s) to depict these areas for both the main revenue site as well as the raise areas. This map(s) will provide clarification for water balance and stormwater calculations. Also see comments under the Exhibit U.
60. The Atlas TSF sediment pond appears to be a discharging feature. The point of compliance for CDPHE Discharge permit # CO-0000003 is at the Revenue outfall 2A. Is the Atlas sediment pond covered by another discharge permit or will the current discharge permit be modified to include a secondary discharge point?
61. Section 2.3 states that "Surface runoff from the Atlas TSF is controlled by a sediment pond constructed alongside the Atlas TSF." With regards to Rule 6.4.7(2)(c) how is surface water discharge coming off of the Atlas TSF being sufficiently controlled for pollution in a manner consistent with water quality discharge permits both during and after the operation. Demonstrate that SPLP results meet applicable surface water discharge limits.

62. Please provide table(s) to summarize the project water requirements detailed in Section 3 which includes usages by the mill on an annual basis pursuant to Rules 6.4.7(3) and (4). The table should also demonstrate the project water requirements and usages are within the adjudicated water rights presented in Appendix 3.

#### **6.4.9 EXHIBIT I - Soils Information**

63. The total acreages of permit area provided in Table I-1 which list soil types within the mine site does not add up to 51.69 acres and is inconsistent with Appendix 4. Please update the table to accurately account for all soil units within the Permit Area.
64. The soil type information is depicted in Map IJ, however it does not depict soil type information for the vent raise areas. Governors Basin and the Yellow Rose are not depicted on the map at all. Please submit a new or revised map depicting the various soil types as described in Appendix 4 for all affected areas Pursuant to Rule 6.4.9(1).

#### **6.4.10 EXHIBIT J - Vegetation Information**

65. Section 2 states that the wetlands delineation of the Atlas TSF has been suspended however Appendix 5 suggests it was later completed. Please revise the narrative to reflect the accurate wetlands delineation included in Appendix 5.
66. Please see additional comments regarding the wetlands delineation under Appendix 5.
67. Pursuant to 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).
68. The requirements of Rule 6.4.10(1)(b) are not sufficiently addressed in narrative or map form. The narrative does not state a correlation between soil type and vegetation, nor does Map IJ depict this. Please ensure the revised narrative addresses the requirements of Rule 6.4.10(1)(b) and is consistent with information provided in Exhibits I and J.
69. Rule 6.4.10(2) requires vegetation be clearly delineated as it relates to existing topography. Map IJ does not accurately depict the actual site conditions as it relates to cover type, such as wetlands, forest, range, waste rock, etc. Please revise the map to accurately depict site features as required by Rule 6.4.10(2).

\*It is recommended that Map IJ be separated into multiple Exhibits as the current map is extremely busy and hard to read. Taking special care to only depict what features are required in each Exhibit will also increase the readability of the map.

#### **6.4.11 EXHIBIT K – Climate**

70. The office has determined that the information required under Rule 6.4.21(13) shall also be required under Exhibit K. Please ensure that figures presented under 6.4.21(13) are consistent with information provided under Exhibit K. See additional comment under Exhibit U regarding this requirement.



#### **6.4.126.4.12 EXHIBIT L - Reclamation Costs**

71. The reclamation cost figures presented, relate site conditionals at the time of TR-16 approval. Please submit supplemental figures to address the all changes being proposed under AM-2. This can be an additional table with the required information supplementing the submitted worksheets.
72. Throughout the Reclamation Cost Estimate, several "User Provided" items are included. For those items please ensure the estimates have been updated (inflation) and provide supporting documentation that the proposed costs are accurate.

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

73. Several claims are listed in table O-1 as having less than 100% interest by OSMI. Please provide information regarding who owns the remaining interests. For those interests where OSMI is not the majority owner for any parcels, provide an agreement to comply with the requirements of Rule 6.4.14.
74. On a map, please locate the claims presented on Table O-1. Include the proposed affected lands as well as the proposed underground extents of mining as it relates to demonstrate that all substances to be mined by OSMI are legally obtained.

#### **6.4.19 EXHIBIT S - Permanent Man-Made Structures**

75. Only claim numbers are listed in Table S-1. However under Exhibit N (Legal Right to Enter) the county parcel ID numbers are provided. To ensure ownership of all features, revise table S-1 to include the county parcel Id numbers.
76. What appears to be an agreement on behalf of Ouray County for County Road 26 was included with the application materials. The structure agreement submitted is insufficient. Please provide a notarized agreement between the applicant and the person(s) having an interest in the structure, that the applicant is to provide compensation for any damage to the structure Pursuant to Rule 6.4.19(a).
77. No Structure agreement was submitted for USFS-Road 853.1c. Please provide the appropriate documentation per Rule 6.4.19.
  - a. The Division acknowledges the comment received from the USFS regarding a new agreement being entered into, please note a structure agreement will still be necessary.
  - b. In meetings with the Operator the Yellow Rose shaft may be accessed from an existing USFS road. If the Operator intends on using this road please ensure that all agreements also include use of this structure.
78. Does OSMI own the informational sign located across from pond 2? If not, provide a structure agreement for this feature. If OSMI does please add this feature to the Table S-1, list of structures owned by OSMI.

#### **6.4.21 EXHIBIT U - Designated Mining Operation Environmental Protection Plan**

79. On Map U-1 identify which structures are Environmental Protection Facilities.

80. Under Exhibit U section 2.3 and within Exhibit D, several references to the annual tonnages of waste rock and tailings produced are stated. Though these are estimates, the values presented are inconsistent. Please update all applicable sections of the Exhibits to provide consistent estimates of tonnages of waste rock and tailings produced throughout the application.
81. Other necessary permits and licenses shall also be listed in Exhibit U pursuant to Rule 6.4.21(4)(a). The permit list included in Exhibit M should be identical to those listed in Section 3 of this Exhibit.
82. Section 3.1 on page U-8 states “the administration building, which requires county building permits to construct as this is to remain post mining.” Does this mean that any existing or future buildings that will remain post-mining will also require county building permits?
  - a. Specifically several buildings are slated to remain post mining and the Division has no documentation that this is acceptable to the County. In conjunction with adequacy comments under Exhibits E and F of this review, please provide documentation demonstrating the structures may be used for purposes other than mining.
83. Table U-1 does not fully address the requirements of Rule 6.4.21(5) as stated on page U-10.
  - a. Specifically Rule 6.4.21 (5)(b) specify the expected concentrations.
  - b. In addition, Pages 2 and 4 of Table U-1 appear to be missing columns from Pages 1 and 3. Please ensure that all chemicals in Table U-1 include the Manufacturer, Alternative Names and Fate of Chemical is provided on all sheets. Please also identify on the table which reagents are the primary, and which are alternatives. This table should correspond with what was approved in TR-14.
  - c. Not all of the MSDS sheets were provided as required under Rule 6.4.21(5)(c). Please see adequacy comments under Appendix 8.
84. No discussion was presented regarding the procedures for the disposal, decommissioning, detoxification or stabilization for all designated chemicals and toxic or acid-forming materials. Pursuant to Rule 6.4.21(6)(a) please provide these details. Please also ensure the narrative addresses the requirements of Rule 6.4.21(6)(b)(i).
85. It is generally accepted that the Revenue site is inert and unlikely to produce acid or toxic mine drainage. To demonstrate compliance with Rule 6.4.21(6)(b)(ii) please include previously supplied ABA results for all waste streams generated on site.
86. Section 5.2 on Page U-13 states that a “lined pad” has been constructed near the Revenue portal to allow for temporary storage of tailings awaiting testing and to allow for the import of ore material from offsite, should OSMI seek approval for this activity. Please note that the temporary geosynthetic clay liner was approved for temporary tailings storage and not evaluated for surface ore storage. No ore should be stored on this pad, nor imported from offsite until the specifics of the pad and nature of ore importation is thoroughly reviewed and approved by the Division. This will need to be addressed through the Division’s Revision Process and is not approved at this time. See previous comments under Exhibit E.

87. Section 5.3 addresses the prevention of adverse off-site impacts during mining operations, however no discussion was provided for periods of Temporary Cessation. Pursuant to Rule 6.4.21(6)(b)(iii) please provide narrative discussing how the potential for offsite impacts is mitigated during periods of Temporary Cessation.
88. Page U-15 states "Total containment for the on-site facilities is provided in Table U-3, which demonstrates adequate containment of the 10-year 24-hour storm event per Rule 7.3.1(3)." This citation is only applicable to surface Environmental Protection Facilities. Please revise the narrative to reflect that containment volumes of reagents and their storage areas are provided in Table U-3.
89. Under section 6 please address the requirements of Rule 6.4.21(7)(f) as it relates to all surface containment facilities.
90. Table U-4 provides a summary of the EPF's and other facilities, however the Mill Facility which is considered an EPF is not listed. Please update the list to include the Mill Facility and display the appropriate information. On Table U-4 designated with facilities are EPFs versus other Facilities.
91. Under section 6 please provide a facilities evaluation for each EPF listed in Table U-4 pursuant to Rule 6.4.21(7).
92. Page U-15 states "blend of tailings and waste rock and will be reclaimed in place once mining and processing is complete." This statement is contradictory to the 2015 TWRMP which states the TSF(s) will be reclaimed as they are constructed. Please revise the narrative to match the previously approved 2015 TWMP.
93. The BMP's presented in section 6.1 do not all coincide with other practices or requirements presented in this application. Please revise this section to be consistent with all other Exhibits. These inconsistencies include, but are not limited too;
  - a. "TSFs and waste rock embankments will be capped with a minimum of 6 inches of topsoil and planted". The majority of the site will not be topsoil and revegetated, only a small amount will receive this practice.
  - b. "SPLP tests are conducted on the tailings quarterly" According to 2015 TWRMP (Section 2h), SPLP testing is to occur six months or sooner if chemistry has changed. Is OSMI committing to more frequent testing?
  - c. "Waste rock cannot make up more than 20% of the material to be placed in the permanent TSFs" The 2015 TWRMP (section 3a) states no more than 15% waste rock may be used.
94. The requirements of Rule 6.4.21(8)(a) and (b) for waters within two miles of the proposed affected lands was not sufficiently addressed. Under Rule 6.4.21(8)(a) and (b) information may be limited to those areas which can be demonstrated by the Operator to lie within local ground and surface water regiments that include the affected lands. Please provide a demonstration of the relevant surface and groundwater regimes. Separate demonstrations for the main Revenue area and vent raises may be appropriate.
95. Based on the areas demonstrated above, please address all requirements of Rule 6.4.21(8).
96. Update Exhibit G, as applicable to coincide with changes made in section 7 of Exhibit U.

97. The requirements of Rule 6.4.21(9)(a) for groundwater uses within two miles of the proposed affected lands was not sufficiently addressed. Under Rule 6.4.21(9)(a) information may be limited to those areas which can be demonstrated by the Operator to lie within local ground and surface water regiments that include the affected lands. Indicate the existing and reasonably potential future groundwater uses on and within the areas defined under Rule 6.4.21(8)(a) and (b).
98. Page U-20 states "Groundwater standards are based on agricultural use as determined by DRMS under the original permit." Please note that DRMS does not have the authority to set groundwater standards, CDPHE has primacy over these standards and will set the limits. DRMS's role is to ensure compliance with those standards set by CDPHE. Explicitly state which Groundwater Quality standard (table) under CDPHE regulation 41 the site will be using pursuant to 6.4.21(9)(c).
99. Table U-6 is insufficient as it is a summary. Provide data for the required 5 consecutive quarters of individual samples per Rule 6.4.21(9)(b). Also, please include the applicable regulatory limit for each analyte in accordance with CDPHE Regulation 41 on the table. Average values for the previous 7 years may be provided but not required by Rule.
100. No results were provided in Table U-6 for following Regulation 41, Table 3 analytes; Cobalt, Lithium, Nitrate (Ni) d or Nitrite & Nitrate (NO<sub>2</sub> + NO<sub>3</sub> -N) d,f. Table U-6 lists Nitrate/Nitrite as N, unclear which was tested. Please clarify if these constituents were sampled for and if they weren't, provide justification as to why these constituents were omitted from testing.
101. On Table U-6 several analytes were listed as non-detects. However, values were presented for the minimum and maximum values. If these analytes were not detected how are the min/max calculated or what is the source of these values being presented?
102. Table U-6 for GW-3R appears to have exceedances when compared to CDPHE Regulation 41, Table 3 (agricultural water). Please provide documentation as to when the exceedances occurred and a narrative discussing the conditions of the exceedances. The exceedances of concern are:
  - a. Lead the maximum value on Table U-6 is 0.146 while Table 3 lists 0.1 as the max.
  - b. Manganese the maximum value on Table U-6 is 0.247 while table 3 lists 0.2 as the max.
  - c. pH the maximum value on Table U-6 is 8.75 while table 3 lists 8.5 as the max.
103. On page U-21 Table U-7 presents what appears to be surface water quality results. This is located in the groundwater quality section and appears to be unrelated to the information presented in this section. Please move the paragraph summary and table U-7 to section 9.3 Passive Mine Water Treatment. Please also revise the table to present the applicable compliance standards associated with the CDPS Permit CO-000003.
104. Under section 9 Surface Water Control and Containment Facilities only the Passive Mine Water Treatment and Stormwater Management Plan (SWMP) are referenced. Please identify all EPF's that qualify under Rule 6.4.21(10)(a)(i-iii). For those EPFs identified, submit all required information under this Rule. For the EPF's identified in this section please update the EPF list addressed in earlier Adequacy Items under Exhibit U.

105. With regards to information required under Rule 6.4.21(10)(b), the adequacy of the SWMP will be addressed under Appendix 2.
106. Under Section 10 Surface Water Quality Data, a summary and list of surface water quality sample locations were provided. However the narrative does not sufficiently address the requirements of Rule 6.4.21(11)(a). Please revise the narrative to fully describe the existing surface water receiving stream standards, existing or reasonably potential future uses of surface water and, where receiving stream standards have not been determined, within two (2) miles, down-gradient of the affected lands.
107. Table U-9 is insufficient as it is a summary. Provide data for the required 5 consecutive quarters of individual samples per Rule 6.4.21(11)(b). Pursuant to Rule 6.4.21(11)(c) provide the analytical detection limits for surface water. Also please revise table U-9 to include the detection limits for each analyte.
108. Under section 11 Water Quality Monitoring Plan on Page U-27 the requirements of Rule 6.4.21(12) were not met. Please include the details of the existing Water Quality Monitoring Program, the information should include but is not limited to; sampling frequency, list of field parameters tested and list of analytes that require lab testing and should address all requirements of Rule 6.4.21(12).
109. Based on the information provided in Exhibit K the Division cannot perform a 'water balance' for the site as required by Rule 6.4.21(13)(a). Figure K-3 lacks reference units to compare against precipitation data provided in Table K-2. Additionally the Division is uncertain as to the time scale either of these figures occur over.
110. Climatic data presented in Exhibit K does not meet the requirements of Rule 6.4.21(13)(b). The site is located above 6,500 feet of elevation therefore requirements (b)(i)-(iv) must be met. This information can be presented in Exhibit K.
111. Under a separate correspondence TCLP, SPLP and ABA results for the Mill tailings was provided. Please include these results for information provided pursuant to Rule 6.4.21(14)(a-e). This information should also be accompanied by a narrative interpreting the raw data, and demonstrating compliance with the applicable standards.
112. Under Appendix 7 only raw data of the waste rock SPLP was provided. Pursuant to Rule 6.4.21(14)(a-e) this data should also be accompanied by a narrative interpreting the raw data, and demonstrating compliance with the applicable standards
113. For any EPF's which have not been fully constructed or certified to date, provide construction schedule information pursuant to Rule 6.4.21(15).
114. Given the significant staffing level changes these schedule timelines have likely changed since the schedules were originally issued. Please update to the best of your ability, the Division acknowledges that this may only be an estimate.
115. Please also annotate which stages of construction have been complete to date and approved by the Division.
116. Under Section 15 the Reagent Room is identified as an EPF that is under construction or not yet certified and has ongoing QA/QC documentation associated with. Referencing the previously approved TR-15 documents is sufficient to address the requirements of Rule 6.4.21(16) for this EPF.

117. Other EFP's such as the Revenue TSF and the Atlas TSF have ongoing QA/QC requirements as the EPF will not be fully constructed until completion of mining. Please provide a summary of the QA/QC methods and documentation that will be kept as required by the 2015 TWRMP, pursuant to Rule 6.4.21(16).
118. Page U-32 states "soil types and boundaries for the area are shown on map C-1". No Map C-1 was included in the application materials nor were soils information presented on any maps within Exhibit C or J. Please address the requirements of Rule 6.4.21(17) as well as see similar comments in Exhibits J.
119. The information presented in Appendix 4 does not fully meet the requirements of Rule 6.4.21(17)(i) and (ii). Please address these requirements of these Rules for each soil map unit.
120. What are the three areas of the affected lands containing topsoil that are referenced on page U-32?
121. The Atlas TSF has recently been constructed. How much topsoil was salvaged during this construction and what is the new total volume of topsoil available on site for reclamation.
122. With regards to Rule 6.4.21(18)(a) please clarify that CPW's statements regarding the bat gate were submitted in response to a previous revision, but that OSMI will continue to adhere to previous commitments.

#### **Rule 6.5 - GEOTECHNICAL STABILITY EXHIBIT**

123. Sections 5.2.1 and 5.2.2 discuss the construction and sloping of the two respective TSF's. Section 5.2.2 states that the Atlas TSF will have a 10 foot bench at 50 feet. Additionally item e, in Section 7 of the approved 2015 TWRMP included in Appendix 6 states that every 30 feet vertically, a bench of 10 feet will be installed. This means that the Revenue TSF would have 1 bench and Atlas TSF should have 2 benches at their final construction. Revise the narrative to reflect the benching requirements of the approved 2015 TWRMP. However the diagrams of the Galena calculations do not show any benching of either TSF. Please provide an interpretation of the Galena calculations and diagrams provided, demonstrating how the benching requirements were factored into the Geotechnical evaluation of the TSF's. Also please see previously identified Adequacy Items in Exhibits D and F. Update all applicable Exhibits to provide consistency.
124. The submitted materials under Section 6.5 - Geotechnical Stability Exhibit appear to demonstrate that the Revenue TSF was evaluated at a 2H: 1V and the Atlas TSF was evaluated at a 3H: 1V. However an interpretation of the Galena calculations and diagrams were not provided. Section 3.1 states "If needed, the final slope configuration may be a maximum of 2H: 1V." Without a clear interpretation of the evaluation results, slopes steeper than a 3H: 1V cannot be approved. Also please see previously identified Adequacy Items in Exhibits D and F. Update all applicable Exhibits to provide consistency.

125. Pursuant to the Mined Land Reclamation Board Policy 30.4 Guidance for Stability Criteria and Use of Minimum Factors of Safety (FOS), both the Atlas TSF and Revenue TSF are considered Critical Structures. Therefore the minimum FOS Requirement for Single Test Method for Critical Structures shall be 1.5.
126. The 2015 Geo-tech provided an evaluation of mill tailings. The mill has since been significantly modified and is under the process of being recertified. Please include a certified statement to ensure that the material currently being produced by the mill is structurally similar enough that the 2015 evaluation remains suitable.
127. As identified in Exhibit D provide the Peak Particle Velocity calculations that have been conducted by OSMI, as required by Rule 6.5(4) and if necessary demonstrate that any permanent man-made structures in the vicinity of the blasting area will not be adversely affected.

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

128. SPCC table on page 24 does not include containers C-10 and C-11. Please revise the table to include all applicable containers.
129. During the February 1, 2022 inspection several drums were being stored in the new Materials Storage Warehouse. Please clarify if this is a permanent storage area to be used. If so, update the SPCC plan and all other applicable Exhibits to include this new container ID/location if materials will be stored here in the future. Alternatively commit to not storing hydrocarbons or other hazardous materials in this location.

#### **Appendix 2: Stormwater Management Plan (SWMP)**

130. Throughout this Exhibit there are several mentions that an attached SWMP Map was provided under Appendix B. No attachments were included under Appendix B of the SWMP and no other diagrams of BMPs, or maps were included within this Exhibit. Please include the references SWMP Map and any other necessary drawings, diagrams or figures to accurately depict the various stormwater BMPs utilized on site. A map should be provided to depict the drainage areas referenced in Appendix A-Flow Measurements and Calculations.
131. Generally the SWMP is written to cover the main Revenue Mine area. Little to no discussion is provided for ancillary areas included under this permit such as the Atlas TSF, Governors Basin, 960 Raise or the Yellow Rose. The Division does not have a clear picture of how stormwater will be managed for areas where stormwater cannot be diverted into the passive water treatment ponds.

132. The SWMP as a whole, appears to be more closely tied to the SPCC Plan and does not thoroughly address the management of stormwater needed to capture and or divert surface water from all areas affected by the Designated Mining Operation prior to its release from the mine site. Please revise the plan narrative, map and figures to provide details regarding stormwater management for all affected areas. This includes descriptions of the BMP types being utilized, various locations in which they are implemented and the maintenance activities associated with each BMP type.
133. Pursuant to Rule 6.4.21(7)(f) the SWMP failed to demonstrate that all containment facilities shall be adequately sized. Containment facilities shall be sized to contain both release of designated chemical plus operational water. Please provide demonstrations that all containment facilities are adequately sized including calculations that correlate to revised figures.
134. For all EPFs defined under Rule 6.4.21(10)(a)(i-iii) which includes Stormwater control features, no design specifications for any of the BMP features were included within the SWMP. Please provide the design specifications certified by a licensed professional engineer.
135. On page 7, what is “the area subject to effluent limitations totals 23.92 acres” and where is it located? An area of approximately 35 acres is proposed to be disturbed, does the plan appear to not cover all of the affected lands.
  - a. What effluent limits are being referenced in this section?
136. Page 8 mentions one spill kit being located near the 10,000 gallon tank C-1. While, page 11 also states that a spill kit will be stored near each area where hydrocarbons and reagent chemicals are stored. Please revise the plan accordingly to ensure consistency and accuracy throughout the SWMP.
137. Page 9 references a discharge application as being attachment A. Attachment A of the SWMP is the Flow Measurements and Calculations. Please provide the referenced document as Appendix C.
138. What are the “two permitted non-stormwater discharge points” referenced on page 11?
139. Describe the frequency and requirements of the stormwater inspections on site required under the current CDPHE permit. Page 12 mentions only spring and fall inspections.
140. Modifications to the Passive Water Treatment Ponds have occurred since 2011. If calculations for ponds 2 and 3 were based on “scaled map images from 2011 in Survcadd” these calculations may be outdated. Please provide verification that the calculations are accurate based on the current conditions of the ponds.
141. Page 15, the area to drain into sediment pond 1 is listed as both 2.83 ac and 3.738 ac. Please clarify the correct acreage of the area that is being evaluated in this section. This should correlate to areas identified on the associated maps and figures.
142. No calculations are provided for areas of runoff reporting to the Revenue Mine Pond 1. Please identify the area on the revised map correlating to the drainage area and provide the calculations relating to such, for the Revenue Mine Pond 1.



143. Pond 3 (mine pond 3) is not located within the Governor Basin. The calculations on page 16 do not correlate to site conditions as described in the materials provided under AM-2. Additionally the total drainage area is listed as 0.5 ac and 6.955 ac please clarify. Please clarify the correct acreage of the area that is being evaluated in this section. This should correlate to areas identified on the associated maps and figures.

#### **Appendix 4: NRCS Web Soil Survey Reports**

144. Page 10 of the soils report lists eleven different Map Units, however the map units presented on page 8 (map) are illegibly small. Please identify which map unit areas are located within the proposed permit boundary.

#### **Appendix 5: Wetlands Delineation**

145. Due to the drastic change in site conditions since the time of the wetlands delineation (2013), it's difficult to verify if the area that was delineated in Appendix 5, is consistent with the area outlined in all applicable maps presented in this amendment. Please provide an additional wetlands delineation map (i.e. overlay the delineation with current site maps) to clearly depict the areas delineated as wetlands relative to current project areas/affected lands.

#### **Appendix 6: 2015 Tailings and Waste Rock Management Plan (2015 TWRMP)**

146. The 2015 TWMP indicate that TSF design details are included in Appendix D of that report, however no designs were included. Please provide the referenced design details.
147. The 2015 TWMP only specifies the use of 3H: 1V slopes. Throughout the application, use of steeper slopes is mentioned. If adequate demonstrations can be made then this Appendix shall also be revised to provide adequate guidance on Tailings and Waste Rock handling to be consistent with all other application materials. If the 2015 TWRMP is to be revised, it must be prepared and certified by a licensed professional Engineer.

#### **Appendix 7: SPLP**

148. Please submit the recently obtained TCLP, ABA and SPLP results for the tailings. Also see comments under Exhibit U.
149. Please provide a discussion summarizing the information presented in Appendix 7. Also include a table summarizing the water quality standards that the results are being compared to.

#### **Appendix 8: Reagent Safety Data Sheets (SDS)**

150. An SDS for Copper Sulfate manufactured by Old Bridge Chemicals, Inc. was provided. Under TR-14 Table 9, Copper Sulfate was to be manufactured/ provided by Quadra Chemicals LTD was approved. Please submit the appropriate SDS.

151. An SDS for Hydrated Lime manufactured by Brenntag Pacific Inc. was provided. Under TR-14 Table 9, Hydrated Lime was to be manufactured/ provided by Lhoist North America was approved. Please submit the appropriate SDS.
152. An SDS for Flottec SIPX Collector (Sodium Isopropyl Xanthate) manufactured by Flottec, LLC. was provided. Under TR-14 Table 9, Flottec SIPX Collector (Sodium Isopropyl Xanthate) was to be manufactured/ provided by Charles Tennant was approved. Alternatively Nax 31 manufactured by Prospec Chemicals is an approved alternative Xanthate. Please submit the appropriate SDS.
153. Under TR-14 Table 9, Floquat FL 2949 was to be manufactured/ provided by SNF, Inc. was approved. An SDS for Floquat FL 2949 was provided however the supplier information section is blank so the Division cannot verify if this is the correct corresponding SDS. Please submit the appropriate SDS.
154. The following reagents are approved for use on site under TR-14 however not included in Appendix 8. Please provide the corresponding SDS information for;
  - a. Danafloat 067 by Quadra Chemicals LTD
  - b. Polyfroth W20 by Quadra Chemicals LTD
  - c. Nax 31 (Sodium Isopropyl Xanthate) by Prospec Chemicals
  - d. Sodium Metabisulfite by Quadra Chemicals LTD

### Public Notice

155. Please provide proof that notices required under Rule 1.6.2(e) have been served and provide the Division with the proof of notice pursuant to Rule 1.6.2.(g).
156. Prior to submitting adequacy review responses to the Division, please place for public review a copy of the responses with the Clerk or Recorder and provide proof as required by Rule 1.6.2(c).

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Please submit your response(s) to the above listed issue(s) by Friday April 1, 2022 in order to allow the Division sufficient time for review. The decision date for your application is scheduled for May 17, 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

Cc: Travis Marshall, Senior EPS, DRMS  
Amy Yeldell, DRMS  
Poppy Staub, OSMI

Ec: Todd Jesse, OSMI  
Poppy Staub, OSMI