Ouray Silver Mines, Inc.
1900 Main St. Unit 1
PO Box 564
Ouray, CO 81427

Submitted through e-Permitting Site

May 26, 2022

Mr. Lucas West
Colorado Division of Reclamation Mining and Safety
1313 Sherman Street, Rm 215
Denver, CO 80203

Subject: **Amendment 02 – Adequacy Review Responses**
DRMS Permit No. M-2012-032
Revenue Mine, Ouray County, Colorado

Dear Mr. West:

Ouray Silver Mines, Inc. (OSMI) is submitting responses to the Division of Reclamation, Mining and Safety's (DRMS) adequacy review comments dated February 16, 2022 regarding OSMI's Amendment 02 application. Enclosed with this submittal are the following items.

- A spreadsheet with DRMS Comments and OSMI Responses to each comment;
- A table of contents, which lists the contents of the Adequacy Review package
- Supporting Documentation in the form of Attachments, which includes updated exhibits, updated appendices, and additional information requested by DRMS in its comments
- Proof that a copy of the Adequacy Review Responses were placed on file at the County Clerk and Recorders office.

If you have any questions, please contact me at (970) 325-9830.

Sincerely,

Poppy Staub
VP Environment & Government Affairs
Ouray Silver Mine Inc

Cc: Travis Marshall, DRMS
Amy Yeldell, DRMS

Enc. Supporting Documentation

NOTICE OF FILING APPLICATION
FOR COLORADO MINED LAND RECLAMATION PERMIT AMENDMENT
FOR **REGULAR (112d) DESIGNATED MINING OPERATION**

NOTICE TO THE COUNTY CLERK
OURAY COUNTY

Michelle Nauer, County Clerk, Ouray County
541 4th Street Ouray, CO 81427,
Ph: (970) 325-4961

Ouray Silver Mines, Inc. (Operator) has applied for an amendment to an existing 112d Designated Mining Operation reclamation permit from the Colorado Mined Land Reclamation Board to extend mining and reclamation operations in Ouray County. The Division of Reclamation Mining & Safety (DRMS) has provided comments on Ouray Silver Mine's application and Ouray Silver Mines has responded to each comment.

The attached set of responses to DRMS comments is being provided to the County to allow for public review. We request that youplace these documents along with the application that was submitted in December 2021 in a place for public review but not be recorded. This request is made pursuant to C.R.S. §34-32-112(10)(a) and §1.6.2(1)(c) of the Hard Rock/Metal Mining Rules and Regulations of the Colorado Mined Land Reclamation Board.

Sincerely,

Ouray Silver Mines, Inc.

Acknowledgement of Receipt:

By: Cristy Lynn Sulewski

Title Chief Deputy Clerk

Date 05/26/2022

Amendment 02 Adequacy Review Responses Round 1

DRMS Comment #	Comment Text (from DRMS letter)	Ouray Silver Mines Responses
1	The application form states the #2 Operation Name as “Revenue-Virginius 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.	The operational name of the mine is the Revenue Mine. A corrected application page is attached and Exhibits have been updated to be consistent See Attachment 1 and 2 for details.
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)	The coordinates for the main entrance to the mine have been added to Map B-1, which is a USGS map. A reference to Exhibit B has been added to Exhibit A.
3	Please provide the GPS coordinate of the approximate location of the Yellow Rose, 960 Raise and Monongahela Raise locations.	The coordinates for the approximate location of the Yellow Rose, 960 Raise and the Monongahela Raise have been added to Exhibit A. Note, development of the 960 raise has been removed from the mine plan. OSMI will submit an acreage reduction request for this area once Amendment 02 is complete.
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.	The legends of all maps have been updated to show the Permit Boundary only. In addition, relevant exhibits have been updated to reflect this change. See revised Exhibits and Maps.
5	Please submit maps of the underground mine workings in plan view and , 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.	Maps of the mine workings in plan view are included on the Exhibit C maps. The detail requested by DRMS regarding a cross section of mined stopes and tunnels is confidential business information. OSMI will be submitting the cross section of the mine workings under separate cover.
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).	All of the claims listed on Table S-1 that are owned by Ouray Silver Mines are patented claims. Claims within 200 feet of the permit boundary are either owned by Ouray Silver Mines or the USFS. There are no other surface owners in this area. Some of the FS claims are patented and some the status is "unknown" according to the county records. Table S has been updated to show the account numbers and the status of whether the properties are patented or unpatented.

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.	Vegetation information has been added Map C-1A in Exhibit C. More specific vegetation maps were generated for Exhibit J and Map J-1 for the Revenue Mine area and Map J-2 for the Monongahela / Hubb Reed and Yellow Rose area. OSMI does not intend to construct the 960 Raise and therefore no additional detail about vegetation was provided for this area although vegetation for the 960 raise is shown on Map J-1 and Map C-1A. OSMI will be seeking an acreage reduction request for the 960 Raise following approval of Amendment 02.
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	See map of basins provided in updated Exhibit G. Neither the 960 raise nor the Yellow Rose Raise have been developed. Currently there is no water feature associated with either of these raises. There may be a small amount of meteoric water that enters the raise once constructed but that is expected to be minimal and will not impact the overall water balance for the mine. In addition, OSMI has no plans to ever construct the 960 Raise and will be seeking an acreage reduction request for that area following approval of Amendment 02.
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.	Exhibit S provides a table of all permanent manmade structures within the permit boundary and within 200 feet of the permit boundary. Exhibit S cross references the structures, which are labeled on Exhibits C-1a and C-1b. The owners name and type of structure have been added to Map C-1a and C-1b. All structures located on the mine site and within 200 feet of the permit boundary are located on OSMI property and owned by OSMI with the exception of County Road 26, the powerlines and the restroom structure. The interpretive sign is owned by OSMI and was added to the Exhibit S table and Exhibit C-1a. Structure agreements from the FS and Six Basins are provided in Updated Exhibit S.
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.	Rule 6.4.3(h) references Rule 6.4.9 Exhibit I Soils Information. Rule 6.4.9 states that, "…the Operator/Applicant shall indicate on a map (in Exhibit C) **or by a statement**, the general type, thickness, and distribution of soil over the affected land." A discussion of soil types for the vent raise areas was provided on Page I-2 of Exhibit I. This section of Exhibit I has been updated to include data from the National Resource Conservation Services (NRCS). Soil types also were confirmed and an updated NRCS Soils report for the area was developed, which is included in Attachment 3. Soil types also were added to Maps I-1 and I-1A.
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.	The location of the existing topsoil pile is provided in updated map C-1a. Imported topsoil needed to complete reclamation will not be brought to site until the reclamation process begins and it will be stored in the same location as the current topsoil pile. No measurable amounts of topsoil was able to be harvested from the Atlas TSF construction. Therefore, the amount of topsoil needed to be imported was increased in the Reclamation Plan (Exhibit E) and the Reclamation Cost Table (Exhibit L) to cover this shortfall.

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.	See response provided to Comment No. 145 regarding Appendix 5.
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.	The calculations and reference material for Peak Particle Velocity are included in Exhibit 4 and Section 3.5 of Exhibit D has been updated to include the PPV calculations.
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.	Section 4.4 of Exhibit D has been updated to reflect the 2015 TWRMP moisture content of 13 to 18%. See Updated Exhibit D in Attachment 2 for details.
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.	Comment noted.
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.	Comment acknowledged. The mine commits to quality control density sampling every 100 tons as stated in the approved 2015 TWRMP. Exhibit D was updated to reflect this change.
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.	The inconsistencies in production numbers for tailings and waste rock were corrected in Exhibit D (Section 2 and 5.2) to be consistent. We did not find any inconsistencies between Exhibit D and U.
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.	Comment noted. Please see Reponses to comments listed under the Geotechnical Stability Exhibit.
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.	Preliminary as-built drawings of the Atlas TSF are provided as Attachment 5 and also were provided to DRMS under separate letter dated February 28, 2022. As noted in the letter, a survey was performed during the winter, which required digging down through snow to shoot certain points. The as-builts submitted with this AR responses will be confirmed once the snow melts and revised if necessary.

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?	The jurisdictional wetlands were marked prior to construction of the Atlas TSF. Additional markers to delineate the wetlands at the Atlas TSF will be provided once the snow melts. Exhibit D has been updated to reflect this requirement.
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.	Section 5.2.1 and 5.2.2 of Exhibit D have been updated to more clearly reference the requirements in the 2015 Tailings and Waste Management Plan. As -built drawings for the Atlas TSF are provided in Attachment 5, which also were added to Appendix 5 of the Amendment 02 application package. Lastly, relevant exhibits including the cross sections in Exhibit C were updated to reflect the construction designs.
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.	The Hubb Reed Raise (HRR) has been constructed and the details of that infrastructure is provided in Section 3.3 of Exhibit D. The area includes a headframe, two buried Connex containers that act as a refuge chamber, an avalanche berm, and a hoist house that will eventually be removed. The other vent raises, if constructed, will have similar surface features, however these raises are conceptual at this time. Should OSMI plan to install raises at the 960 and Yellow Rose areas, a Technical Revision will be submitted in advance of such development activity.
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.	There is access to the Yellow Rose by way of FS Road 869.3A. OSMI is working with the USFS to obtain a road use permit, which will allow for limited road maintenance and snow removal. OSMI is also working with the Ouray County to update the road maintenance agreement to include this road. As noted above, OSMI does not intend to construct the 960 Raise and will be submitting an acreage reduction request for that area once Amendment 02 is finalized.
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.	The proposed tailings thickener building has been added to Drawing C-1a. A general description of the proposed structure along with preliminary drawings is provided in Attachment 6. Exhibits C, D, E, F and L have been updated to reflect this new structure.
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.	The Reclamation Plan (Exhibit E) has been updated so that the introduction is consistent with the permit application. See Updated Exhibit E.

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.	See introduction to updated Reclamation Plan (Exhibit E) and updated reclamation maps located in updated Exhibit F.
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.	OSMI attended a working session with Ouray County on May 4th, 2022 to discuss the post mining use of the buildings that are to remain on site. Jake Niece, one of the County Commissioners visited the site on May 6 to assess the buildings in question. OSMI attended a second working session with the BOCC on May 12th to get further direction from the county as to how it would like to manage the commercial area post reclamation. The overall intent of leaving many of the buildings is to keep essential infrastructure should it become economical to mine the Revenue again in the future or to use the buildings for other approved commercial purposes. The county agreed that once the property is not being used for mining, the property owner would need to apply for a special use permit through the county land use department and would be part of the normal county process. It was agreed that the buildings would be evaluated post-reclamation and brought up to code to the post-mining use if such use is something other than mining. Ouray County provided a letter to DRMS stating its position for the post-mining use of the buildings a copy of which is provided in Updated Exhibit S.
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.	Comment noted. This same language referencing the demonstration that 2H:1V slopes was presented to DRMS as part of TR-11 through an updated reclamation plan, which was approved by DRMS on 10/1/2020. See updated language in Section 3.1 of the Reclamation Plan (Exhibit E), which clarifies that the demonstration for a 2H:1V slope was only made for the Revenue TSF and that additional work would need to be provided to demonstrate that the Atlas TSF slopes could be modified.
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.	Section 3.1 of the Reclamation Plan (Exhibit E) has been updated to state that areas on the TSF that do not receive topsoil will be capped with crushed San Juan Tuff to blend in with the native talus slopes.
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.	It is unclear what DRMS is asking for in this comment. Section 3.2 provides detail of the reclamation that is planned for the ventilation shaft areas. The areas in question will be capped with native materials (i.e., rock) removed during construction and will be blended in with the surrounding landscape.

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.	Section 3.3 of the Reclamation Plan has been corrected to show the reagent room as a structure that will remain on site post mining.
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.	The table included in Section 3.4 of the Reclamation plan has been updated to reflect portal dimensions and other information requested. The unit costs to perform portal reclamation is provided in Exhibit L.
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.	The sentence that states, "Other collection ditches will be removed once the revegetation of disturbed mine areas is successful," has been deleted from the reclamation plan. After review of the plan and the stormwater management plan, it was decided that stormwater collection and diversion features should remain in place post-reclamation to control run-on to the site in the vicinity of the commercial area as well as to control erosion and run-on/runoff around the TSFs. The Reclamation Plan (Updated Exhibit E) has been updated to reflect this change.
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).	The non-waste disturbance areas are small disturbance areas located below the mill and above the mine water ponds near the entrance to the mine. See updated Map F-1 for details. Also, the total acreage for this area has been updated on Table E-3, which increased the total amount of topsoil required to be imported by approximately 745 cubic yards. The Reclamation costs in Exhibit L have been updated to reflect this change.
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.	Section 4 States that the "previously disturbed areas comprised of waste rock at the Revenue Mine will be graded, as needed to a final 3H:1V maximum slope…". While OSMI is not changing the overall reclamation plan, the Reclamation map, Map F-1 and the Reclamation Plan (Exhibit E) were updated to better clarify what areas of the site will be graded. The Reclamation Cost table (Exhibit L) also was updated to reflect actual conditions. See updated Exhibits E, F, and L for details.
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.	Comment noted. OSMI is not asking for approval of an ore storage pad as part of Amendment 02. We believe that sentence was a remnant from Amendment 01. The sentence in question has been deleted from 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.?	There are no plans to treat the topsoil once placed as the topsoil will not be compacted after placement. Rather 6" of topsoil will be placed over the areas specified in Map F-1, which is provided in Updated Exhibit F. Compaction will be avoided by dumping the topsoil on the reclamation area and loosely grading it using a small dozer.
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).	The topsoil stored on site in the soil stockpile will be seeded in the spring of 2022 and will be protected by a vegetative cover to prevent erosion. Imported soil will not be brought on site until it is needed for reclamation and will be direct hauled to the site as reclamation is occurring.
39	On Table E-4 please provide the specific varieties of plant species to be used for reclamation.	OSMI contacted our seed supplier, Granite Seed, who stated that the seed mix list they provided in June 2021 was as detailed as they have in terms of plant varieties. The Reclamation Plan (Exhibit E) has been updated to reflect the most recent list of seeds and their costs, which is consistent with Exhibit L.
40	Rule 6.4.5 (2)(d)-State the proposed time of planting (i.e. planting season window(s)).	Planting during late summer / early fall is preferred. A September timeframe was recommended in the 2015 Tailings and Waste Rock Management Plan. The reclamation plan has been updated to specify this timeframe.
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?	See updated Exhibit E, Reclamation Plan pages E-10 & E-11. The plan will be to perform broadcast seeding followed by mulch.
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.	The method of seeding will be determined at the time of reclamation based on access and recommendation by a reclamation contractor. Most areas will be broadcast and areas that cannot be reached will be done by hand.
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).	No fertilizer will be utilized in reclamation. Exhibit E does not mention the use of fertilizer.
44	State if any container stock will be used during reclamation pursuant to Rule 6.4.5 (2)(f)(iv).	The mine is not planning on using any container stock during reclamation. This is consistent with the approved reclamation plan.
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.	There is Forest Service road access to the Yellow Rose so no additional disturbance will be required to access that location. OSMI will work with the Forest Service to obtain a road use permit to use the road for reclamation purposes. OSMI does not intend to use the 960 raise area in future mine plans and therefore, once Amendment 02 is approved, OMSI will submit an acreage reduction request to remove the 960 raise from the permit.

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.	Per the updates provided in Section 3.1, the area on the TSFs that will not receive topsoil will be capped with San Juan Tuff to blend in with the surrounding landscape. Map F-1 has been updated to better reflect the different types of reclamation.
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.	The footnote on Map F-1 has been deleted.
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.	The road and bridge will remain post-reclamation. The bridge and road are constructed out of crushed waste rock used as road base. Map F-1 has been updated to remove the shading on the access road, which is included in Updated Exhibit F.
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.	Comment noted. Reclamation Map F-1 has been updated to show final configuration post reclamation and buildings and other features that will not remain have been removed from the drawing.
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.)	Comment noted. A new Map F-2 was created to show the final reclamation for the Monongahela / Hubb Reed Raise area. Reclamation maps for the Yellow Rose and 960 raises will be submitted through technical revisions in advance of the mine commencing construction of these facilities should such construction occur. The steps taken to reclaim the Yellow Rose and 960 Raises are described in the Reclamation Plan (Exhibit E).
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.	The exit raise depicted at the end of the underground workings was placed on the figure in error and has been removed. A revised Map F-2 is provided in the Attachments.
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.	Map F-2 has been updated to show the correct location of the Monongahela / Hubb Reed Raise.

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.	That area is a remnant from a prior map and was included on Map F-2 in error. Map F-2 has been revised to remove the area in question.
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.	see response to comment #27
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.	A revised Map F-1 has been developed to show the other areas outside of the TSFs that will receive topsoil and vegetation. Table E-3 in the Reclamation Plan has been updated to reflect this change as well.
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	The cross sections shown on Map C-3 were updated to reflect a final build out of the Atlas and Revenue TSFs with 10 foot benches every 30 feet to coincide with the 2015 Tailings and Waste Rock Management Plan. Please see updated Exhibit C for the updated cross sections.
57	Please revise or submit new maps addressing Rule 6.4.7(2)(a) for the Yellow Rose and 960 areas.	Rule 4.6.7(2)(a) states, If the operator is expected to directly affect surface water or groundwater systems, the operator shall; locate on the map tributary water courses, wells, springs...". The work at the 960 and the Yellow Rose is not expected to affect surface water or groundwater systems. Furthermore, there are no tributary water courses, wells, springs, stock water ponds, reservoirs or ditches at these locations. Rather Map G-2 was developed, which shows overall site drainages within a 2 mile radius. The 960 and Yellow Rose are included on that map.
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.	Comment noted. A detailed map showing stormwater BMPs at an appropriate scale has been created and added to the Updated SWMP in Attachment 3 to augment the information submitted in Map G-1B.
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.	A new map (Map G-2) showing the watershed drainage for the main Revenue portal area and the three raises is provided in Updated Exhibit G.

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?	The sediment pond associated with the Atlas TSF will function as a non-discharging facility. The pond is designed to capture runoff from storm and snowmelt events that comes into contact with the tailings. Water collected in the pond will be allowed to infiltrate or evaporate. The pond was overdesigned to contain a 100 year storm event. The pond will be added to the site Stormwater Management Plan as a stormwater control feature but it will not be included in the CO-0000003 discharge permit as it is not a process water discharge point. OSMI will work with the WQCD to incorporate the sediment pond into the site's general stormwater permit.
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	The original design for the sediment pond at the Atlas TSF included a discharge pipe, but the pipe was capped after construction. The pond is designed to function as a sediment control pond and stormwater that enters the pond will infiltrate or evaporate and will not discharge to surface water. With regards to SPLP results, the SPLP test is a synthetic leachate procedure designed to assess the potential impacts to groundwater from contaminated soils. Comparing SPLP results to surface water standards is not appropriate. Precipitation runoff from the Atlas TSF is not the same as pH 5 water used to leach through tailings in a lab. OSMI will be working with the WQCD as it renews its stormwater permit certification COR-040289 to identify appropriate effluent limitations based on Federal Effluent Limitation Guidelines and table value standards for Sneffels Creek. See response to comment 111, which included the comparison of SPLP results to groundwater standards.
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.	A new Table G-1 has been developed that presents a range of expected consumption of water compared with available water through adjudicated water rights and rain/snowmelt on site. As noted on the Table G-1, OSMI runs a surplus of water even during periods of high use as a result of water rights. See Updated Exhibit G.
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.	Table I-1 did include all soil units in the permit area but the approximate acres for each soil type required updating. An updated Exhibit I is provided in Attachment 2.
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).	See response to comment 10. Note, Rule 6.4.9 (1) does not require that soil information be presented on a map. Rather OSMI has chosen to present soil information for the raise areas in a statement based on soil surveys published by the National Resource Conservation Survey. In addition, a new NRCS soil survey report was generated, which provides a more focused area for the Revenue Mine and associated ventilation raises. A copy of the updated report may be found in Attachment 3.

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.	Exhibit J has been updated to remove the sentence in question. See updated Exhibit J for information. The 2013 Wetland Delineation is the most recent wetland delineation available and is provided in Attachment 3.
66	Please see additional comments regarding the wetlands delineation under Appendix 5.	Please see responses to comment 145 regarding wetland delineation.
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).	Exhibit J was revised to better describe the vegetation types within the permit boundary. The updated exhibit is accompanied by a new Map, J-1, which shows vegetation types within the permit boundary.
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.	Exhibit J was updated to provide the requested information. After reviewing the vegetation types for the area, there is little correlation between soil types and vegetation. Rather vegetation is dictated by slopes, aspect (i.e., north or south facing), elevation, availability of water, and historic disturbance.
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.	Per the Division's recommendation, Map IJ was split into two separate maps, Map I-1 and Map J-1, copies of which are provided in Updated Exhibits I and J, respectively.
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.	Exhibit K has been updated to include the information required by Rule 6.4.21.13.
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.	The reclamation cost tables (Exhibit L) have been updated using RS Means 2022 to reflect current conditions as of Amendment 02. The additional acreage for the Monongahela/Hubb Reed area was added, P&A of seven monitoring wells also was added to the demolition costs.

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.	The Exhibit L Reclamation Cost table has been updated with data from RS Means Heavy Construction 2022. Volumes of materials also have been updated based on the updated reclamation Map F-1 as shown in Updated Exhibit F. The Reclamation Plan (Exhibit E) also has been updated.
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 OMSI is not the majority owner for any parcels, provide an agreement to comply with the requirements of Rule 6.4.14.	Table O-1 lists all of the claims that Ouray Silver owns either 100% or having an undivided interest. Rule 6.4.14 (Exhibit N - Source of Legal Right to Enter) requires the applicant to, "Provide documentation of the legal right to enter to conduct mining and reclamation, for Owners of Record as described in Rule 1.6.2(1)(e)(i)." Rule 1.6.2(1)(e)(i) is defined as "all Owners of Record of surface and mineral rights of affected lands. Affected lands means the surface of an area within the state where a mining operation is being or will be conducted, which surface is disturbed as a result of such operation." All of the claims that are on the affected lands are 100% owned by Ouray Silver as stated in Exhibit N. A separate table listing out the claims on affected lands was added to Exhibit N. For the properties where OSMI is not 100% owner, only the Terrible #2 claim is in an area where we intend to mine. For the properties where OSMI is not 100% owner, OSMI has an undivided interest which means that each owner has the right to use the entire property. Lastly, we have reviewed the Ouray County records and we are unable to identify the other property owners of the claims in question. See Confidential Map O-1, which shows the vein structures and claims where OSMI plans to mine.
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.	A claims map (O-1) along with the proposed UG extent of mining is provided in Updated Exhibit O, which demonstrates that OSMI owns or leases the substances to be mined.
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.	Table S-1 has been updated 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).	Ouray Silver Mines and Ouray County have in place a formal road agreement that addresses winter and non-winter maintenance and operations. The agreement addresses OSMI's obligations to repair damage caused to the road by OSMI's activities. There is even a $5,000 bond posted to cover damage should it occur. The agreement is notarized and recorded with the County. It satisfies the requirement of Rule 6.4.19. Also, OSMI met with Ouray County on May 4th to address this matter and the County said it would be willing to provide a letter stating that its road agreement with OSMI meets the DRMS requirements.

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.	A letter from the USFS was received acknowledging the requirements of Rule 6.4.19, however, the USFS will not have its letter notarized. Rather the USFS believes its road use agreement along with a letter acknowledging OSMI's obligations under the rule should satisfy DRMS's needs. If that is not the case, perhaps DRMS would be willing to have a conversation with the USFS regarding a notarized letter.
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.	OSMI owns the informational sign located across from Pond #2 and the sign is on OSMI property. Table S-1 and Map C-1 have been updated to include the sign.
79	On Map U-1 identify which structures are Environmental Protection Facilities.	Map U-1 has been updated to show the EPFs. See attached revised Exhibit U. A second Map U-2 was developed to show the extent of underground workings and the sampling locations for underground water quality sampling.
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.	See response to comment No. 17.
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.	OSMI disagrees with this comment. The list of permits required by Rule 6.4.21.4(a) is limited to "any air, water quality, solid and hazardous waste, and other federal, state and local permits or local licenses, or other formal authorizations …applicable to the use, handling, storage or disposal of designated chemicals and acid mine drainage-forming materials within the permit area." Section 3 of Exhibit U has been updated to only list those permits and other authorizations that are related to the use, handling, storage, or disposal of designated chemicals and acid mine drainage-forming materials. Please see Exhibit M for a complete list of permits and other authorizations.
82	1. 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.	Section 3.1 of Exhibit U has been deleted as the local county permits, where required, are not applicable to the use, handling, storage or disposal of designated chemicals and acid mine drainage-forming materials as required by the Rule. See response to comment 27 regarding county requirements post-mining use.

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.	a. Expected concentrations of mill reagents as dosing rates were added to Table U-1. Note, these dosing rates were based on Feasibility Study tests and may be updated as the mill becomes fully operational. b. Table U-1 has been updated to include the missing columns and information requested. A copy of updated Table U-1 is included with updated Exhibit U. c. See responses to comments 150-154 for missing SDSs.
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).	Section 5 of Exhibit U has been updated to include the information required by 6.4.21(6)(a) and 6.4.21(6)(b)(i). See updated Exhibit U.
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.	A discussion of ABA, TCLP, and SPLP results was added to Section 13 of the Updated Exhibit U.
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.	Comment noted.
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.	Section 5.3 of Exhibit U has been updated to include a description of how offsite impacts will be prevented during times 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.	Comment noted. The paragraph in question has been modified to remove the reference to stormwater containment.
89	Under section 6 please address the requirements of Rule 6.4.21(7)(f) as it relates to all surface containment facilities.	Section 6 of Exhibit U has been updated to include the requirements of Rule 6.1.21(7)(a) through (f). See Updated Exhibit U.
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.	Table U-4 has been updated to include the mill building. A new column designating which facilities are considered EPFs and which ones are not was added to the table. See updated Exhibit U for modifications.
91	Under section 6 please provide a facilities evaluation for each EPF listed in Table U-4 pursuant to Rule 6.4.21(7).	Section 6 has been updated to include a discussion of each EPF.
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.	Section 6.4 of Exhibit U has been updated to be consistent with the 2015 Tailings and Waste Rock Management Plan.
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.	This Section (now Section 6.4) has been updated to be consistent with other Exhibits and Plans. Please see updated Exhibit U.

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.	A new map, Map G-2 was developed, which shows all tributary water courses, wells, springs, stock water ponds, reservoirs, and ditches within 2 miles of the Revenue Portal and within 2 miles of the Hubb Reed Raise (HRR). Note, there are no wells, stock water ponds, reservoirs or ditches within 2 miles of the permit areas. In addition, a cross section showing the regional groundwater as controlled by fractures and historic mine working is provided in Exhibit C-4. Section 7 of Exhibit U also was updated to include the information required by Rule 6.4.21(8)(a) and (b).
95	Based on the areas demonstrated above, please address all requirements of Rule 6.4.21(8).	Exhibit U, Section 7 has been updated to include the requirements of Rule 6.4.21(8)(a-e). A new map, C-5 was added to Exhibit C, which shows regional geology and fracture/vein systems. Another figure was added to Exhibit C, Map C-4 which shows the area and how groundwater is influenced by mine features and geologic structures.
96	Update Exhibit G, as applicable to coincide with changes made in section 7 of Exhibit U.	Exhibit G has been updated to be consistent with Exhibit U. See updated Exhibit G along with Table G-1 ad Map G-2. See updated Exhibits G and 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).	See response to comments Nos. 94 and 95.
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).	Table 5 of the "Evaluation of Existing Groundwater System and Proposed Standards for Future Groundwater Quality for Site Wells and Tailings Analysis (Lewicki, 2015) provides the list of groundwater standards for the Revenue Mine as approved by DRMS in Amendment 01. The site groundwater standards were developed based on a combination of stream standards and agricultural-based groundwater standards. Lewicki's report along with the approval letter from DRMS are provided in Attachment 9.
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.	Comment noted. Please see updated Tables U-6 and U-9 with 5 quarters of consecutive data.

100	No results were provided in Table U-6 for following Regulation 41, Table 3 analytes; Cobalt, Lithium, Nitrite (Ni) d or Nitrite & Nitrate (NO 2 + NO 3 -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.	Table 5 of the "Evaluation of Exiting Groundwater System and Proposed Standards for Future Groundwater Quality for Site Wells and Tailings Analysis (Lewicki, 2015) provides the list of groundwater standards for the Revenue Mine as approved by DRMS in Amendment 01. The list of groundwater standards were developed based on a combination of stream standards and agricultural-based groundwater standards. Cobalt and lithium were not considered parameters of concern likely because there is no stream standard for these parameters in Segment 9 of Sneffels Creek. Therefore Cobalt and Lithium were excluded from the groundwater analysis. Lewicki's report along with approval letter from DRMS are provided in Attachment 9. OSMI has always monitored Nitrite and Nitrate as total N as specified in Table 5 of the above referenced report. Footnote f of Table 3 (Reg 41) states that "these more stringent levels are necessary to protect livestock watering." There is no livestock watering taking place using groundwater from the Revenue Mine. A copy of the 2015 proposed GW standards is provided in Attachment 9.
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?	The non-detect values were counted at the detection limit in the tables, which is standard practice. Please see the updated Tables U-6 and U-9 with the actual values rather than summary statistics, which should resolve this issue.
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.	Comment noted. OSMI reported the exceedances at GW-3R in a letter to DRMS dated July 21, 2021. GW-3R was sampled on June 17th as part of OSMI's quarterly groundwater monitoring program. Results were received on July 14th, which showed copper, lead and silver above groundwater standards for that well. GW-3R was resampled on July 20th and a subsequent letter sent to DRMS on August 23, 2021 reported that the parameters of concern were below standards. It was believed that construction of the passive mine water treatment system in the vicinity of GW-3R during that time may have contributed to the elevated levels of copper, lead and silver. Results from GW-3R have remained below standards since July 20, 2021. A copy of the letters sent to DRMS are included in Attachment 9. As far as manganese and pH go, the parameters in question were below the approved groundwater standards. With regards to DRMS's comment on Regulation 41 versus what is reported as the standard on Table U-6, groundwater standards were developed for the Revenue Mine as part of the permitting process and approved with Amendment 01. Table 5 of the Proposed Standards For Future Groundwater Quality for Site Wells dated 10/9/2014 (updated 3/11/2015) was submitted to DRMS, which is a combination of maximum concentrations in wells, stream standards and agricultural standards in Regulation 41. These standards are what the Revenue Mine has been using since 2015 by approval from DRMS. See attached Proposed GW Standards Report and Approval letter from DRMS. The values listed in Table 6 for the field pH standard were entered in error and is fixed to reflect 6-9 s.u. based on Table 5 of the above mentioned report. See updated Table U-6.

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.	Table U-7 was included in the groundwater section because it represents results from treated groundwater (i.e., mine water) although the outfall discharges to surface water. OSMI prefers to leave Table U-7 under Section 8 of Exhibit U. The permit limits have been added to Table U-7 and a revised Exhibit U is provided in Attachment 2.
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.	Exhibit U, including Map U-1 has been updated to reflect the requirements of 6.4.21(10)(a)(i-iii). See updated Exhibit U for details.
105	With regards to information required under Rule 6.4.21(10)(b), the adequacy of the SWMP will be addressed under Appendix 2.	Comment noted. See responses to comments 134-147.
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.	Section 10 has been updated to include a discussion of water quality standards and classifications for use for the two stream segments that are affected by the permit areas (COGUUN05 and COGUUN09). See updated Exhibit U for details.
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.	See updated Table U-11 (formally Table U-9) in Exhibit U for surface water quality data. Note, surface water quality samples are not collected on a quarterly basis due to unsafe access to Sneffels Creek during winter months. Surface water quality samples are typically collected during the rising limb of the hydrograph, during high flow and during low flow conditions when it is safe to access the sampling locations. The method detection limits and Practical Quantification Limits were added to Table U-11.
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).	Rule 6.4.21(12) states that the water quality monitoring plan shall be proposed to demonstrate that the EPP requirements are being met and to demonstrate that all EPFs designed to protect water quality are functioning as designed. Section 11 has been updated to include the components of the water monitoring plan that is discussed elsewhere in Exhibit U as well as in Exhibit G.
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.	Section 12 of Exhibit U was updated to include specific weather data going back 5 years as well as average wind speeds and direction.

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.	See response to Comment 109.
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.	Results for TCLP, SPLP, and ABA for the Tailings and Waste Rock is summarized in Section 13 of Updated Exhibit U.
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	A new Table U-XX was added to Section 13 of Exhibit U, which provides analytical data for waste rock samples collected since 2016 compared with applicable groundwater 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).	Section 14 of Exhibit U was updated to include more detail regarding the construction schedule for the remaining work to be performed on the EPFs. It is anticipated that the remaining construction work will be completed in 2022 as part of the startup plan.
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.	See response to Comment 113.
115	Please also annotate which stages of construction have been complete to date and approved by the Division.	Section 14 of Exhibit U has been updated to describe the status of construction of the various EPFs.
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.	Comment noted.
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).	Section 15 of Exhibit U has been updated to include the QA/QC procedures for placement of tailings in the Atlas and Revenue TSFs. In general, the QA/QC program consists of testing for moisture content, compaction using a nuclear density gauge, SPLP testing at a minimum of every 6 months, monitoring the groundwater quality down gradient of the mine, and regular surveying to confirm tailings are being placed as designed.
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.	New Map J-1 developed to show soil types and boundaries for the permit area, which is provided in Updated Exhibit 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.	An updated soil map was developed from the NRCS website and is provided as Maps I-1 and I-1A . Exhibit I also was updated to include a more detailed listing of soil types within the permit area. The requirement of Rule 6.4.21(17) (c)(i) is not applicable for the soils located within the permit boundary because these soils will not be disturbed or used for reclamation purposes. Furthermore, it is clear based on the soil types from the NRCS that these soils are not suitable for sustaining vegetation except for what is already growing. Gathering data on pH, conductivity, and SAR would not yield useful results. For example, SAR is a considered a good measure for irrigated croplands. The post-reclamation use for the Revenue mine is commercial and wildlife habitat. The one soil stockpile on site already supports vegetation. The balance of soil to be used for reclamation will be imported on site so we will not have any data available until we source the soils.
120	What are the three areas of the affected lands containing topsoil that are referenced on page U-32?	See updated Section 16 of Exhibit U. These three areas are the wetlands between the two TSFs, wetlands near the historic buildings, and the wooded area on the south side of the permit area.
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.	No topsoil was salvaged from the Atlas TSF prior to construction as there was not enough salvageable soil available to justify segregating the material prior to construction. Rather, vegetation including trees and shrubs were cleared and stored in a pile, which will be used for future reclamation. The material left after clearing and grubbing was worked into the construction of the pad. The amount of top soil that was originally anticipated from the Atlas TSF construction is no longer available for reclamation. Therefore, the amount of imported topsoil discussed in the Reclamation Plan has been increased to reflect this change.
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.	DRMS is correct. CPW's statement regarding bat gate was from a prior permit amendment. OSMI remains committed to installing a bat gate on the main portal per the reclamation plan.

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.	The cross sections shown on Map C-3 were updated to reflect a final build out of the Atlas and Revenue TSFs with 10 foot benches every 30 feet to coincide with the 2015 Tailings and Waste Rock Management Plan. Please see updated Exhibit C for the updated cross sections. The Revenue TSF will be 80 feet high from existing ground surfaces and will have 2 benches. The Atlas TSF is approximately 60 feet high and will have one bench. The Galena Slope Stability Analysis Stem was used to calculate factors of safety for different ratios of waste rock being mixed into the tailings. The Galena software utilizes Bishop's method of slope stability analysis. Bishop's method only considers moment equilibrium and is suited to stability problems where a circular failure surface is likely, such as a tailings pile. The different mixtures of tailings and waste rock result in varying cohesion factors. Benches were not included in this model because the benches are not placed for slope stability – they are to control stormwater runoff on the piles. Five different scenarios were created for the Revenue TSF with a Critical Factor of Safety of 3.0. Five scenarios were also created for the Atlas TSF which resulted in Factors of Safety between 2.87 and 4.08. Factors of Safety for all scenarios created are well above the minimum 1.3 required by the Division.
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.	The Galena Slope Stability Analysis Stem was used to calculate factors of safety for different ratios of waste rock being mixed into the tailings. The Galena software utilizes Bishop's method of slope stability analysis. Bishop's method only considers moment equilibrium and is suited to stability problems where a circular failure surface is likely, such as a tailings pile. The different mixtures of tailings and waste rock result in varying cohesion factors. Benches were not included in this model because the benches are not placed for slope stability – they are to control stormwater runoff on the piles. Five different scenarios were created for the Revenue TSF with a Critical Factor of Safety of 3.0. Five scenarios were also created for the Atlas TSF which resulted in Factors of Safety between 2.87 and 4.08. Factors of Safety for all scenarios created are well above the minimum 1.3 required by the Division.
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.	Comment noted.
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.	The only mechanical changes made to the mill post 2015 were upstream of the ball mill. Everything else in the mill from the ball mill to the filter presses remained the same. It is the ball mill that sizes the milled material for the flotation circuit. As such there have been no physical changes made to the tailings that would change the plans for tailings management.

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.	Blasting will only occur underground and there are no critical structures located above the blasting areas. Furthermore, OSMI calculated peak particle velocities from blasts to assess potential impacts to the surface from blasting activities. Peak particle velocities were calculated at 50 feet, 100 feet and 200 feet distances assuming emulsion and ANFO. At 200 feet, the PPV is expected to be 1.8 to 2.2 mm/sec, which is barely detectible. Exhibit D has been updated to include the peak particle velocity calculations.
128	SPCC table on page 24 does not include containers C-10 and C-11. Please revise the table to include all applicable containers.	Noted. Table 4.3 of the SPCC Plan has been updated to include C-10 and C-11.
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.	The material warehouse replaced the material storage Conex, which was listed as C-3 in the SPCC plan so the location and means of oil storage on secondary containment did not change. Rather the name and configuration of the building changed. In accordance with 40 CFR Part 112, the mine has six months to update its SPCC Plan for technical changes.
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.	A SWMP map was included with the original and four copies of the Amendment 02 application that were submitted to the Division in early December 2021. We alerted the Division that the SWMP Map was missing from the unofficial hard copies that were provided in advance of the official submittal and sent a copy of the map to the Division in an email dated December 6, 2021.
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.	The SWMP has been updated to include discussion of the Monongahela / Hubb Reed area in Governor Basin. Currently there is no disturbance at the Yellow rose and 960 Raises so it would not be appropriate to include those areas in the SWMP. As noted above, OSMI does not intend to construct the 960 Raise. Stormwater controls, if necessary at the Yellow Rose Raise will be incorporated into the SWMP prior to disturbance of the area.
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.	OSMI agrees that the SWMP needs to be updated given the changes made to the site in 2021. An updated copy of theSWMP is included in Updated Appendix 2.

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.	This demonstration is only relevant for containment facilities that are exposed to storm events, not all containment facilities. A demonstration that containment within buildings is sufficient to contain designated chemicals was made in Section 5 of Exhibit U. The SWMP has been updated to include containment facilities that are exposed to the elements and that may be impacted by storm events.
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.	The SWMP was updated based on the Water Quality Control Division's (WQCD) SWMP guidance and in accordance with OSMI's stormwater certification CO-040289. The WQCD does not require a professional engineer to certify SWMPs. We understand the DRMS rules require a PE certification for BMPs used to control stormwater from environmental protection facilities. The stormwater control facilities related to EPFs include Sediment Pond #1 (at the Atlas TSF), the 5-Stage Passive Mine Water Treatment System, and the proposed stormwater pond near the entrance to the mine. Design drawings stamped by a P.E. for the treatment ponds were provided to DRMS as part of TR 10, the as-builts for the Atlas will be completed in June once the snow melts, and detailed designs will be provided for the proposed sediment pond once it is constructed. The remaining BMP's at the site are for run-on control and not related to EPFs.
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?	Typically a SWMP only covers areas where stormwater comes into contact with industrial activities or disturbed areas. We believe the 23.92 acres was from the SWMP prior to the Atlas TSF being constructed. The area subjected to ELGs was with the updated SWMP. The effluent limits referenced are from OSMI's stormwater certification COR-040289.
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.	Section 5.3.4 of the SWMP has been updated to reference the SPCC plan and location of spill kits.
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.	A copy of the Stormwater Certification COR-040289 is provided in Appendix C. Note the general permit COR-040000 is currently in administrative extension as is our certification. Once the WQCD renews the general permit, our individual certification will be renewed.
138	What are the “two permitted non-stormwater discharge points” referenced on page 11?	OSMI's CDPS Permit CO-0000003 has two permitted outfalls, which are Outfall 001A and Outfall 002A. Outfall 001A is located at the end of the Mine Water Pond #1 and Outfall 002A is located at the end of Mine Water Pond #3. Currently discharge is occurring at Outfall 002A.
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.	OSMI's Stormwater Permit COR-040289 requires two comprehensive inspections per year, which are performed in the spring and fall. Typically, OSMI performs quarterly inspections of its stormwater controls.

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.	The calculations for ponds 2 and 3 were based on the configuration of the ponds prior to construction of the passive mine after treatment system. The size of the ponds were increased to handle both mine water treatment and stormwater runoff. Updated calculations are provided in Appendix A to the SWMP as copy of which is provided in Attachment 3.
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.	The area to drain into the pond is 2.83 acres. This area will be truthed once as-built drawings of the Atlas TSF have been completed. The SWMP has been updated to reflect this.
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.	Updated calculations are provided in the Updated SWMP provided in Attachment 3.
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.	The reference to Pond 3 on page 16 of the SWMP is a typo and should read "An area of 0.5 acres will drain to the discharge point for the GOV BASIN COLLECTION DITCH for the worst case disturbance of this site. Appendix A of the SWMP has been updated to reflect this change.
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.	Comment noted. The Soil Survey Report is generated from the NRCS website and therefore we cannot modify the font size. To address this, we developed a new NCRS Soil Survey Report for the entire permitted area including Governor Basin and Yellow Rose Raise, a copy of which is provided in Attachment 3. The overall area is smaller than was previously developed and therefore the soil types are legible on the map. These soil types also were put on the new soil maps in updated Exhibit I, Map I-1 and Map I-1A.
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.	Historically, three wetland delineations were completed for the site; in 2012, 2013 and 2015. The 2015 study looked at wetlands upstream from the permit boundary and are not relevant to Amendment 02. There is about 0.05 acres difference between the 2012 and 2013 wetland delineation in the Atlas Tailings area as is shown on the attached overlay map. However, OSMI cannot confirm the true location of the Atlas TSF with respect to the delineated wetlands until a field survey is completed after the snow melts. In speaking with the contractor, there were no wetlands encountered in the construction area or during construction. To address this comment, OSMI proposes to survey the Atlas TSF once the snow melts and also proposes to perform an updated wetlands survey in this area as the site has been in severe drought for the past decade and the 2013 wetlands survey likely does not reflect actual site conditions. The 2013 wetlands delineation was add to site maps.

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.	Design details for the TSFs were provided to DRMS in an email dated 1/13/2022. Upon further review of the 2015 TWRMP, it appears the design details were actually included with Appendix 6 of the Am-02 application, but were at the end of the document rather than being after the Appendix D Cover Sheet. A corrected copy of the 2015 TWRMP is provided in Attachment 3.
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.	Comment noted.
148	Please submit the recently obtained TCLP, ABA and SPLP results for the tailings. Also see comments under Exhibit U.	These results were submitted to the Division on December 17th 2021. See response to comment 149.
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.	A discussion of the results presented in Appendix 7 was provided to DRMS in a letter dated February 28, 2022. A discussion of this information was added to the Geochemistry section of Updated Exhibit U, which may be found in Attachment 2.
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.	The SDS for copper sulfate manufactured by Quadra Chemicals is provided in Attachment 3.
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.	A copy of the SDS for hydrated lime manufactured by L'Hoist is provided in Attachment 3.
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.	Copies of the SDSs for Flottec SIPX Collector by Charles Tennany and NAX 31 by Prospec Chemicals are provided in Attachment 3.
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.	A copy of the Floquat FL2949 SDS with the Chemical Manufacturer listed is provided in Attachment 3.

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; 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	Copies of the Safety Data Sheets for Danafloat 067, Polyfroth W20, and Nax 31 are provided in Attachment 3.
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).	Proof of notices to be served in accordance with Rule 1.6.2 (d) and (e) were provided to DRMS in a letter dated January 12, 2022. A copy of that letter is provided in Attachment 12.
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).	Comment noted. A copy of the proof of filing with the County Clerk and Recorder's office is attached to the cover letter of this submittal.

Attachment 1

Application Replacement Page

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

REGULAR (112d) DESIGNATED MINING OPERATION

RECLAMATION PERMIT

APPLICATION FORM

CHECK ONE: ☐ New Application (Rule 1.4.5) ☑ Amendment Application (Rule 1.10)

☐ Conversion Application (Rule 1.11)

Permit No. M-2012-032 (provide for amendments and conversions of existing permits)

The application for a Regular (112d) Designated Mining Operation Reclamation Permit contains three major parts: (1) the application form; (2) Exhibits A-T, Geotechnical Stability Exhibit, the Emergency Response Plan, and Addendum 1, as required by the Office, and outlined in Rules 6.1, 6.2, 6.3, 6.4.19, 6.5, 8.0, and 1.6.2(1)(b); and, (3) the application fee. When you submit your application, be sure to include one (1) **signed and notarized original** and four (4) copies of the application form, five (5) copies of Exhibits A-T, Rule 6.5 Geotechnical Stability Exhibit, the Emergency Response Plan, Addendum 1, and a check for the appropriate application fee (described under Section (4) on Page 2). Exhibits should not be bound or in a 3-ring binders; maps should be folded to 8 ½" X 11" or 8 ½" X 14" size. To expedite processing, please provide the information in the format and order described in this form.

==========

GENERAL OPERATION INFORMATION

Type or print clearly, in the space provided, all information described below.

==========

1. **Applicant/operator or company name (name to be used on permit)**:
   Ouray Silver Mines, Inc.
   - 1.1 Type of organization (corporation, partnership, etc.): Corporatation
   - 1.2 I.R.S. Tax ID No. or Social Security Number: 46-5762880
2. **Operation name (pit, mine or site name)**: Revenue Mine
3. **Permitted acreage**: (new or existing site) 50.53 permitted acres
   - 3.1 Change in acreage (+) 1.16 acres
   - 3.2 Total acreage in Permit area 51.69 acres

4. **Fees**:

4.1	**New** 112d(1) Application (affecting less than 50 acres and extracting less than 1 million tons per year) application fee	**$4,025.00**
4.2	**New** 112d(2) Application (larger than above but affecting less than 100 acres and extract less than 5 million tons per year	**$6,900.00** application fee
4.3	**New** 112d(3) Application (any other operation)	**$9,200.00** application fee
4.4	**Existing** 112d(1) Amendment Fee	**$2,300.00** amendment fee
4.5	**Existing** 112d(2) Amendment Fee	**$4,025.00** amendment fee
4.6	**Existing** 112d(3) Amendment Fee	**$7,475.00** amendment fee
4.7	**New** 112d(1) Amendment Fee	**$2,875.00** amendment fee
4.8	**New** 112d(2) Amendment Fee	**$4,600.00** amendment fee
4.9	**New** 112d(3) Amendment Fee	**$8,050.00** amendment fee
4.10	Conversion Fee	see above application fees

5. **Primary commoditie(s) to be mined**: silver lead zinc gold

6. **Name of owner of surface of affected land**: Ouray Silver Mines, Inc.

7. **Name of owner of subsurface rights of affected land**: Ouray SIlver Mines, Inc.
If 2 or more owners, refer to Exhibit O.

8. **Type of mining operation**: ☐ Surface ☑ Underground

9. **Location Information**: the center of the area where the majority of mining will occur lies in:

COUNTY: Ouray County

PRINCIPAL MERIDIAN (check one): ____ 6th (Colorado) x 10th (New Mexico) ____ Ute

SECTION (write number): S 21

TOWNSHIP (write number and check direction): T 43 ☑ North ☐ South

RANGE (write number and check direction): R 8 ☐ East ☑ West

QUARTER SECTION (check one): ☐ NE ☑ NW ☐ SE ☐ SW

QUARTER/QUARTER SECTION (check one): ☑ NE ☐ NW ☐ SE ☐ SW

GENERAL DESCRIPTION (miles and direction from nearest town and approximate elevation):

The site is located in Ouray County, approximately 6.7 miles southwest of the town of Ouray, Colorado

10. **Primary Mine Entrance Location (report in either Latitude/Longitude OR UTM):**

Latitude/Longitude:
Example: (N) 39° 44′ 12.98″
(W) 104° 59′ 3.87″

Latitude (N): deg _____ min _____ sec _____._____ (2 decimal places)

Longitude (W): deg _____ min _____ sec _____._____ (2 decimal places)

OR

Example: (N) 39.73691°
(W) -104.98449°

Latitude (N) 37 . 97477 (5 decimal places)

Longitude (W) -107 . 74901 (5 decimal places)

OR

Universal Tranverse Mercator (UTM)

Example: 201336.3 E NAD27 Zone 13
4398351.2 N

UTM Datum (specify NAD27, NAD83 or WGS 84) _____ Zone _____

Easting _____

Northing _____

11. **Primary future (Post-mining) land use** (check one):

☐ Cropland(CR) ☐ Pastureland(PL) ☐ General Agriculture(GA)
☐ Rangeland(RL) ☐ Forestry(FR) ☑ Wildlife Habitat(WL)
☐ Residential(RS) ☐ Recreation(RC) ☑ Industrial/Commercial(IC)
☐ Developed Water Resources(WR) ☐ Solid Waste Disposal(WD)

12. **Primary present land use** (check one):

☐ Cropland(CR) ☐ Pastureland(PL) ☐ General Agriculture(GA)
☐ Rangeland(RL) ☐ Forestry(FR) ☐ Wildlife Habitat(WL)
☐ Residential(RS) ☐ Recreation(RC) ☑ Industrial/Commercial(IC)
☐ Developed Water Resources(WR)

13. **Method of Mining**: ☐ Quarry (QR) ☐ Solution (SO)

13.1 Other: Briefly explain mining method (e.g. Placer, truck/shovel): Underground mining using resue mining and shrinkage stoping techniques. Ore is blasted and loaded into rail cars where it is delivered to the underground mill at the portal area for milling.

14. **Correspondence Information**:

APPLICANT/OPERATOR (name, address, and phone of name to be used on permit):

Contact's Name: Brian K. Briggs Title: CEO

Company Name: Ouray Silver Mines, Inc.

Street: 242 7th Ave P.O. Box: 564

City: Ouray

State: Colorado Zip Code: 81427

Telephone Number: (970) - 325-9830

Fax Number: ( ) -

PERMITTING CONTACT (if different from applicant/operator above):

Contact's Name: Todd Jesse Title: Environmental Specialist

Company Name: Ouray Silver Mines, Inc.

Street: 242 7th Ave P.O. Box: 564

City: Ouray

State: Colorado Zip Code: 81427

Telephone Number: (970) - 325-9830 x. 1106

Fax Number: ( ) -

INSPECTION CONTACT:

Contact's Name: Todd Jesse Title: Environmental Specialist

Company Name: Ouray Silver Mines, Inc.

Street: 242 7th Ave P.O. Box: 564

City: Ouray

State: Colorado Zip Code: 81427

Telephone Number: (970) - 325-9830 x. 1106

Fax Number: ( ) -

CC: STATE OR FEDERAL LANDOWNER (if any):

Agency: NA

Street:

City:

State: Zip Code:

Telephone Number: ( ) -

CC: STATE OR FEDERAL LANDOWNER (if any):

Agency: NA

Street:

City:

State: Zip Code:

Telephone Number: ( ) -

15. **On Site Processing**:

☐ Solution (SO) ☑ Chemical (CH) ☐ Thermal (TH)

☐ Heap Leach (HL) ☐ Vat Leach (VL)

List any designated chemicals or acid-producing materials to be used or stored within permit area: Flotation mill. See attached list of mill chemicals in Exhibit U, EPP

Description of Amendment:

If you are amending or converting an existing operation, provide a brief narrative describing the proposed change(s):

Expand the permit boundary at the secondary escape way located in Governor Basin to incorporate a refuge chamber that was constructed in 2020/2021. This amendment also incorporates revisions made to the permit through approved technical revisions submitted to DRMS since the prior permit amendment. No other changes to the permit have been made.

Maps and Exhibits:

Five (5) complete, unbound application packages must be submitted. One complete application package consists of a signed application form and the set of maps and exhibits referenced below as Exhibits A-T, the Geotechnical Stability Exhibit, the Emergency Response Plan, and Addendum 1. Each exhibit within the application must be presented as a separate section. Begin each exhibit on a new page. Pages should be numbered consecutively for ease of reference. If separate documents are used as appendices, please reference these by name in the exhibit.

With each of the five (5) signed application forms, you must submit a corresponding set of the maps and exhibits as described in the following references to Rules 6.4, 6.5, 8, and 1.6.2(1)(b):

EXHIBIT A - Legal Description
EXHIBIT B - Index Map
EXHIBIT C - Pre-Mining and Mining Plan Map(s) of Affected Lands
EXHIBIT D - Mining Plan
EXHIBIT E - Reclamation Plan
EXHIBIT F - Reclamation Plan Map
EXHIBIT G - Water Information
EXHIBIT H - Wildlife Information
EXHIBIT I - Soils Information
EXHIBIT J - Vegetation Information
EXHIBIT K - Climate Information
EXHIBIT L - Reclamation Costs
EXHIBIT M - Other Permits and Licenses
EXHIBIT N - Source of Legal Right-To-Enter
EXHIBIT O - Owners of Record of Affected Land (Surface Area) and Owners of Substance to be Mined
EXHIBIT P - Municipalities Within Two Miles
EXHIBIT Q - Proof of Mailing of Notices to County Commissioners and Conservation District
EXHIBIT R - Proof of Filing with County Clerk and Recorder
EXHIBIT S - Permanent Man-Made Structures
EXHIBIT T - Designated Mining Operation Environmental Protection Plan
RULE 6.5 - Geotechnical Stability Exhibit
RULE 8 - Emergency Response Plan
ADDENDUM 1 - Notice Requirements (sample enclosed) (Rule 1.6.2(1)(b)

The instructions for preparing Exhibits A-T, the Geotechnical Stability Exhibit, the Emergency Response Plan, and Addendum 1, are specified under Rule 6.4, 6.5, 8, and 1.6.2(1)(b) of the Mineral Rules and Regulations. If you have any questions on preparing the Exhibits or content of the information required, or would like to schedule a pre-application meeting you may contact the Office at 303-866-3567.

Responsibilities as a Permittee:

Upon application approval and permit issuance, this application becomes a legally binding document. Therefore, there are a number of important requirements which you, as a permittee, should fully understand. These requirements are listed below. Please read and initial each requirement, in the space provided, to acknowledge that you understand your obligations. If you do not understand these obligations then please contact this Office for a full explanation.

BKB 1. Your obligation to reclaim the site is not limited to the amount of the financial warranty. You assume legal liability for all reasonable expenses which the Board or the Office may incur to reclaim the affected lands associated with your mining operation in the event your permit is revoked and financial warranty is forfeited;

BKB 2. The Board may suspend or revoke this permit, or assess a civil penalty, upon a finding that the permittee violated the terms or conditions of this permit, the Act, the Mineral Rules and Regulations, or that information contained in the application or your permit misrepresent important material facts;

BKB 3. If your mining and reclamation operations affect areas beyond the boundaries of an approved permit boundary, substantial civil penalties, to you as permittee can result;

BKB 4. Any modification to the approved mining and reclamation plan from those described in your approved application requires you to submit a permit modification and obtain approval from the Board or Office;

BKB 5. It is your responsibility to notify the Office of any changes in your address or phone number;

BKB 6. Upon permit issuance and prior to beginning on-site mining activity, you must post a sign at the entrance of the mine site, which shall be clearly visible from the access road, with the following information (Rule 3.1.12):

a. the name of the operator;

b. a statement that a reclamation permit for the operation has been issued by the Colorado Mined Land Reclamation Board; and,

c. the permit number.

BKB 7. The boundaries of the permit boundary area must be marked by monuments or other markers that are clearly visible and adequate to delineate such boundaries prior to site disturbance.

BKB 8. It is a provision of this permit that the operations will be conducted in accordance with the terms and conditions listed in your application, as well as with the provisions of the Act and the Mineral Rules and Regulations in effect at the time the permit is issued.

BKB 9. Annually, on the anniversary date of permit issuance, you must submit an annual fee **($1,150)**, and an annual report which includes a map describing the acreage affected and the acreage reclaimed to date (if there are changes from the previous year), any monitoring required by the Reclamation Plan to be submitted annually on the anniversary date of the permit approval. Annual fees are for the previous year a permit is held. For example, a permit with the anniversary date of July 1, 1995, the annual fee is for the period of July 1, 1994 through June 30, 1995. Failure to submit your annual fee and report by the permit anniversary date may result in a civil penalty, revocation of your permit, and forfeiture of your financial warranty. It is your responsibility, as an operator, to continue to pay your annual fee to the Office until the Board releases you from your total reclamation responsibility.

Certification:

As an authorized representative of the applicant, I hereby certify that the operation described has met the minimum requirements of the following terms and conditions:

1. This mining operation will not adversely affect the stability of any significant, valuable and permanent man-made structure(s) located within two hundred (200) feet of the affected lands. (However, where there is an agreement between the applicant/operator and the persons having an interest in the structure that damage to the structure is to be compensated for by the applicant operator (Section 834-32-115(4)(d), C.R.S. 1984, as amended), then mining may occur within 200 feet. Proof of an agreement must be submitted to the Office prior to the decision date.)

2. No mining operation will be located on lands where such operations are prohibited by law (Section 34-32-115(4)(f), C.R.S. 1984, as amended);

3. As the applicant/operator, I do not have any mining/prospecting operations in this state of Colorado currently in violation of the provisions of the Mined Land Reclamation Act (Section 34-32-120, C.R.S. 1984, as amended) as determined through a Board finding.

4. I understand that statements in the application are being made under penalty of perjury and that false statements made herein are punishable as a Class 1 misdemeanor pursuant to Section 18-8-503, C.R.S. 1984, as amended.

This form has been approved by the Mined Land Reclamation Board pursuant to section 34-32-112,C.R.S., of the Mined Land Reclamation Act. Any alteration or modification of this form shall result in voiding any permit issued on the altered or modified form and subject the operator to cease and desist orders and civil penalties for operating without a permit pursuant to section 34-32-123, C.R.S.

Signed and dated this 17 day of November, 2021.

Ouray Silver Mines, Inc.
Applicant/Operator Name

If Corporation Attest (Corporate/County Seal)

Signature: _____

By: Brian K. Briggs

Title: CEO

Corporate Secretary or Equivalent
Town/City/County Clerk

State of ~~Jefferson~~ Colorado)
) ss.
County of Jefferson)

The foregoing instrument was acknowledged before me this 17 day of November, 2021,

by _____ as _____ of _____.

Cl Melino
Notary Public

My Commission expires: 07/27/2022

CHERYL MELINO
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20184030332
MY COMMISSION EXPIRES 07/27/2022

Attachment 2

Updated Exhibits

Updated Exhibit A

Legal Description

Exhibit A: Legal Description

The Site is approximately 6.7 miles southwest of Ouray, Colorado. A legal description is provided below. Claims boundaries are shown on Map C-1a and C-1b for the legal boundaries and descriptions for the Revenue portal area. Map C-2 shows the legal boundaries and descriptions for the three ventilation shafts that are outside the main portal permit area. These maps are included in Exhibit C. A general location map can be found in Exhibit B. The current total permit area is 51.69 acres.

The main entrance to the mine is located at 37.97477 degrees N, -107.74901 degrees W and is shown on the USGS Map B-1, which may be found in Exhibit B. The proposed total permit area is **51.69** acres. The mining claims for the Revenue Mine are listed in Exhibit N.

The area is a tract of land located entirely within Section 21 of T43N, R8W of the New Mexico PM. Using a line between the monuments Rev A and Rev B (S 84°42’54” W) and a distance of 527.34 feet as the basis of bearing, the permit boundary of the Revenue Mine is as follows:

<u>Revenue Mine Area (no change)</u>
From Rev A and S 79°08'50" E a distance of 484.3056' to the point of beginning;
thence S 82°16'01" W a distance of 283.36';
thence S 61°09'22" E a distance of 78.54';
thence S 63°32'19" E a distance of 193.69';
thence S 47°47'35" E a distance of 102.36';
thence S 03°17'51" E a distance of 135.21';
thence N 89°21'50" E a distance of 63.19';
thence N 76°38'24" E a distance of 145.76';
thence N 67°16'51" E a distance of 118.11';
thence N 81°16'57" E a distance of 125.00';
thence N 73°42'10" E a distance of 107.52';
thence N 52°27'33" E a distance of 100.29';
thence N 71°02'18" E a distance of 71.26';
thence S 72°58'12" E a distance of 91.04';
thence N 86°17'36" E a distance of 151.96';
thence N 87°00'03" E a distance of 241.36';
thence S 75°23'09" E a distance of 66.75';
thence N 87°01'21" E a distance of 135.14';
thence S 84°32'42" E a distance of 110.72';
thence N 83°14'39" E a distance of 95.44';
thence S 60°19'03" E a distance of 85.07';
thence S 73°28'57" E a distance of 66.64';
thence S 76°38'46" E a distance of 173.17';
thence S 66°56'22" E a distance of 82.40';
thence S 48°23'18" E a distance of 175.19';

thence S 25°22'51" W a distance of 288.80';
thence S 55°36'14" W a distance of 803.14';
thence N 89°55'08" W a distance of 724.97';
thence S 75°21'49" W a distance of 313.16';
thence N 63°07'39" W a distance of 361.79';
thence N 68°51'20" W a distance of 213.43';
thence N 40°31'51" W a distance of 475.75';
thence N 62°52'07" W a distance of 85.26';
thence N 16°42'49" E a distance of 302.27';
thence N 17°02'39" E a distance of 303.07';
thence N 72°40'45" W a distance of 43.96';
thence N 08°15'47" W a distance of 51.58';
thence N 66°55'57" E a distance of 133.96';
thence S 87°29'45" E a distance of 155.90';
thence S 67°18'51" E a distance of 152.07';
thence S 35°55'16" E a distance of 77.76';
which is the point of beginning, having an area of 2,171,039.04 square feet, 49.840 acres

Yellow Rose Raise (no change)
The proposed Yellow Rose will be located at 37º58’10.58” North, -107º44’44.70” West.
From Rev A and S 36°20'01" E a distance of 3078.90' to the point of beginning;
thence N 90°00'00" E a distance of 100.00';
thence S 00°00'00" E a distance of 100.00';
thence N 90°00'00" W a distance of 100.00';
thence N 00°00'00" W a distance of 100.00';
which is the point of beginning, having an area of 0.230 acres

960 Raise (no change)
The proposed 960 Raise, if constructed, will be located at 37º58’18.98” North, -107º45’00.99” West.
From Rev A and S 20°10'29" E a distance of 1693.95' to the point of beginning;
thence N 90°00'00" E a distance of 100.00';
thence S 00°00'00" E a distance of 100.00';
thence N 90°00'00" W a distance of 100.00';
thence N 00°00'00" W a distance of 100.00';
which is the point of beginning, having an area of 0.230 acres

Monongahela Raise (added 1.16 Acres)
The Monongahela / Hubb Reed is located at 37º59’05.50” North -107º46’27.62” West.
From Rev A and S 66°10'48.58" W a distance of 6683.128' to the point of beginning;
thence S 43°13'18.49" W a distance of 53.924';
thence S 30°09'38.73" W a distance of 56.043';
thence S 64°48'36.88" W a distance of 205.578';
thence S 59°22'17.32" W a distance of 71.675';
thence S 74°43'38.84" W a distance of 15.298';
thence S 63°47'33.21" E a distance of 136.051';

thence S 27°07'07.61" E a distance of 73.970';
thence S 32°25'01.62" E a distance of 41.063';
thence N 84°34'28.08" E a distance of 83.649';
thence N 28°55'56.53" E a distance of 74.151';
thence N 25°16'35.62" E a distance of 102.911';
thence N 00°17'50.15" E a distance of 195.789';
thence N 44°15'28.52" W a distance of 20.566';
which is the point of beginning, having an area of 1.39 acres

Updated Exhibit B

Site Map

Ouray, CO

Revenue Mine

Entrance Location:
37°58'31.57"N,
107°44'51.43"W

Governor Basin

Telluride, CO

N

LEGEND

Affected Lands Boundary

NOTES:
1. Topography from USGS quads.
2. No drinking water wells within the 1 miler distance to the mine area.
3. The Atlas mine upstream on the site and the Camp Bird mine downstream from the site contribute substantial flows to the surface water system.

REVISIONS

NO.	DESCRIPTION	DATE	BY	APPROVED BY:
0	Amendment 2	11/16/2021	SG/KN	Todd Jesse

DECEMBER 2021

0 2500 5000
SCALE IN FEET

Ouray Silver Mines
P.O. BOX 564
Ouray, CO 81427

REVENUE - VIRGINIUS MINE

Map B-1 : General Location Map

R:\Ouray Silver Mine\CAD\Sheet Files\2020 Permit Update-B1only.dwg Last Edited by: KNieto on 11/30/2021 12:11 PM

Updated Exhibit C

Mine Maps

Exhibit C: Pre-Mining and Mining Plan Maps of Affected Lands

The maps listed below and attached to this Exhibit C were developed in accordance with Rule 6.4.3(a) through (i) including:

- Adjoining surface owners
- Name and location of creeks, roads, buildings, etc. on the affected lands area and within 200 feet of the boundary (see also Exhibit G maps)
- Topography
- Total area of the Affected Lands (note this is the same as the Permit Boundary)
- Type of vegetation (see Map J)
- Water information (See Exhibit G maps)
- Manmade structures within 200 feet (see also Exhibit S table)
- Soils information (See Map I)
- Aerial photos were used where needed

Exhibit C Maps

Map	Description
C-1a	Baseline and Current Conditions
C-1b	Governor Basin and Yellow Rose Baseline and Current Conditions
C-2	Surface Shaft Locations and Adjacent Landowners
C-3	Cross Sections
C-4	Cross Section Showing Groundwater Flow and Fracture Systems
C-5	USGS Map of Ouray and Telluride Mining Districts

Claim Boundary

Main Portal Area Permit
Boundary 49.84 acres

County Road 26

B'

REV - B

Power pole

REV - A

A'

Outfall
001A

C

County Road 26 (owned by USFS or County)

Outfall
002A

Power pole

Main Mine Entrance
Ouray, CO
6.9 miles

Wood bridge crossing

Atlas Tailings
Storage Facility

Mine Water Pond #1

Mine Water Pond #2

Mine Water Pond #3

Existing waste rock area

Soil Pile

Low Lying Area
Partly Disturbed

Power poles
(Owned by SMPA)

Access road

SW diversion ditch #2

Waste
Rock Pile

Existing waste rock area

Revenue Tailings
Storage Facility

SW collection ditch #2

SW diversion ditch #1

B

A

C'

Yellow Rose Drift

Explosive Magazines approx.
300 ft - 400 ft in Yellow Rose Drift

960 Incline Vent Raise Affected
Lands Boundary 0.23 acres

960 Incline vent. raise

Atlas Mine Drainage

Legend

- Permit Boundary
- Permit Boundary 200FT Buffer
- Dirt Roads
- Facilities
- Trees
- Mine Rail
- Power Poles/Lines
- Pipeline
- Sneffels Creek
- Stream/Channel
- Water to Open Channel
- 2015 Wetlands
- Riprap
- Waters of the US
- Stormwater Conveyance
- UG Workings

NOTE:
1. Topography from site specific survey in March 2014

REVISIONS				
NO.	DESCRIPTION	DATE	BY	APPROVED BY:
0	Amendment 2	12/06/2021	SG/KN	
1	Amendment 2 Rev	4/12/2022	TJ	Todd Jesse

DECEMBER 2021

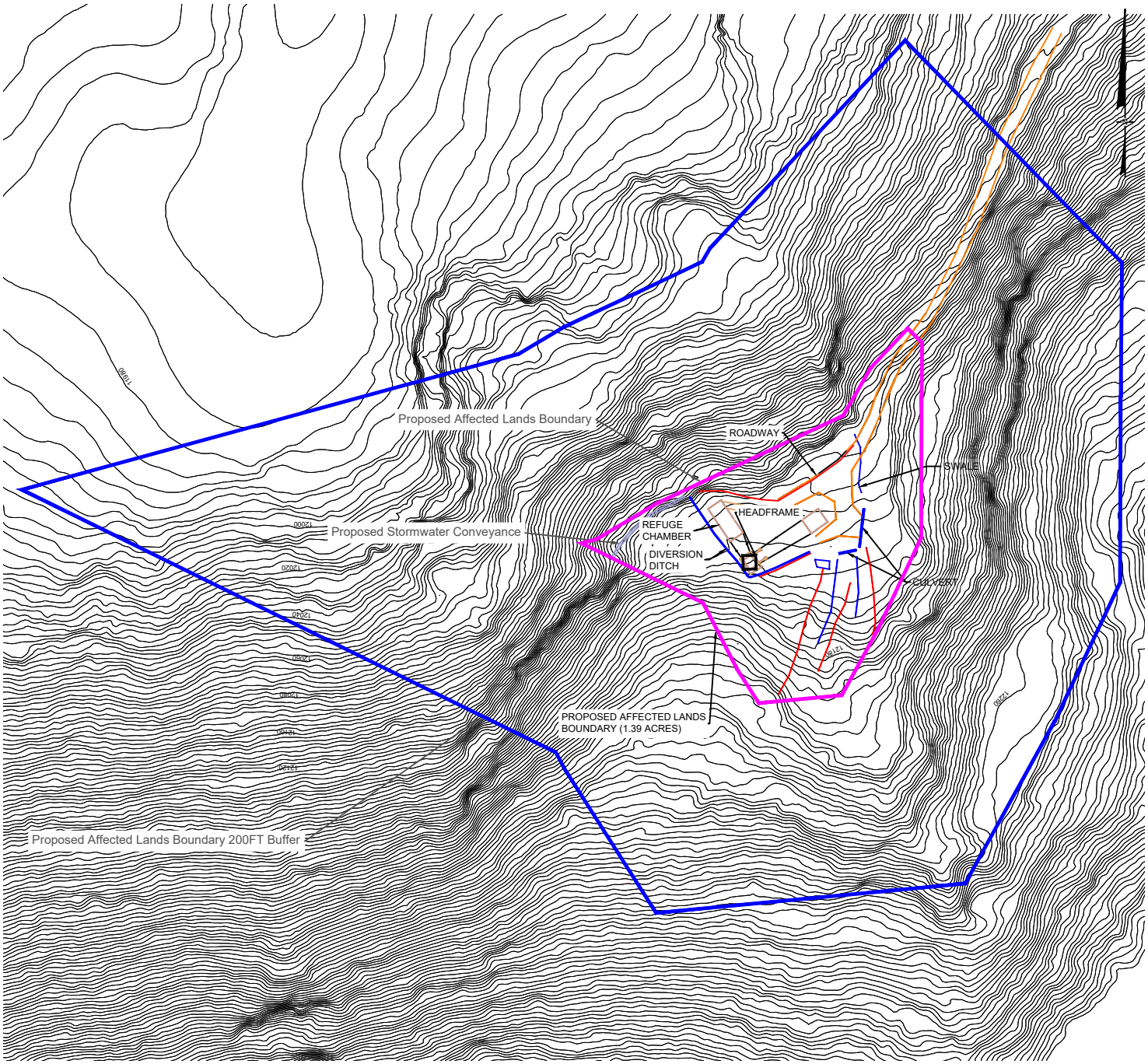
0 100 200
SCALE IN FEET

Ouray Silver Mines
P.O. BOX 564
Ouray, CO 81427

REVENUE - VIRGINIUS MINE

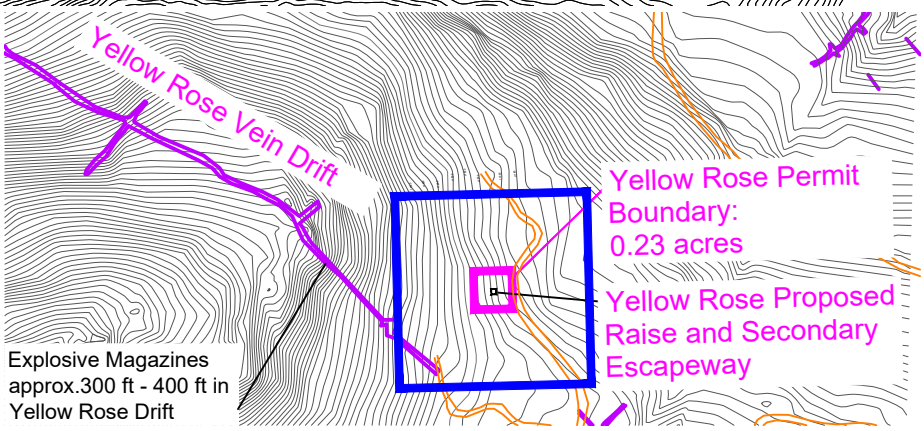
Map C-1A: Baseline and Current Conditions

Z:\AD_ENV - Environmental\2. EMPLOYEE FILES\JESSE\8. AutoCAD\1. Masters\master map\2020 Permit Update.dwg Last Edited by: tjesse on 5/11/2022 10:19 AM



Legend

- Permit Boundary
- Permit Boundary 200 FT Buffer
- Underground Workings
- Surface Exit of a Raise
- Road (Owned by USFS and Ouray County)



Notes:

0 150 300
SCALE IN FEET

REVISIONS				
NO.	DESCRIPTION	DATE	BY	APPROVED BY:
0	Amendment 2	11/16/2021	SG/KN	
1	AR Review	05/10/22	THJ	Todd Jesse

P.O. BOX 564
Ouray, CO 81427

REVENUE - VIRGINIUS MINE

Figure C-1B : Governor Basin and Yellow Rose Baseline and Current Conditions

Legend

Permit Boundary 200 FT Buffer

Permit Boundary

Claim Boundaries/Ownership

Ouray Silver Mines

Forest Service

N

N004738

Forest Service

N004738

N004738

N004738

N004484

N004484

Forest Service

N004484

N004484

Forest Service

N004484

N004551

Revenue Mine Area

N004484

N004484

N004484

Forest Service

N004484

N004484

N004551

N004551

N004551

Forest Service

N004533

N004533

960 Incline
Vent Raise

N004533

N004484

N004533

Forest Service

N004533

N004484

N004533

Yellow Rose Proposed Raise
and Secondary Escapeway

N004550

N

Govenor Basin /
Hubb Reed Shaft

Forest Service

N004484

N004482

N004484

Forest Service

N004904

0 187.5 375 750 Feet

REVISIONS				
NO.	DESCRIPTION	DATE	BY	APPROVED BY:
0	Amendment 2	12/6/2021	SMW	Todd Jesse

0 187.5 375 750 Feet

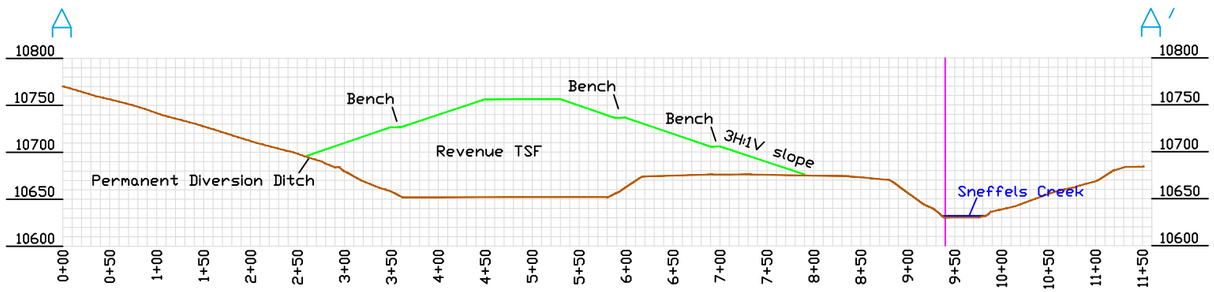
December 2021

Ouray Silver Mines
P.O. BOX 564
Ouray, CO 81427

REVENUE - VIRGINIUS MINE

C-2 : Surface Shaft Locations and Adjacent Landowners

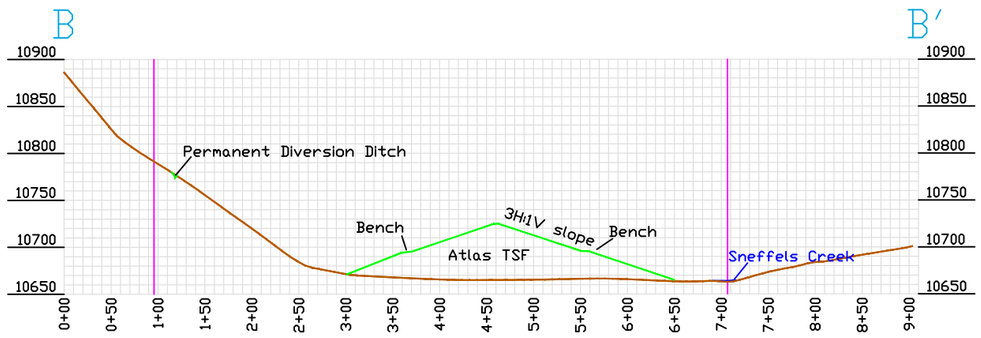
Document Path: P:_Project_Files\Ouray Silver Mine\GIS\mxd\C-2.mxd

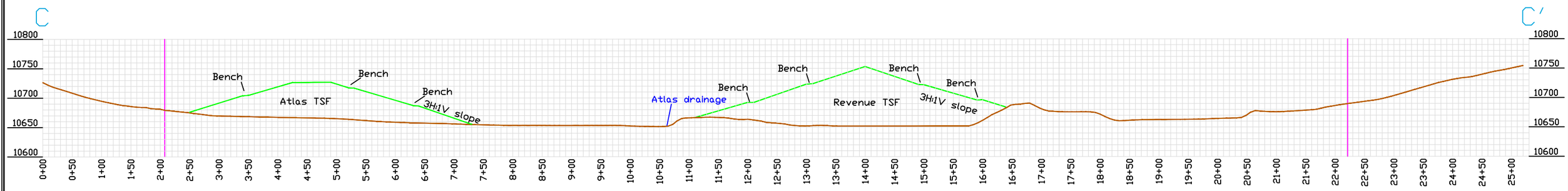


Permit Boundary

Baseline Conditions

Reclaimed Conditions





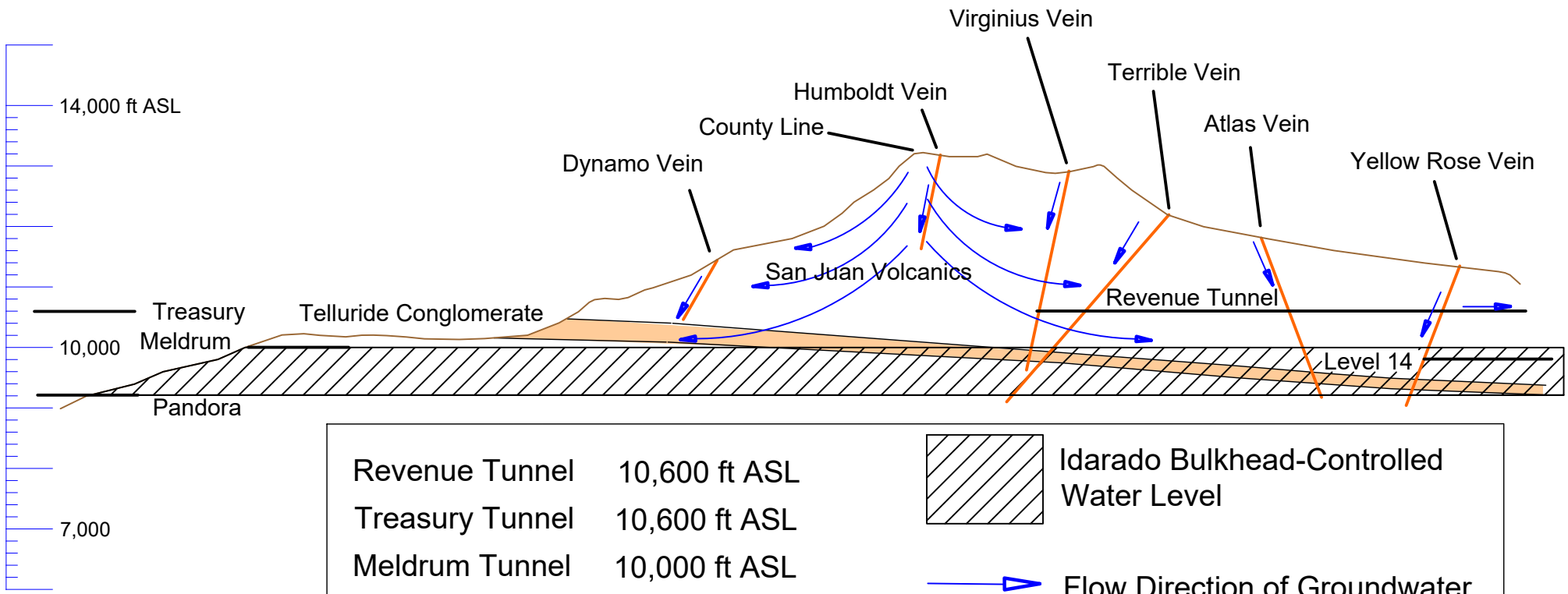
Date:	Revision:
4/29/22	A2 AR Comments

1416 CR 26
Ouray, CO 81427

Map C-3

Cross Sections

Date: April 26, 2020	Drawn By: THJ
Approved By:	Todd Jesse
File: 20220426_env_prot_map.dwg	



Revenue Tunnel	10,600 ft ASL
Treasury Tunnel	10,600 ft ASL
Meldrum Tunnel	10,000 ft ASL
Camp Bird Level 14	9,800 ft ASL
Pandora Mill	9,200 ft ASL

Idarado Bulkhead-Controlled Water Level

Flow Direction of Groundwater

Geology from USGS Quadrangle Maps

1416 CR 26
Ouray, CO 81427

Date:	Revision:
	Original
04/07/22	Version 2

Drawing C-4
Groundwater Flow

Date: April 7, 2022 | Drawn By: THJ

Todd Jesse | Approved By:

File: gw_flow_cross_section.dwg

Quaternary & Recent

Alluvium, colluvium and glacial debris deposits

Tertiary

Composite intrusive stock consisting of gabbro and granodiorite, medium to dark grey and brown, locally porphyritic

Porphyritic granodiorite, light grey, occurs as a laccolith

Andesite to rhyodacite flows, breccias and tuffs medium to dark grey

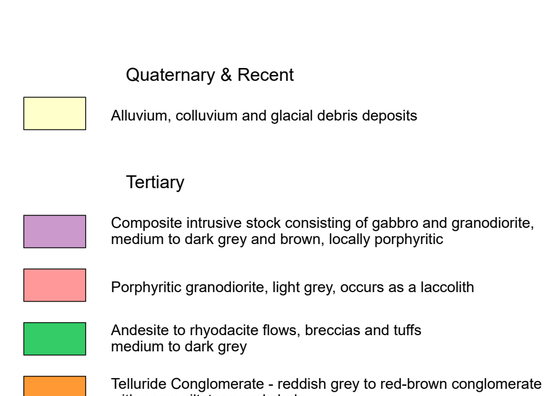
Telluride Conglomerate - reddish grey to red-brown conglomerate with some siltstone and shale

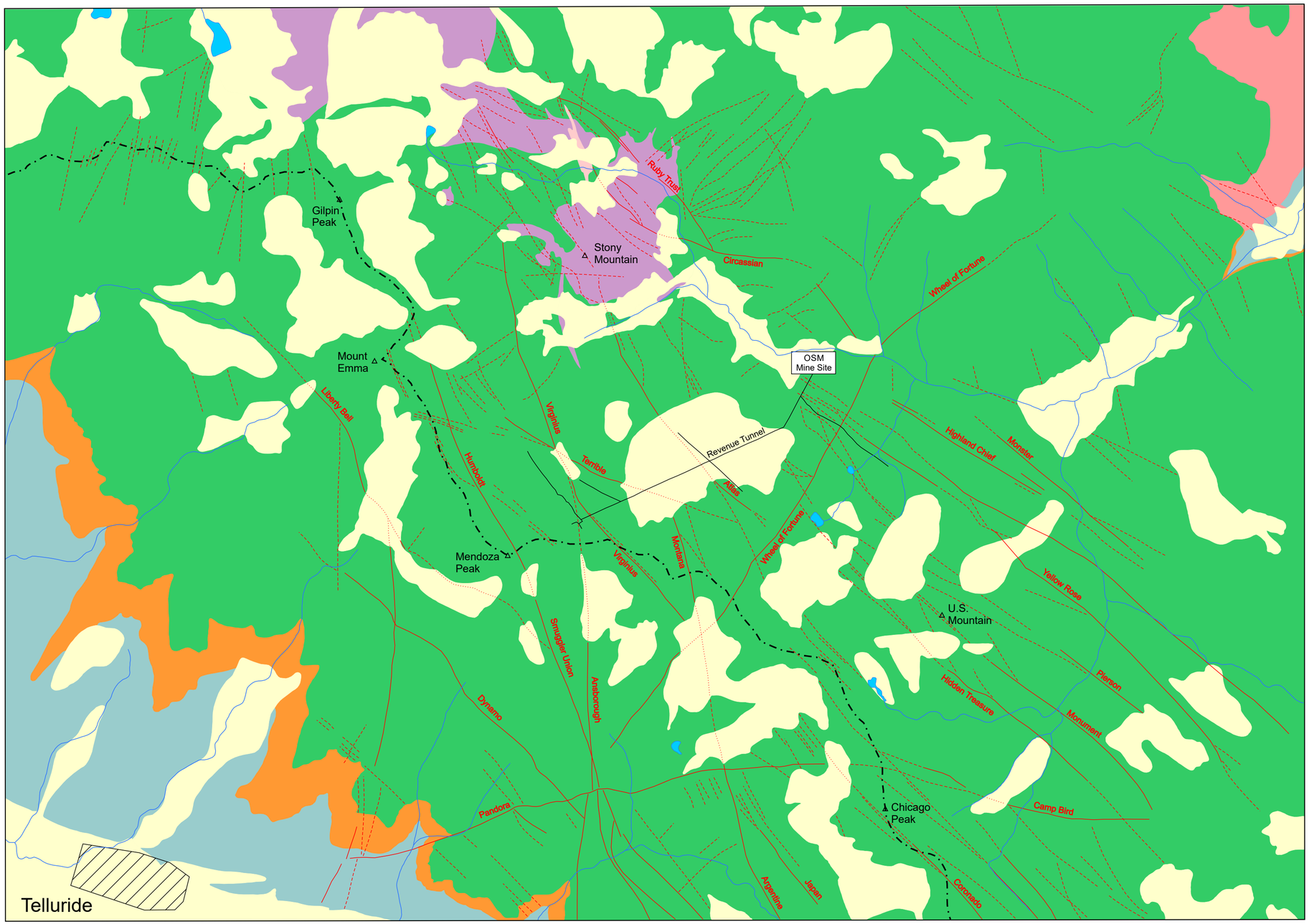
UNCONFORMITY

Triassic, Jurassic, Cretaceous

Shale, and mudstone with interbedded sandstone, conglomerate and limestone beds

Vein, stringers or mineralized fissure or fault





Regional Geology Map of the Ouray - Telluride District

2000 0 2000 4000 6000

1 inch = 2000 feet

Geology after W.S. Burbank and R.G. Luedke USGS GQ-504 & GQ-291

OURAY SILVER MINES

Updated Exhibit D

Mine Plan

EXHIBIT D: MINE PLAN

Contents

Tables

Figures

1 INTRODUCTION

This Exhibit D provides background information about the Revenue mine and milling operations and includes the information required by Rule 6.4.4 a through j. References to other Exhibits are provided where necessary.

2 MINING METHODS

The ore deposits being mined at the Revenue Mine are vein type following igneous intrusions in the San Juan Formation. All mining will be conducted underground via drill and blast methods commonly used to mine these types of deposits. No surface or open pit mining will occur within the permit boundary. Surface disturbance will be limited to buildings, tailings storage facilities (TSFs), waste rock stockpiles, and other surface features needed to support underground mining.

The annual production of mined material will be approximately 150,000 tons with approximately 20% of that being waste rock and the rest being ore. This gives a breakdown of 20,000 tons of waste rock annually being brought to the surface, and 120,000 tons of ore being sent to the mill. Waste rock is either stored on site or blended with tailings and sold as construction material or road base, as was permitted in TR-09, which was approved on March 16, 2017. Of this amount, approximately 75,000 tons will be converted to fine mill tailings. Therefore, approximately 95,000 tons of waste rock and tailings will be placed in one of two TSFs while approximately 5,000 tons of concentrate will be shipped off site each year. The Revenue-Virginius Mine, for the purposes of this permit, has a mine life of approximately 8 years. This timeline is heavily dependent on grade, commodity markets, and exploration activities, which may reduce or extend this life.

The ore consists of approximately 1 foot thick of quartz vein host rock and approximately 3.5 feet of wall rock which allows room for miners and equipment. The quartz veins have 4 principal minerals of interest:

- galena (PbS)
- sphalerite (ZnS)
- chalcopyrite (CuFeS2)
- Tetrahedrite (Cu12Sb4S13) with a variant freibergite which has some silver (Ag) replacing some of the copper.

It is expected that these minerals will comprise approximately 20-40% of the vein material. The wall rock around the veins is primarily andesite, which is a very fine granite, consisting of quartz, feldspar, amphiboles, biotite and muscovite mica. The milling process is designed to concentrate the sulfide minerals; therefore, the tailings will consist primarily of quartz, feldspar, amphiboles, biotite and muscovite, which are inert minerals.

3 UNDERGROUND OPERATIONS

Most activity at the Revenue Mine will take place underground. This includes mining of ore, transport of ore and waste rock, placement of waste rock and processing of ore in the mill. A summary of underground activities is presented below.

3.1 Drifts and Tunnels

Accessible drifts and tunnels at the Revenue Mine were driven on roughly 0.5% uphill grade from the portal over 100 years ago and are 8' x 8' in size with a 24-inch-wide set of 40 lb rail on the left side of the opening and a drainage ditch on the right side. The main Revenue tunnel was driven primarily through the San Juan Formation host rock to access several veins. This drift is approximately 7,900 feet long and accesses the Yellow Rose vein, the Atlas/Cumberland Vein, Terrible Vein, Montana Vein, and the Virginius Vein, as well as a few minor veins. The main Revenue tunnel basically ends at the Virginius Vein. The main Virginius shaft is located near the terminus of the Revenue drift. This shaft extends up to the surface at an elevation 12,900 feet. Power cable, phone lines, compressed air line and ventilation piping is attached over the center of the track or over the drainage ditch using a messenger cable that is pinned to the back or ribs with steel I-bolts. The track is secured to 6" x 8" wood ties on 5' centers with additional support in the form of steel ties every 10 feet. Between the ties and the ditch, the sill is filled with ballast material (broken waste rock) to stabilize the track. Most of the openings are created using handheld rock drills (air powered) to drill a pattern of holes that are then loaded with explosives and detonated to break the solid rock into manageable size pieces. The broken rock is then picked up with air powered mucking machines and loaded into mine cars and hauled outside with electric locomotives where it is placed on the Temporary Waste Rock Pile. This type of development work is done in host rock that contains little or no mineralization. If a drift or opening is driven on a vein or structure, the material is sampled at close spacing and assayed for elements that may contain value, mainly gold, silver, lead, copper and zinc. If it is determined that the broken material contains value, it is diverted to the mill for processing.

3.2 Raises

Raises are vertical tunnels used to access the blocks of ore in the vein. Most of the raises in this mine were created either as "bald headed" or using an air powered Alimak climber and air powered drills. Once the opening is completed it is typically lined with rough cut timbers secured to the walls and ladders are installed so personnel can move up and down from level to level. In the larger opening there is usually an electric powered hoist with a cage (elevator) to move personnel and equipment. Some raises may be installed via raise boring. In this method a powerful drill machine bores a hole from an upper elevation (or the surface) to an appointed location where there is a large cutter head (4' – 8') attached to the rods, it is then pulled back up to the starting point whilst reaming the opening to the desired diameter. The opening is then fitted with steel ladders and landings. A hoist is installed and used to move personnel and materials up and down.

Excavations in the Revenue Mine will be built using methods similar to those described above. General equipment used in the mine are slushers (air or electric) to move broken rock into loading chutes, tuggers (air or electric) to hoist or lower personnel or supplies and diamond drills

(air or electric) to drill exploratory holes to test for the location and value of a vein. A list of mining equipment is provided in Table D-1.

Table D-1 - Underground Mine Equipment List	
Underground Equipment	Number
Locomotives	
1.5 Ton Goodman Manchi	3
4 Ton Goodman Loci	3
4 Ton Atlas Loci	1
4 Ton Greensburg Loci	2
4 Ton Trident Loci	2
8 Ton Greensburg Loci	5
Flat Cars	
12.5 Ton Low Boy Car	1
Low Boy Segment Car	1
Pair Tandem Timber Trucks	1
4'x8' Flat Cars	20
3.6'x4' Flat Cars	4
Ballast Car	1
Torch Car	1
Explosives Car	1
Aux Powder BoxCar	1
Ore Cars	
4 Ton Granby Muck Car	60
Man Trip	2
2 Ton C.S. Card Rocker Dump	2
Overshoot Muckers	
Eimco 12B Mucker	6
Eimco 21 Mucker	2
Eimco 22 Mucker	7
Atlas Copco 310 Cavo	1
Mine Equipment	
Jackleg	18
7 ton Young Buggy	1
Kubota Excavator	1
Track Mucker	1
Tuggers/Slushers	
Ingersoll Rand 20HP Tugger	4
Ingersoll Rand 30HP Air Tugger	1
Ingersoll Rand Wide Drum Tugger	1

Table D-1 - Underground Mine Equipment List	
Underground Equipment	Number
Gardner Denver 10HP Slusher	1
Ingersoll Rand 20HP Slusher	6
Joy FF211 30 HP Slusher	2
Trident M#S211 Air Slusher and Buckets	10
Pumps/Machines	
Reed Shotcreet Machine	2
Grout Pump	1
ChemGrout Pressure Grout Pump	1
FMC Bean Pump	5
Climbers	
Alimak Raise Climber	3
Exhaust Fans	
JetAir 10HP	7
JetAir 30HP	1
JetAir 40HP	1
SMJ 20HP	1
Spendtrup 30HP	4
MPC	
150 KVA Mine Power Center	1
300 KVA Mose Power Center	1
150 KVA Mrift Power Center	1
500 KVA Mouth Power Center	1
500 KVA Maise-1 Power Center	1
300 KVA More Power Center	1

3.3 Ventilation

Three ventilation shafts are proposed for the mine. Two of the three (i.e., the 960 Shaft and the Yellow Rose Shaft) ventilation shaft permit areas are 100’ x 100’ in size, or 0.23 acres and are in the conceptual stage of development (i.e., not constructed). As such, details around construction and reclamation are not available. At this point, the 960 Raise has been removed from the mine plan and Ouray Silver will apply for an acreage reduction once Amendment 02 is approved. Should the Yellow Rose ventilation raise be proposed for construction, a Technical Revision will be submitted along with designs and updated reclamation plans and costs.

The third raise bore/ventilation shaft, the Monongahela / Hubb Reed Raise, was completed in 2015 using a raise bore. This raise provides ventilation and serves as a secondary escapeway for the Revenue Mine and includes a headframe, two buried Connex containers, an avalanche berm, and a hoist house. The current permit boundary around the Monongahela / Hubb Reed Raise also

is 100’ x 100’. OSMI is proposing to increase the permit boundary in this area by approximately 1.16 acres to accommodate the refuge chamber and other surface features that were inadvertently constructed outside the permit boundary.

The locations of the three ventilation raises are shown on Map C-1A and C-1B. See Map C-1B for the proposed permit boundary for the Monongahela / Hubb Reed Raise area. The raises will be installed from within the mine using the same methods as other raises or by raise bore.

Stripping topsoil from these raise areas prior to construction will not be practical as there is very little topsoil in the area. Should topsoil be encountered at the top of the raises, it will be stored in a berm around the raise exit to reduce surface water inflows into the mine. A pad will be constructed at the top of each raise. This pad will be concrete, 10’ x 10’ square and 12 inches thick. The raise openings will be up to six feet in diameter. The holes will be cased and grouted as necessary to prevent water from potential upper fracture systems from entering the mine workings.

None of the three shafts are located within a debris flow area. The only shaft that is located within an avalanche path is the 960 Shaft, however, it is located near the top of an avalanche path and as such we do not anticipate buildup of snow in the area. The 6 feet diameter openings may capture some snow and rain , however, the amount of meteoric water entering the mine through these locations is expected to be minimal.

Air is usually supplied to working areas of the mine to provide an adequate volume of fresh air or to dilute or remove noxious gasses from blasting. This is done using electric powered fans that bring fresh air from the surface and distribute it using ventilation tubing. Most of the existing and future entries at the Revenue Mine are in some cases naturally ventilated but as described above, air currently exits the mine through the existing Monongahela / Hubb Reed raise bore and eventually will exit at the Yellow Rose Shafts, if constructed. Fugitive emissions venting from the mine are included in the mine’s Air Pollution Emission Notice, which was submitted to the Air Quality Control Division during the fourth quarter 2021.

3.4 Resue Mining Method

Based on the orientation and width of the mineralization, review of historic mining, and available geotechnical information, a resue mining method is used to mine ore where waste rock serves as backfill as the stope is advanced in an overhead manner. This method is highly selective and allows for mining narrow widths down to 0.5 ft.

Resue mining involves identifying a stope block having minimum approximate dimensions of approximately 500 to 1,000 ft along strike and up to 300 ft in height. Stope block widths vary according to mineralization. Typically, an off-ore access drift is developed on the footwall along the length of the stope. Two-compartment raises known as cribbed manways, are developed on each end of the stope from the level below providing access to any level of the stope. In the center of the stope a four-compartment service raise with a manway, two ore passes, and equipment slide is constructed as the primary access. Each raise provides utility

access into the stope so that miners can pull water or air from either side of the stope or from the middle service raise.

The bottom portion of the stope, approximately 25 ft in height, is left in a pillar (sill pillar), which is partially recoverable from the stope below. A 3.5 ft wide scram drift is developed along the length of the stope above the pillar. Finger raises with ore chutes at the access level connect the scram drift to the development access below and are used to remove ore material from the stopes. Once the scram and finger raises are established, upholes are drilled into the vein, both in ore and waste. Ore material is blasted first and then removed using slushers operating on a conveyor belt muck sheet to the finger raise for transportation to the mill. Prior to blasting the waste material, cribbed timbers are placed to raise the ore passes (similarly to the manway and service raises) to the next level. Waste material is then blasted and left in the stope as fill material for accessing the next level of the stope. Where necessary, additional waste can be drilled and blasted to fill the stope as mining progresses.

3.5 Explosives and Blasting

Various types of explosives have been used at the Revenue Mine and depending on the location can consist of dynamite (stick power), ANFO (ammonium nitrate/fuel oil), or some combination of the two. Detonators are fuse primers, nonels, or electric blasting caps. All explosives will be stored underground at two locations – one in the Yellow Rose drift and another near the Blue Lagoon on the Monongahela, as shown on Map C-1A and Map U-2, respectively. All explosives will be stored and handled according to Mine Safety and Health Administration (MSHA) and the Agency for Tobacco, Firearms and Explosives (ATFE) regulations.

Blasting is not expected to impact surface structures. Little to no vibrations would be felt at the surface from underground blasting due to the size of the blasts and the distance to the surface. OSMI calculated the Peak Particle Velocity (PPV) for a variety of blasting scenarios. The closest OSMI would mine to the surface would be 50 feet. The PPV at that distance would be 17-20 mm/s, which is the lower limit that a drywall structure could be damaged. There are no structures planned that would be located above the areas where blasting will be taking place. Typical blasting scenarios would be more than 200 feet from the surface, would be barely detectible, and would only last for a one to two seconds. At 200 feet, the PPV is 2.2 mm/s if using ANFO and 1.8 mm/s if using emulsion. PPV calculations are provided in Table D-2.

Table D-2: Peak Particle Velocity Calculations

50 ft Distance				
ANFO (Pneumatically Placed)	**K Constant**	**Distance (m)**	**B Constant**	**Charge Weight**
	600	15.24	-1.6	2.72
Max Velocity (mm/s)	**17.0790311**			
AP Packaged Emulsion	**K Constant**	**Distance (m)**	**B Constant**	**Charge Weight**

50 ft Distance				
	600	15.24	-1.6	3.36
Max Velocity (mm/s)	**20.24114811**			

100 ft Distance				
ANFO (Pneumatically Placed)	**K Constant**	**Distance (m)**	**B Constant**	**Charge Weight**
	600	30.48	-1.6	2.72
Max Velocity (mm/s)	**5.63397916**			
AP Packaged Emulsion	**K Constant**	**Distance (m)**	**B Constant**	**Charge Weight**
	600	30.48	-1.6	3.36
Max Velocity (mm/s)	**6.677088763**			

200 ft Distance				
ANFO (Pneumatically Placed)	**K Constant**	**Distance (m)**	**B Constant**	**Charge Weight**
	600	60.96	-1.6	2.72
Max Velocity (mm/s)	**1.858520018**			
AP Packaged Emulsion	**K Constant**	**Distance (m)**	**B Constant**	**Charge Weight**
	600	60.96	-1.6	3.36
Max Velocity (mm/s)	**2.202617861**			

3.6 Ore Handling

Ore is delivered directly to the underground mill. No ore will be stored on the surface. The mill will process approximately 120,000 tons of ore per year. Details of the mill process are discussed in Section 4 of this Exhibit D. Mill Operations.

The general process flow of the mill is described below. More detailed descriptions of the mill operations may be found in TR-15.

The Revenue Mill is designed as an underground mill with a 540 ton per day of ore capacity. The Mill area excavations (four tunnels that constitute the mill complex) include:

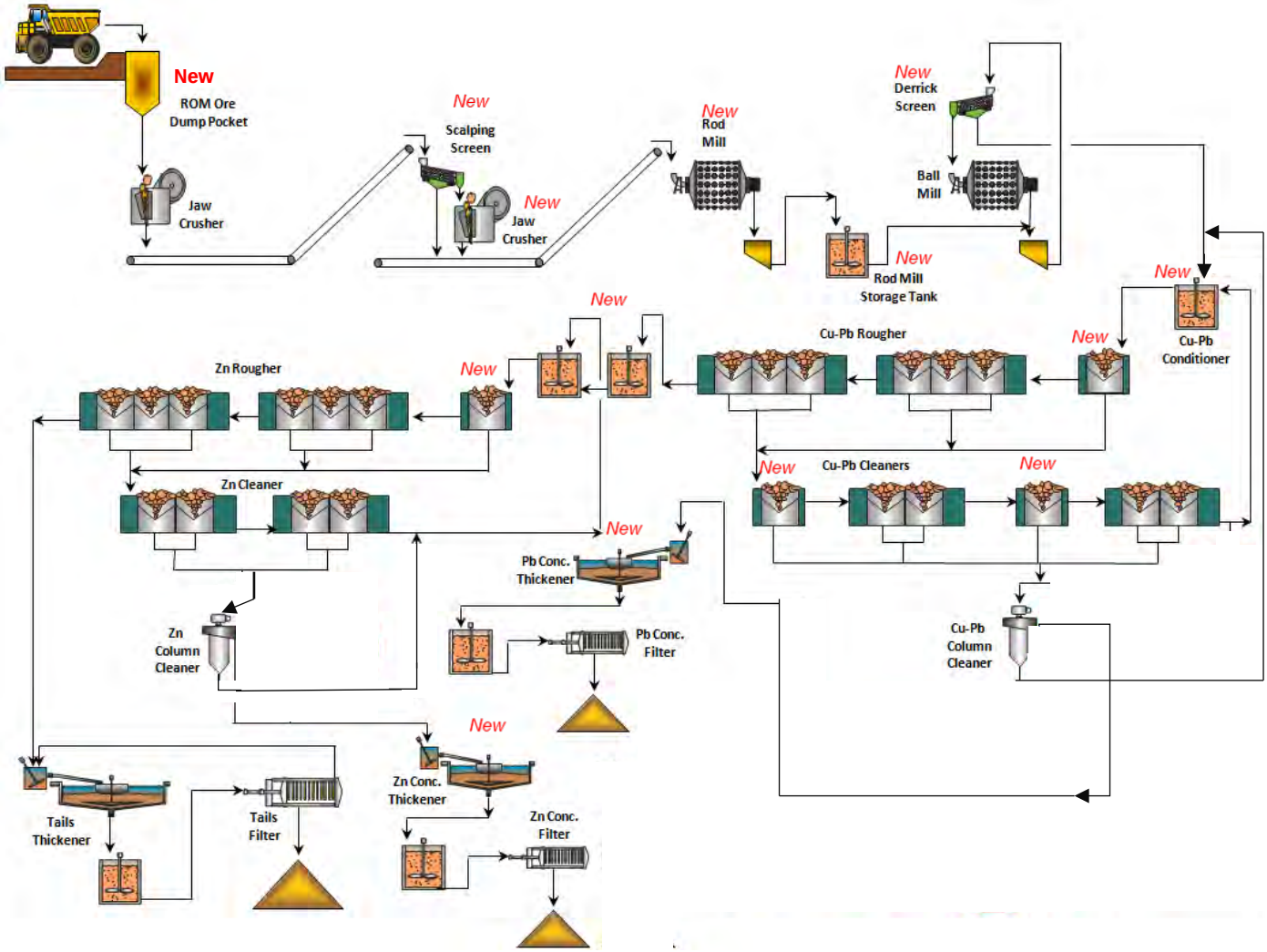
1) The mine car unloading tunnel and coarse ore bin with slusher;
2) The crushing gallery with conveyor leading to the mill tunnel (fine ore bin incline),
3) The mill tunnel, which contains two flotation circuits (lead and zinc) and leads to the filter building at the outside edge of the mill tunnel; and
4) The decline tunnel, which provides equipment access to the crushing gallery from the mill tunnel.

The original mill was designed by CH2MHill in Denver, Colorado based on ore samples and production targets for the mine and mill. Tunnel excavation began in March of 2013. Installation of mill concrete flooring, crushers, screens, ball mill, flotation cells, water handling systems, filter presses, control room, reagent storage, and electrical room equipment occurred in April of 2014.

Barr Engineering of Minneapolis, Minnesota updated the mill design in 2017 under OSMI direction. Mill upgrades were necessary to improve ore recovery. TR-09 permitted replacing the previous single stage jaw crusher followed by a cone crusher with two-stage jaw crushers and a rod mill to prevent clogging with fines. The original cyclone circuit was inadequately sized to achieve the correct operating pressure given the expected tonnages; the screens that were approved under TR-09 are not reliant on operating pressure. Changes in the flotation system were also needed based on two years of successive metallurgical testing, which proved that changes in reaction time and reagents will improve metal recovery from the ore. As permitted in TR-09, the mill filter building was expanded to house a compressor room and reagent room as well as a small roof structure over the transformers near the mill entrance.

A simplified flow diagram that outlines the milling process is found in Figure 1. A detailed flow diagram of the milling process is found in drawings that were submitted to DRMS as part of TR-15.

Figure 1: Mill Circuit Process Flow



3.7 Crushing

Ore is transported by mine cars to the slusher tunnel (Coarse Ore Bin), which has the rail siding above the crushing gallery. The ore cars are side dumped to an approximate 400-ton coarse ore bin that sits directly above a plate feeder, which slowly delivers ore to the first conveyor to feed the primary jaw crusher.

Material leaving the primary jaw crusher is approximately –2 1/2". Material is conveyed from the primary jaw crusher to a ¾ inch screen. Oversize material from the screen is conveyed to a secondary jaw crusher and -3/4-inch fines are conveyed to the rod mill for first stage grinding. At both jaw crushers dust is suppressed using water sprays. The -3/4" materials from the screening and secondary crushing is delivered to the rod mill along with process water where the ore is ground to p80 of approximately 3/8-inch minus.

Slurry discharge from the rod mill is delivered via slurry pumping to one of two locations. In the initial first months to a year of operation the slurry will report to the ball mill discharge tank which then reports to Derrick screens for sizing. Once final design and construction of two 12,690-gallon slurry retention tanks are finalized, the slurry will be pumped to those tanks, which will be located in the previously constructed fine ore bin. The two slurry storage tanks are currently being engineered and will not be in place when the mill is commissioned. The slurry storage tanks are for surge capacity and the mill can be started without them. The slurry tanks will be added to the circuit in 2022. A list of tanks described in this section can be found in Table D-2.

Table D-3 List of Tanks in the Mill

Tank Name	Size (gallons)
Slurry Storage Tanks	12,690 EA
Lead Conditioning Tank	1064
PB Lead cleaner 1st flotation cell	449
PB Lead cleaner 2nd flotation cell	290
Lead cleaner column	214
Lead concentrate filter feed tank	933
Zinc conditioning tanks	1,064 EA
Zinc Rougher Flotation Cell	1320
PB Rougher Flotation Cell	1320
zinc rougher scavenger flotation cells	1,320 EA
Zinc cleaner flotation cells	1,320 EA
Zinc cleaner column	214
Zinc concentrate filter feed tank	1,728
Process water tank	1,800
Tailings filter feed tank	1,800

Processes from the rod mill downstream are wet. From the ball mill discharge tank or slurry storage tanks slurry is pumped to the 2 Derrick stack sizer screens, which size to p80 of -130 micron. These screens replaced the previously used hydro cyclone. Undersized material is sent to the Pb conditioning tank (1,064 gallons). Oversize material is circulated to the ball mill where it is ground and returned to the screens for sizing. The ball mill reduction takes place in a wet enclosed ball mill. Sodium metabisulfite (pH control & Zn suppressant), Zinc Sulfate (Zn suppressant), and Lime (pH adjustment) are introduced into the process in the ball mill.

3.8 Lead Circuit

In the Pb conditioning tank, process water, Aerofloat 242, Aerophine 3418A, and MIBC are added to promote the flotation of Pb and Ag while depressing the Zn to prepare for the concentrate separation in the lead rougher flotation cell (1,320 gallons). The rougher flotation cell mixes air into the slurry with a rotor so that Pb adheres to the bubbles and floats to the surface. The rougher flotation cell feeds tailings from the bottom of the cell into Pb rougher scavenger flotation cells, which consist of two sets of tanks (1,320 gallons each) with three rotors in each tank (these tanks will also have two products - a concentrate and tailings). The concentrate goes to the Pb cleaner flotation cell. The tails from rougher scavenger cells report to the Zn rougher feed. The concentrate comes off the top of the rougher flotation cell and is fed to the Pb cleaner flotation cell or Pb cleaner column determined by recovery/concentrate grade.

The slurry then enters Pb cleaner flotation cells (unless bypassed to the Pb cleaner column) which consist of two banks that both have two tank cells (1st cell is 449 gallons, 2nd cell is 290 gallons). This step also creates two products – concentrate and tails. The concentrate reports to the Pb cleaner flotation columns. The tails from bank #1 tank #1 report to the bank #2 tank #1. Tails from bank #1 tank #2 goes to bank #2 tank #2. Tails from bank #2 tank #1 goes to bank #1 tank #2. Bank #2 tank #2 tails report to the Zn rougher conditioning tank. Concentrate from the Pb cleaner flotation cells reports to the Pb cleaner column (214 gallons). Like all other tanks in the circuit, the Pb cleaner column creates both a concentrate and a tail. The tails from the Pb cleaner column are pumped back into the Pb cleaner flotation tank cell #1. The concentrate from the Pb cleaner column reports to the Pb concentrate thickener. Process water and flocculant are added to the slurry at the Pb concentrate thickener.

After the Pb concentrate thickener, material reports to the Pb concentrate filter feed tank (933 gallons). From the Pb concentrate filter feed tank, the concentrate is pumped to the Pb concentrate filter. Water removed from this step is sent to the filtrate water tank. The Pb concentrate is sent to a screw conveyor that feeds the bagging system. Once bagged the Pb concentrate is trucked off site to be sold. An SDS accompanies the bagged product to final delivery. Concentrate is sold to a third-party FOB mine warehouse. OSMI relinquishes possession of the concentrate once the bags are loaded for shipment.

3.9 Zinc Circuit

The tails from the Pb circuit are sent to the Zn conditioning tanks (1064 gallons each) where lime from the recirculation circuit is added for a pH adjustment along with CuSO4, Oreprep, and xanthate to promote the flotation of zinc and to prepare for the concentrate separation in the Zn

rougher flotation tank cell (1,320 gallons). The rougher flotation cell mixes air into the slurry with a blower so that Zn can adhere to the bubbles and float to the surface. A concentrate is collected off the top the Zn rougher flotation tank cell and sent to the Zn cleaner flotation cells. Tailings from the bottom of the Zn rougher flotation tank cell report to the Zn rougher scavenger flotation cells. The Zn rougher flotation cells consist of two banks (1,320 gallons each). The concentrate from the Zn rougher scavenger flotation cells reports to the Zn cleaner flotation cells along with the concentrate from the Zn rougher flotation tank cell.

The Zn cleaner flotation cells consist of two banks (1,320 gallons each). Tailings from the Zn cleaner flotation cells report back to the Zn conditioning tank and the concentrate that is produced in this step goes to the Zn cleaner flotation column (214 gallon). The concentrate that is removed from the top of the Zn cleaner flotation column reports to the Zn concentrate thickener. The tailings that are produced by the Zn cleaner flotation column is sent back to the Zn cleaner flotation cell or the Zn conditioning tank, determined by recovery/concentrate grade.

Following the Zn concentrate thickener, the concentrate goes to the Zn concentrate filter feed tank (1,728 gallons). The concentrate is then pumped into the Zn concentrate filter to remove excess water. Water is either sent to the Zn concentrate thickener or the filtrate water tank depending on recovery/concentrate grade. The Zn concentrate cake created by the filter is then sent to a screw conveyor which feeds the Zn concentrate bagging system where the concentrate is placed in a super sack and transported off site for sale. An SDS accompanies the bagged product to final delivery. Offtake is sold to a third-party FOB mine warehouse. OSMI relinquishes possession of the product once the bags are loaded for shipment.

3.10 Tailings

Tailings from the Zn rougher scavenger flotation cells report to the tails filter feed tank or the tails thickener depending on the water content of the slurry. If additional water needs to be removed the tails will go to the tailings thickener. The tailings can be recirculated through the tailings thickener if need be before being sent on to the tailings filter feed tank (18,000 gallons).

The tailings filter feed tank reports to the tailings filter presses. Here the water is squeezed out of the tailings and the filter cake is allowed to drop down into two concrete floor bays, where a front-end loader loads the filter cake out for permanent placement in the Revenue or Atlas tailings storage facilities (TSFs). The tailings from the filer presses will be approximately 13-18% moisture, which is appropriate for good compaction in either of the two permanent TSFs in the permit area. Tails will be compacted with a percentage of waste rock in accordance with OSMI's tailings management plan.

The water removed from the tailings is recycled back into the process water circuit to be used in the mill process. The mill will start without a water treatment facility. After the mill process has been refined during commissioning and actual water chemistry is known, then a zero-discharge mill water conditioning facility will be installed in the mill once approval from DRMS is obtained through a technical revision

4 SURFACE FACILITIES

Surface facilities used to support underground operations are shown on Maps C-1A and C-1B. Minor changes may be made to the proposed layouts during construction; however, construction activities including earthmoving activities are confined to the permit boundary. As part of Amendment 02, the affected lands boundary, which had been depicted as a separate boundary under prior amendments, has been matched up with the permit boundary.

The majority of material excavated underground will be processed in the mill, but approximately 20% will be hauled out of the mine portal as waste rock to be stored in the waste embankment or crushed and sold as road base.

A list of facilities on the surface includes:

- 2 Tailings Storage Facilities (Revenue TSF and Atlas TSF)
- Temporary waste rock stockpile area
- Topsoil stockpile area
- Passive Water Treatment System - Mine Water Ponds #1, #2, and #3
- Avalanche protection berms and cribbing
- 2 Mine Equipment Storage Warehouses
- Mine offices (Administrative Building) on 6" concrete foundation
- Mine access road (compacted gravel)
- Compressor Building on 6" concrete foundation
- Solid waste storage bins (for trash).
- 3 Ventilation shafts (2 of 3 are proposed and none connected to the main surface facility area)
- 2 power poles
- Drainage collection and diversion structures
- Ventilation fan at Revenue portal
- 2 Septic tanks
- Tailing Press Building, Reagent Room, Compressor Room and Loadout from Mill Tunnel on 6" concrete foundation
- Tailing Thickener
- 2 – 10,000-gallon diesel fuel tanks
- 1 – 1,000-gallon unleaded fuel tank
- Small sections of 24' wide mine track
- Revenue portal
- Mill Portal
- Underground maintenance shop portals (2)
- Portable gravel crusher and screen plant
- Railyard / Railyard Building
- Equipment laydown area
- Vehicle wash area (6" concrete)
- Waste storage pad on 6" concrete foundation

- 2 Historic buildings
- 3 propane sheds

Some waste rock may be purchased by or given to Ouray County and possibly other parties for use as construction material or road base as permitted through TR-09. For this reason, a portable crusher and screen plant is located on site, as shown on Map C-1a.

4.1 Surface Mine Equipment

A list of equipment that may be used at surface is shown in Table D-3 below.

Table D-4 - Surface Mine Equipment List

Surface Equipment	Number
Loaders	
Cat 950G L	1
Cat IT-38H	1
Cat 259B3 Skid Steer	1
Cat 242D Skid Steer	1
Haul Trucks	
Cat 725 Truck	2
Excavators	
Cat 320C	1
Cat 325D	1
Telehandlers	
Cat TH580B	1
Cat TH560B	1
Manlifts	
Genie Manlift	1
JLG 600AJ Manlift	1
Compactor	
Cat CS-433E Vib Single Drum	1
Dozer	
Cat D5K2 LGP	1
Compressors	
Ingersoll Rand EP 200 200HP	1
Ingersoll Rand EPE 250 250HP	1
Ingersoll Rand EPE 300 300HP	1

Notes:
(a) Miscellaneous rental and contract equipment will be brought to the mine site as needed. These could include fuel trucks, propane trucks, boom trucks, maintenance vehicles including welders, pipe equipment, electrical man lifts for working on power lines, contract vent hole drilling equipment, exploration drilling equipment, material delivery trucks, and concrete and gravel trucks.

4.2 Waste Rock and Tailings Management

The previous waste rock embankment at the Revenue Mine was made from waste rock generated from underground development in the past. No reclamation of this waste rock embankment has taken place. Approximately 25,000 to 35,000 CY of waste rock exists in this pile. See Map C-1 for the location of this area. This rock has some minor vegetation growing from the surface, but it has not been vegetated in over 100 years.

Tailings produced by the underground mill are transported to the TSFs via truck from the loadout facility shown on Map C-1a. The ore sent to the mill comes from a roughly 1.5-foot-thick ore vein (quartz hosting the sulfides) and is processed through a flotation system designed to remove > 95 of sulfide minerals. The resulting tailings from this process are - 130 mesh and have a moisture content of between 13% and 18%. The mill process is designed to remove the sulfide minerals from the ore, and therefore will produce tailings that are not expected to be acid generating.

To accommodate the new mining at the Revenue Mine, two TSFs will be used over the life of the mine. The first TSF, the Revenue TSF is located on top of the existing waste rock embankment. The second TSF, the Atlas TSF is located to the west of the current mining area was constructed on ground that was previously disturbed by the Atlas Mine. Map C-1a shows the final maximum extent of the two TSFs. These two embankments have a combined capacity of approximately 1,000,000 tons. This volume is expected to provide approximately 8 to 10.0 years of storage under the assumption that waste rock brought to the surface remains on site. If large amounts of waste rock are removed (i.e., shipped offsite as road base and construction materials), the life of the TSFs could be extended beyond 15 years.

Approximately 75,000 tons of fine mill tailings and 30,000 tons of waste rock are planned to be produced on an annual basis. It is planned that some, if not all, of the waste rock will be crushed and either be given to Ouray County or sold to customers, as demand for road base dictates. For the purposes of this plan, it is assumed that no waste rock is removed from the site and must be spread out in lifts and compacted in the two TSFs. Waste rock content of the TSFs will be limited to 15% of the material placed per lift. This will help to ensure sufficient compaction of tailings is achieved.

A large portion of the Revenue TSF is located in an active avalanche path. The avalanche path is shown on Map C-1a. Due to the avalanche threat, grading and compaction of the lifts on the Revenue TSF is only performed during the summer and fall (i.e., June through November). Haul trucks will transport tailings or waste rock to the Atlas TSF during the winter months. The TSFs will be regraded into the necessary lifts each summer.

Monitoring wells are placed on the north (downhill side) of each TSF as shown on Map G-1. These groundwater wells are sampled quarterly for field parameters and a water chemistry suite analysis. More detail about groundwater sampling may be found in Exhibits G and U. The results of these tests and their evaluation will be incorporated in the DRMS Annual Report. Also, sample test data from any sediment pond discharges associated with the Atlas TSF will be evaluated in the Stormwater Annual Report.

Dozers will compact the tailings/waste rock in 12" lifts to a 94% maximum dry density. A secondary compactor will be used, if needed to achieve the proper compaction. Quality control density samples of the compacted materials will be conducted using a field density instrument every 100 tons of tailings that are placed. As described in the Mine Plan and the Reclamation Plan (Exhibit E), the piles are graded to slopes that are no steeper than 3H:1V. A slope stability analysis of the worst-case tailings pile was performed as part of the Amendment 1 application. A copy of this analysis also was provided as Attachment 3 to TR-15.

Based on the apparent stability of the existing un-reclaimed waste rock pile slopes in the area, a detailed slope stability analysis was not performed on this material under the original design. Many of these older mines have slopes as steep as 1.2H:1V compared to the 3H:1V proposed minimum slope of the Revenue and Atlas TSFs. The existing Revenue TSF has maintained slopes of approximately 1.1H:1.0V for over 120 years with no signs of slope instability. This is due to the blasted rock having extremely angular pieces, which are prone to being stable at steep angles due to the inherent angle of friction of this material. The internal angle of friction of this material is approximately 45 degrees. Since the waste rock has very little fine material, the water seepage through is expected will have no effect on the stability of the pile since there is no cohesion in this waste rock, only internal angle of friction. A slope stability analysis was submitted as Exhibit T to Amendment 1, which presents a slope stability analysis using commonly accepted circular failure equations and material parameters for both the Revenue TSF and the Atlas TSF. The analysis indicates that the waste embankments have a calculated safety factor above 1.3, using conservative strength parameters, which constitutes an adequate design. Geotech on slope stability on tailings produced by the Revenue Mill will be redone by a private consulting firm once the mill is producing tailings.

Map C-1A shows the avalanche path that covers a large portion of the Revenue TSF. The Atlas TSF is located in an area that is lower risk from avalanches whereas the Revenue TSF area is in a high-risk area for avalanche activity. A plan has been incorporated to safely trigger these avalanches using an experienced contractor.

4.2.1 Revenue TSF

The Revenue TSF has a total capacity of approximately 811,000 tons. The Revenue TSF was constructed in accordance with Section 7 of the Tailings and Waste Rock Management Plan (July 2015). In general, tailings will be placed in horizontal lifts of no more than 12 inches moving uphill to create a 3H:1V slope. Every 30 feet vertically, a bench of 10 feet width will be placed slightly graded to the inside edge of the bench to divert water away from the outside slope of the pile.

Construction of the Revenue TSF is designed to protect the embankment from damage from avalanches during the life of the mine. At its full construction, the TSF is expected to be 120 feet tall from the elevation of Sneffels Creek to the highest point on top. The average height of the waste pile will be around 80 feet heigh depending on the original topography. However, most of this height will be provided by the existing material, not new Revenue tailings. The footprint of

the Revenue TSF is shown on Map C-1a, with the full pile build out shown on the cross sections in Map C-3.

It is estimated that this permeable waste rock will constitute the bottom 20-30 feet of the Revenue TSF. Only the upper portion, as shown on Cross Section A-A' will be comprised of the combined tailings and waste rock that will be produced from the mining and milling operations. This upper portion (an additional 30-40 feet) will be compacted, and the lower portion (existing waste rock) will not since it is important to maintain permeability of this material. The slope stability of this "double layer" in the pile is addressed in one of the scenarios analyzed in the Geotechnical Exhibit, which was submitted in Amendment 1 and again as part of TR-15. As an additional level of protection, the southeast end of the Revenue TSF was built and graded at a vertical position above the rest of the pile, to create a protective berm against avalanche.

4.2.2 Atlas TSF

The Atlas TSF has a total design capacity of roughly 300,000 tons. There are jurisdictional wetlands in this area which have been confirmed. These wetlands were avoided during construction and will be avoided during placement of tailings and waste rock. The design of the Atlas TSF is such that the only vehicle access to the pad is away from the wetlands and the pad is bermed so there is low risk from an operator accidentally placing tailings in or near the wetlands. To further reduce the risk of impacts to the jurisdictional wetlands, signs will be placed along the wetland boundary. It is understood that Ouray Silver Mines will not be allowed to disturb the wetlands and if any wetlands are to be disturbed, an approved nationwide or individual permit must be supplied to the DRMS. The Atlas TSF along with a sediment control pond is located on the moderately flat area west of the main Revenue portal area. The Atlas TSF was graded to provide an area for the placement of tailings and related sediment pond. Preliminary as built drawings for the Atlas TSF are included in Attachment 5. The maximum height of the Atlas TSF will be 60 feet. Ten-foot benches will be placed every 30 feet as described in Section 7 of the 2015 Tailings and Waste management Plan. .

4.3 Waste Rock Storage

Waste rock brought to the surface to be used for embankment, TSF construction or to be crushed as road base will be managed using the following best management practices (BMPs).

1) As required by TR-09, waste rock crushed for use off-site must be tested using the Synthetic Precipitation Leachate Procedure (SPLP) to ensure the material is suitable for use as a road base and will not cause environmental impacts. In the SPLP test, the waste rock is ground to a minute size (i.e., smaller than 9.5 millimeters) prior to leaching with a pH 5 solution, while the actual waste rock embankment site will have larger sized rocks up to 1.5 inches in diameter, that will not leach as readily.
2) Undisturbed runoff from the south hillside is diverted away from the waste rock embankment, using a diversion ditch designed for the 10-year, 24-hour storm event.
3) The waste rock embankment will be covered with a minimum of six inches of topsoil and planted with a stable mix of vegetation well suited to this location and approved by DRMS. The vegetation will use most of the direct precipitation and surface water runoff that occurs on the reclaimed embankment. This will minimize the amount of water that

can percolate into the reclaimed waste material. Details of this plan are shown in Exhibit E.

4) The gradual slopes and revegetated surface of the waste rock embankment will minimize erosion of topsoil and prevent exposure of the underlying waste rock.
5) Waste rock cannot make up more than 15% of the new material to be placed in the permanent TSFs, to prevent void spaces which may reduce compaction and provide conduits for water flow.

4.4 Soil Excavation and Stockpile Areas

A majority of the Revenue Mine surface facility is located on existing disturbance from historical mining activities. Historically, topsoil was not salvaged. For current excavation and earth moving activities, topsoil will be stripped from areas where it is identified prior to disturbance. Details of the existing site soils are presented in Exhibit I.

Soil will be stripped as required for mine activities and will be directly placed on final waste pile surfaces as they are constructed. Topsoil stockpiled on site will be placed in one of two designated areas. The first area is immediately uphill of the Mine Water Pond (Pond #1). This topsoil stockpile area will be used while the Revenue TSF is being built. Once the Revenue TSF at capacity, an area on the top of the Revenue TSF will be used to store topsoil, if needed. Topsoil will be imported over the life of the mine to satisfy the reclamation requirement of a minimum of 6 inches over the reclaimed areas. These calculations are described in detail in Exhibit E. Topsoil will be tested prior to being accepted for use on the site to ensure it is suitable for reclamation purposes and to confirm it is free of contamination that could impact the environment.

4.5 Fuel and Oil Storage Areas and Reagent Storage

Diesel fuel is stored on site in two, 10,000 gallon steel tanks located near the Mill Portal as shown on Map C-1a. Unleaded gasoline will also be stored on site in one, 1,000 gallon tank next to the diesel fuel storage. The diesel tanks will be used to supply fuel to the on-site mobile equipment and backup generators for the power outages, if needed. Secondary containment is provided for all petroleum products. A Spill Control, Containment, and Contingency (SPCC) Plan for storing and using petroleum products is in place and has been included in Appendix 1.

Mill chemicals and reagents will be in the Reagent Room of the mill for use in the processing of ore. The handling, storage and disposal of these chemicals is addressed in Exhibit U and the Material Containment Plan included in Appendix 1.

4.6 Mine Equipment Storage and Shop Building

Two equipment storage warehouses are planned for the surface and will be 50’x60’. One warehouse was constructed on the east end of the property in 2021 and another is planned to the north of the admin building. Equipment will be serviced in the underground facilities immediately west of the mill. Additional underground equipment may be stored in the railyard located to the east of the admin building. The location of surface facilities is shown on Map C-1a.

4.7 Personnel Facilities and Compressor Building

There are two personnel facilities as part of the Revenue Mine. The first is the mine office/dry room located just outside the portal. It is a steel structure on a 6-inch concrete foundation. The second facility is the set of portable lineout trailers. These trailers are temporary structures and are each 40' x 40'. They do not have a foundation. Immediately south of the dry-room is a 50' x 20' building that houses the air compressors for the mine; it sits on a 6-inch concrete foundation.

In Governor Basin at the Monongahela/Hubb Reed Raise, there is a secondary escapeway and buried refuge chamber should there be a need to evacuate the mine and access to the main portal is blocked. In addition, there is a headframe and hoist building located in Governor Basin within the proposed Amendment 02 permit boundary (See Map C-1B).

4.8 Designated Parking and Storage Areas

A gravel parking area is provided for employees and visitors just northwest and adjacent to the mine offices. Signs will be posted stating that visitors must check in at the mine office. See Map C-1a for location.

4.9 Mine Access Roads

Access to the Revenue Mine will be via the existing site access road that connects to County Road 26. A gate is in place on the south side of the bridge to restrict access to the mine site. In addition, a security building is located at the entrance as an added measure of security to manage traffic in and out of the mine during peak tourist seasons. Signs also are posted at the entrance to discourage the general public from entering the mine site.

An access road connects the Atlas TSF to County Road 26 with a crossing over Sneffels Creek. This road is seen on Map C-1a. The access is gated except when in use.

OSMI uses Forest Service Road 853.1 to gain access to the area in Governor Basin where the secondary escapeway and ventilation shaft are located. Once the Yellow Rose Raise is constructed, access to the site will be via Forest Service Road 869.3A. OSMI is working with the forest service to obtain a road use permit to use these roads for site access.

4.10 Utilities

San Miguel Power Company supplies electricity to the site using the existing power poles and lines. As shown on Map C-1A, two power poles and a power line are located on the east side of the operation. These poles are the property of San Miguel Power Association (SMPA) and an agreement is in place acknowledging that the permitted mining and reclamation activities will not negatively impact the utilities.

Water for bathrooms, showers, and other general uses comes from a vault approximately one-half mile underground. Both the Administrative and Mill buildings contain a potable water treatment system and water is treated and monitored in accordance with a public water supply permit No. CO-0246283 issued by CDPHE WQCD.

A septic system is installed in accordance with state and county requirements near the mine offices and dry change facilities.

The mine shops, mine office, and line out buildings are heated via propane from three propane tanks located throughout the facility. The locations of the propane tanks are shown on Map C-1A.

4.11 Waste Storage

A roll off container for disposal of trash is located on surface. Small trash barrels are located near the office and dry room. Trash is picked up on a routine basis by a service company and disposed of at an approved landfill.

No landfills will be constructed on site. Scrap metal is stored in a bin and/or on pallets near the shop until it can be picked up for recycling. Used batteries and tires are stored in the warehouse in the town of Ouray and are picked up by a waste disposal company.

Used oil, hazardous waste, aerosol cans, used lubricants, used antifreeze, paint and solvents are stored in the Waste Storage Building. Liquid wastes are stored on secondary containment and transported to the Main Warehouse for shipment offsite.

4.12 Surface Drainage Treatment and Control

Surface drainage is controlled by a system of collection and diversion ditches as well as a five-stage passive mine water treatment system. The detail designs for these structures, as well as the surface water data used to design them can be found in Exhibit G and Exhibit U.

The passive water treatment system will contain and treat run off from the Revenue TSF. The discharge from this system is permitted as a point source per the Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Division (WQCD) CDPS Permit No. CO-0000003. Details of the treatment system can be found in Exhibit U. Information regarding the waste rock and tailings chemistry also may be found in Exhibit U.

5 OPERATIONAL TIMELINE

The following section outlines the schedule for startup and mining through the projected life of mine.

Table D-5 Life of Mine Timeline

Activity	Start Date	Completion Date	Number of Years
Mill Construction	August 2020	September 2021	+1
Development Mining	January 2020	Ongoing	+9

Activity	Start Date	Completion Date	Number of Years
Resue Mining	September 2021	December 2028	+8
Mill Operations	September 2021	December 2029	+9
Reclamation	January 2030	December 2035	+5
			+14 years total

6 TEMPORARY CLOSURE

Should market conditions or other circumstances require a temporary shutdown of mine operations, the Mine will provide notice to DRMS in accordance with Section 1.13.5 of the Colorado Hard Rock/Metal Mining Rules and Regulations. During non-operating periods, Ouray Silver Mines will maintain the buildings, drainage structures, ponds, roads, and other surface facilities in a safe and environmentally acceptable condition. Underground openings, gates, and buildings will be locked to discourage unauthorized access when mine personnel are not present.

Updated Exhibit E

Reclamation Plan

EXHIBIT E: RECLAMATION PLAN

Tables

Figures

1 INTRODUCTION

Disturbed areas will be reclaimed to a post-mine land use of commercial / industrial and wildlife habitat. This post reclamation land use is consistent with the initial Reclamation Plan approved in 2012 and is consistent with other land uses in the area. The Campbird Mine and Ruby Trust Mine are examples of other commercial / industrial activities in the watershed. The mine site already has suitable habitat that is used by a number of wildlife species and this habitat will be enhanced post-reclamation.

The permit boundary as shown on the various maps in Exhibits C and F is assumed to be the same as the affected lands boundary (i.e., disturbance area) although not all areas within the permit boundary have been or will be disturbed including the wetlands and wooded areas. This change was made to simplify the site drawings as part of Amendment 02.

Post-reclamation, the disturbance area where most buildings are located, the main access road, and the Atlas TSF Access Road will be left for use by the landowner. Maps F-1(Exhibit F) show the final reclamation topography and conditions of the site. Map C-3 (Exhibit C) shows reclamation cross sections for the site.

Table E-1 lists the total permit area broken down into following sub-areas:

Table E-1 Disturbance Areas within Permit Boundary

Description		**Area (acres)**
Disturbance Area		
	Commercial Area	4.38
	TSF (Atlas + Revenue)	8.23
	Mine water mgt system	1.38

Description		Area (acres)
	Revegetation/Talus Area	6.45
	Monongahela (Hubb Reed)	1.15
Disturbance Area Total		**21.59**
Undisturbed Area		
	Wetlands (Undisturbed)	**3.37**
	Undisturbed non wetland area	**26.03**
	Monongahela (Undisturbed)	**0.24**
	Shafts Yellow Rose and 960 (Undisturbed)	**0.46**
Undisturbed Area Total		**30.1**
	Total Permit Area	**51.69**

Amendment 02 adds 1.16 acres to the Monongahela Shaft Area (Hubb Reed) to bring the Connex/refuge chamber and other disturbance within the permit boundary. The total area for the permit is 51.69 acres.

The total acreage of the commercial/industrial land use area is approximately 4.4 acres. The remaining 17.2 acres of disturbance to be reclaimed under the Reclamation Plan as well as the areas that are not disturbed will be used for wildlife habitat. These different reclamation practices are shown on Reclamation Map F-1 in Exhibit F.

2 RECLAMATION TIMETABLE

The reclamation timetable below is based on the projections for the mine and the amount of reclamation that is needed after mine shutdown. Once the mine is permanently

closed, reclamation is expected to take approximately 6 months.

Table E-2 Reclamation Timetable

Task #	Description	Time Needed (Months)
1	Commence mining. Complete construction of Atlas TSF	complete
2	Mine underground ore material and process. Add tailings to Revenue and Atlas TSFs.	42.1
3	Cap and revegetate Revenue TSF. Store topsoil for Atlas TSF.	26.1
4	Complete mining. Cap and revegetate Atlas TSF	2
5	Backfill underground portals.	1
6	Remove select surface facilities	1
7	Cap and revegetate remaining disturbance areas. Install Revenue Portal bat gate.	1
	Total Months	**76.2**
	Total Years	**6.35**

3 RECLAMATION AREAS

The following sections describe the different reclamation areas for the site.

3.1 Tailings Storage Facilities

The Revenue Tailings Storage Area (TSF) and Atlas TSF will be used concurrently to allow for safe winter operation. Existing topsoil reserved for reclamation will be stored in the indicated topsoil storage areas (Map F-1A). Each TSF will be capped with a minimum of 6 inches of topsoil in designated areas on the surface of the TSF and will be revegetated as shown on Map F-1. The areas on the TSF that will not receive topsoil will

be capped with crushed San Juan Tuff to blend in with the surrounding talus slopes.

The final slope of the TSFs will be 3H:1V, where practicable. If needed, the final slope configuration for the Revenue TSF may be a maximum of 2H:1V. The stability of 2H:1V slopes for the Revenue TSF was demonstrated in a geotechnical analysis by Lewicki and Associates that was provided in Exhibit T of Amendment 1 to the permit and resubmitted to DRMS as Attachment 3 of TR15 and again as an Exhibit to Amendment 02. This analysis included characterization of the planned filtered tailings as received from the mill, compaction test results and field compaction requirements, cold weather management plan, and ultimate planned pile configurations. Geotechnical laboratory testing and additional compaction and direct shear tests were conducted on filtered tailings, and estimated material properties were used to compute stability of the tailings stack using the SLIDE program. The results indicate a factor of safety (FOS) of 2.17 under wet conditions. All cases analyzed have a FOS greater than the minimum 1.3 criteria. If it is determined a final slope of 2H:1V is needed for the Atlas TSF, OSMI will provide additional analyses to DRMS demonstrating that a 2H:1V slope meets the minimum Factors of Safety required by DRMS.

3.2 Shafts

As described in Exhibit D, there may be up to three ventilation shafts as part of the Revenue Mine. The 960 Raise[1], Yellow Rose Shaft, and the Monongahela (Hubb Reed) Shaft. Each of these shafts do or will exit at the surface and therefore will generate surface disturbance and will require reclamation. This will entail removing the concrete foundation around the opening, placing dismantled equipment downhole, sealing the opening and capping with native rock materials or revegetating.

[1] Note: the 960 Raise will not be constructed. OSMI will apply for an acreage reduction for the 960 Raise area following approval of Amendment 02.

The first step in reclaiming the ventilation shafts is to excavate down approximately four to six feet around each opening and cut the casing off from three to four feet below the ground surface. After removing the casing and concrete pad, the surface structures will be dismantled and placed down hole and each opening will be covered with a steel plate and sealed, upon which a six-inch concrete slab will be poured. The concrete slab will be covered with overburden or soil generated from the excavation. The volume of material required to backfill over the top of the concrete plug will be the same as the amount of material removed during shaft construction. The backfilled material will be blended in to match the local topography with a minimum of 6 inches of topsoil or other native materials (i.e., crushed rock, talus) placed on top of the backfilled areas. The source of the material used for reclamation of the shaft areas will be soil or other native materials (e.g., rock) generated during shaft construction. The Monongahela Shaft and associated structures are located in a previously disturbed area and will be reclaimed using materials excavated from the site to blend with the existing landscape.

3.3 Dismantle Buildings and Structures at Portal Area

Reclamation will include the removal of certain buildings and other structures. The following structures will be removed at the Revenue Portal area:

- Diesel storage and filling station
- Propane storage A
- Propane storage B
- Propane storage C
- Ventilation Fan
- Underground warehouse and shop
- Waste storage building and secondary containment
- Tailing thickener tank and related structure
- Materials storage buildings (2)
- Crusher and retaining wall

- Monitoring wells

The facilities generally have either 6 or 12-inch concrete foundations. As shown on Map F-1 and Map F-1a, various structures will remain as part of the post-mine land use. Mill equipment will be removed and repurposed or sold upon final reclamation. As noted in TR-14 and TR-15, process water and mill reagents will be drained from tanks and piping prior to dismantling the structures. The intent is for mill reagents to be used in the process. Remaining reagents and other chemicals, if any, will be either returned to the manufacturer or characterized and properly disposed of in accordance with waste disposal regulations. Should process tanks and piping require detoxification, OSMI anticipates the volume of water to rinse the system to be 10,000 to 40,000 gallons. Rinse water will be contained, characterized and disposed of in accordance with application regulatory requirements.

A list of buildings / structures that will remain on site is provided on Map F-1a as part of Exhibit F. Buildings to remain post mining also are shown on Map F-1 and Map F-1a.

3.4 Portal Areas

There are three portal areas that will be reclaimed: the underground shop, the mill, and the Revenue tunnel portal. The reclamation of each portal will proceed in the following manner:

Portal	Dimension (feet)	Reclamation Steps
UG Storage Portals 1	20 x 15	Remove steel doors
UG Storage Portal 2	20 x 15	Backfill with demolition debris and waste rock into tunnel
UG Storage Portal 3	8 x 8	Regrade backfill slope to 2H:1V
Mill Portal	35 x 35	Backfill empty mill tunnel with demolition debris and waste rock Seal steel door to prevent access
Revenue Portal	12 x 12	Install steel bat gate on portal

Backfilling will be conducted via dozer to the surface highwall. The cost to reclaim the portals is itemized in Exhibit L, Safeguarding Underground Workings. For the portals that will receive permanent cover, they are expected to be backfilled with approximately 25 feet and approximately 24,000 cubic feet of material. The time to complete portal reclamation is approximately 1 to 2 months.

No bat survey has been conducted in this area and no bats have been observed in the existing Revenue Tunnel, however, the Colorado Division of Parks and Wildlife (DPW) stated that the installation of a bat gate at this portal was acceptable in its comment letter on the original permit application.

3.5 Ponds, Stormwater Collection and Diversion Ditches

Reclamation of stormwater control features will be consistent with the post reclamation land use. Stormwater control features required to maintain stormwater on commercial areas will comply with OSMI's industrial stormwater permit. Stormwater features associated with diverting stormwater around reclaimed Environmental Protection Facilities (i.e., TSFs, Mine Water Treatment Facility) and other disturbance areas will be maintained until these features have stabilized and vegetation has been established.

Sediment Pond #1 will remain in place as a sediment control feature during reclamation of the Atlas TSF. The mine water ponds # 1, 2, and 3 will remain after reclamation, as shown on Map F-1. These features will not be backfilled or regraded as they were constructed to blend in with the existing contours at the site. Mine water will continue to be delivered by gravity in HDPE pipes to the mine water pond 1 and the water will flow into Ponds 2 and 3 for passive treatment prior to discharge to Sneffels Creek (TR-10) via Outfall 002A as part of CDPS Permit CO-0000003. The runoff / run on collection and diversion ditches surrounding the TSFs will remain to

divert water around the TSFs. The half culvert shown on the Reclamation Cost Table will be removed and disposed of as scrap metal.

4 REGRADING AND TOPSOIL PLACEMENT

Previously disturbed areas comprised of waste rock at the Revenue Mine will be regraded, to a final 3H:1V maximum slope, where practicable. Grading at the Revenue Mine area will be accomplished by dozer as much as possible. TSFs will be constructed at a 3H:1V slope where practicable and topsoil placed on select portions of the TSFs as shown on Map F-1. However, if needed and where demonstrated that appropriate factors of safety are achieved, the final slope configuration may be a maximum 2H:1V slope. The stability of 2H:1V slopes for the Revenue TSF was demonstrated in a geotechnical analysis that was provided in Amendment 1, Exhibit T and again as Attachment 3 to TR-15. Geotechnical laboratory testing and additional compaction and direct shear tests were conducted on filtered tailings, and estimated material properties were used to compute stability of the tailings stack using the SLIDE program. The results indicate a factor of safety (FOS) of 2.17 under wet conditions. A similar demonstration will be made for the Atlas TSF, should there be a need for steeper slopes.

A mine access road will remain after reclamation to facilitate the post-reclamation monitoring, passive treatment pond maintenance, and industrial wastewater outfall sampling until such time reclamation goals have been met and sampling is no longer required.

Topsoil placement will be limited to areas of new disturbance. Topsoil available on site is limited to approximately 1,000 to 1,500 cubic yards; importing approximately 4,747 cubic yards will be necessary for reclamation of the TSFs and other non-waste disturbance areas as shown on Map F-1. The upper bench of the operations area will be left as a commercial site for the use by the landowner, and therefore will not be

capped with topsoil. Table E-3 shows the topsoil requirements for the entire site.

Table E-3 Topsoil Import Requirements

Topsoil Needs	Area (acres)	Thickness	Topsoil Requirement (CY)
Atlas TSF	0.8	Min of 6 inches	664
Revenue TSF	2	Min of 6 inches	1,606
Non-waste disturbance areas (area below mill and above mine water ponds)	3.1	Min of 6 inches	2,477
Total	**6**		**4,747**

Areas of the TSFs that will not be receiving topsoil will be armored with crushed rock to blend in with the surrounding landscape. The amount of crushed rock to be placed on the TSFs is approximately 4,370 cubic yards. Crushed rock will be generated on site.

5 REVEGETATION

Once topsoil is placed on locations described in Table E-3, the seed mix shown below will be applied via broadcast seeding. It has been developed by the local Natural Resource Conservation Service (NRCS) office specifically for high altitude environments.

Table E-4 Reclamation Seed Mix:

Seed Mix	Rate- PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Grasses			
Indian Ricegrass - Paloma	2.96	9.58	$32.93
Mountain Brome - Bromar	8.00	12.86	$30.40
Sanberg Bluegrass - VNS	1.00	21.24	$8.40
Rye, Winter - VNS	19.20	7.93	$10.27
Sheeo Fescue - Covar	2.88	44.96	$17.57
Slender Wheatgrass - Native	5.60	20.44	$25.90
Milk Vetch, Cicer - Monarch	1.92	6.39	$15.74
Thickspike Wheatgrass - Critana	6.76	23.9	$46.48
Flax, Lewis Blue	0.50	3.32	$8.25
Yarrow, Western	0.12	7.3	$5.02
Total Seed Mix	**48.94**	**157.92**	**$200.96**

The rates above are for drill seeding. Seed application rates will be doubled if using broadcast methods.

Final reclamation does not include container stock, shrubs or trees as the site is located at 10,650 feet and very few trees and shrubs grow at that elevation. It is expected that willows and other riparian species will continue to establish in the wetland areas post mining.

Certified weed free hay or straw mulch will be applied via hydro-mulching or by hand for smaller areas after seeding at the rate of 2,000 lbs. per acre.

Planting will take place during the late summer / early fall to take advantage of late summer moisture and before the fall snowstorms. Irrigation will not be required for this area as it receives enough moisture during the summer monsoons and snowmelt.

There are no plans to use fertilizer during reclamation.

6 ACCESS ROAD RECLAMATION

The main access road will remain after reclamation to facilitate site access for monitoring and to access the commercial area at the main portal. The Atlas TSF access road will remain as well. Access to the Yellow Rose Raise and the Monongahela / Hubb Reed Shaft is on existing US Forest Service roads and therefore, will not be reclaimed.

7 MINE WATER- POST MINE PLAN

The mine water ponds #1, 2, and 3 will remain post mining and will serve as a passive water treatment system to control stormwater and to treat water discharging from the mine.

8 POST-RECLAMATION SITE DRAINAGE

The entire site will drain to Sneffels Creek, as it has done historically. Diversion structures uphill of the disturbed areas will be left in place permanently to reduce erosion on the topsoiled areas and to control stormwater run-on to the commercial/industrial areas that will remain. These diversions have been designed for an event over 100 years in frequency. These diversion structures may fill naturally over time, but by that point the vegetation on disturbed areas will be well established. Debris that may enter the top of the reclaimed TSFs after the ditches have filled will naturally occur and should not affect the piles. As is seen in the final slope cross sections of Map C-3, the tops of the piles are mildly sloped, and future long-term debris will fill over the piles and will revegetate naturally. The sediment ponds will remain in place as stormwater control features to capture stormwater from the commercial areas as well as to control erosion from the TSFs until vegetation has established.

The potential effect of future debris flows on the post-mine reclaimed site is discussed in Amendment 1, Exhibit T. This information is now provided in an Updated Environmental Protection Plan, Exhibit U to this permit amendment.

9 WEED CONTROL

Appropriate measures will be employed to minimize the occurrence and spread of noxious weeds. Ouray County Vegetation Management and Weed Control was contacted to create a Weed Management Plan for the site. This plan includes:

1) A weed survey of the permit area each spring when snow conditions allow.
2) If noxious weeds are identified, they will be removed under the guidance of Ouray County Vegetation staff.
3) After reclamation, weed surveys and removal will continue until the perennial cover and production of the site have met State requirements and bond release has been obtained.

The Ouray County weed control staff will be consulted regarding identified weed infestation areas and appropriate control measures will be agreed upon prior to their initiation. The plan does not contemplate total weed removal in reclaimed areas on the property. Experience shows that some initial weed cover in the first year following topsoiling is beneficial to the reclamation effort. Weeds tend to provide shade for new grasses, are a means of holding snow on the seedbed longer and protect it from wind and water erosion until the planted species have taken hold.

10 REVEGETATION SUCCESS CRITERIA

The pre-mine site was mostly waste rock dumps and other disturbance from historic mining activity. Where this is not the case, the pre-mine vegetation consists of high-altitude species suitable for wildlife. The post-mine revegetation plan emphasizes the creation of wildlife habitat. Revegetation success will be achieved when the vegetation cover levels are similar to those of the adjacent natural vegetated areas and sufficient to prevent soil erosion on slopes.

11 MONITORING RECLAMATION SUCCESS

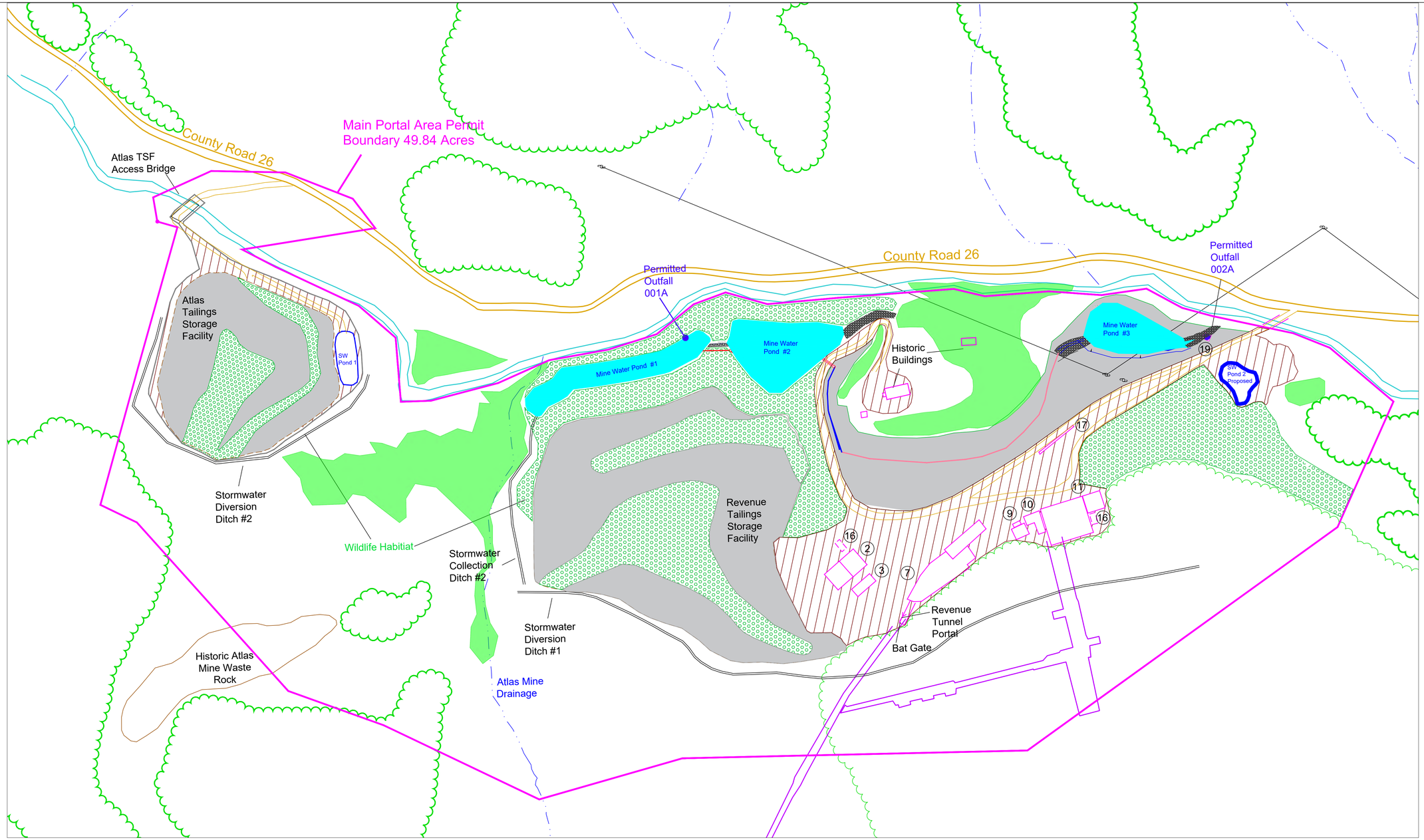
Monitoring of reclaimed areas on an ongoing basis during mining operations and during the post-closure period will help to assure successful reclamation. The operator plans to consult with the local NRCS office in Ouray County prior to and after reclamation to determine preferred methods for minimizing erosion and enhancing revegetation. If minor changes or modifications are needed to the seeding and reclamation plan, revision plans will be submitted to the Division of Reclamation, Mining and Safety as required. A summary of the areas disturbed and reclaimed and any other important items regarding site monitoring and reclamation will be submitted to the Division in annual reports.

12 RECLAMATION COSTS

Reclamation cost tables are provided in Exhibit L.

Updated Exhibit F

Reclamation Plan Maps



Building/Structure List

- (2) Admin Building
- (3) Air Compressor Building
- (7) Rail Yard & Battery Charging
- (9) Electrical Center
- (10) Backup Generator
- (11) Concentrator & Filter Building
- (16) Septic Tanks
- (17) Access Road Retaining Wall
- (19) Hut at Outfall 002A

Legend

- Dirt Roads
- Facilities
- Underground Septic Tank
- UG Workings
- Power Poles/Lines
- Sneffels Creek
- Water to Open Channel
- Riprap
- Mine Discharge Water
- Wetlands
- Trees
- Waste Rock Area
- Revegetated Area
- Permit Boundary
- Pipeline
- Commercial Area
- Undisturbed - No Reclamation

REVISIONS

NO.	DESCRIPTION	DATE	BY	APPROVED BY:
0	Amendment 2	12/06/2021	SG/KN	
0	AR Comments	4/20/2022	THJ	Todd Jesse

APRIL 2022

0 100 200
SCALE IN FEET

P.O. BOX 564
Ouray, CO 81427

REVENUE - VIRGINIUS MINE

Map F-1 : Reclamation Plan

County Road 26

Sneffels Creek

Mine Water Pond #1

Mine Water Pond #2

Mine Water Pond #3

Wetlands

Historic Buildings

Soil Storage

Channel pipeline as it will remain after reclamation

Revenue Tunnel Portal

10,650
10,640
10,630
10,620
10,610
10,660
10,670
10,680
10,690
10,700
10,710
10,720
10,730
10,740
10,750
10,760
10,770
10,780
10,790
10,800
10,810
10,820
10,830
10,840
10,850
10,860
10,870
10,880
10,890
10,900
10,910
10,920
10,930
10,940
10,950
10,960
10,970
10,980
10,990
11,000

Building/Structure List

1. Diesel Storage & Filling Station
2. Admin Building
3. Air Compressor Building
4. Propane Storage A
5. Propane Storage B (Underground)
6. Ventilation Fan
7. Rail Yard & Battery Charging
8. UG Warehouse & Shop
9. Electrical Center
10. Backup Generator
11. Concentrator & Filter Building
12. Waste Storage
13. Tailings Thickener Tank
14. Propane Storage C
15. Equipment Storage Warehouse
16. Septic Tanks
17. Access Road Retaining Wall
18. Crusher & Retaining Wall
19. Hut at Outfall 002A
20. Temporary for #20
21. Security Building
22. Line-out Building

Legend

- Natural Waterways
- Mine water
- Wetlands
- Water to Open Channel
- Road
- Structure To Remain Post Reclamation
- Structure To Be Demolished
- Temporary Structure (To Be Removed Prior To Reclamation)
- Riprap
- Permit Boundary
- Underground Septic Tank
- Stormwater Collection Ditch
- Pipeline

REVISIONS				
NO.	DESCRIPTION	DATE	BY	APPROVED BY:
0	Amendment 2	12/06/2021	SG/KN	Todd Jesse

DECEMBER 2021

0 50 100
SCALE IN FEET

Ouray Silver Mines
P.O. BOX 564
Ouray, CO 81427

REVENUE - VIRGINIUS MINE

Map F-1a : Updated Structure Reclamation Map

R:\Ouray Silver Mine\CAD\Sheet Files\Updated Structure Reclamation Map.dwg Last Edited by: KNieto on 12/1/2021 1:58 PM

Legend

- Dirt Roads
- UG Workings
- Waste Rock Area
- Undisturbed - No Reclamation

0 100 200 ft

N

1416 CR 26
Ouray, CO 81427

Date:	Revision:
4/26/22	A2 AR Comments

Map F-2
Reclamation Plan
Governor Basin

Date: April 26, 2020	Drawn By: THJ
Approved By:	Todd Jesse
File: F-2_update.dwg	

Updated Exhibit G

Hydrology

Contents

Tables

Maps

Figures

1. General Area Discussion

The area where the Revenue Mine is located is known by several names, including Sneffels Creek, Porter's (for the old town site), the Revenue Group of the Sneffels mining district, and Six Basins for the Six Basins that comprise the north facing drainage area to Sneffels, Imogene and Canyon Creeks. The Six Basins, from west to east, are Yankee Boy, Governor, Sidney, Silver, Pierson, and Richmond. The south facing drainages tend to be steeper and less "basin-like". Topographic high points include Mt. Sneffels, Cirque Mountain, Teakettle Mountain, and Potosi Peak. The Stony Mountain intrusion stands in the middle of the area. The broader general area is located on the northwestern edge of the San Juan Mountains, outside the Silverton Caldera complex. Volcanic activity associated with the calderas have resulted in fractures that were subsequently filled with quartz and metal rich as hydrothermal fluids moved through the San Juan Tuff.

Major waterways in the area include Sneffels Creek and Imogene Creek, which confluence to create Canyon Creek. Canyon Creek joins the Uncompahgre River at the southern edge of the City of Ouray. The elevation drops from 10,600' at the Revenue Mine to 7,800' in Ouray, CO over a course of five and a half miles. Sneffels Creek is fed by snowmelt runoff and fracture-dominated interflow/ groundwater and summer rainfall that is heavily influenced by monsoons.

Due to elevation, the area around the Revenue Mine is under snow from early October to early June in many years (Climate information is presented in Exhibit K). The upper portions of the mine include the refuge chamber and hoist at the Monongahela/Hubb Reed Raise located in Governor Basin, at approximately 12,300' elevation. Water quality in Sneffels Creek is affected by the presence of historical mining sites, naturally occurring mineralization and heavy tourist traffic. Ouray Silver Mines has spearheaded multi-stakeholder efforts (including Trout Unlimited, the Uncompahgre Watershed Partnership, United States Forest Service, and the Environmental Protection Agency) to reduce water quality impacts from historic mining from the Atlas Mill (completed 2020) and from the Terrible and Virginius Mines in Governor Basin (anticipated completion in 2022/2023).

2. Potential to Affect Surface or Groundwater Systems

The Revenue Mine has the potential to affect surface water and groundwater systems given its proximity to Sneffels Creek and the presence of historic workings that intercept groundwater flow. The overall area of influence for surface water and groundwater is shown on Map G-2.

The following section describes the tributary water course, known aquifers and the plan for managing runoff from various mining activities.

2.1 Adjacent and Tributary Water Courses

Two of the water ways described in the general description are located in the immediate vicinity of the permit boundary as shown on Map G-1. Sneffels Creek (Segment COGUUN09) forms the northern project boundary at the Revenue Portal area. Sneffels Creek has a drainage area of approximately 5,100 acres above the Revenue Portal. The permit boundary is bisected by Atlas Creek, which flows north across the western portion of the permit area. Atlas Creek captures precipitation from approximately 470 acres (the bulk of Sidney Basin) as well as discharge from the Atlas Mine, which is located on USFS land, prior to entering Sneffels Creek. The Revenue Tailings Storage Facility (TSF) lies downgradient of Atlas Creek, while the Atlas TSF lies upgradient of the Atlas Creek drainage. Minor drainages on the north facing hillside are diverted to the Atlas Creek drainage prior to reaching the permit boundary. Stormwater controls for the site are described in Exhibits C and U and the site's Stormwater Management Plan (Appendix 2).

The Governor Basin area is shown on Map C-1b. It comprises a portion of the larger Sneffels Creek drainage and contains Governor Creek downgradient from the hoist and refuge chamber. The Governor Basin catchment is approximately 870 acres. Given the limited footprint of the permit boundary modification of 1.39 acres, lack of physical processes, lack of wastewater discharge, and high elevation, impacts to Governor Creek from Amendment 02 activities are not anticipated.

Stormwater will be managed in the Governor Basin project area to reduce erosion and to control sediment. Stormwater controls are described in Exhibit U and in the Stormwater Management Plan, which is provided in Appendix 2.

The two other proposed raise areas, the 960 Raise and the Yellow Rose Raise, are located within the same basin as the main Revenue Permit Area. These features have not been constructed and therefore

do not currently impact groundwater or surface water. Once constructed, there will be no processes, no water discharge, and limited surface disturbance. Therefore, continued impacts to surface water and groundwater from these locations is not expected. The small amount of meteoric water that may fall within the opening is not enough to impact the water balance for the mine. The locations of these two features are presented on Map C-1A and Map C-1B, found in Exhibit C.

2.2 Known Aquifers

There are no known aquifers in the vicinity of the permit boundary including the main Revenue Portal area, the Monongahela Raise/Hubb Reed Raise, and the 960 and Yellow Rose raises (yet to be constructed).

Groundwater is currently monitored via six wells as shown Map G-1 and Map U-1 that are located downgradient from mine facilities but upgradient from surface water drainages. Wells GW-1A (shallow) and GW-1B (deep) are located at the western edge of the permit boundary to monitor groundwater impacts from the Atlas TSF. The Revenue TSF and the passive mine water treatment ponds, Mine Water Ponds #1, 2 and 3 are monitored by wells GW-2A and GW-2B downgradient of Mine Water Pond 1, and GW-3B and GW-3R downgradient of Mine Water Pond 2. A seventh set of wells will be installed during the summer of 2022 to monitor groundwater quality downgradient of the entire mine site and mill/process area. The installation of these paired wells will be done pursuant to a technical revision. A more detailed description of groundwater monitoring and quality can be found in Exhibit U.

2.3 Dewatering and Stormwater Management

Historically, Sunshine Mining Company had a Colorado Discharge Permit System (CDPS) permit for the Revenue Portal discharge in 2001. Whole effluent toxicity (WET) testing demonstrated no adverse effects to aquatic life, allowing the permit to be abandoned with no further action.

A new CDPS permit (No. CO-0000003) was obtained in 2015 and renewed in August 2018. The current permit is in administrative extension. Water from the Revenue Mine is treated prior to being discharged to Sneffels Creek. The 2018 renewal added a new Outfall 002A as well as a Five-Stage Passive Mine Water Treatment System, which was approved by DRMS in TR-10. The treatment system was designed and tested to meet both DRMS and CDPS requirements for water quality and to function into closure with minimal maintenance, low waste production, limited power requirements,

and strong aesthetic value. The five stages are (1) chemical flocculant to settle suspended solids (2) settling and sand filtration in Mine Water Pond #1, (3) sulfate reducing bioreactor located in Mine Water Pond #2, (4) aeration through a combination of open channel and HDPE pipe, and (5) aerobic polishing step in Mine Water Pond #3. A detailed description of the mine water treatment system can be found in Exhibit U.

The Revenue Mine also maintains a stormwater certification No. COR-040289 pursuant to CDPS general permit No. COR-040000, which is in administrative extension. Stormwater is diverted around the site through a series of ditches and channels, where possible. Stormwater captured on site is diverted either to Mine Water Pond #2 and treated prior to discharge through Outfall 002A or to a low spot near the main entrance of the mine where it infiltrates or evaporates. Stormwater best management practices are detailed in the mine's Stormwater Management Plan (SWMP), which is provided in Appendix 2. Surface runoff from the Revenue TSF is captured within Mine Water Pond #2. Surface runoff from the Atlas TSF is controlled by a sediment pond (Sediment Pond #1), which was constructed alongside the Atlas TSF.

Stormwater controls at the Monongahela/Hubb Reed Raise in Governor Basin include diverting stormwater around the main portion of the site. Stormwater from a small area (<0.5 acres) of the pad near the Refuge Chamber is channeled around the structures and ties into stormwater controls that will be constructed as part of a historic mine reclamation project, which is outside of the Permit Boundary.

There are no stormwater controls planned for the 960 or Yellow Rose raises other than during construction as the area of disturbance is less than 0.25 acres and there are no runoff features associated with these locations.

3. Project Water Requirements

Water used during development, operations and reclamation is sourced from groundwater collected within the mine. Ouray Silver Mines maintains two water rights, which include 24.74 acre feet from Lake Reservoir and 3.34 c.f.s. or 1500 gpm from the Sneffels Creek drainage (see Appendix 3 Water Court Case Number W-2991 and W-2993, respectively for details), which allows OSMI to use and store water for mining, milling and other commercial uses. Table G-1 provides a summary of water uses and storage compared with available water through decreed water rights. As noted on Table G-1,

the mine has approximately a range of 1261 to 1445 GPM surplus of water for its operations and 9.7 acre feet surplus of water storage.

Table G-1: Estimated Project Water Requirements and Storage		
Project Water Rights		
Lake Resrvoir/Sneffels Creek- Water for Storage	24.74	acre feet
Sneffels Creek - Revenue Mine	3.34	CFS
Consumptive Uses	**Approximate GPM (low)**	**Approximate GPM (High)**
Mine operations	60	200
Milling Operations	5	20
Human Consumption/Dry	1	20
Dust control on site	0	10
Evaporation		
Total Water Consumed	**66**	**250**
Water Storage Needs On-Site (acre ft)		
Sediment Pond #1	1.51*	
Sediment Pond #2 (proposed)	0.88	
Mine Water Pond #1	1.84	
Mine Water Pond #2	4.637	
Mine Water Pond #3	0.788	
Total Water Storage Available (acre ft)	**9.655**	
Water Sources in GPM		
Sneffels Creek Drainage Water Right	1,500	1,500
Lake Reservoir Water Right	-	-
Rain/snow melt	10.62	10.62
Total Water Sources in GPM	**1,511**	**1,511**
Project Water Balance (GPM)	**1,445**	**1,261**
* to be confirmed with as-built survey		
* not yet constucted		

The water used in milling and mining, including dust suppression, is sourced from the ditch that runs the length of the Revenue Tunnel. During times of higher flow, a certain volume of water is stored underground in a sump for use during lower-flow winter months. Potable Water for human consumption, shower and toilet facilities comes from an underground vault that was excavated in host

rock to avoid mineralized veins. The potable water vault is adjacent to the Revenue Tunnel and captures groundwater prior to interaction with Revenue Tunnel water. Potable water is treated at the surface using a chlorination system permitted through the state's drinking water program.

Water Balances presented in this exhibit rely on climate data presented in Exhibit K for precipitation and evaporation. Water quality and quantity information is discussed in detail in Exhibit U.

3.1 Development Water Balance

Development mining has been occurring in this area for decades. Development of new passage to access veins is also a continuous, though potentially intermittent, process occurring early in the mine life and throughout the bulk of operations. Development work will be conducted concurrent with mining activities and therefore the water balance for development and mining / operations are combined.

3.2 Operational Water Balance

OSMI has sufficient water to conduct its operations.

The operational water includes development work, mining, milling, loss to tailings, human consumption (associated with increased staffing during operations) as well as precipitation and evaporation at treatment ponds. Because the host rock has been well-drained for decades by the Lower Mountain Top, and Ruby Trust upgradient, the Revenue Portal, and the Camp Bird Portal downgradient, substantial increases in flow with mine are not anticipated.

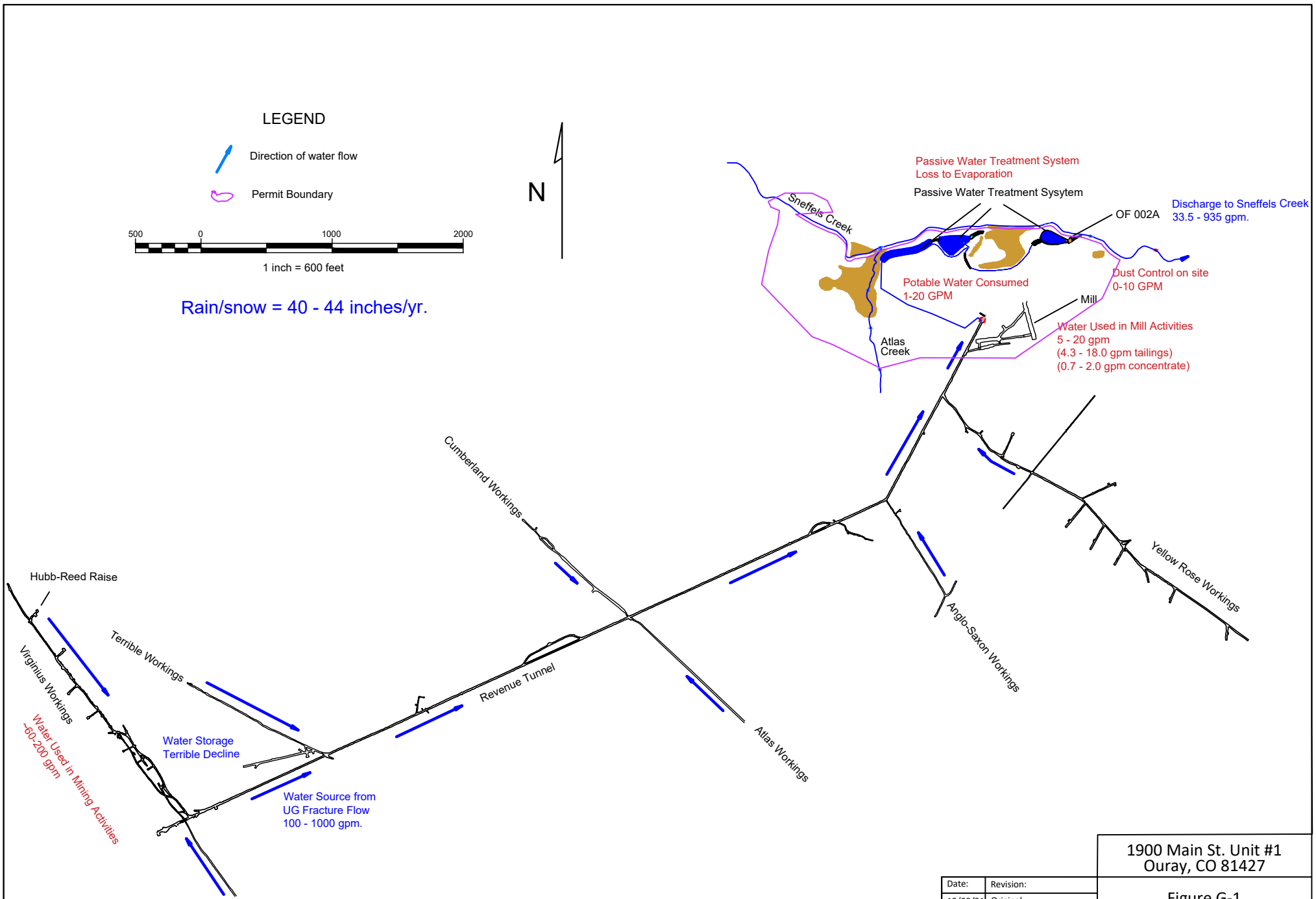
Figure G-1 depicts the general water balance for the site. Water consumed by mining and mine development is approximately 60 to 200 gallons per minute (gpm). Water consumed by milling operation is approximately 5 to 20 gpm, which includes water contained in tailings and concentrate. Human consumption of water is estimated to be 1 to 20 gpm. The Revenue portal conveys anywhere from approximately 100 to 1000 gpm depending on the season. Rain and snowmelt contribute approximately 40 to 44 inches per year. Figure G-1 is a graphical depiction of the water inputs and outputs for the mine and milling operations.

3.3 Reclamation/Closure Water Balance

OSMI has sufficient water to complete reclamation.

The post-reclamation / closure water balance assumes that development, mining, and milling have ceased. The buildings that will remain on site post-reclamation for commercial use, will continue to use a small amount of water for human consumption and sanitary facilities using the current system.

The planned reclamation does not require irrigation on reseeded areas and will rely on meteoric water to establish vegetation.

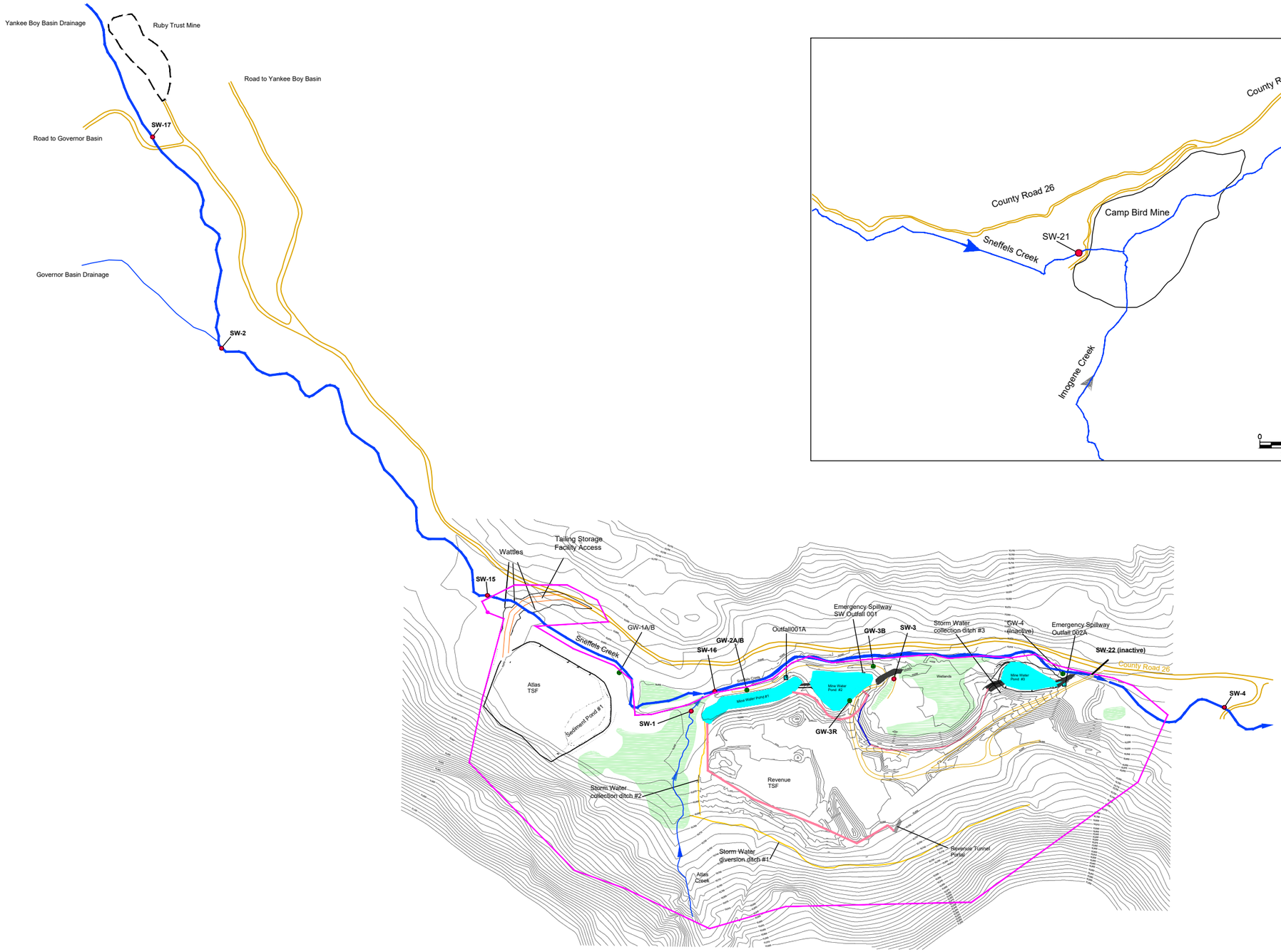


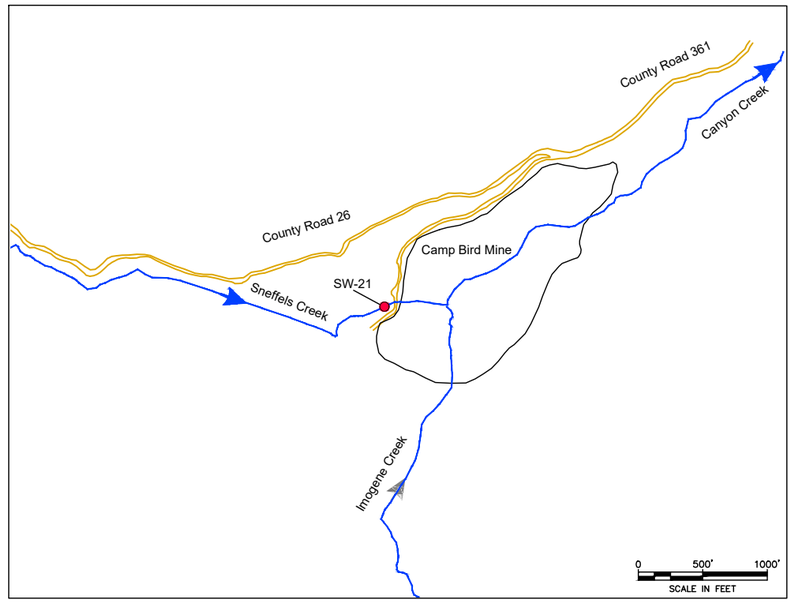
1900 Main St. Unit #1
Ouray, CO 81427

Date:	Revision:
12/09/21	Original
05/24/22	AR Comments

Figure G-1
Water Balance

Date: May 24, 2021 | Drawn By: THJ
Approved By:
File: water balance.dwg





Legend

- Direction of surface water flow
- Natural Waterways
- Mine Water
- Wetlands
- Road
- Emergency Spillway
- Riprap
- Permit Boundary
- Voluntary surface water quality monitoring sample point
- Ground water well sampling point
- Stormwater Conveyance
- Pipeline
- Open Channel

R:\Ouray Silver Mine\CADSheet Files\2021 Permit Update-Fig1.dwg Last Edited by: SGallegos on 12/1/2021 3:36 PM

REVISIONS				
NO.	DESCRIPTION	DATE	BY	APPROVED BY:
0	Amendment 2	12/06/2021	SG/KN	

DECEMBER 2021

Ouray Silver Mines
P.O.BOX 564
Ouray, CO 81427

REVENUE - VIRGINIUS MINE

MAP G-1 : Mine Area Surface Hydrology

Legend

- Proposed Permit Boundary
- Stormwater Features (Culverts, Swales, Diversion Ditch)
- Streams
- Surface Water Sampling Location

Trout Unlimited Removal Action (Planned for 2022)

- Borrow Source
- Constructed Wetland
- Drainage Fan
- Erosion Control BMPs
- Grade and Cap
- Tailings
- USFS Parking Area

SW-17

SW-2

Govenor Creek

Sneffels Creek

Revenue Portal Area

N

Notes:
1. Removal action work is planned for 2022. Proposed removal actions and features are approximate.
2. Acronyms and Abbreviations:
BMP - Best Management Practice
USFS - United States Forest Service

REVISIONS				
NO.	DESCRIPTION	DATE	BY	APPROVED BY:
0	Amendment 2	12/6/2021	SMW	Todd Jesse

600 300 0 600 Feet

December 2021

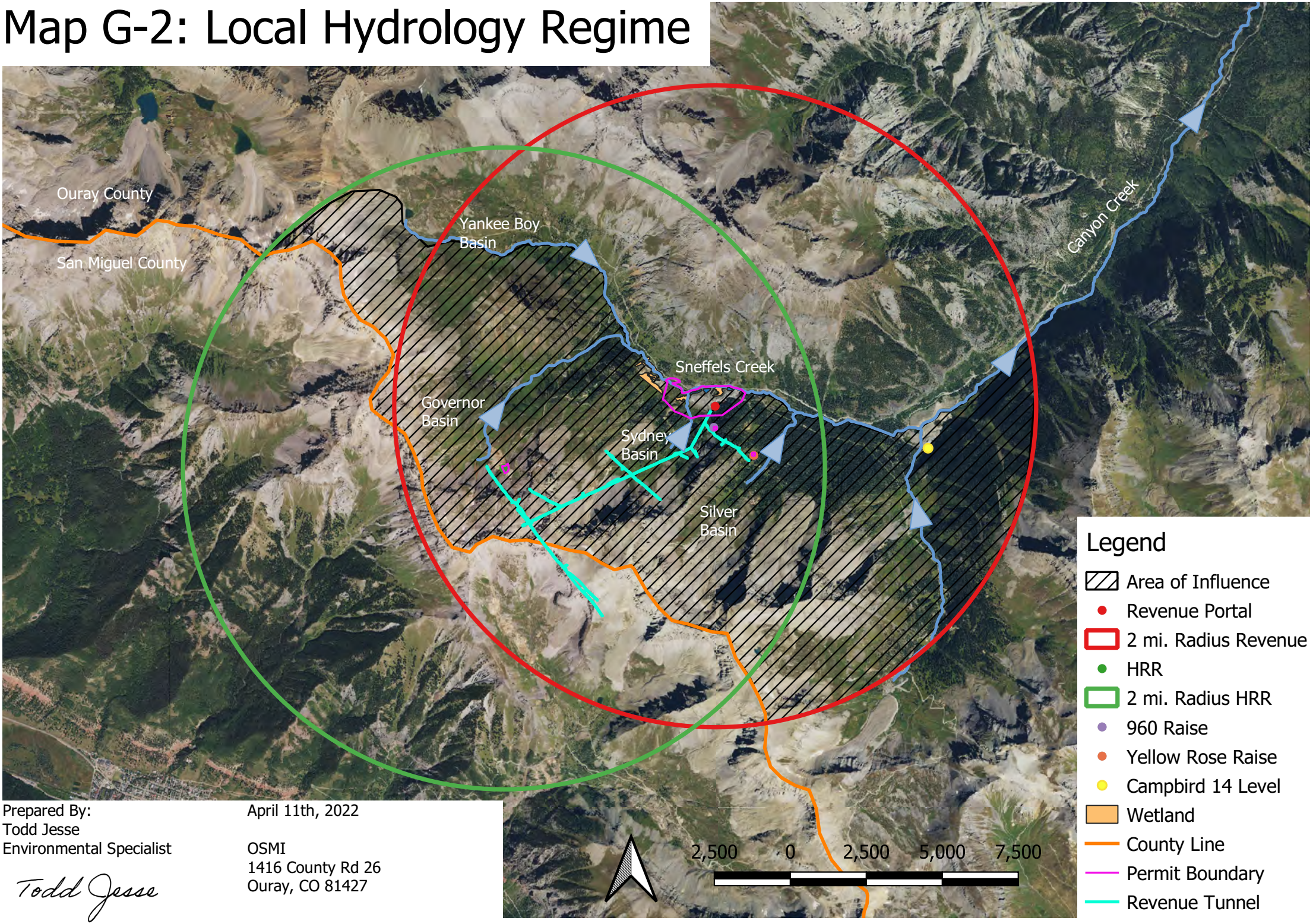
Ouray Silver Mines
P.O. BOX 564
Ouray, CO 81427

REVENUE - VIRGINIUS MINE

G-1B : Govenor Basin Surface Hydrology

Document Path: P:_Project_Files\Ouray Silver Mine\GIS\mxd\G-1B.mxd

Map G-2: Local Hydrology Regime



Prepared By:
Todd Jesse
Environmental Specialist

Todd Jesse

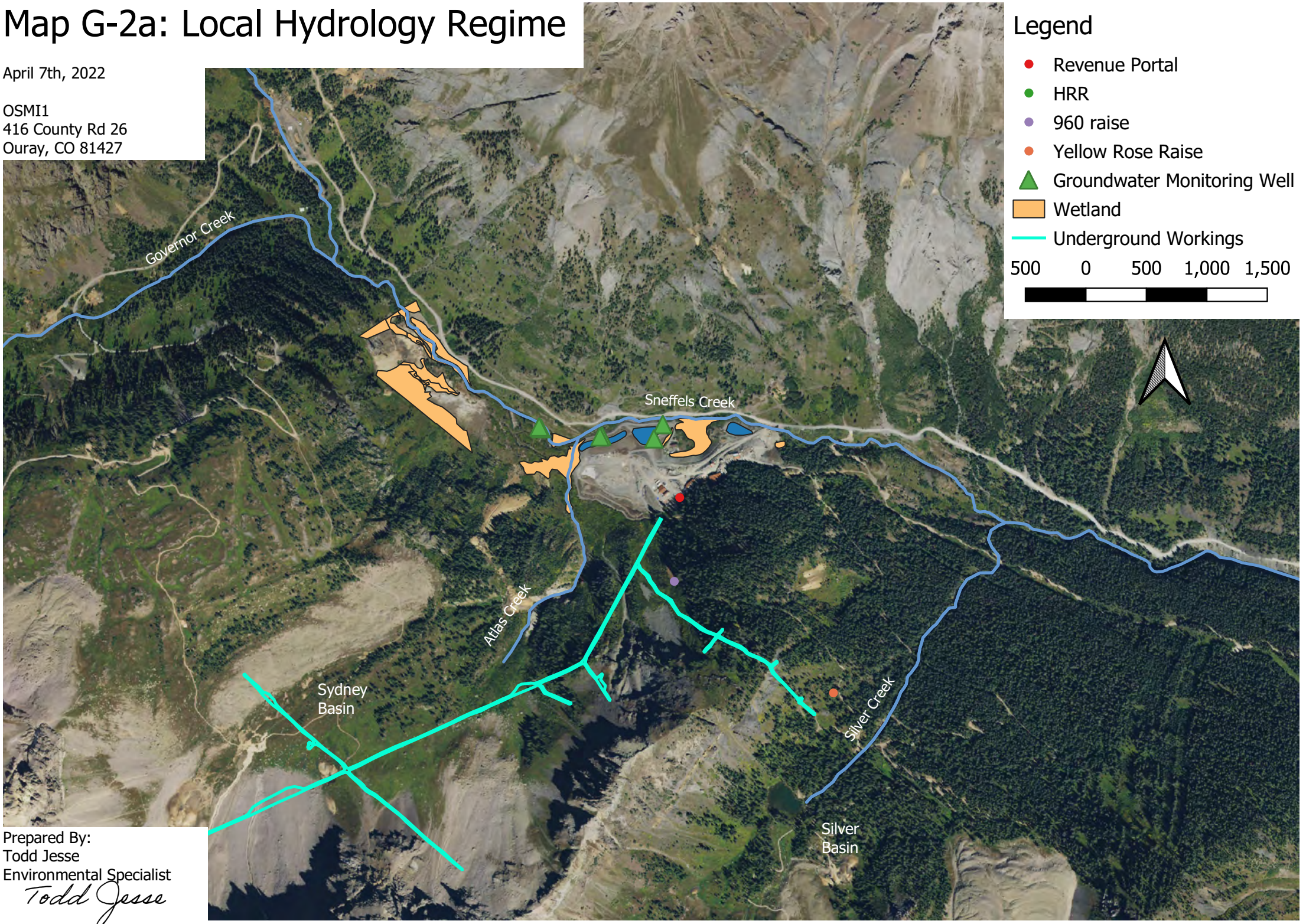
April 11th, 2022

OSMI
1416 County Rd 26
Ouray, CO 81427

Map G-2a: Local Hydrology Regime

April 7th, 2022

OSMI1
416 County Rd 26
Ouray, CO 81427



Prepared By:
Todd Jesse
Environmental Specialist
Todd Jesse

Updated Exhibit I

Soils

Exhibit I: Soils Information

1. NRCS Soils Found at Revenue Mine

There are several soil types identified by the Natural Resource Conservation Service (NRCS) within the permit boundary. Those soils are identified in Table I-1 below and can be seen on Map I and Map I-1a.

Table I-1. Revenue Mine Soils

Soil Unit	Name	Approximate Area of Permit (acres)
112	Cryothents-Rock outcrop complex, extremely stony	28
113	Cryothents-Rubble land complex	0.00
114	Waste Rock Piles	13.6
129	Moran vey gravelly loam, extremely stony	5.1
130	Moran-Telluride-Rock outcrop complex, extremely stony	5
145	Rock outcrop	0.00
150	Rubble land	0.00
171	Whitecross-Rock outcrop complex, extremely stony	0.00

These soils were identified using the NRCS Web Soil Survey. The associated report can be found in Appendix 4.

2. Topsoil Stripping and Replacement – Revenue Mine

The vast majority of the Revenue Mine is existing disturbance from historical mining activities. No topsoil was salvaged during historic mining activity. Topsoil is stripped from areas where it is identified prior to using an area for mining activities.

The post-mining land use planned for the Revenue Mine is commercial and wildlife habitat. The areas slated as wildlife habitat will have a minimum of 6 inches of topsoil or suitable growth medium placed on them, where practicable, prior to revegetation. Areas not receiving topsoil will be regraded and capped with suitable waste rock (i.e., San Juan Tuff) to reduce erosion and to resemble the surrounding landscape more closely.

The soil will be stripped as required for mine activities at the time when it is needed. As much as possible, topsoil will be directly placed on final TSF surfaces as they are constructed. If topsoil needs to be stockpiled on-site, it will be placed in the topsoil stockpile area located immediately uphill of sediment pond #1. This topsoil stockpile area will be used while the Revenue TSF is being built. Once the Revenue TSF is at capacity, an area on the top of the Revenue TSF will be used to store topsoil, if needed. A significant amount of topsoil will be imported over the life of the mine to satisfy the reclamation requirement of at least 6 inches over the areas requiring topsoil. These calculations are described in detail in Exhibit E. Topsoil that is imported will be suitable as a growth medium and free of any contaminants that could negatively affect the environment.

3. Ventilation Raise Area Soils

The shaft areas (i.e., the Hubb Reed, 960 and Yellow Rose Shafts) consist almost exclusively of rock outcrop, historic waste rock, and rubble complexes. According to the National Resource Conservation Service (NRCS) Map, the soils at the 960 and Yellow Rose Raises consist of the "Cryorthents-Rock Outcrop, extremely stony" (NRCS Soil Map, 2022). The soils at the Hubb Reed Raise are classified by NRCS as primarily "...dumps/mine and Moran very gravelly loam, 30 to 65 percent slopes, extremely stony." In general, there is little to no soil that can be harvested from the raise areas.

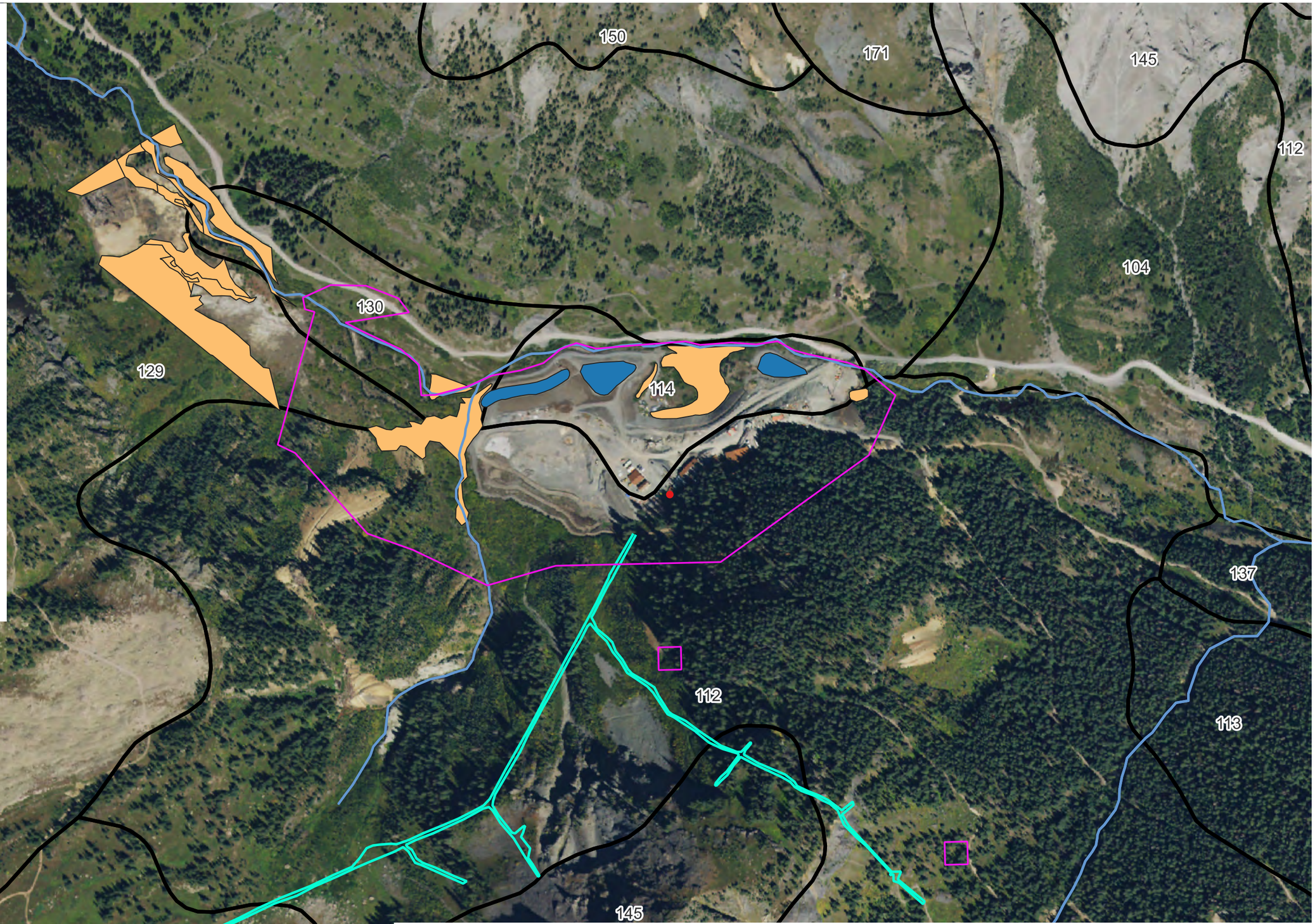
Raise areas will be developed from underground, so surface soils, if any that are disturbed due to the raise construction will be stockpiled in the immediate vicinity for use in reclamation. See Exhibit E, Reclamation Plan for details regarding reclamation of the shaft areas.

Map I-1: Soils

Legend

- Soil Type Boundary
- Permit Boundary
- Underground Workings
- Revenue Portal
- Wetlands
- Passive Treatment System
- Creeks

104 - Complex, 40 to 90 percent slopes
112 - Cryothents - Rock outcrop complex, 50 to 120 percent slopes extremely stoney
114 - Dumps, mine
129 - Moran very gravelly load, 30 to 65 percent slopes, extremely stoney
130 - Moran, extremely stoney - Telluride, extremely stoney- Rock outcrop comples, 5 to 40 percent slopes
145 - Rock outcrop
150 - Rubble land
171 - Whitecross - Rock outcrop complex, 45 to 75 percent slopes, extremely stoney

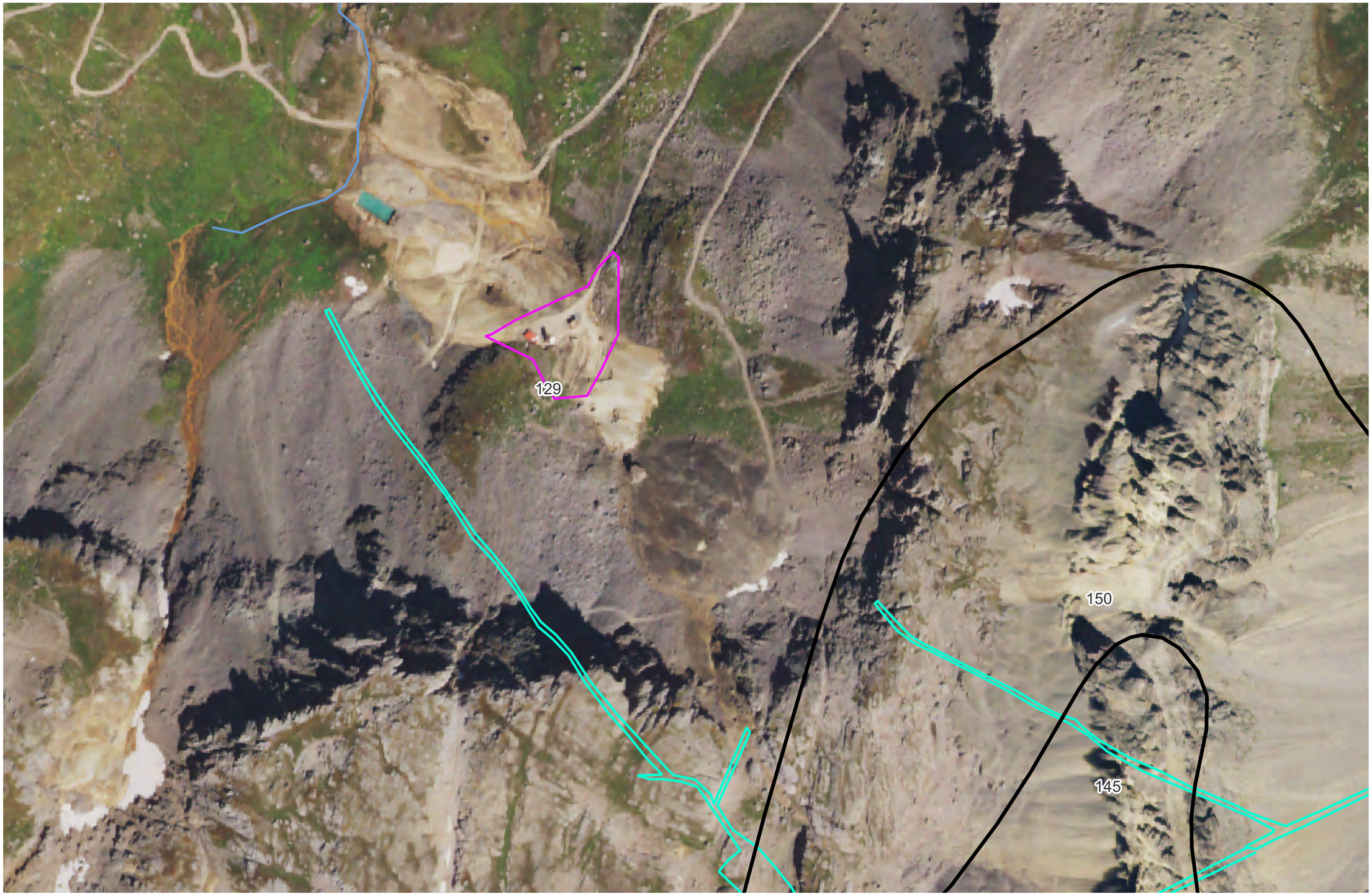


Prepared By:
Todd Jesse
Environmental Specialist
Todd Jesse

April 11th, 2022

OSMI
1416 County Rd 26
Ouray, CO 81427

500 0 500 1,000 1,500



Legend

- Permit Boundary
- Underground Workings
- HRR
- Creeks
- Soil Type Boundary

129 - Moran very gravelly lead, 30 to 65 percent slope, extremely stony
145 - Rock outcrop
150 - Rubble land

Map I-1a: Governor Basin Soils

Prepared By:
Todd Jesse
Environmental Specialist
Todd Jesse

OSMI
1416 County Rd 26
Ouray, CO 81427

April 15th, 2022

250 0 250 500 750

Updated Exhibit J

Vegetation

Exhibit J: Vegetation Information

1 Existing Plant Communities:

1.1 Revenue Mine – Main Portal

The main Revenue Mine permit boundary vegetation can generally be considered (10,600 feet) with a large number of wildflowers, forbs, and shrubs present. Due to the high precipitation received by the area throughout the year and the presence of fines in the waste rock, vegetation grows even on historical mine dumps like the Revenue TSF.

The pictures below show the vegetation in the area of the Revenue Mine during August of 2011.

Picture 1. Looking northwest across the mine site from the mine access (August 2011). Picture shows waste rock in the foreground and the two old buildings in the low-lying area near Sneffels Creek.

The low-lying area where the two old mine buildings are found have willows, other large shrubs, and plants that grow in wet conditions at this altitude. Blue spruce trees are also growing along the creek.

The areas above the Revenue portal are primarily high-altitude pine forest in very steep terrain. These areas extend to above timberline, where very fragile vegetation grass, forb, and moss vegetation occurs. Map J shows the mapping of the existing vegetation of the permit area.

Picture 2. Vegetation on top of old waste pile at Revenue (August 2011).

2 Wetland Areas

In June 2012, a wetland delineation was conducted by WestWater Associates and was revised in September of 2013. An update to the wetlands survey was completed in 2015 to identify wetlands farther to the west outside the permit boundary. Jurisdictional wetlands and waters of the US have been identified within the permit area.

The delineation of wetlands near the Atlas drainage and in the low area where the old buildings are located has been completed and the certification from the US Army Corps of Engineers has

been included in Appendix 5. Maps C-1a and C1-b show the current delineation of wetlands and waters of the US. As noted above, the wetlands survey completed within the permit boundary was completed in 2012. Southwestern Colorado has experienced severe drought for the past decade. OSMI plans to update the wetlands delineation to update the location of wetlands within the permit boundary. The delineation report that was completed in 2013 is included in Appendix 5.

3 Shaft Areas

Vegetation at the 906 Raise and the Yellow Rose is dominated by sub-alpine and high-altitude pine forest in very steep terrain. These areas extend close to timberline, where very fragile grass, forb, and moss vegetation occurs.

Little to no vegetation exists at the Hubb Reed / Monongahela Shaft area in Governor Basin due being above timberline and due to prior disturbance from historical mining activities.

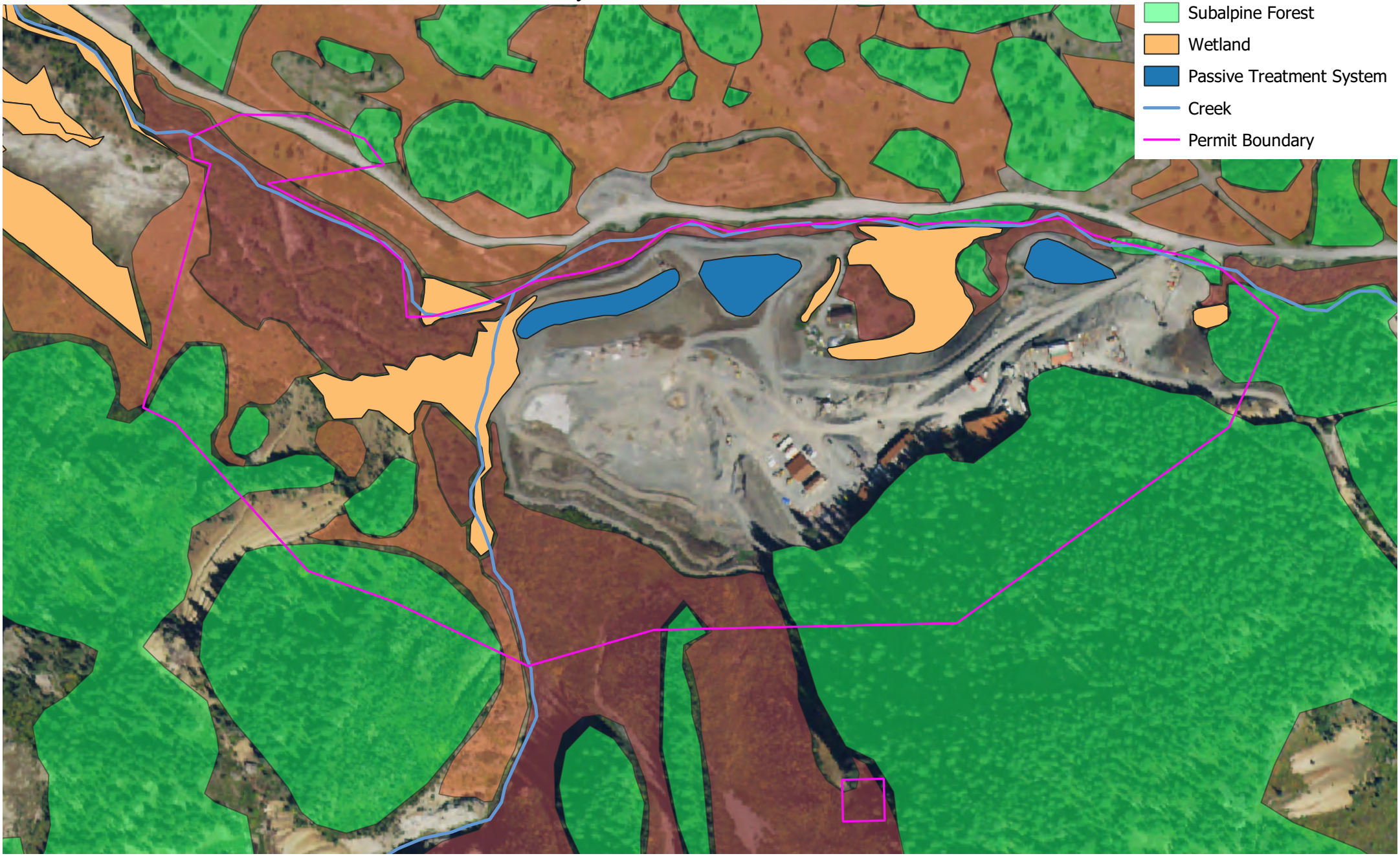
Map J-1: Vegetation

Prepared By:
Todd Jesse
Environmental Specialist
Todd Jesse

April 20th, 2022

OSMI
1416 County Rd 26
Ouray, CO 81427

0 250 500



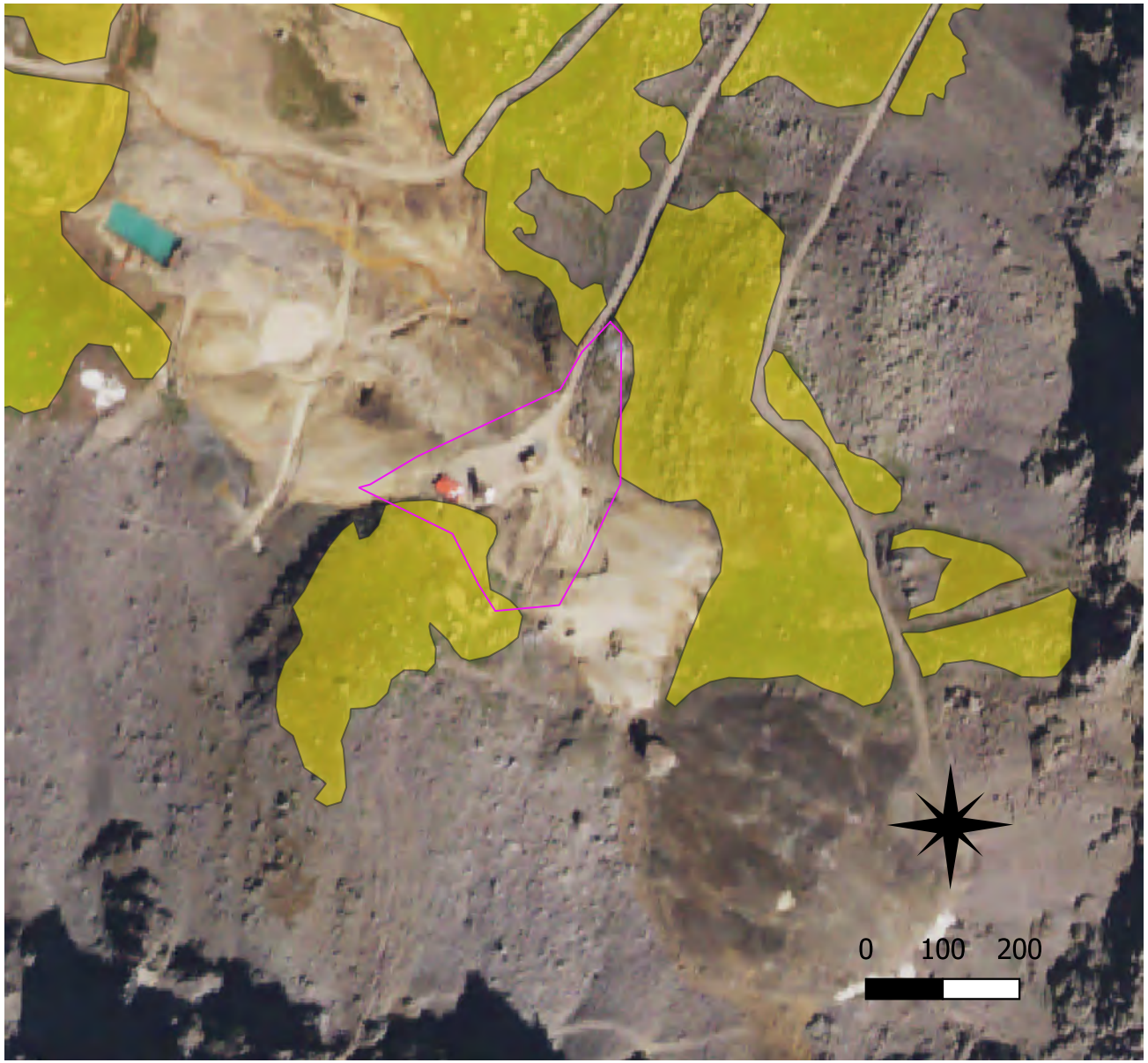
Map J-2: Vegetation

Prepared By:
Todd Jesse
Environmental Specialist
Todd Jesse

April 20th, 2022

OSMI
1416 County Rd 26
Ouray, CO 81427

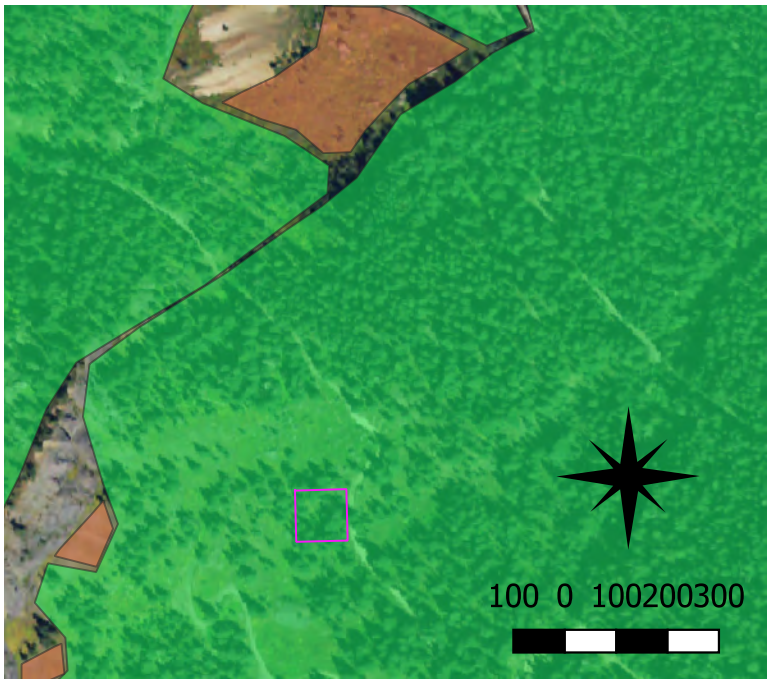
Hubb Reed Raise



Legend

- Grasslands
- Tundra
- Subalpine Forest
- Permit Boundary

Yellow Rose Raise



Updated Exhibit K

Climate

Exhibit K: Climate Information

The following climate information is presented for Revenue Mine. The climate data available was from the Ouray Weather Station Number 2, which is the Colorado weather station operated for the High Plains Regional Climate Center of the National Oceanic and Atmospheric Association (NOAA). The Revenue Mine is located at an average elevation of 10,680 feet, while the Ouray weather station is at an elevation of 7,718 feet. An analysis of the temperature maps for Colorado (Figures K-2A through K-2C) shows that the temperatures measured in Ouray are close enough to those at the mine to use as the mine climate. The same cannot be said of precipitation or wind data. For the weather station, the average annual precipitation is 22.7 inches (Table K-2). For the Revenue Mine area, the average precipitation was calculated to be approximately 40 inches as a result of significantly more snow than typically falls in Ouray.

The annual precipitation of 40 inches per year was gathered from a map produced by the United States Department of Agriculture Natural Resource Conservation Service and is shown in Fig K-1. The average monthly precipitation was calculated by a ratio average annual precipitation (40 inches per year) at Revenue Mine to the average annual precipitation (22.7 inches per year) of the Ouray, Colorado, station multiplied by the average monthly precipitation for the Ouray, Colorado, station.

The average evaporation for the Revenue Mine is approximately 35 inches per year. (See Figure K-3).

Temperature and precipitation data from the past five years from the Ouray Number 2 weather station is presented below in Tables K-1 and K-2.

Table K-1: Monthly Mean Avg Temperature Degrees F for OURAY NO. 2, CO 2000-2021

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2000	26.7	M	M	45.2	55.2	63.6	M	66.3	M	M	M	M	51.4
2001	M	M	33.8	43.3	53.3	63.9	67.5	63.1	58.2	M	M	22.6	50.7
2002	22.8	22.0	M	47.1	M	68.9	70.3	65.0	55.7	42.6	30.5	M	47.2
2003	29.8	M	M	M	52.4	61.2	72.6	66.2	53.7	50.0	M	M	55.1
2004	23.2	22.6	37.4	43.8	54.4	61.8	64.7	M	M	44.0	31.1	M	42.6
2005	30.2	M	32.2	39.7	53.0	58.9	M	M	57.4	46.4	M	M	45.4
2006	24.6	26.4	M	M	54.3	64.3	67.0	62.4	52.6	44.0	37.5	26.6	46.0
2007	23.1	29.5	37.8	42.9	51.3	61.8	68.2	65.6	58.7	45.5	39.1	23.4	45.6
2008	19.4	26.6	32.1	38.3	48.4	60.2	65.9	64.6	57.4	47.0	37.9	25.8	43.6
2009	27.9	31.7	36.8	38.8	55.3	57.6	66.1	63.6	57.0	41.5	37.9	20.9	44.6
2010	25.7	23.7	31.0	41.2	48.0	62.2	65.7	63.0	59.6	47.8	31.7	33.6	44.4
2011	21.9	22.9	36.3	40.2	46.3	61.3	65.7	66.0	56.8	45.2	35.2	25.1	43.6
2012	28.3	26.6	37.8	46.5	54.6	65.7	66.1	64.8	57.6	47.6	39.7	27.3	46.9
2013	21.0	22.5	34.9	39.5	51.7	64.3	67.5	62.6	57.2	42.5	35.0	22.9	43.5
2014	28.4	30.3	35.4	40.8	49.7	60.9	66.7	62.3	59.5	48.0	34.2	28.6	45.4
2015	29.1	33.7	39.3	43.4	47.9	63.0	63.4	64.0	60.4	50.7	32.7	25.4	46.1

Table K-1: Monthly Mean Avg Temperature Degrees F for OURAY NO. 2, CO 2000-2021

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2016	25.0	31.3	37.0	41.4	49.2	64.5	65.3	60.5	56.8	51.5	39.4	26.9	45.7
2017	25.6	35.0	40.5	43.1	49.2	64.5	66.3	63.4	58.2	47.0	42.5	31.6	47.2
2018	30.3	30.4	36.8	44.3	55.6	64.9	68.6	65.9	61.1	45.3	32.4	25.7	46.8
2019	24.2	25.5	34.3	44.4	45.0	58.9	66.9	66.0	61.6	42.1	36.8	26.4	44.3
2020	25.6	27.4	38.0	43.4	55.4	62.4	66.5	69.7	58.0	49.1	37.4	24.5	46.5
2021	25.2	27.1	33.8	43.3	51.4	64.1	67.7	64.9	60.6	44.9	41.0	31.7	46.3
2022	27.0	25.0	M	M	M	M	M	M	M	M	M	M	26.0
Mean	25.7	27.4	35.8	42.4	51.3	62.6	66.9	64.4	57.9	46.1	36.2	26.4	46.1
Max	30.3 2018	35.0 2017	40.5 2017	47.1 2002	55.6 2018	68.9 2002	72.6 2003	69.7 2020	61.6 2019	51.5 2016	42.5 2017	33.6 2010	55.1
Min	19.4 2008	22.0 2002	31.0 2010	38.3 2008	45.0 2019	57.6 2009	63.4 2015	60.5 2016	52.6 2006	41.5 2009	30.5 2002	20.9 2009	26.0

Source – Ouray Weather Stations No. 2

Table K-2 Monthly Total Precipitation in Inches for OURAY NO. 2, CO

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2000	M	M	M	M	M	1.21	M	M	M	M	M	M	M
2001	M	M	M	M	M	M	M	M	M	M	M	1.25	M
2002	M	M	M	1.32	M	M	M	M	4.33	2.42	M	M	M
2003	0.68	M	M	M	M	M	M	M	M	M	M	M	M
2004	M	M	0.82	M	M	M	2.75	M	M	1.95	3.24	1.11	M
2005	2.44	M	2.11	2.63	1.22	M	M	M	2.44	3.43	0.90	M	M
2006	1.74	0.59	M	M	0.99	0.47	4.94	3.62	2.22	3.79	1.19	1.38	M
2007	1.11	1.98	1.91	3.18	2.88	0.79	1.81	3.27	2.64	1.78	0.70	5.06	27.11
2008	2.94	2.20	2.05	2.41	2.18	0.29	2.88	2.08	2.06	1.49	1.51	3.62	25.71
2009	1.38	1.35	2.00	2.85	1.57	2.17	2.50	0.91	1.70	2.80	1.04	1.66	21.93
2010	0.69	2.32	4.47	2.49	1.15	1.15	3.98	2.96	0.62	2.58	0.97	1.86	25.24
2011	1.52	1.97	1.59	4.42	3.57	0.37	2.23	1.76	1.99	2.56	1.44	1.14	24.56
2012	1.40	1.75	0.96	1.24	0.09	0.36	5.34	2.03	1.65	0.43	0.45	3.21	18.91
2013	2.34	2.19	0.82	2.00	0.79	0.10	3.28	3.58	4.90	3.13	1.87	0.93	25.93
2014	1.27	2.36	1.58	2.47	2.26	0.12	1.54	2.39	3.77	0.97	2.39	1.61	22.73
2015	0.35	1.54	1.41	1.32	5.07	1.74	2.03	1.58	1.63	2.25	2.85	2.11	23.88
2016	1.86	1.31	1.01	2.57	2.22	0.69	1.84	4.16	1.59	0.76	1.67	2.21	21.89
2017	2.91	1.30	3.49	1.89	2.14	0.17	3.09	1.67	2.23	0.75	0.99	0.36	20.99
2018	1.93	2.26	0.86	2.64	0.50	0.33	3.54	1.99	0.68	3.06	0.55	1.72	20.06
2019	1.92	2.13	4.62	1.50	3.67	1.24	2.31	1.61	0.40	1.03	2.15	1.84	24.42
2020	1.76	0.75	1.48	1.29	0.57	1.28	2.54	0.87	1.29	0.80	2.52	1.85	17.00
2021	0.72	1.99	2.76	1.43	2.70	1.17	2.67	1.78	1.62	2.21	0.24	1.88	21.17
2022	0.90	2.14	M	M	M	M	M	M	M	M	M	M	M
Mean	1.57	1.77	2.00	2.21	1.97	0.80	2.90	2.27	2.10	2.01	1.48	1.93	22.77
Max	2.94 2008	2.36 2014	4.62 2019	4.42 2011	5.07 2015	2.17 2009	5.34 2012	4.16 2016	4.90 2013	3.79 2006	3.24 2004	5.06 2007	27.11 2007
Min	0.35 2015	0.59 2006	0.82 2004	1.24 2012	0.09 2012	0.10 2013	1.54 2014	0.87 2020	0.40 2019	0.43 2012	0.24 2021	0.36 2017	17.00 2020

Average wind speed by month is presented in Table K-3. Wind data was gathered from the National Oceanic and Atmospheric Administration (NOAA) for weather station #CAABR, which is located at 11,841 feet elevation on Mount Abrams in Ouray County. Prevailing winds appear to dominate from the southwest, south and northwest/north northwest.

Table K-3: Wind Speed Direction

Year	2021												2022		
Month	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
Average (mph)	8.4	12.7	11.4	10.9	11.2	9.1	7	8.1	7.8	9.5	8	14.5	8	9.1	9.2
Min (mph)	0.1	0	0.3	0	0	0.1	0.1	0.1	0.6	0	0.7	0.7	0.4	0.7	0.9
Max (mph)	29.4	49.9	36.2	32.7	34.3	29.5	23.5	23.4	23.4	28.4	37.2	42.7	46.1	31.9	29

Wind data from Mt. Abrams Weather Station at 11,841' elevation courtesy of NOAA

Additional climate data is shown in Figures K-1 through K-3 and provided in Exhibit U.

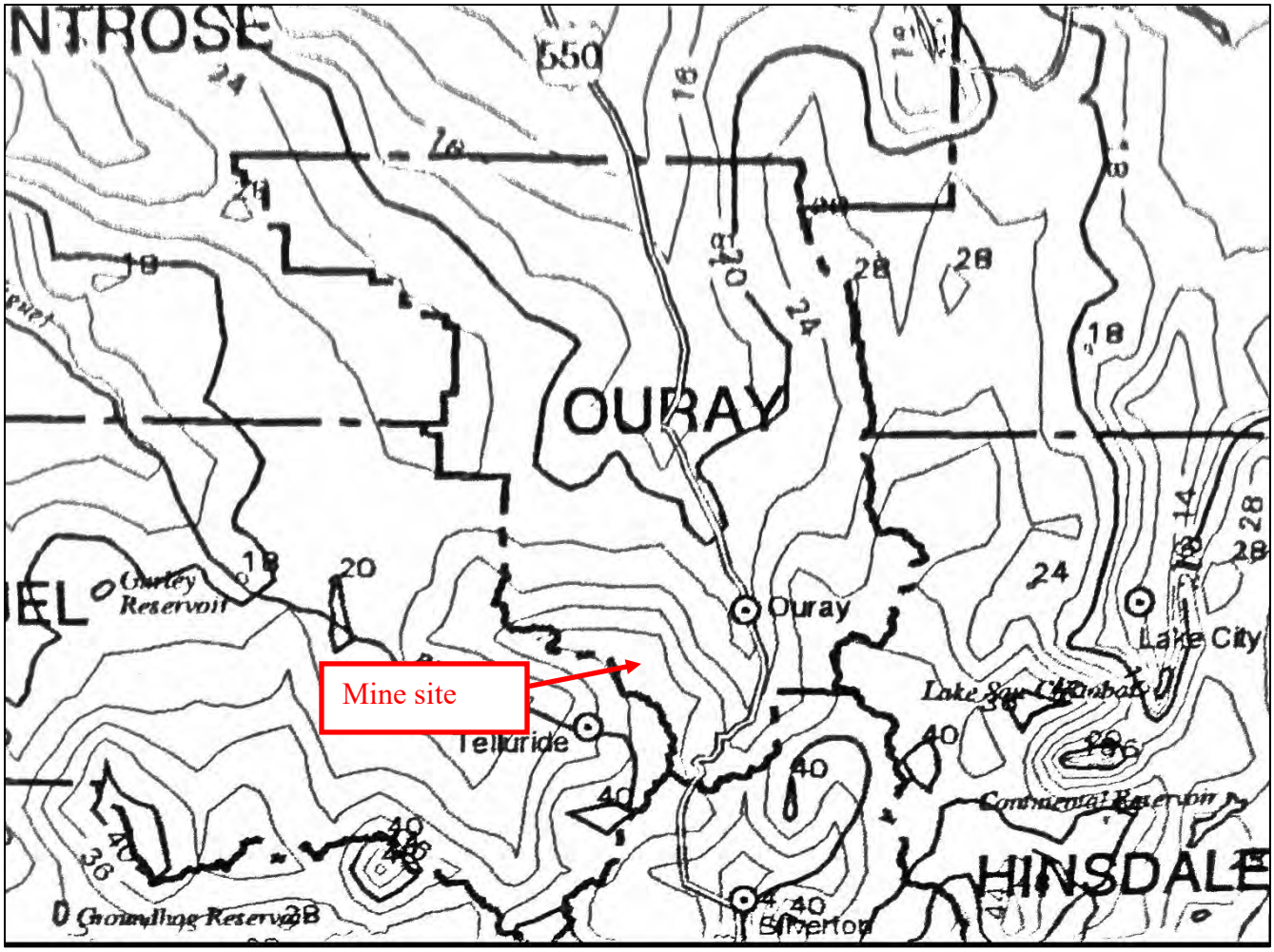


Figure K-1 Area Total Annual Precipitation (inches)

This map from the NRCS shows the annual precipitation for this portion of Colorado. The mine location is shown.

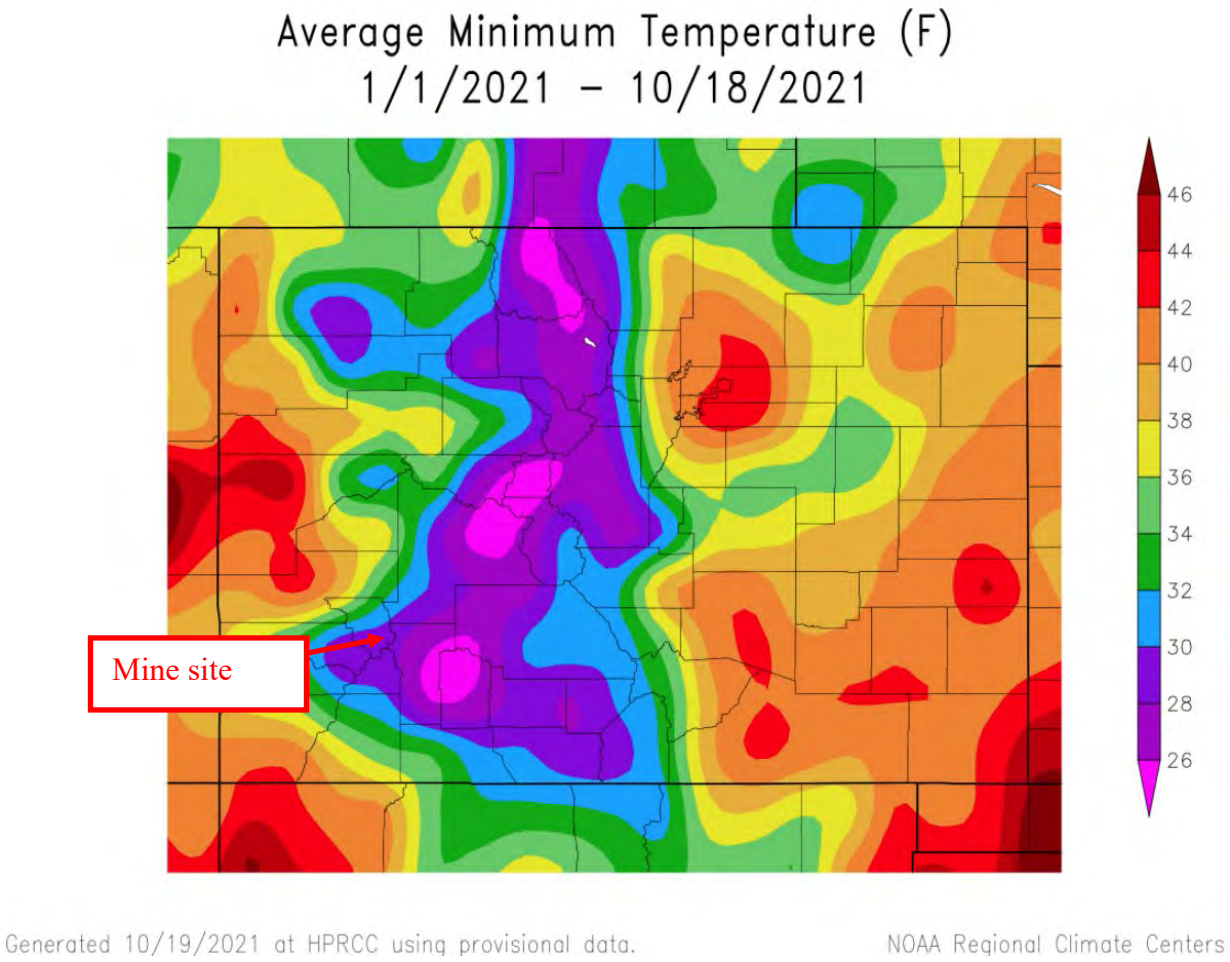


Figure K-2A. Minimum Average Temperatures in Colorado

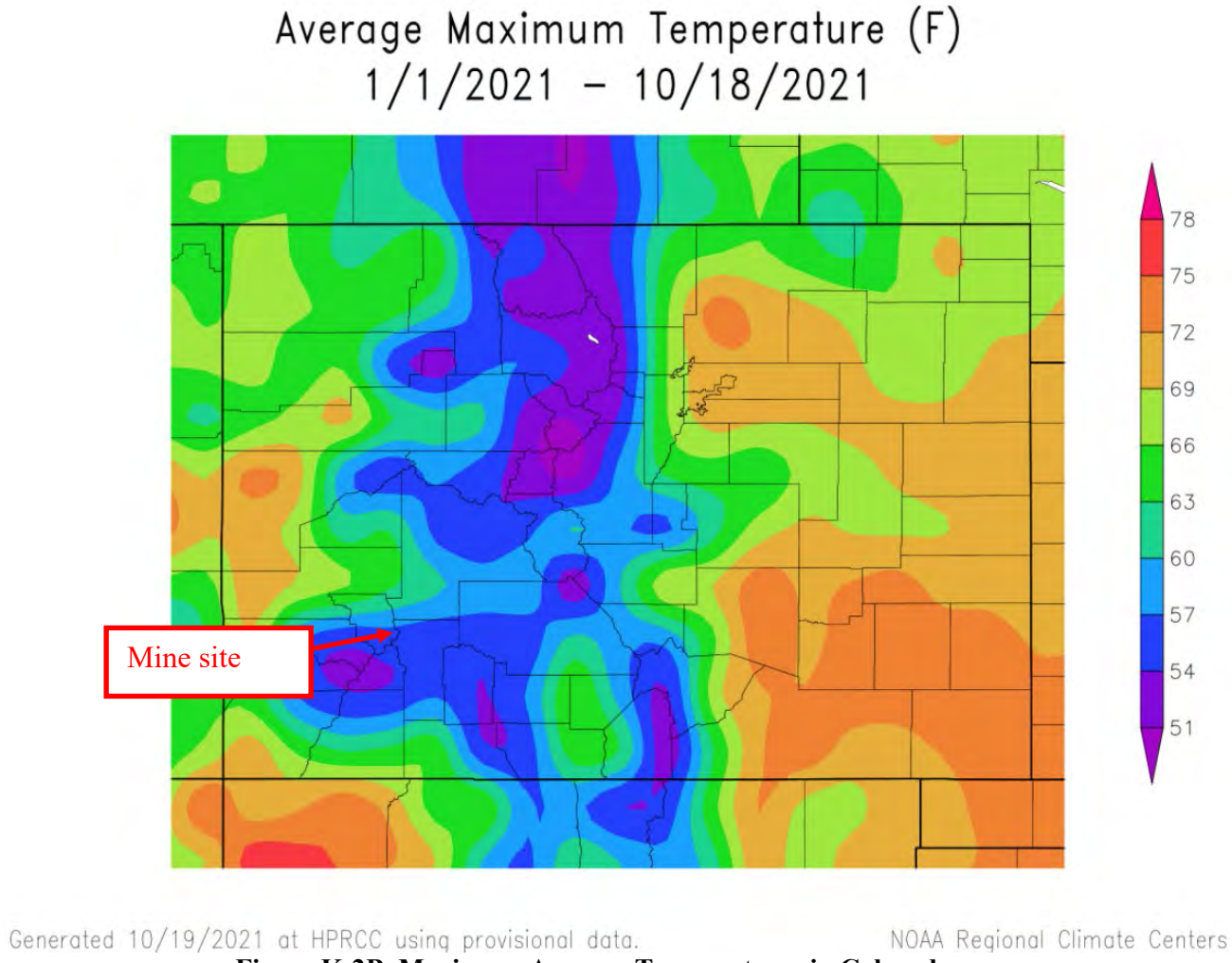


Figure K-2B. Maximum Average Temperatures in Colorado

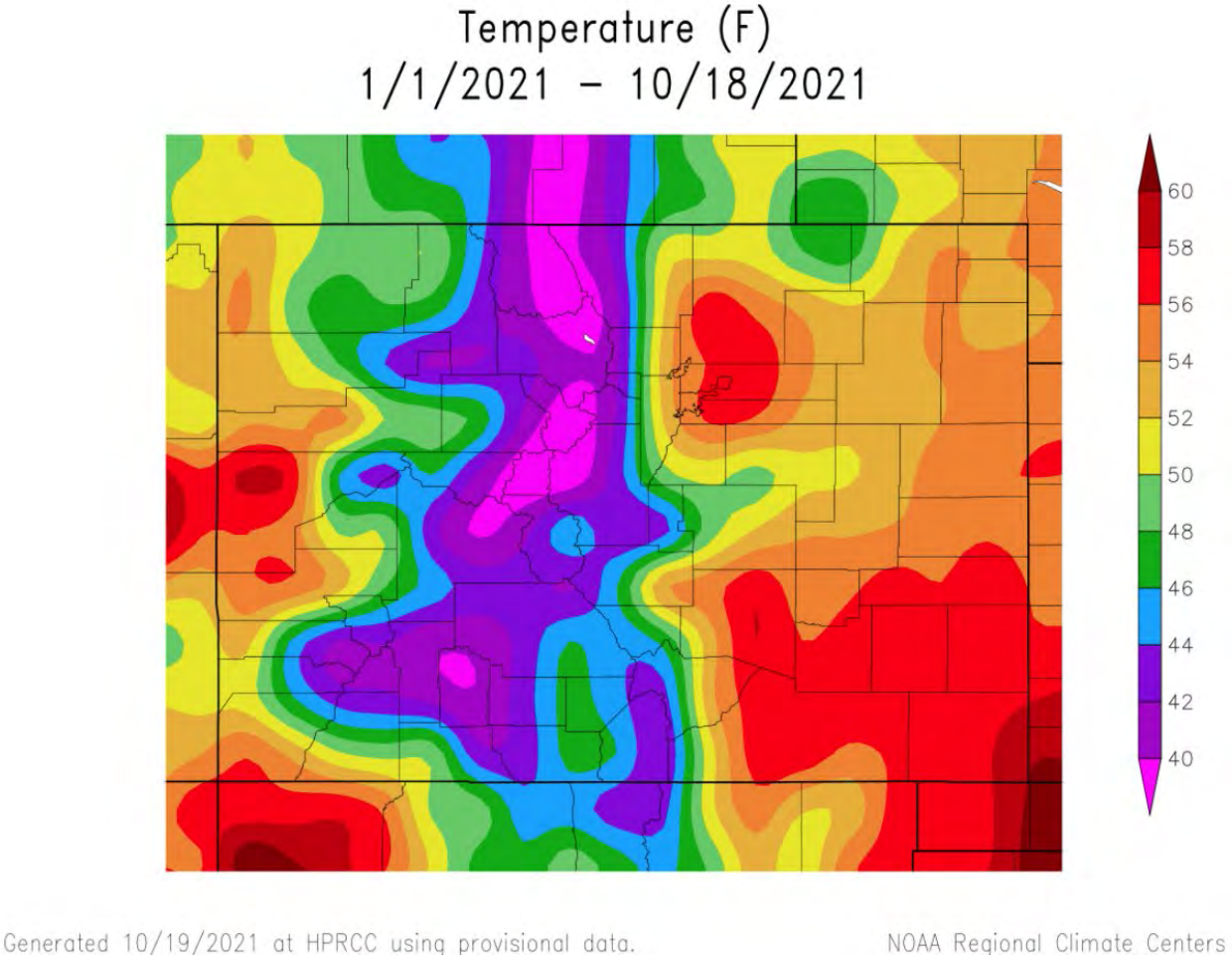


Figure K-2C. Annual Average Temperatures in Colorado

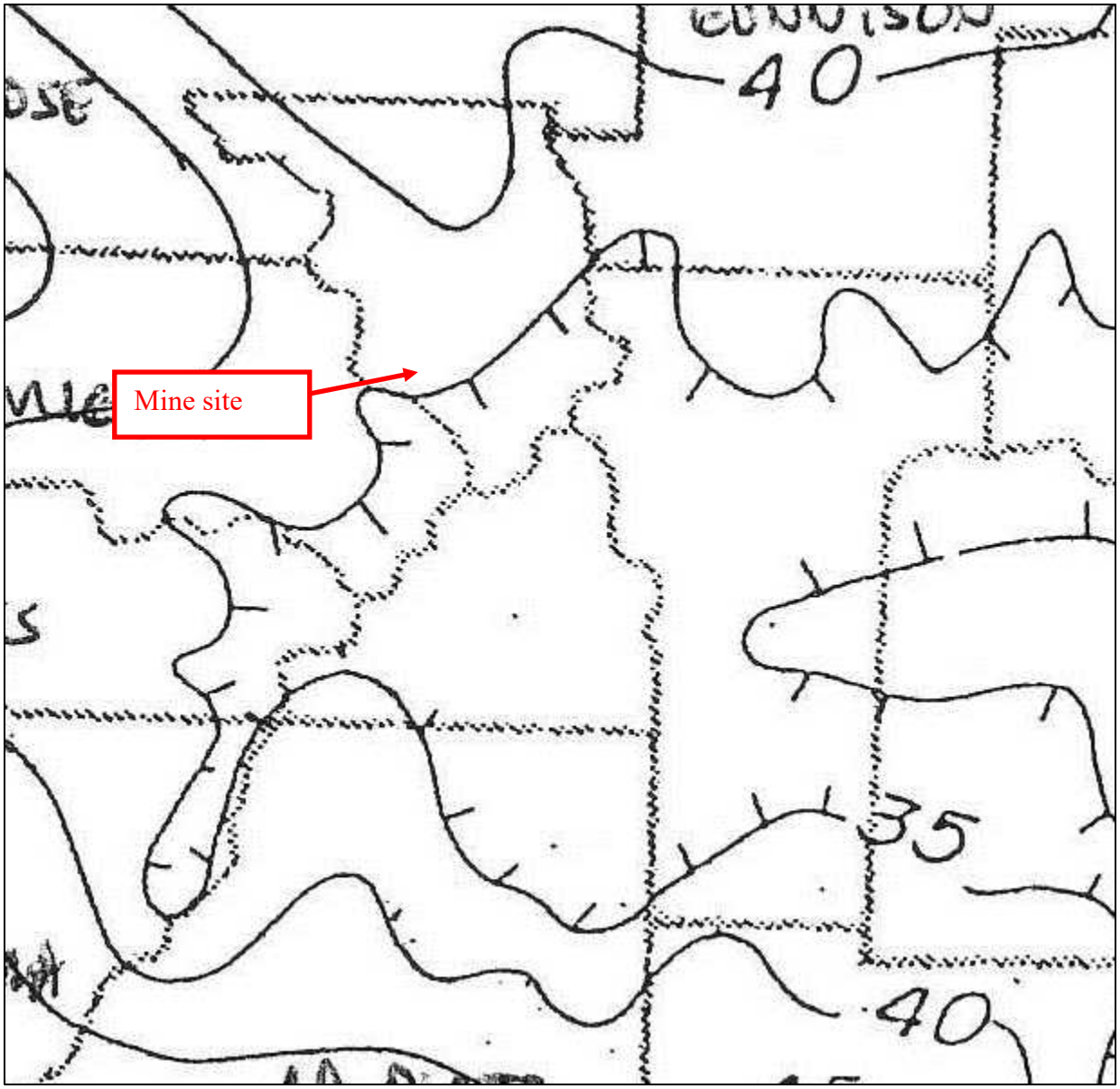


Figure K-3. Annual Evaporation Data (in inches) for Revenue Mine Area (data taken from NOAA's Report NWS33, Colorado Annual Evaporation Chart)

Updated Exhibit L

Reclamation Cost Tables

Cost Summary Work

Task description: **Final Reclamation Cost Estimate: TR-11**
Site: **Revenue Mine** Permit Action: **TR-011** Permit/Job#: **M-2012-032**

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
Site Clean up					
01a	Removal of permanent Structures and Surface Debris	DEMOLISH	1	180	$98,658.39
01b	Disposa of Chemicals per TR-14	DEMOLISH	1	10	$6,641.89
Portal Closure					
02a	Contour portal backfill at 2 of the portals)	DOZER	1	22	$8,292.00
02b	Reinforce Bat Gate at Revenue Portal	MINESEAL	1	40	$3,000.00
Vent Shafts					
03a	Shaft Foundation and structural removal	DEMOLISH	1	80	$6,954.53
03b	Vent Shaft Closure - cut casing	BOREHOLE	1	10	$81.83
03c	Vent Shaft Closure - place seal	MINESEAL	1	24	$2,524.48
03d	Vent Shaft Closure - Excavate & Bury	EXCAVATE	1	2	$481.70
Grading					
04a	Site Grading	MINESEAL	1	8	$3,131.88
04b	Grade Site to 3H:1V Slopes	DOZER	1	9	$3,361.03
Top Soil / Cap Rock					
05a	Purchase, deliver and dump topsoil from permitted source	TOPSOIL DELIVERY	1	636	$170,462.25
05b	Spread Cap rock	DOZER	1	9	$3,277.68
05c	Transport caprock for Atlas TSF	TRUCK 1	1	17	$8,714.60
05d	Spread Cap rock	DOZER	1	15	$5,798.68
05E	Spread Topsoil	DOZER	1	7	$2,656.55
Revegetation					
06a	Reveg Portal Area	REVEGE	1	30	$9,171.47
06b	Reveg Vent Shafts	REVEGE	1	30	$3,183.93
Equipment Mob/Demob					
07a	Initiual Mob	MOBILIZE	1	11	$11,584.40
07b	Walk equipment to Governor Basin	MOBILIZE	1	19	$4,218.81
07c	Seconday Mob	MOBILIZE	1	7	$1,164.86
			SUBTOTALS:	**1167**	**$353,360.96**

INDIRECT COSTS
OVERHEAD AND ODC

Liability insurance:	2.02	Total =	$7,137.89
Performance bond:	1.05	Total =	$3,710.29
Job superintendent:	405.11	Total =	$29,180.00
Profit:	10	Total =	$35,336.10
		TOTAL O & P =	$75,364.28
	CONTRACT AMOUNT (direct + O & P) =		$428,725.24

ENGINEERING - PROJECT MANAGEMENT :

Financial warranty processing (legal/related costs):	500	Total =	$500.00
Engineering work and/or contract/bid preparation:	4.25%	Total =	$15,017.84
Reclamation management and/or administration:	5%		$17,668.05
CONTINGENCY:	3%	Total =	$10,600.83
		TOTAL INDIRECT COST =	$119,150.99
		TOTAL BOND AMOUNT (direct + indirect)=	**$472,511.95**

DEMOLITION WORK

Task description: **Demolish and dispose of buildings and debris**

Site: **Revenue Mine** Permit Action: **AM-02** Permit/Job#: **M-2012-032**

UNIT COST Location adjustment: 87.60%

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Remove Diesel Storage Tank	10,000 gal	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	2.00	EA	$1,050.00	$2,100.00
Diesel Filling Station	TR-11 PAR Pg 25	USER PROVIDED ITEM	1.00	EA	$500.00	$500.00
Administration Building - internal contents only	2 story	USER PROVIDED ITEM	1.00	EA	$3,600.00	$3,600.00
Air Compressor Building - internal contents only	TR-11 Table L-2	USER PROVIDED ITEM	1.00	EA	$2,000.00	$2,000.00
Propane Storage Bldg A	2 tanks	USER PROVIDED ITEM	1	EA	$750.00	$750.00
Propane Storage Bldg C	1 tank	USER PROVIDED ITEM	1	EA	$750.00	$750.00
Vent fan	TR-11 PAR Pg 25	USER PROVIDED ITEM	1.00	EA	$500.00	$500.00
RR Track and Ties	TR-11 Pg 25	RR Track ad Ties	400.00	LF	$9.98	$3,992.00
Rail Yard & Battery Charging Bldg - Contents only	TR-13	USER PROVIDED ITEM	1.00	EA	$2,000.00	$2,000.00
Underground Warehouse & Shop	TR-11 PAR Pg 25	USER PROVIDED ITEM	1.00	EA	$500.00	$500.00
Concentrator & Filter Building - internal contents only	DRMS	USER PROVIDED ITEM	1.00	EA	$16,000.00	$16,000.00
Waste Storage Pad & Secondary Containment	TR-11 PAR Pg 25	USER PROVIDED ITEM	1.00	EA	$4,000.00	$4,000.00
Tailings Thickener Building Demo	42' x 42' x 8'	Not yet constructed	0.00	EA	$0.00	$0.00
Tailings Thickener Tank Cut Up	28' diameter x 8' steel structure	Demo and on site disposal in existing pit, 50 ft. push	1.00	EA	$5,000.00	$5,000.00
Tailings thickener Cement Pad cut up	26' x 8' x 4'	USER PROVIDED ITEM	1692.00	SF	$13.60	$23,011.20
Crusher & Retaining Wall	28' x 16'	USER PROVIDED ITEM	1.00	EA	$4,000.00	$4,000.00
Portal cover structure - permanent	80'x20'x15'	Bldg. (SN) demo/on site disposal in existing pit or cut - Max 50 ft push (See TR-11)	24000.00	CF	$0.20	$4,800.00
Half Culvert	400' of steel culvert to be removed	pull out culvert and recycle as scrap / RS Means Selective Demo of fabricated steel	400.00	EA	$7.90	$3,160.00
Water Tanks	3 plastic 1000 gal tanks	dispose of or sell	3.00	EA	$150.00	$450.00
Misc. debris - disposal	TR-11 PAR Pg 25	Dump fees - Building construction materials.	150.00	CY	$11.10	$1,665.00
Misc. debris - Transport	TR-11 PAR Pg 25	Hauling only, per mile, 12-18 CY truck- 30 mph average speed	390.00	MI	$7.61	$2,967.90
2 x Equipment Storage Shed - Building Demo	TR-16	Bldg. (SN) demo/on site disposal in existing pit or cut - Max 200 ft push	114000.00	CF	$0.20	$22,800.00
2x Equipment Storage Shed Footers	TR-16	Demo and on site disposal in existing pit, 1.5 ft x 2 ft - Max 200 ft push	68.00	LF	$6.05	$411.40
Security Building - Load and Transport	TR-16	Hauling only, per mile, 12-18 CY truck - 30 MPH average speed	53.00	MI	$7.61	$403.33
Equipment Wash Area Slab	TR-16	Demo and on site disposal in existing pit, 6 in thick max 200 ft. push	490.00	SF	$1.01	$494.90
Equipment Wash area curbing	TR-16	Demo and on site disposal in existing pit, 1 ft x 2 ft max 50 ft. push	120.00	LF	$3.90	$468.00
Plug & Abandon GW wells	DRMS	P&A in accordance w/ SEO requirements	7.00	EA	$750.00	$5,250.00
Remove Diesel Storage Tank - generator	TR-16	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	$1,050.00	$1,050.00

Job Hours: **180** **Subtotal (unadjusted):** **$112,623.73** **Total Cost (adjusted for location) :** **$98,658.39**

DEMOLITION WORK

Task description: **Dispose of mill chemicals**
Site: **Revenue Mine** Permit Action: **AM-02** Permit/Job#: **M-2012-032**

UNIT COST Location adjustment: 87.6%

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Lime	100 lb super sacks	Dump fees - reclamation station, usual charge	2.00	CY	$11.10	$22.20
Xanthate (NAX, Flotec SIPX Collector)	4 x 50 lb. bags	Hazardous Waste - bulk solids small quantities (up to 1.5 tons)	0.10	TON	$2,608.20	$260.82
MIBC (Ore Prep F-549, Poly Froth W20)	2 x 55 gal drum	Hazardous Waste - Drum solids/liquids, per drum, (1-6 drum job)	2.00	DRUM	$680.65	$1,361.30
Aerophone 3418A	1 x 55 gal drum	Hazardous Waste - Drum solids/liquids, per drum, (1-6 drum job)	1.00	DRUM	$680.65	$680.65
Sodium Metabisulfate	10 x 50 lb. bags	Hazardous Waste - bulk solids small quantities (up to 1.5 tons)	0.25	TON	$2,608.20	$652.05
Copper Sulfate	1 supersack	Solid Waste - bulk solids small quantities (up to 1.5 tons)	1.00	2200 lbs	$2,608.20	$2,608.20
AeroFloat 242 (Dana Float)	1 x 55 gal drum	Hazardous Waste - Drum solids/liquids, per drum, (1-6 drum job)	1.00	DRUM	$680.65	$680.65
Zinc Sulfate	10 x 50 lb. bags	Hazardous Waste - bulk solids small quantities (up to 1.5 tons)	0.25	TON	$2,608.20	$652.05
Hyperfloc AF-309	4x 50 lb. bags	Hazardous Waste - bulk solids small quantities (up to 1.5 tons)	0.10	TON	$2,608.20	$260.82
Transportation - Lime	2 CY	Hauling only, per mile 12-18 CY Tuck 30 mph avg speed	53.00	MI	$7.61	$403.33

Job Hours: **10** **Subtotal (unadjusted):** **$7,582.07** **Total Cost (adjusted for location):** **$6,641.89**

BULLDOZER WORK (Task 02A)

Task description: **Contour Portal backfill areas**

Site: **Revenue Mine** Permit Action: **AM-02**

Permit/Job#: **M-2012-032**

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T- 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: NA
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

HOURLY EQUIPMENT COST

		Utilization %
Ownership Cost/Hour:	$109.85	NA
Operating Cost/Hour:	$177.32	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$89.85	NA

Total unit Cost/Hour: $377.02 RS Means 2022
Total Fleet Cost/Hour: $377.02

MATERIAL QUANTITIES

Initial Volume: 3,328
Swell factor: 1.165
Loose volume: **3,877** LCY

Source of estimated volume: TR-11 Inputs
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance:	90	Feet
Unadjusted hourly production:	588	LCY/hr.
Materials consistency description:	Rock, well ripped or blasted 0.8	
Average push gradient:	5%	
Average site altitude:	10,650	feet
Material weight:	2,900	Lbs./LCY
Weight description:	Decomposed rock - 50% Rock, 50% Earth	

Job Condition Correction Factor:

		Source
Operator Skill:	0.900	(AVG.)
Material consistency:	0.800	(CATHB)
Dozing method	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2996

Adjusted unit production:	176.28	LCY/hr.
Adjusted fleet production:	**176.28**	LCY/hr.

JOB TIME AND COST

Fleet size:	1	Dozer(s)
Unit Cost:	$ 2.139	LCY
Total job time:	22	Hours
Total job cost:	**$8,292**	

SAFEGUARDING UNDERGROUND OPENINGS

Task description: **Reinforce Gate at Revenue Portal**

Site: **Revenue Mine** Permit Action: **AM-02** Permit/Job#: **M-2012-032**

Unit Costs

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Revenue Gate	TR-11 PAR Table L-1	USER PROVIDED ITEM	1	EA	$3,000.00	$3,000.00

Job Hours: **40.00** **Total Cost:** **$3,000.00**

DEMOLITION WORK Task 03A)

Task description: **Shaft Foundation and Structural Removal**

Site: **Revenue Mine** Permit Action: **AM-02** Permit/Job#: **M-2012-032**

UNIT COST Location adjustment: 88%

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
960 Raise Shaft Superstructure & Foundation	Not yet constructed	USER PROVIDED INFORMATION	0.00	EA	$14,333.33	$0.00
Yellow Rose Shaft Superstructure & Foundation	Not yet constructed	USER PROVIDED INFORMATION	0.00	EA	$14,333.33	$0.00
Monongahela Shaft/Hoist Superstructure	TR-11 PAR	Demo and on-site disposal in existing shaft, 12 in thick - Max 50 ft push	144.00	SF	$1.95	$280.80
Monongahela Shaft/Hoist Superstructure	TR-11 PAR	Plant (IS) demo/on site disposal in existing pit, Max 50 ft push	2304.00	CF	$0.29	$668.16
Monongahela lift house	TR-11 PAR	Plant (IS) demo/on site disposal in existing pit, Max 50 ft push	4000.00	CF	$0.31	$1,240.00
Monongahela Refuge Chamber	DRMS	Demo only, small or single story buildings - steel structure	8000.00	CF	$0.18	$1,440.00
Monongahela - CMP Walkway	DRMS	Pipe, corrugated metal (CMP) - 96 in. diameter	100.00	LF	$43.10	$4,310.00

Job Hours: **80** **Subtotal (unadjusted):** **$7,938.96** **Total Cost (adjusted for location):** **$6,954.53**

SAFEGUARDING UNDERGROUND OPENINGS (Task 03b)

Task description: **Vent Shaft Closure-Cut Casing**

Site: **Revenue Mine** Permit Action: **AM-02** Permit/Job#: **M-2012-032**

Unit Costs

Borehole Description	Diameter	Sealing/Item Method	Length	Quantity	Unit	Unit Cost	Total Cost
960 Raise - Cut Casing	72	Expose casing removal - calculate circumference in linear feet	18.8	0	LF	$ 3.26	$ -
Yellow Rose - Cut Casing	72	Expose casing removal - calculate circumference in linear feet	18.8	0	LF	$ 3.26	$ -
Monongahela Shaft (escape) - Cut Casing	96	Expose casing removal - calculate circumference in linear feet	25.1	25.1	LF	$ 3.26	$ 81.83

Job Hours: **10.00** **Total Cost:** **$ 81.83**

SAFEGUARDING UNDERGROUND OPENINGS (Task 03c)

Task description: **Vent Shaft Closure-Place Seal**

Site: **Revenue Mine** Permit Action: **AM-02** Permit/Job#: **M-2012-032**

Unit Costs

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
960 Raise - Plate	6' x 6'	Shaft Closure - grate (per sq feet)	0	SF	$32.50	$0.00
Yellow Rose Shaft - Plate	6' x 6'	Shaft Closure - grate (per sq feet)	0	SF	$32.50	$0.00
Monongahela Shaft (escape) - Plate	8' x 8'	Shaft Closure - grate (per sq feet)	64	SF	$32.50	$2,080.00
960 Raise - Cement Cap	6' x 6' x 6"	Shaft Closure - concrete cap poured in place (per CF)	0	EA	$13.89	$0.00
Yellow Rose - Cement Cap	6' x 6' x 6"	Shaft Closure - concrete cap poured in place (per CF)	0	EA	$13.89	$0.00
Monongahela Shaft (escape) - Cement Cap	8' x 8' x 6"	Shaft Closure - concrete cap poured in place (per CF)	32	EA	$13.89	$444.48

Job Hours: **24.00** **Total Cost:** **$2,524.48**

Hydraulic Excavator Work (Task 03d)

Task description: **Vent Shaft Closure - Excavate & Bury**

Site: **Revenue Mine** Permit Action: **AM-02**

Permit/Job#: **M-2012-032**

HOURLY EQUIPMENT COST

Basic Machine: Cat 336D L 10'-6" Stick
Horsepower: 268
Attachment: ROPS Cab
Weight 29.3
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

HOURLY EQUIPMENT COST

		Utilization %
Ownership Cost/Hour:	$281.00	NA
Operating Cost/Hour:	$123.62	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$94.35	NA

Total unit Cost/Hour: $498.97 RS Means (August 2021)
Total Fleet Cost/Hour: $498.97

MATERIAL QUANTITIES

Initial Volume: 353
Swell factor: 1.33
Loose volume: **469** LCY

Source of estimated volume: DRMS
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):

Basic Job Condition Description	Below Average
Secondary Job Condition within Basic Description	Severe
Cycle Time Value	0.39 minutes

Loaded Bucket Capacity

Rated Capacity	1.56	LCY (heaped)
Bucket Fill Factor	1.025	Rock - Earth Mixture (100%-105%
Adjusted Capacity	**1.60**	LCY

Job Condition Correction Factor: Site Altitude 10,650 feet

		Source
Altitude Adjust	0.93	(CAT HB)
Job efficiency	0.830	(1 SHIFT/DAY)

Net correction: 0.77 multiplier

Unadjusted Hourly Unit Production	246.00	LCY/hr.
Adjusted Hourly Unit Production	189.89	LCY/hr.
Adjusted Hourly Fleet Production	**189.89**	LCY/hr.

JOB TIME AND COST

Fleet size:	1	Excavator
Unit Cost:	$ 1.026	LCY
Total job time:	2.47	Hours
Total job cost:	**$482**	

BULLDOZER WORK (Task 04A)

Task description: **Minor Site Grading**

Site: **Revenue Mine** Permit Action: **AM-02**

Permit/Job#: **M-2012-032**

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T- 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: NA
Shift Basis: 1 per day
Data Source: RS Means 2022 Heavy Construction

Cost Breakdown:

HOURLY EQUIPMENT COST

		Utilization %
Ownership Cost/Hour:	$109.85	NA
Operating Cost/Hour:	$177.32	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$89.85	NA

Total unit Cost/Hour: $377.02 2022 RS Means (Crew B-11T)
Total Fleet Cost/Hour: **$377.02**

MATERIAL QUANTITIES

Initial Volume: 3,045 disturbance areas will be constructed to final grade
Swell factor: 1.165
Loose volume: **3,547** LCY

Source of estimated volume: RS Means 2022
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance:	90	Feet
Unadjusted hourly production:	1,351.7	LCY/hr
Materials consistency description:	Rock, well ripped or blasted 0.8	
Average push gradient:	0%	
Average site altitude:	10,650	feet
Material weight:	2,900	Lbs/LCY
Weight description:	Decomposed rock - 50% Rock, 50% Earth	

Job Condition Correction Factor:

		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	0.800	(CATHB)
Dozing method	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.31593

Adjusted unit production:	427.04	LCY/hr
Adjusted fleet production:	**427.04**	LCY/hr

JOB TIME AND COST

Fleet size:	1	Dozer(s)
Unit Cost:	$ 0.883	LCY
Total job time:	8.31	Hours
Total job cost:	**$3,132**	

BULLDOZER WORK (Task 4B)

Task description: **Grade slopes to 3H:1V max**

Site: **Revenue Mine** Permit Action: **TR-011**

Permit/Job#: **M-2012-032**

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T- 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: NA
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

HOURLY EQUIPMENT COST

		Utilization %
Ownership Cost/Hour:	$109.85	NA
Operating Cost/Hour:	$177.32	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$89.85	NA

Total unit Cost/Hour: $377.02 2022 RS Means (Crew B-11T)
Total Fleet Cost/Hour: $377.02

MATERIAL QUANTITIES

Initial Volume: 3,045 disturbance areas will be constructed to final grade
Swell factor: 1
Loose volume: **3,045** LCY

Source of estimated volume: Division of Reclamation, Mining & Safety
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance:	90 Feet
Unadjusted hourly production:	1,353 LCY/hr
Materials consistency description:	Rock, well ripped or blasted 0.8
Average push gradient:	0%
Average site altitude:	10,650 feet
Material weight:	2,900 Lbs/LCY
Weight description:	Decomposed rock - 50% Rock, 50% Earth

Job Condition Correction Factor:

		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	0.800	(CATHB)
Dozing method	1.000	(GEN.)
Visibility:	0.800	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2527

Adjusted unit production:	341.57 LCY/hr
Adjusted fleet production:	**341.57** LCY/hr

JOB TIME AND COST

Fleet size:	1 Dozer(s)
Unit Cost:	$ 1.104 LCY
Total job time:	8.91 Hours
Total job cost:	**$3,361**

TOP SOIL DELIVERY (Task 05A)

Task description: **Top Soil Purchase**

Site: **Revenue Mine** Permit Action: **AM-02**

Permit/Job#: **M-2012-032**

Top Soil Purchase

Materials

Description	Amount	Unit	Cost /Unit	Total
Natural Unscreened Topsoil	4757	CY	$ 17.25	$ 82,058.25
			Total Top Soil	**$ 82,058.25**

Top Soil purchase and deliver costs were gathered from local contractors for bulk purchase

Deliver

Description	Amount	Unit	Cost/Hour	Total
Deliver Topsoil to site 15 tons/truck	636	Hours	$ 139.00	**$ 88,404.00**

JOB TIME AND COST

No. of Trucks	318.00
Delivery from Montrose round trip	2.00
Total Hours	636.00

Top soil Purchase	**$**	**82,058.25**
Delivery to Site	**$**	**88,404.00**
Total Job Cost:		**$170,462.25**
Job Hours:		**636.00**

BULLDOZER WORK (Task 05B)

Task description: **Spread Topsoil on TSFs**

Site: **Revenue Mine** Permit Action: **AM-02**

Permit/Job#: **M-2012-032**

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T- 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: NA
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

HOURLY EQUIPMENT COST

		Utilization %
Ownership Cost/Hour:	$109.85	NA
Operating Cost/Hour:	$177.32	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$89.85	NA

Total unit Cost/Hour: $377.02 2022 RS Means (Crew B-11T)
Total Fleet Cost/Hour: **$377.02**

MATERIAL QUANTITIES

Initial Volume: 4,747
Swell factor: 1.125
Loose volume: **5,340 LCY**

Source of estimated volume: TR-11 PAR
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance:	100 Feet
Unadjusted hourly production:	1,243 LCY/hr.
Materials consistency description:	Partly consolidated stockpile 1.1
Average push gradient:	0%
Average site altitude:	10,650 Feet
Material weight:	2,550 Lbs./LCY
Weight description:	Earth - Dry packed

Job Condition Correction Factor:

		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CATHB)
Dozing method	1.000	(GEN.)
Visibility:	1.00	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.494116

Adjusted unit production:	614.28 LCY/hr.
Adjusted fleet production:	614.28 LCY/hr.

JOB TIME AND COST

Fleet size:	1 Dozer(s)
Unit Cost:	$0.614 LCY
Total job time:	8.69 Hours
Total job cost:	**$3,278**

TRUCK/LOADER TEAM WORK (TASK #05C)

Task description: **Transport Cap Rock to Atlas TSF**

Site: **Revenue Mine** Permit Action: **AM-02**

Permit/Job#: **M-2012-032**

HOURLY EQUIPMENT COST

Equipment Description Shift Basis 1 per day

Truck Loader Team - Truck:	Generic 15-18 cy, 6x4
- Loader:	CAT 966H
Support Equipment - Load Area	NA
- Dump Area	NA
Road Maintenance - Motor Grade	NA
- Water Truck	NA

Cost Breakdown:

HOURLY EQUIPMENT COST

	Truck	Loader	Load Area	Dump Area	Motor Grade	Water Truck
% Utilization - machine	100	100	NA	NA	NA	NA
Ownership Cost/hour	NA	NA	NA	NA	NA	NA
Operating Cost/hour	$ 45.93	$ 59.47	NA	NA	NA	NA
% Utilization - Ripper	NA	0	NA	NA	NA	NA
Ripper own. Cost/hour	NA	$ -	NA	NA	NA	NA
Ripper Op cost/hour	NA	$ -	NA	NA	NA	NA
Operator cost/hour	$ 79.25	$ 89.85	NA	NA	NA	NA
Unit Sub Totals	$ 125.18	$ 149.32	NA	NA	NA	NA

Number of Units	3		1		0		0		0	
Group Sub Totals	Work:	$	524.86	Support	$	-	Maint:	$		-

Total Work Team Cost/Hours **$ 524.86**

MATERIAL QUANTITIES

Initial Volume: 6,389 may need to increase based on revised rec plan
Swell factor: 1.00
Loose volume: **6,389 LCY**

Source of estimated volume: 3.96 ac @ 1' thick
Source of estimated swell factor: Cat Handbook
Material Purchase Costs: $ -
Total Costs $ -

HOURLY PRODUCTION

Truck Capacity

Truck Payload (weight) Basis

Material Weight	2,950	Pounds/LCY
Description	Taprock - broken	LCY/hr.
Rated Payload:	63,980	pounds
Payload Capacity	21.69	LCY

Truck Bed (Volume) Basis

Struck Volume:	15.00	LCY
Heaped Volume:	18.00	LCY
Average Volume	16.50	LCY
Adjusted Volume:	18.00	LCY

Final Truck Volume Based on Number of Loader Passes: **16.50 LCY**

Loading Tool Capacity

Bucket Size Class **NA**

Rated Capacity:	5.00	LCY (Heaped)
Bucket Fill Factor:	0.825	Blasted Rock - avg . Blasted (75-90%) 0.825
Adjusted Capacity	**4.125**	LCY

Job Condition Correction Factor: Site Altitude: 10650 Feet

	Truck	Loader	Source
Altitude Adjust	0.890	1.000	CAT HB
Job efficiency:	0.830	0.830	CAT HB
Net correction:	**0.739**	**0.830**	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill truck **4**

Excavators and Front Shovels

Machine cycle time vs. Job Condition Rating	NA
Selected Value within this Basic Rating	NA
Track Loaders - Material Description	

Cycle Time Elements

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver) 0.500 minutes

Cycle Time Factors				Factor (Min)	Source
Material:	Material 3/4" to 6" diameter			0.000	Cat HB
Stockpile:	Conveyor or dozer piled 10 ft high and up 0.0			0.000	Cat HB
Truck Ownership:	Common ownership of trucks and loaders -0.04			-0.040	Cat HB
Operation:	Constant operation -0.04			-0.040	Cat HB
Dump Target:	Nominal target 0.0			0.000	Cat HB

Net cycle Time adjust:	-0.080	minutes
Adjusted Loader Cycle Time:	**0.42**	minutes
Net Loader Time per Truck:	**1.360**	minutes

Truck Cycle Time (Minutes):

Truck Exchange Time:	0.5	Adjusted for site altitude	0.562
Truck Load Time:	1.36	Adjusted for site altitude	1.36
Truck Maneuver & Dump Time	0.9	Adjusted for site altitude	1.011

Truck Travel (Haul & Return) Time: Road Condition: Rutted dirt, little maintenance, no water 1" tire

penetration 4

Haul Route:

Seg #	Haul Distance	Grade%	Roll. Res (%)	Total Res. (%)	Velocity (fpm)	Travel Time (Min)
1	3500.00	2.00	4.00	6.00	1477.00	2.417
				Haul Time:		**2.417**

Return Route:

Seg #	Haul Distance	Grade%	Roll. Res (%)	Total Res. (%)	Velocity (fpm)	Travel Time (Min)
1	3500.00	-2.00	4.00	2.00	2960.00	1.217
				Return Time		**1.217**
				Total Truck Cycle Time		**6.57**

Loading Tool Unit Production	515.14	LCY/hour	Adjusted for Job Efficiency	$427.57	LCY/Hour
Truck Unit Production	150.75	LCY/hour	Adjusted for Job Efficiency	125.12	LCY/Hour
Optimal No. of Trucks	3	Trucks	Selected No. of Trucks	3	Trucks

Adjusted hourly truck team production	375.37	LCY/hour
Adjusted single truck/loader team production	375.37	LCY/hour
Adjusted multiple truck/loader team production	375.37	LCY/hour

Job Time and Cost

Fleet Size	1	Team(s)	Total Job Time	**17.02**	Hours
Unit Cost	**$ 1.36**	/LCY	Total Job Cost	**$ 8,715**	

BULLDOZER WORK (Task 05D)

Task description: **Spread Cap Rock on TSFs**

Site: **Revenue Mine** Permit Action: **AM-02**

Permit/Job#: **M-2012-032**

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T- 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: NA
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

HOURLY EQUIPMENT COST

		Utilization %
Ownership Cost/Hour:	$109.85	NA
Operating Cost/Hour:	$177.32	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$89.85	NA

Total unit Cost/Hour: $377.02
Total Fleet Cost/Hour: **$377.02**

MATERIAL QUANTITIES

Initial Volume: 4,370
Swell factor: 1.22
Loose volume: **5,310 LCY**

Source of estimated volume: TR-11 PAR
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance:	100 Feet
Unadjusted hourly production:	1,243.2 LCY/hr.
Materials consistency description:	Rock well-ripped or blasted 0.8
Average push gradient:	0%
Average site altitude:	10,650 Feet
Material weight:	3,300 Lbs./LCY
Weight description:	Decomposed Rock - 75% Rock, 25% earth

Job Condition Correction Factor:

		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	0.80	(CATHB)
Dozing method	1.000	(GEN.)
Visibility:	1.00	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight	0.70	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.277685

Adjusted unit production:	345.22 LCY/hr.
Adjusted fleet production:	345.22 LCY/hr.

JOB TIME AND COST

Fleet size:	1 Dozer(s)
Unit Cost:	$1.092 LCY
Total job time:	15.38 Hours
Total job cost:	**$5,799**

BULLDOZER WORK

Task description: **Spread topsoil**

Site: **Revenue Mine** Permit Action: **AM-02**

Permit/Job#: **M-2012-032**

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T- 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: NA
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

HOURLY EQUIPMENT COST

		Utilization %
Ownership Cost/Hour:	$109.85	NA
Operating Cost/Hour:	$177.32	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$89.85	NA

Total unit Cost/Hour: $377.02
Total Fleet Cost/Hour: $377.02

MATERIAL QUANTITIES

Initial Volume: 4,747
Swell factor: 1.125
Loose volume: **5,340 LCY**

Source of estimated volume: Division of Reclamation, Mining & Safety
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance:	65 Feet
Unadjusted hourly production:	1,752 LCY/hr
Materials consistency description:	Partly consolidated stockpile 1.1
Average push gradient:	0%
Average site altitude:	10,650 Feet
Material weight:	2,550 Lbs/LCY
Weight description:	Earth - Dry packed

Job Condition Correction Factor:

		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CATHB)
Dozing method	1.000	(GEN.)
Visibility:	1.00	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4324

Adjusted unit production:	757.91 LCY/hr
Adjusted fleet production:	757.91 LCY/hr

JOB TIME AND COST

Fleet size:	1 Dozer(s)
Unit Cost:	$0.497 LCY
Total job time:	7.05 Hours
Total job cost:	**$2,657**

REVEGETATION WORK (Task 06A)

Task description: **Revegetate TSFs and Main Mine Site**

Site: **Revenue Mine** Permit Action: **AM-02** Permit/Job#: **M-2012-032**

FERTILIZING

Materials

Description	Units /Acre	Unit	Cost /Unit	Cost /Acre
NA			$	$
			Total Fertilizer Materials Cost/Acre	**$0.00**

Application

Description	Cost /Acre
NA	$
Total Fertilizer Application Cost/Acre	**$0.00**

TILLING

Description	Cost /Acre
NA	
Total Tilling Cost/Acre	**$0.00**

SEEDING

Seed Mix	Rate- PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Grasses			
Indian Ricegrass - Paloma	2.96	9.58	$32.93
Mountain Brome - Bromar	8.00	12.86	$30.40
Sanberg Bluegrass - VNS	1.00	21.24	$8.40
Rye, Winter - VNS	19.20	7.93	$10.27
Sheeo Fescue - Covar	2.88	44.96	$17.57
Slender Wheatgrass - Native	5.60	20.44	$25.90
Milk Vetch, Cicer - Monarch	1.92	6.39	$15.74
Thickspike Wheatgrass - Critana	6.76	23.9	$46.48
Flax, Lewis Blue	0.50	3.32	$8.25
Yarrow, Western	0.12	7.3	$5.02
Total Seed Mix	**48.94**	**157.92**	**$200.96**

Broadcast Seed Application

Description	Cost /Acre
Broadcast Seeding (DMG)	$267.22
Total Seed Application Cost/Acre	**$267.22**

MULCHING and MISCELLANEOUS

Materials

Description	Units/Acre	Unit	Cost/Unit	Cost /Acre
Herbicide - 2, 4D @1.0 pt/ac	1.00	ACRE	$2.98	$2.98
Hydromulch, 1 ton/ac. Rate [materials only]	1.00	ACRE	424.71	$424.71
			Total Mulch Materials Cost/Acre	**$427.69**

Application

Description	Cost /Acre
Hydromulching (MEANS 32 92 19.13 1100)	$96.80
Weed Spray, hand, non aquatic, nox (DMG)	$183.16
Total Mulch Application Cost/Acre	**$279.96**

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
NA					$
				Totals Nursery Stock Cost / Acre	$0.00

JOB TIME AND COST

No. of Acres	6.00	Cost/Acre:	$1,175.83
Estimated Failure Rate:	30%	Cost/Acre*:	$1,175.83
*Selected Replanting Work Items:	TILLING,SEEDING,MULCHING		

Initial Job Cost:	**$7,054.98**
Reseeding Job Cost:	**$2,116.49**
Total Job Cost:	**$9,171.47**
Job Hours:	**30.00**

REVEGETATION WORK (Task 06B)

Task description: **Revegetate Vent Shafts**

Site: **Revenue Mine** Permit Action: **AM-02** Permit/Job#: **M-2012-032**

FERTILIZING

Materials

Description	Units /Acre	Unit	Cost /Unit	Cost /Acre
NA			$	$
			Total Fertilizer Materials Cost/Acre	**$0.00**

Application

Description	Cost /Acre
NA	$
Total Fertilizer Application Cost/Acre	**$0.00**

TILLING

Description	Cost /Acre
NA	
Total Tilling Cost/Acre	**$0.00**

SEEDING

Seed Mix	Rate- PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Grasses			
Indian Ricegrass - Paloma	2.96	9.58	$32.93
Mountain Brome - Bromar	8.00	12.86	$30.40
Sanberg Bluegrass - VNS	1.00	21.24	$8.40
Rye, Winter - VNS	19.20	7.93	$10.27
Sheeo Fescue - Covar	2.88	44.96	$17.57
Slender Wheatgrass - Native	5.60	20.44	$25.90
Milk Vetch, Cicer - Monarch	1.92	6.39	$15.74
Thickspike Wheatgrass - Critana	6.76	23.9	$46.48
Flax, Lewis Blue	0.50	3.32	$8.25
Yarrow, Western	0.12	7.3	$5.02
Total Seed Mix	**48.94**	**157.92**	**$200.96**

Broadcast Seed Application

Description	Cost /Acre
Broadcast Seeding (DMG)	$267.22
Total Seed Application Cost/Acre	**$267.22**

MULCHING and MISCELLANEOUS

Materials

Description	Units/Acre	Unit	Cost/Unit	Cost /Acre
Herbicide - 2, 4D @1.0 pt/ac	1.00	ACRE	$2.98	$2.98
Hay delivered (MEANS 31 25 14.16 1200)	2.00	TON	307.02	$614.04
			Total Mulch Materials Cost/Acre	**$617.02**

Application

Description	Cost /Acre
Hand Spread 1" deep (MEANS 32 91 13.16 0200)	$3,630.00
Weed Spray, hand, non aquatic, nox (DMG)	$183.16
Total Mulch Application Cost/Acre	**$3,813.16**

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
NA					$
				Totals Nursery Stock Cost / Acre	$0.00

JOB TIME AND COST

No. of Acres	0.50	Cost/Acre:	$4,898.36
Estimated Failure Rate:	30%	Cost/Acre*:	$4,898.36
*Selected Replanting Work Items:	TILLING,SEEDING,MULCHING		

Initial Job Cost:	**$2,449.18**
Reseeding Job Cost:	**$734.75**
Total Job Cost:	**$3,183.93**
Job Hours:	**30.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATION (Task #07A)

Task description: **Inititial Mobilization**

Site: **Revenue Mine** Permit Action: **AM-02** Permit/Job#: **M-2012-032**

EQUIPMENT TRANSPORT RIG COST

Shift Basis 1 per day

Cost Data Sources CRG Data

Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED, 400 HP (2ND HALF, 2006)

Truck Tractor Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER (25T, 50T, AND 100T)

Cost Breakdown

Available Rig Capacities	0-25 Tons	26-50 Tons	51+Tons
Ownership Cost/Hour:	$31.67	$48.60	$46.80
Operating Cost/Hour:	$28.75	$44.37	$46.87
Operator Cost/Hour:	$79.25	$84.55	$86.13
Helper Cost/Hour:	$0.00	$23.53	$23.53
Total Unit Cost/Hour:	**$139.67**	**$201.05**	**$203.33**

NON ROADABLE EQUIPMENT

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
CatD9T-9SU	60.01	$126.01	$147.95	1	$273.96	$147.95	$250.00
Drill/Broadcast Seeder with Tractor	28.00	$13.97	$132.49	1	$146.46	$132.49	$250.00
Cat 336D L 10'-6"	32.23	$83.42	$132.49	1	$215.91	$132.49	$250.00
Cat 725	24.54	$72.63	$68.37	3	$423.00	$205.11	$750.00
Cat 336D L 10'-6"	25.80	$59.72	$68.37	1	$128.09	$68.37	$250.00

Subtotals:	$1,187.42	$686.41	$1,750.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed 45 GVW 6x4	$76.83	1	$76.83	$76.83
Subtotals:			**$76.83**	**$76.83**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	MONTROSE	
Total one-way travel distance:	45.00	miles
Average Travel Speed:	35.00	mph

Total Non-Roadable Mob/Demob Cost * two round trips with haul rig*: $11,386.84

Total Roadable Mob/Demob Cost * **one round trip, no haul rig*: $197.56

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.29	1.29
Return Time (Hours):	1.29	1.29
Loading Time (Hours):	1.50	NA
Unloading Time (Hours):	1.50	NA
Subtotals:	**5.57**	**2.57**

JOB TIME AND COST

Total job time:	**11.14**	Hours
Total job cost:	**$11,584**	

EQUIPMENT MOBILIZATION/DEMOBILIZATION (Task #07B)

Task description: **Walk Equipment to Governor Basin**

Site: **Revenue Mine** Permit Action: **AM-02** Permit/Job#: **M-2012-032**

EQUIPMENT TRANSPORT RIG COST

Shift Basis 1 per day

Cost Data Sources CRG Data

Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED, 400 HP (2ND HALF, 2006)

Truck Tractor Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER (25T, 50T, AND 100T)

Cost Breakdown

Available Rig Capacities	0-25 Tons	26-50 Tons	51+Tons
Ownership Cost/Hour:	$31.67	$48.60	$46.80
Operating Cost/Hour:	$28.75	$44.37	$46.87
Operator Cost/Hour:	$79.25	$84.55	$86.13
Helper Cost/Hour:	$0.00	$23.53	$23.53
Total Unit Cost/Hour:	**$139.67**	**$201.05**	**$203.33**

NON ROADABLE EQUIPMENT

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat 336D L 10'-6"	32.23	$83.42	$132.49	1	$215.91	$132.49	$250.00
				Subtotals:	**$215.91**	**$132.49**	**$250.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed 45 GVW 6x4	$76.83	1	$76.83	$76.83
Subtotals:			**$76.83**	**$76.83**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	Revenue to Gov Basin	
Total one-way travel distance:	3.50	miles
Average Travel Speed:	0.75	mph
Total Non-Roadable Mob/Demob Cost * two round trips with haul rig*:	$3,501.73	
Total Roadable Mob/Demob Cost * **one round trip, no haul rig*:	$717.08	

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	4.67	4.67
Return Time (Hours):	4.67	4.67
Loading Time (Hours):	0.00	NA
Unloading Time (Hours):	0.00	NA
Subtotals:	**9.33**	**9.33**

JOB TIME AND COST

Total job time:	**18.67**	Hours
Total job cost:	**$4,219**	

EQUIPMENT MOBILIZATION/DEMOBILIZATION (Task #07C)

Task description: **Secndary Mobilization**

Site: **Revenue Mine** Permit Action: **AM-02** Permit/Job#: **M-2012-032**

EQUIPMENT TRANSPORT RIG COST

Shift Basis 1 per day

Cost Data Sources CRG Data

Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED, 400 HP (2ND HALF, 2006)

Truck Tractor Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER (25T, 50T, AND 100T)

Cost Breakdown

Available Rig Capacities	0-25 Tons	26-50 Tons	51+Tons
Ownership Cost/Hour:	$31.67	$48.60	$46.80
Operating Cost/Hour:	$28.75	$44.37	$46.87
Operator Cost/Hour:	$79.25	$84.55	$86.13
Helper Cost/Hour:	$0.00	$23.53	$23.53
Total Unit Cost/Hour:	**$139.67**	**$201.05**	**$203.33**

NON ROADABLE EQUIPMENT

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Drill/Broadcast Seeder with Tractor	28.00	$13.97	$132.49	1	$146.46	$132.49	$250.00
				Subtotals:	**$146.46**	**$132.49**	**$250.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed 45 GVW 6x4	$76.83	1	$76.83	$76.83
Subtotals:			**$76.83**	**$76.83**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: MONTROSE

Total one-way travel distance: 45.00 miles

Average Travel Speed: 35.00 mph

Total Non-Roadable Mob/Demob Cost * two round trips with haul rig*: $967.30

Total Roadable Mob/Demob Cost * **one round trip, no haul rig*: $197.56

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.29	1.29
Return Time (Hours):	1.29	1.29
Loading Time (Hours):	1.50	NA
Unloading Time (Hours):	1.50	NA
Subtotals:	**5.57**	**2.57**

JOB TIME AND COST

Total job time: **7.14** Hours

Total job cost: **$1,165**

Updated Exhibit N

Legal Right to Enter

Claims on Affected Lands									
Claim Name	**Owner**	**Patent #**	**Date**	**Patent Serial #**	**Acres**	**Interest**	**Area**	**County**	**Section**
Blackstone	Ouray Silver Mines PO Box 564 1900 Main Street, Unit 1 Ouray, CO 81427	5019	4/20/1891	17668	10.29	100%	Revenue	Ouray	21
Blaine		5772 A	6/18/1894	24478	9.41	100%	Revenue	Ouray	21
Blank		17500	10/20/1906	44556	7.03	100%	Revenue	Ouray	21
Blazer		16494	11/6/1905	41106	5.77	100%	Revenue	Ouray	21, 22
Egypt Placer		16053	7/21/1904	39362	17.84	100%	Revenue	Ouray	21
Hard Cash		5394 A	7/3/1896	27239	7.69	100%	Revenue	Ouray	21
Lincoln		7284 A	12/4/1893	23689	7.36	100%	Revenue	Ouray	21
Monongahela		523	5/12/1884	9218	10.03	100%	Governor	Ouray	20
Ottawa		5772 A	6/18/1894	24478	7.29	100%	Revenue	Ouray	21
Revenue		5723	10/29/1896	27539	8.6	100%	Revenue	Ouray	21
Silver Queen		345	7/30/1881	4873	8.22	100%	Revenue	Ouray	21
Stonewall Jackson		5772 A	6/18/1894	24478	10.16	100%	Revenue	Ouray	21
Stonewall Jackson Millsite		5772 B	6/18/1894	24478	5	100%	Revenue	Ouray	* 21
Terrible		1592	12/9/1886	11299	7.37	100%	Governor	Ouray	20
Valley View		1823	5/7/1894	24291	10.33	100%	Revenue	Ouray	21

Updated Exhibit O

Owners of Record

Confidential Business Information

Document Submitted Under Separate Cover

Updated Exhibit S

Permanent & Manmade Structures

Exhibit S: Permanent Man-Made Structures

The following is an inventory of significant, valuable, and permanent man-made structures within 200 feet of the permit boundary, which includes the main portal area and the three ventilation raises. These structures are shown on Maps C-1a and C-1b for the Revenue Mine areas and are listed on the attached table.

Revenue Portal

1. County Road 26. See attached agreement between OSMI and Ouray County for road maintenance along with recent addendums to the agreement. This agreement requires Ouray Silver to maintain County Road 26. There is a $5,000 bond posted to address damage caused by OSMI, if needed.
2. Historic buildings northeast of the permit area – on OSMI property. These buildings are located on OSMI property.
3. Mine buildings and other surface features used to support underground mining – owned by OSMI and located on OSMI property
4. Public restroom, which is located on OSMI property, but the structure is owned by Six-Basins Project, located at 215 5th Avenue Unit C Po Box 13 Ouray, Colorado 81427. A copy of a structure agreement with Six Basins is attached to this Updated Exhibit S.
5. Restroom access road - on OSMI property.
6. Information Sign – on OSMI property and owned by OSMI.
7. Utilities – Powerline and two power poles owned by San Miguel Power Association (SMPA). In accordance with Rule 6.4.19(c), attached is a notarized letter from SMPA acknowledging that OSMI's mining and reclamation activities will have no negative effect on the utilities.

Governor Basin / Monongahela Shaft

8. Forest Road 853.1C – OSMI has a road use agreement with the Forest Service. OSMI also received a letter from the USFS acknowledging the requirements of Rule 6.4.19, however, the forest service would not agree to a notarized agreement.
9. Refuge chamber access – owned by OSMI and on OSMI property
10. Hoist building and shaft – owned by OSMI and on OSMI property
11. Historic Mine Structures / Equipment – on OSMI property

Other (960 and Yellow Rose Raises) – there are no structures within 200 feet of the permit boundary at these locations.

The attached Table S-1 lists the claims that are on and within 200 feet of the permit boundary and identifies the structures that fall within that 200-foot buffer. Structure agreements for the structures not owned by OSMI are attached.

LYNN PADGETT
JAKE NIECE
BEN TISDEL

BOARD OF COUNTY COMMISSIONERS

541 4th Street • P.O. Box C • Ouray, Colorado 81427 • 970-325-7320 • FAX: 970-325-0452

May 24, 2022

Lucas West
Environmental Protection Specialist
Minerals Program, Grand Junction Field Office
Physical: 1313 Sherman Street, Room 215, Denver, CO 80203
Mailing: DRMS Room 215, 1001 E 62nd Ave, Denver, CO 80216
lucas.west@state.co.us | https://drms.colorado.gov/

RE: OSMI Permit Number M-2012-032 / Amendment 02 Adequacy Review Comments

Dear Lucas West,

At a May 4, 2022 work session Ouray Silver Mines representatives Poppy Staub and Todd Jesse requested that the Ouray County Board of County Commissioners (BOCC) respond to requests from the Colorado Division of Reclamation, Mining and Safety (DRMS) regarding comments #27, #54, and #82 on OSMI Permit Number M-2012-032 / Amendment 02 Adequacy Review Comments. The BOCC held a second work session on May 12, 2022 to further discuss the questions from DRMS and reached the following key points.

> **DRMS Comment #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.**

Post-reclamation, once structures are beyond their useful/rated lifespan, or no longer being maintained, or deemed a nuisance or threat to public health & safety by Ouray County, they must be demolished and reclaimed or renovated in accordance with the Ouray County Land Use Code. The Ouray County Assessor must be promptly notified if any structures are demolished or destroyed.

Ouray County requires that any structure remaining post-reclamation be maintained for health and safety and shall not be allowed to create an attractive nuisance.

A formal security and maintenance plan must be developed and enacted to ensure regular security and maintenance checks, including at minimum twice yearly inspections. As part of the plan, Ouray Silver Mines must prevent illegal squatting, camping, or habitation on any of its properties.

Remaining structures will be maintained so they will not pose a threat to human safety. i.e. will not collapse from snow/wind load. The Administration structure (bldg. #2 on exhibit F-1A) will not be allowed to become a rodent refuge – packrats, mice, marmots, etc.

Any non-mining future commercial use would require a Special Use Permit from Ouray County.

The Administration Building will require documentation from the Ouray County Land Use Department that it has Certificate of Occupancy.

If any structures become a nuisance post-reclamation, they must be demolished and reclaimed.

Any potential post-reclamation use must be in compliance with Ouray County Land Use Code as it stands now, or as amended in the future. Special attention should be paid to Sections 3, 13, and 24. Any post-reclamation

use will have wildlife or industrial/commercial use (Hard Rock/Metal Mining Rule 3.1.1, Page 56) in line with the current reclamation plan. Ouray County is interested in continuing discussions about potentially modifying post-mining uses.

Ouray County will have authority and access to inspect the site and structures as necessary, or in response to complaints, or to request environmental studies.

> **DRMS Comment #54: For all features depicted on map F-Ia as remaining structures, provide documentation from Ouray County that they are allowed to remain since they are no longer used for mining purposes.**

Proposed structures will be allowed to remain with conditions listed in response to Comment #27.

The Administration Building (bldg. #2 on exhibit F-1A) will require documentation from the Ouray County Land Use Department that it has Certificate of Occupancy. The other structures to remain post-reclamation will not require a Certificate of Occupancy because they are rough industrial structures. However, they must be maintained for structural integrity so as not to create a threat to health and safety.

> **DRMS Comment #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?**
> **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."**

Only the Administration Building (bldg. #2 on exhibit F-1A) needs to show proof of a Certificate of Occupancy from the Ouray County Land Use Department because it is constructed for continuous human occupancy. All other proposed remaining structures are rough industrial spaces and will not require a Certificate of Occupancy. Any post-mining use will require a Special Use Permit and be in accordance with Ouray County Land Use Code.

Respectfully,

Lynn M. Padgett, Chair

Jake Niece, Vice-Chair

Ben Tisdel, Member

Main Portal Area Permit Boundary 49.84 Acres

County Road 26

Atlas TSF Access Bridge

Atlas Tailings Storage Facility

SW Pond 1

Permitted Outfall 001A

Mine Water Pond #1

Mine Water Pond #2

Historic Buildings

Revenue Tailings Storage Facility

Historic Atlas Mine Waste Rock

Atlas Mine Drainage

Permitted Outfall 002A

Mine Water Pond #3

Building/Structure List

1. Diesel Storage & Filling Station
2. Admin Building
3. Air Compressor Building
4. Propane Storage A
5. Propane Storage B (Underground)
6. Ventilation Fan
7. Rail Yard & Battery Charging
8. UG Warehouse & Shop
9. Electrical Center
10. Backup Generator
11. Concentrator & Filter Building
12. Waste Storage
13. Tailings Thickener Tank
14. Propane Storage C
15. Equipment Storage Warehouse
16. Septic Tanks
17. Access Road Retaining Wall
18. Crusher & Retaining Wall
19. Hut at Outfall 002A
20. Temporary for #20
21. Security Building
22. Line-out Building
23. Atlas TSF Bridge

Legend

- Natural Waterways
- Mine water
- Wetlands
- Water to Open Channel
- Road
- Structure To Remain Post Reclamation
- Structure To Be Demolished
- Temporary Structure (To Be Removed Prior To Reclamation)
- Affected Lands Boundary
- Underground Septic Tank

REVISIONS				
NO.	DESCRIPTION	DATE	BY	APPROVED BY:
0	Amendment 2	12/06/2021	SG/KN	
1	BOCC Revision	5/19/2022	THJ	Todd Jesse

DECEMBER 2021

0 50 100
SCALE IN FEET

P.O. BOX 564
Ouray, CO 81427

REVENUE - VIRGINIUS MINE

Map F-1a : Updated Structure Reclamation Map

Z:\AD_ENV - Environmental\2. EMPLOYEE FILES\JESSE\8. AutoCAD\24. A2F-1A\Updated Structure Reclamation Map.dwg Last Edited by: jjesse on 5/19/2022 9:02 AM

Ouray Silver Mines, Inc.
1900 Main St. Unit 1
PO Box 564
Ouray, CO 81427

OURAY SILVER MINES

March 30, 2022

Mr. Craig Hickson
President
Six Basins Project Inc.
215 5th Avenue, Unit C
Ouray, Colorado 81427

Re: Structure Agreement
Public Restroom Building on County Road 26
Ouray County, Colorado

Dear Mr. Hickson:

Ouray Silver Mines Inc., (OSMI) has applied for an amendment to its Division of Reclamation Mining and Safety (DRMS) mine permit No. M-2012-032. In accordance with Rule 6.4.19 of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal and Designated Mining Operations, OSMI is required to identify permanent manmade structures located within 200 feet of OSMI's permit boundary. OSMI is required to compensate the owner of such structures should its operations cause damage to the structure.

A portion of the public restroom located along County Road 26 and owned by Six Basins is within 200 feet of OSMI's permit boundary. Attached is an agreement, which states that OSMI will compensate Six Basins should OSMI's operations cause damage to the Six Basin's restroom located across from the mine along County Road 26.

Please have the attached letter signed and notarized and returned to OSMI at your earliest convenience. We appreciate your assistance with this letter. Should you have any questions regarding this agreement, please contact Todd Jesse or Poppy Staub at 970-325-9830.

Sincerely,

Charles R. Andrews
CEO
Ouray Silver Mines, Inc.

Cc: Poppy Staub, OSMI
Todd Jesse, OSMI

Authorization ID: OUR712
Contact Name: OURAY SILVER MINES INC
Expiration Date: 12/31/2030
Use Code: 753, 424

FS-2700-4 (VER. 03/17)
OMB 0596-0082

U.S. DEPARTMENT OF AGRICULTURE

FOREST SERVICE

SPECIAL USE PERMIT

Authority: ORGANIC ADMINISTRATION ACT June 4, 1897

Ouray Silver Mines, Inc. of P.O. Box 564, 1900 Main Street, Ouray, CO 81427 (hereinafter "the holder") is authorized to use or occupy National Forest System lands in the Uncompahgre National Forest, subject to the terms and conditions of this special use permit (the permit).

This permit covers 3.4 miles of National Forest System Roads (NFSR) and the area in the Sec. 10, 11, 14-23, 26-29, T. 43 N., R. 8 W., N.M.P.M, ("the permit area"), as shown on the permit map (Appendix A). This and any other appendices to this permit are hereby incorporated into this permit.

This permit issued for the purpose of:

Plowing the identified road sections (that are neither under a Forest Roads and Trails Act easement or on private property) of the Camp Bird Road (NFSR 853 a.k.a. Ouray County Road 361) corridor from the Senator Gulch gate to the intersection of Yankee Boy (NFSR 853.1B, a.k.a. Ouray County Road 26) and Governor Basin (NFSR 853.1C, a.k.a. Ouray County Road 26A) roads, as well as the Governor Basin Road (NFSR 853.1C, a.k.a. Ouray County Road 26A). The right-of-way on identified road sections shall be 60 feet, 30 feet on each side of centerline with such additional width required for accommodation and protection of cuts and fills. This permit is also issued for avalanche mitigation on known slide paths within the permit area in the winter months (approximately November to May) as described in the winter operating plan (Appendix B).

TERMS AND CONDITIONS

I. GENERAL TERMS

A. AUTHORITY. This permit is issued pursuant to the Organic Administration Act (June 4, 1897) and 36 CFR Part 251, Subpart B, as amended, and is subject to their provisions.

B. AUTHORIZED OFFICER. The authorized officer is the Forest or Grassland Supervisor or a subordinate officer with delegated authority.

C. TERM. This permit shall expire at midnight on 12/31/2030, 10 years from the date of issuance.

D. CONTINUATION OF USE AND OCCUPANCY. This permit is not renewable. Prior to expiration of this permit, the holder may apply for a new permit for the use and occupancy authorized by this permit. Applications for a new permit must be submitted at least 6 months prior to expiration of this permit. Issuance of a new permit is at the sole discretion of the authorized officer. At a minimum, before issuing a new permit, the authorized officer shall ensure that (1) the use and occupancy to be authorized by the new permit is consistent with the standards and guidelines in the applicable land management plan; (2) the type of use and occupancy to be authorized by the new permit is the same as the type of use and occupancy authorized by this permit; and (3) the holder is in compliance with all the terms of this permit. The authorized officer may prescribe new terms and conditions when a new permit is issued.

E. AMENDMENT. This permit may be amended in whole or in part by the Forest Service when, at the discretion of the authorized officer, such action is deemed necessary or desirable to incorporate new terms that may be required by law, regulation, directive, the applicable forest land and resource management plan, or projects and activities implementing a land management plan pursuant to 36 CFR Part 215.

F. COMPLIANCE WITH LAWS, REGULATIONS, AND OTHER LEGAL REQUIREMENTS. In exercising the rights and privileges granted by this permit, the holder shall comply with all present and future federal laws and regulations and all present and future state, county, and municipal laws, regulations, and other legal requirements that apply to the permit area, to the extent they do not conflict with federal law, regulation, or policy. The Forest Service assumes no responsibility for enforcing laws, regulations, and other legal requirements that fall under the jurisdiction of other governmental entities.

G. NON-EXCLUSIVE USE. The use or occupancy authorized by this permit is not exclusive. The Forest Service reserves the right of access to the permit area, including a continuing right of physical entry to the permit area for inspection, monitoring, or any other purpose consistent with any right or obligation of the United States under any law or regulation. The Forest Service reserves the right to allow others to use the permit area in any way that is not inconsistent with the holder's rights and privileges under this permit, after consultation with all parties involved. Except for any restrictions that the holder and the authorized officer agree are necessary to protect the installation and operation of authorized temporary improvements, the lands and waters covered by this permit shall remain open to the public for all lawful purposes.

H. ASSIGNABILITY. This permit is not assignable or transferable.

I. CHANGE IN CONTROL OF THE BUSINESS ENTITY.

1. Notification of Change in Control. The holder shall notify the authorized officer when a change in control of the business entity that holds this permit is contemplated.
   a. In the case of a corporation, control is an interest, beneficial or otherwise, of sufficient outstanding voting securities or capital of the business so as to permit the exercise of managerial authority over the actions and operations of the corporation or election of a majority of the board of directors of the corporation.
   b. In the case of a partnership, limited partnership, joint venture, or individual entrepreneurship, control is a beneficial ownership of or interest in the entity or its capital so as to permit the exercise of managerial authority over the actions and operations of the entity.
   c. In other circumstances, control is any arrangement under which a third party has the ability to exercise management authority over the actions or operations of the business.

2. Effect of Change in Control. Any change in control of the business entity as defined in paragraph 1 of this clause shall result in termination of this permit. The party acquiring control must submit an application for a special use permit. The Forest Service is not obligated to issue a new permit to the party who acquires control. The authorized officer shall determine whether the applicant meets the requirements established by applicable federal regulations.

II. IMPROVEMENTS

A. **LIMITATIONS ON USE**. Nothing in this permit gives or implies permission to build or maintain any structure or facility or to conduct any activity, unless specifically authorized by this permit. Any use not specifically authorized by this permit must be proposed in accordance with 36 CFR 251.54. Approval of such a proposal through issuance of a new permit or permit amendment is at the sole discretion of the authorized officer.

B. **PLANS**. All plans for development, layout, construction, reconstruction, or alteration of improvements in the permit area, as well as revisions to those plans must be prepared by a professional engineer, architect, landscape architect, or other qualified professional based on federal employment standards acceptable to the authorized officer. These plans and plan revisions must have written approval from the authorized officer before they are implemented. The authorized officer may require the holder to furnish as-built plans, maps, or surveys upon completion of the work.

C. **CONSTRUCTION**. Any construction authorized by this permit shall commence by N/A and shall be completed by N/A.

III. OPERATIONS

A. **PERIOD OF USE**. Use or occupancy of the permit area shall be exercised at least 1 day each year.

B. **CONDITION OF OPERATIONS**. The holder shall maintain the authorized improvements and permit area to standards of repair, orderliness, neatness, sanitation, and safety acceptable to the authorized officer and consistent with other provisions of this permit. Standards are subject to periodic change by the authorized officer when deemed necessary to meet statutory, regulatory, or policy requirements or to protect national forest resources. The holder shall comply with inspection requirements deemed appropriate by the authorized officer.

C. **MONITORING BY THE FOREST SERVICE**. The Forest Service shall monitor the holder's operations and reserves the right to inspect the permit area and transmission facilities at any time for compliance with the terms of this permit. The holder shall comply with inspection requirements deemed appropriate by the authorized officer. The holder's obligations under this permit are not contingent upon any duty of the Forest Service to inspect the permit area or transmission facilities. A failure by the Forest Service or other governmental officials to inspect is not a justification for noncompliance with any of the terms and conditions of this permit.

IV. RIGHTS AND LIABILITIES

A. **LEGAL EFFECT OF THE PERMIT**. This permit, which is revocable and terminable, is not a contract or a lease, but rather a federal license. The benefits and requirements conferred by this authorization are reviewable solely under the procedures set forth in 36 CFR 214 and 5 U.S.C. 704. This permit does not constitute a contract for purposes of the Contract Disputes Act, 41 U.S.C. 601. The permit is not real property, does not convey any interest in real property, and may not be used as collateral for a loan.

B. **VALID EXISTING RIGHTS**. This permit is subject to all valid existing rights. Valid existing rights include those derived under mining and mineral leasing laws of the United States. The United States is not liable to the holder for the exercise of any such right.

C. **ABSENCE OF THIRD-PARTY BENEFICIARY RIGHTS**. The parties to this permit do not intend to confer any rights on any third party as a beneficiary under this permit.

D. **SERVICES NOT PROVIDED**. This permit does not provide for the furnishing of road or trail maintenance, water, fire protection, search and rescue, or any other such service by a government agency, utility, association, or individual.

E. **RISK OF LOSS**. The holder assumes all risk of loss associated with use or occupancy of the permit area, including but not limited to theft, vandalism, fire and any fire-fighting activities (including prescribed burns), avalanches, rising waters, winds, falling limbs or trees, and other forces of nature. If authorized temporary improvements in the permit area are destroyed or substantially damaged, the authorized officer shall conduct an analysis to determine whether the improvements can be safely occupied in the future and whether rebuilding should be allowed. If rebuilding is not allowed, the permit shall terminate.

F. **DAMAGE TO UNITED STATES PROPERTY**. The holder has an affirmative duty to protect from damage the land, property, and other interests of the United States. Damage includes but is not limited to fire suppression costs and damage to government-owned improvements covered by this permit.
   1. The holder shall be liable for all injury, loss, or damage, including fire suppression, prevention and control of the spread of invasive species, or other costs in connection with rehabilitation or restoration of natural resources resulting from the use or occupancy authorized by this permit. Compensation shall include but not be limited to the value of resources damaged or destroyed, the costs of restoration, cleanup, or other mitigation, fire suppression or other types of abatement costs, and all administrative, legal (including attorney's fees), and other costs. Such costs may be deducted from a performance bond required under clause IV.J.
   2. The holder shall be liable for damage caused by use of the holder or the holder's heirs, assigns, agents, employees, contractors, or lessees to all roads and trails of the United States to the same extent as provided under clause IV.F.1, except that liability shall not include reasonable and ordinary wear and tear.

G. **HEALTH AND SAFETY**. The holder shall take all measures necessary to protect the health and safety of all persons affected by the use and occupancy authorized by this permit. The holder shall promptly abate as completely as possible and in compliance with all applicable laws and regulations any physical or mechanical procedure, activity, event, or condition existing or occurring in connection with the authorized use and occupancy during the term of this permit that causes or threatens to cause a hazard to the health or safety of the public or the holder's employees or agents. The holder shall as soon as practicable notify the authorized officer of all serious accidents that occur in connection with these procedures, activities, events, or conditions. The Forest Service has no duty under the terms of this permit to inspect the permit area or operations of the holder for hazardous conditions or compliance with health and safety standards.

H. **ENVIRONMENTAL PROTECTION**.
   1. For purposes of clause IV.H and section V, "hazardous material" shall mean (a) any hazardous substance under section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. 9601(14); (b) any pollutant or contaminant under section 101(33) of CERCLA, 42 U.S.C. 9601(33); (c) any petroleum product or its derivative, including fuel oil, and waste oils; and (d) any hazardous substance, extremely hazardous substance, toxic substance, hazardous waste, ignitable, reactive or corrosive materials, pollutant, contaminant, element, compound, mixture, solution or substance that may pose a present or potential hazard to human health or the environment under any applicable environmental laws.

2. The holder shall avoid damaging or contaminating the environment, including but not limited to the soil, vegetation (such as trees, shrubs, and grass), surface water, and groundwater, during the holder's use and occupancy of the permit area. Environmental damage includes but is not limited to all costs and damages associated with or resulting from the release or threatened release of a hazardous material occurring during or as a result of activities of the holder or the holder's heirs, assigns, agents, employees, contractors, or lessees on, or related to, the lands, property, and other interests covered by this permit. If the environment or any government property covered by this permit becomes damaged in connection with the holder's use and occupancy, the holder shall as soon as practicable repair the damage or replace the damaged items to the satisfaction of the authorized officer and at no expense to the United States.
3. The holder shall as soon as practicable, as completely as possible, and in compliance with all applicable laws and regulations abate any physical or mechanical procedure, activity, event, or condition existing or occurring in connection with the authorized use and occupancy during or after the term of this permit that causes or threatens to cause harm to the environment, including areas of vegetation or timber, fish or other wildlife populations, their habitats, or any other natural resources.

I. **INDEMNIFICATION OF THE UNITED STATES**. The holder shall indemnify, defend, and hold harmless the United States for any costs, damages, claims, liabilities, and judgments arising from past, present, and future acts or omissions of the holder in connection with the use or occupancy authorized by this permit. This indemnification provision includes but is not limited to acts and omissions of the holder or the holder's heirs, assigns, agents, employees, contractors, or lessees in connection with the use or occupancy authorized by this permit which result in (1) violations of any laws and regulations which are now or which may in the future become applicable; (2) judgments, claims, demands, penalties, or fees assessed against the United States; (3) costs, expenses, and damages incurred by the United States; or (4) the release or threatened release of any solid waste, hazardous waste, hazardous materials, pollutant, contaminant, oil in any form, or petroleum product into the environment. The authorized officer may prescribe terms that allow the holder to replace, repair, restore, or otherwise undertake necessary curative actions to mitigate damages in addition to or as an alternative to monetary indemnification.

J. **BONDING**. The authorized officer may require the holder to furnish a surety bond or other security for any of the obligations imposed by the terms and conditions of this permit or any applicable law, regulation, or order.

K. **STRICT LIABILITY**. The holder shall be strictly liable (liable without proof of negligence) to the United States for $1,000,000 per occurrence for any injury, loss, or damage arising in tort under this permit. Liability in tort for injury, loss, or damage to the United States exceeding the prescribed amount of strict liability in tort shall be determined under the law of negligence.

L. **INSURANCE**. The holder shall furnish proof of insurance, such as a certificate of insurance, to the authorized officer prior to issuance of this permit and each year thereafter that this permit is in effect. The Forest Service reserves the right to review the insurance policy and require any changes needed to ensure adequate coverage of the United States in connection with the authorized use and occupancy. The holder shall send an authenticated copy of any insurance policy obtained pursuant to this clause to the authorized officer immediately upon issuance of the policy. Any insurance policies obtained by the holder pursuant to this clause shall name the United States as an additional insured, and the additional insured provision shall provide for insurance coverage for the United States as required under this clause and to the extent of the full limits of insurance available to the holder. The holder shall give 30 days prior written notice to the

authorized officer of cancellation of or any modification to the insurance policy. The certificate of insurance, the authenticated copy of the insurance policy, and written notice of cancellation or modification of insurance policies should be sent to 2505 South Townsend Avenue, Montrose, CO 81401. Minimum amounts of coverage and other insurance requirements are subject to change at the sole discretion of the authorized officer on the anniversary date of this permit.

1. The holder shall have in force liability insurance covering losses, including those arising from strict liability associated with the use or occupancy authorized by this permit arising from personal injury or death and third-party property damage in the minimum amount of $1,000,000 as a combined single limit per occurrence.
2. Depending on the holder's operations, the Forest Service may require the holder to demonstrate the availability of funds to address any release or threatened release of hazardous materials that may occur in connection with the holder's use or occupancy. Any requirements imposed would be established on a case-by-case basis by the authorized officer based on the degree of environmental risk from the holder's operations. The storage and use of normal maintenance supplies in nominal amounts generally would not trigger financial assurance requirements.

V. RESOURCE PROTECTION

A. COMPLIANCE WITH ENVIRONMENTAL LAWS. The holder shall in connection with the use or occupancy authorized by this permit comply with all applicable federal, state, and local environmental laws and regulations, including but not limited to those established pursuant to the Resource Conservation and Recovery Act, as amended, 42 U.S.C. 6901 et seq., the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq., the Oil Pollution Act, as amended, 33 U.S.C. 2701 et seq., the Clean Air Act, as amended, 42 U.S.C. 7401 et seq., CERCLA, as amended, 42 U.S.C. 9601 et seq., the Toxic Substances Control Act, as amended, 15 U.S.C. 2601 et seq., the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, 7 U.S.C. 136 et seq., and the Safe Drinking Water Act, as amended, 42 U.S.C. 300f et seq.

B. VANDALISM. The holder shall take reasonable measures to prevent and discourage vandalism and disorderly conduct and when necessary shall contact the appropriate law enforcement officer.

C. PESTICIDE USE.

1. Authorized Officer Concurrence. Pesticides may not be used outside of buildings in the permit area to control pests, including undesirable woody and herbaceous vegetation (including aquatic plants), insects, birds, rodents, or fish without prior written concurrence of the authorized officer. Only those products registered or otherwise authorized by the U.S. Environmental Protection Agency and appropriate State authority for the specific purpose planned shall be authorized for use within areas on National Forest System lands.
2. Pesticide-Use Proposal. Requests for concurrence of any planned uses of pesticides shall be provided in advance using the Pesticide-Use Proposal (form FS-2100-2). Annually the holder shall, on the due date established by the authorized officer, submit requests for any new, or continued, pesticide usage. The Pesticide-Use Proposal shall cover a 12-month period of planned use. The Pesticide-Use Proposal shall be submitted at least 60 days in advance of pesticide application. Information essential for review shall be provided in the form specified. Exceptions to this schedule may be allowed, subject to emergency request and approval, only when unexpected outbreaks of pests require control measures which were not anticipated at the time a Pesticide-Use Proposal was submitted.
3. Labeling, Laws, and Regulations. Label instructions and all applicable laws and regulations shall be strictly followed in the application of pesticides and disposal of excess materials and

containers. No pesticide waste, excess materials, or containers shall be disposed of in any area administered by the Forest Service.

D. ARCHAEOLOGICAL-PALEONTOLOGICAL DISCOVERIES. The holder shall immediately notify the authorized officer of all antiquities or other objects of historic or scientific interest, including but not limited to historic or prehistoric ruins, fossils, or artifacts discovered in connection with the use and occupancy authorized by this permit. The holder shall follow the applicable inadvertent discovery protocols for the undertaking provided in an agreement executed pursuant to section 106 of the National Historic Preservation Act, 54 U.S.C. 306108; if there are no such agreed-upon protocols, the holder shall leave these discoveries intact and in place until consultation has occurred, as informed, if applicable, by any programmatic agreement with tribes. Protective and mitigation measures developed under this clause shall be the responsibility of the holder. However, the holder shall give the authorized officer written notice before implementing these measures and shall coordinate with the authorized officer for proximate and contextual discoveries extending beyond the permit area.

E. NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT (NAGPRA). In accordance with 25 U.S.C. 3002(d) and 43 CFR 10.4, if the holder inadvertently discovers human remains, funerary objects, sacred objects, or objects of cultural patrimony on National Forest System lands, the holder shall immediately cease work in the area of the discovery and shall make a reasonable effort to protect and secure the items. The holder shall follow the applicable NAGPRA protocols for the undertaking provided in the NAGPRA plan of action or the NAGPRA comprehensive agreement; if there are no such agreed-upon protocols, the holder shall as soon as practicable notify the authorized officer of the discovery and shall follow up with written confirmation of the discovery. The activity that resulted in the inadvertent discovery may not resume until 30 days after the forest archaeologist certifies receipt of the written confirmation, if resumption of the activity is otherwise lawful, or at any time if a binding written agreement has been executed between the Forest Service and the affiliated Indian tribes that adopts a recovery plan for the human remains and objects.

F. PROTECTION OF THREATENED AND ENDANGERED SPECIES, SENSITIVE SPECIES, AND SPECIES OF CONSERVATION CONCERN AND THEIR HABITAT.

1. Threatened and Endangered Species and Their Habitat. The location of sites within the permit area needing special measures for protection of plants or animals listed as threatened or endangered under the Endangered Species Act (ESA) of 1973, 16 U.S.C. 1531 et seq., as amended, or within designated critical habitat shall be shown on a map in an appendix to this permit and may be shown on the ground. The holder shall take any protective and mitigation measures specified by the authorized officer as necessary and appropriate to avoid or reduce effects on listed species or designated critical habitat affected by the authorized use and occupancy. Discovery by the holder or the Forest Service of other sites within the permit area containing threatened or endangered species or designated critical habitat not shown on the map in the appendix shall be promptly reported to the other party and shall be added to the map.
2. Sensitive Species and Species of Conservation Concern and Their Habitat. The location of sites within the permit area needing special measures for protection of plants or animals designated by the Regional Forester as sensitive species or as species of conservation concern pursuant to FSM 2670 shall be shown on a map in an appendix to this permit and may be shown on the ground. The holder shall take any protective and mitigation measures specified by the authorized officer as necessary and appropriate to avoid or reduce effects on sensitive species or species of conservation concern or their habitat affected by the authorized use and occupancy. Discovery by the holder or the Forest Service of other sites within the permit area

containing sensitive species or species of conservation concern or their habitat not shown on the map in the appendix shall be promptly reported to the other party and shall be added to the map.

G. CONSENT TO STORE HAZARDOUS MATERIALS. The holder shall not store any hazardous materials at the site without prior written approval from the authorized officer. This approval shall not be unreasonably withheld. If the authorized officer provides approval, this permit shall include, or in the case of approval provided after this permit is issued, shall be amended to include specific terms addressing the storage of hazardous materials, including the specific type of materials to be stored, the volume, the type of storage, and a spill plan. Such terms shall be proposed by the holder and are subject to approval by the authorized officer.

H. CLEANUP AND REMEDIATION.

1. The holder shall immediately notify all appropriate response authorities, including the National Response Center and the authorized officer or the authorized officer's designated representative, of any oil discharge or of the release of a hazardous material in the permit area in an amount greater than or equal to its reportable quantity, in accordance with 33 CFR Part 153, Subpart B, and 40 CFR Part 302. For the purposes of this requirement, "oil" is as defined by section 311(a)(1) of the Clean Water Act, 33 U.S.C. 1321(a)(1). The holder shall immediately notify the authorized officer or the authorized officer's designated representative of any release or threatened release of any hazardous material in or near the permit area which may be harmful to public health or welfare or which may adversely affect natural resources on federal lands.
2. Except with respect to any federally permitted release as that term is defined under Section 101(10) of CERCLA, 42 U.S.C. 9601(10), the holder shall clean up or otherwise remediate any release, threat of release, or discharge of hazardous materials that occurs either in the permit area or in connection with the holder's activities in the permit area, regardless of whether those activities are authorized under this permit. The holder shall perform cleanup or remediation immediately upon discovery of the release, threat of release, or discharge of hazardous materials. The holder shall perform the cleanup or remediation to the satisfaction of the authorized officer and at no expense to the United States. Upon revocation or termination of this permit, the holder shall deliver the site to the Forest Service free and clear of contamination.

VI. LAND USE FEE AND DEBT COLLECTION

A. LAND USE FEE. The holder shall pay an initial annual land use fee of $1849.29 for the period from November 1, 2020 to December 31, 2020, and thereafter on January 1, the annual land use fee shall be adjusted annually using the implicit price deflator-gross national product (IPD-GNP) index.

B. MODIFICATION OF THE LAND USE FEE. The land use fee may be revised whenever necessary to reflect the market value of the authorized use or occupancy or when the fee system used to calculate the land use fee is modified or replaced.

C. FEE PAYMENT ISSUES.

1. Crediting of Payments. Payments shall be credited on the date received by the deposit facility, except that if a payment is received on a non-workday, the payment shall not be credited until the next workday.

2. Disputed Fees. Fees are due and payable by the due date. Disputed fees must be paid in full. Adjustments will be made if dictated by an administrative appeal decision, a court decision, or settlement terms.
3. Late Payments.

a. Interest. Pursuant to 31 U.S.C. 3717 et seq., interest shall be charged on any fee amount not paid within 30 days from the date it became due. The rate of interest assessed shall be the higher of the Prompt Payment Act rate or the rate of the current value of funds to the Treasury (such as, the Treasury tax and loan account rate), as prescribed and published annually or quarterly by the Secretary of the Treasury in the Federal Register and the Treasury Fiscal Requirements Manual Bulletins. Interest on the principal shall accrue from the date the fee amount is due.

b. Administrative Costs. If the account becomes delinquent, administrative costs to cover processing and handling the delinquency shall be assessed.

c. Penalties. A penalty of 6 percent per annum shall be assessed on the total amount that is more than 90 days delinquent and shall accrue from the same date on which interest charges begin to accrue.

d. Termination for Nonpayment. This permit shall terminate without the necessity of prior notice and opportunity to comply when any land use fee payment is 90 calendar days from the due date in arrears. The holder shall remain responsible for the delinquent fees.

e. Administrative Offset and Credit Reporting. Delinquent fees and other charges associated with this permit shall be subject to all rights and remedies afforded the United States pursuant to 31 U.S.C. 3711 et seq. and common law. Delinquencies are subject to any or all of the following:
   1. Administrative offset of payments due the holder from the Forest Service.
   2. If in excess of 60 days, referral to the U.S. Department of the Treasury for appropriate collection action as provided by 31 U.S.C. 3711(g)(1).
   3. Offset by the Secretary of the Treasury of any amount due the holder, as provided by 31 U.S.C. 3720 et seq.
   4. Disclosure to consumer or commercial credit reporting agencies.

VII. REVOCATION, SUSPENSION, AND TERMINATION

A. REVOCATION AND SUSPENSION. The authorized officer may revoke or suspend this permit in whole or in part:
1. For noncompliance with federal, state, or local law.
2. For noncompliance with the terms of this permit.
3. For abandonment or other failure of the holder to exercise the privileges granted.
4. With the consent of the holder.
5. For specific and compelling reasons in the public interest.

Prior to revocation or suspension, other than immediate suspension under clause VII.B, the authorized officer shall give the holder written notice of the grounds for revocation or suspension and a reasonable period, typically not to exceed 90 days, to cure any noncompliance.

B. IMMEDIATE SUSPENSION. The authorized officer may immediately suspend this permit in whole or in part when necessary to protect public health or safety or the environment. The suspension decision shall be in writing. The holder may request an on-site review with the authorized officer's supervisor of the adverse conditions prompting the suspension. The authorized officer's supervisor shall grant this request within 48 hours. Following the on-site review, the authorized officer's supervisor shall promptly affirm, modify, or cancel the suspension.

C. **APPEALS AND REMEDIES.** Written decisions by the authorized officer relating to administration of this permit are subject to administrative appeal pursuant to 36 CFR Part 214, as amended. Revocation or suspension of this permit shall not give rise to any claim for damages by the holder against the Forest Service.

D. **TERMINATION.** This permit shall terminate when by its terms a fixed or agreed upon condition, event, or time occurs without any action by the authorized officer. Examples include but are not limited to expiration of the permit by its terms on a specified date and termination upon change of control of the business entity. Termination of this permit shall not require notice, a decision document, or any environmental analysis or other documentation. Termination of this permit is not subject to administrative appeal and shall not give rise to any claim for damages by the holder against the Forest Service.

E. **RIGHTS AND RESPONSIBILITIES UPON REVOCATION OR TERMINATION WITHOUT ISSUANCE OF A NEW PERMIT.** Upon revocation or termination of this permit without issuance of a new permit, the holder shall remove all structures and improvements, except those owned by the United States, within a reasonable period prescribed by the authorized officer and shall restore the site to the satisfaction of the authorized officer. If the holder fails to remove all structures and improvements within the prescribed period, they shall become the property of the United States and may be sold, destroyed, or otherwise disposed of without any liability to the United States. However, the holder shall remain liable for all costs associated with their removal, including costs of sale and impoundment, cleanup, and restoration of the site.

VIII. MISCELLANEOUS PROVISIONS

A. **MEMBERS OF CONGRESS.** No member of or delegate to Congress or resident commissioner shall benefit from this permit either directly or indirectly, except to the extent the authorized use provides a general benefit to a corporation.

B. **CURRENT ADDRESSES.** The holder and the Forest Service shall keep each other informed of current mailing addresses, including those necessary for billing and payment of land use fees.

C. **SUPERSEDED PERMIT.** This permit supersedes a special use permit designated N/A.

D. **SUPERIOR CLAUSES.** If there is a conflict between any of the preceding printed clauses and any of the following clauses, the preceding printed clauses shall control.

E. **OPERATION AND MAINTENANCE PLAN** (R2-C102). An Operation and Maintenance Plan (O&M Plan), described as Appendix B, is attached hereto and made a part hereof. Annually, the holder will provide an updated O&M Plan and slide paths map as an addendum to this permit.

G. **STORAGE AND USE OF EXPLOSIVES AND MAGAZINE SECURITY (B-29).**

1. Applicable Legal Framework
   The purchase, storage, and handling of explosives by the holder under this permit are regulated by United States Department of Justice, Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), under 27 CFR Part 555. Inspections of magazines authorized by this permit are subject to all ATF inspection requirements at 27 CFR Part 555 and shall be conducted by ATF. Property records and inventories of these magazines shall be reconciled by ATF in accordance with ATF requirements at 27 CFR Part 555 during ATF's routine periodic inspections
2. Documentation of Inspections.

All required inspections, including inspections required every seven days, shall be documented in a log. The log shall indicate the inspection type, date of inspection, and the date all deficiencies identified in any inspection report were corrected. A current copy of the log; corresponding inspection reports, if any; and a copy of the holder's current ATF-issued federal explosives license or federal explosives permit, if applicable, shall be included annually in the operating plan for review by the authorized officer.

3. Loss or Theft of Explosive Material.
   Any loss or theft of explosive material shall be reported to ATF or the Department of the Army (DOA), as appropriate, local law enforcement authorities, and the Forest Service within 24 hours of discovery.
4. Minimum Standards for Locks and Keys.
   i. ATF Requirements. Locks and keys for authorized magazines and key security shall meet ATF requirements at 27 CFR Part 555.
   ii. Replacement and Documentation. Locks and keys shall be replaced periodically at least every ten years. In the case of deterioration or a potential breach in security, such as lost keys, any affected keys and locks shall be replaced immediately. Periodic lock and key replacement shall be documented in a log. The log shall include the date of the most recent replacement. A current copy of the log shall be included annually in the operating plan for review by the authorized officer.
   iii. Key Control for Magazines Containing Explosives Not Purchased From DOA. Key control for magazines authorized by this permit containing explosives not purchased from DOA shall at a minimum provide for appointment of a custodian, maintenance of a list of personnel authorized to use and issue keys, a locked container for key storage, and documentation of locks and keys on a key control register and inventory.

L. CORPORATION STATUS NOTIFICATION (X-46). The holder may furnish the Authorized Officer with the names and addresses of shareholders owning three (3) percent or more of the shares, and number and percentage of any class of voting shares of the entity which such shareholder is authorized to vote. In addition, the holder shall notify the Authorized Officer within fifteen (15) days of the following changes:

1. Names of officers appointed or terminated.
2. Names of stockholders who acquire stock shares causing their ownership to exceed 50 percent of shares issued or who otherwise acquire controlling interest in the corporation.
3. A copy of the articles of incorporation and bylaws.
4. An authenticated copy of a resolution of the board of directors specifically authorizing a certain individual or individuals to represent the holder in dealing with the Forest Service.
5. A list of officers and directors of the corporation and their addresses.
6. Upon request, a certified list of stockholders and amount of stock owned by each.
7. The Authorized Officer may, when necessary, require the holder to furnish additional information as set forth in 36 CFR 251.54 (d)(2)(ii)(D).

N. DISPUTES (X-96). Appeal of any provisions of this authorization or any requirements thereof shall be subject to the appeal regulations at 36 CFR 214, as amended or revisions thereto.

THIS PERMIT IS ACCEPTED SUBJECT TO ALL ITS TERMS AND CONDITIONS.

BEFORE ANY PERMIT IS ISSUED TO AN ENTITY, DOCUMENTATION MUST BE PROVIDED TO THE AUTHORIZED OFFICER OF THE AUTHORITY OF THE SIGNATORY FOR THE ENTITY TO BIND IT TO THE TERMS AND CONDITIONS OF THE PERMIT.

ACCEPTED:

11-13-20

BRIAN BRIGGS DATE

CEO

OURAY SILVER MINES, INC.

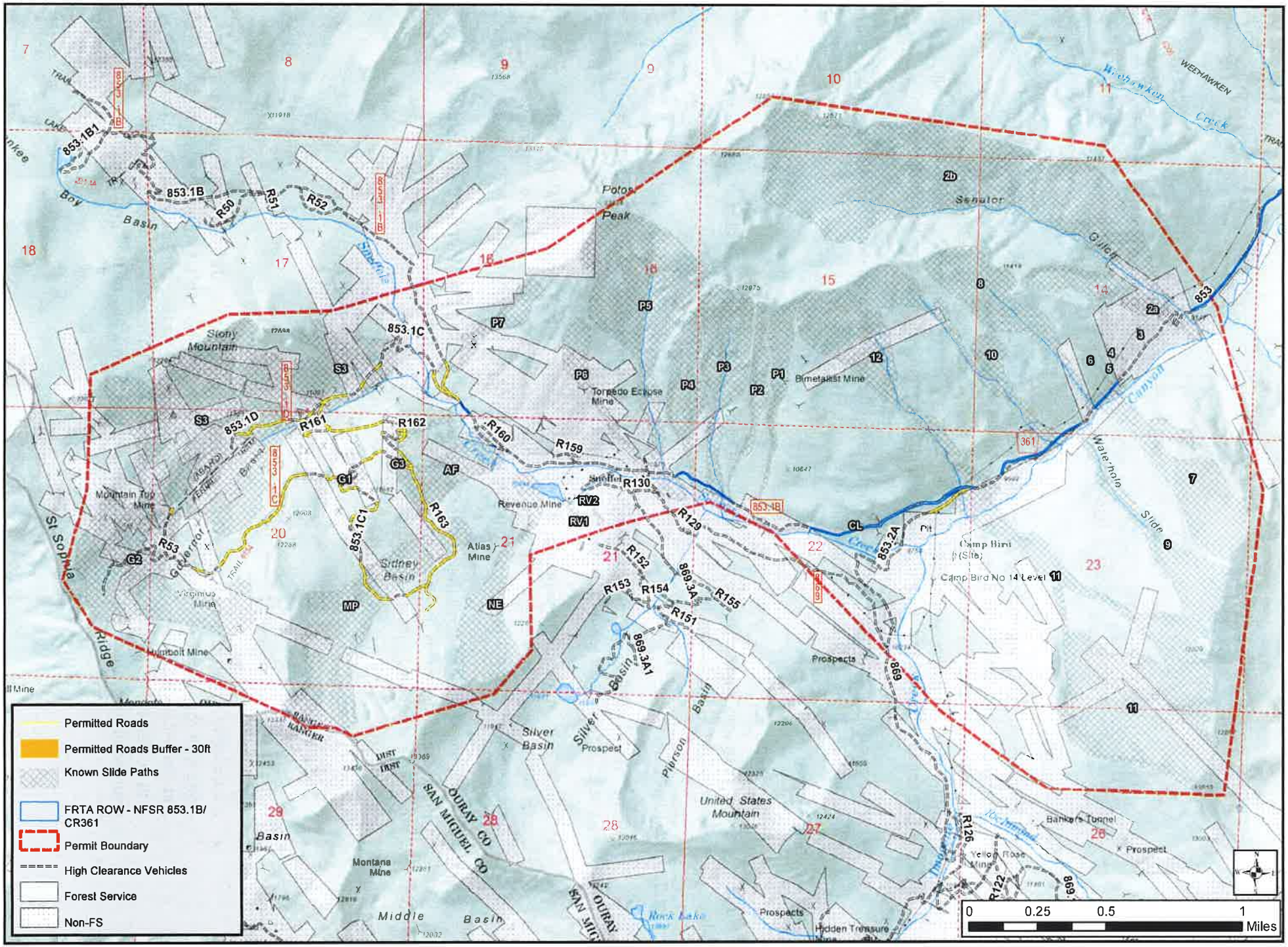
APPROVED:

11/23/2020

CHAD STEWART DATE

FOREST SUPERVISOR

GRAND MESA, UNCOMPAHGRE AND GUNNISON NATIONAL FORESTS



OUR712 Appendix A- Permit Map

Ouray Silver Mines, Inc. Avalanche Mitigation

Exhibit B			
	OURAY SILVER MINES		
Mine Operations	**OSMI Winter Operating Plan**		
Implementation Date: April 14, 2020	**Standard: OSM-OPS-SAF-N-2.6**	**Revision: 0**	**Date: April 14, 2020**

1.0.1 SCOPE

- This Winter and Spring Operating Plan (WOP) is designed to create a system of Travel and Communications for Ouray Silver Mines (OSMI) personnel, agents, vendors, and others by permission, in an effort to manage winter time travel on Ouray CR361/CR26 to Revenue Mine Site (RMS) hereafter known as "THE ROAD". This plan is a working document and will be expanded upon and revised as additional information, resources, and conditions change.

- Changes to this document shall be documented and communicated in a manner consistent with OSM-OPS-SAF-N-1.6 Management of Change Procedure.

1.0.2 DEFINITIONS

Terrain Trap

- A terrain trap is a sharply concave part of the runout such as a gully, an abrupt transition or a crevasse where avalanche debris will pile up deeply.

1.0.3 REQUIREMENTS

- The WOP is applicable to all OSMI employees, agents, contractors, vendors, and others with pre-approved permission for travel on "THE ROAD".

- The WOP is intended to promote an appropriate understanding through training in the familiarization of alpine terrain and travel routes, safety procedures, proper use of alpine travel equipment, notification of changing conditions, as well as rescue and evacuation.

- Each vehicle traveling along the corridor shall notify "dispatch" of when they depart either end of the route and as they pass designated road points. Dispatch will be coordinated through a scheduled salaried individual at the Ouray warehouse.

- Designated road points include:
  - Senator Gulch
  - Rock Garden
  - Overhang
  - Revenue Mine Site

- A detailed map **(Attachment A)** has been created to identify hazards from snow avalanches along with rock and ice fall as the primary focus of the WOP. Map's, profiles, related data, and history are intended to define hazard zones for traveling through under a caution basis, with no vehicular stopping unless necessary for an essential basis. The map will be referenced throughout the WOP for communication, travel, and related protocols.

- Avalanche Rescue Equipment will be at predetermined locations on "THE ROAD" and RMS.

Hazard Zones

- Sharing Information and knowledge of these hazard zones and changing conditions is of paramount importance for the safety of all travelers and the importance cannot be overemphasized. All road travelers will be subject to guidance from Dispatch, with the guidance based on daily 5:30 am travel advisory from OSMI sponsored professional forecasters. If road travel conditions are forecast as not safe for travel, OSMI management will consider alternative options for transport into and out of the mine or suspend operations until road travel conditions improve and subsequently forecast to be safe.

- **Zone 1**, Senator Gulch to Rock Garden. This zone harbors the most risk from avalanches, rock and ice fall. The entrance to Senator Gulch is governed by a locked gate. Gate access is available to OSMI personnel and personnel with an established road use agreement with OSMI. All OSMI personnel and personnel with an established road use agreement departing Senator Gulch for the mine site must be driving a four-wheel drive vehicle and tire chains must be in place on the front tires of all vehicles before departing Senator Gulch for the mine site, during times of significant snowfall or slick road conditions.
- **Note:** Personnel with an OSMI approved Road Use Agreements shall comply with all terms listed on the agreement.
- In the event of a significant snowfall, OSMI personnel shall clear the road by plowing snow and other debris from the road, in advance of vehicles transporting personnel and materials. OSMI vehicles and personnel with an established road use agreement shall wait at Senator Gulch until authorized to advance by OSMI personnel conducting plowing activities. A significant snowfall is anything greater than four inches of fresh snow.

- Zone 1 has 11 known avalanche paths that impact the road and has several terrain traps. These are historical avalanche paths. Winter thaw cycles will create ice and rock fall that will impact the road. Spring rock and ice falls frequently hit road.

- This area is also subject to flash flooding and washouts from above. Rocks falling from above is not uncommon during all seasons.

- **Zone 2**, the Rock Garden to the Overhang zone has two major avalanche paths that impact the road. A "bank slide" before the Overhang has impacted road travel conditions in the past. This "bank slide" is also a terrain trap and has potential to push a vehicle off the road.

- Rock and ice falls may occur on this section of road. This area is also subject to flash flooding and washouts from above. Rocks falling from above is not uncommon during all seasons.

- **Zone 3**, Overhang to the Revenue Mine Gate. This zone has the most potential for ice falling during winter thawing and spring warming. Rock and/or ice falls in the immediate area of the overhang can be extreme.

- The area between the Overhang and the Revenue Mine Gate has 7 avalanche paths that may impact road travel when weather conditions promote avalanches, rock falls and ice falls.

- **Zone 4**, Revenue Mine site to Ruby Trust. Road travel conditions between the Revenue Mine site and the Ruby Trust has 7 avalanche paths that may impact travel to the Revenue Mine secondary escapeway.

- This Zone includes the Revenue Mine site, which has 5 avalanche paths that impact the mine site and create a high risk of avalanche exposure for persons working outside of vehicles and buildings. The area south and west of the compressor building, plus some of the hill sides above the mill and shop.

- **Zone 5**, Ruby Trust to Lower Mtn Top turn. There are three avalanche paths that impact the road. These avalanche paths impact the road for a distance of $1/8^{th+}$ mile. This area is also subject to flash flooding and washouts from above. Rocks falling from above is common during all seasons.

- **Zone 6,** Lower Mtn. Top to the planned secondary escapeway at the Raise Bore. A high alpine environment and extreme avalanche dangers exists the entire route. This area is also subject to flash flooding and washouts from above. Rocks falling from above is not uncommon during all seasons.

Communications

- The radio communication between all OSMI authorized vehicle travel and OSMI dispatch must have all Road Points referenced uniformly and consistently in order to promote safe travel as well as efficient aid or rescue response during emergencies. For example – Vehicle # and name of person/s passing "Up Canyon" or "Down Canyon" of named road points.

- The following named road points shall be referenced during communications between all vehicles and OSMI dispatch:
  - Senator Gulch
  - Rock Garden
  - Overhang
  - Revenue Mine Site
  - Ruby Trust
  - Lower Mtn. Top
  - Raise Bore

- In addition to named road points and hazard zones, all vehicular traffic will be conducted with personnel familiar with names of slide paths in different zones; which will help with relaying accurate locations of observations to avalanche mitigation and avalanche forecasting personnel.

Training

- All persons traveling The Road under OSMI authority shall have OSMI approved Avalanche Awareness training, before December 1st. of each year.

PPE

- All Personnel traveling The Road shall wear avalanche beacons and shall have documented training using beacons for locating personnel buried by snow and other slide conditions. Additionally, high visibility vests and or jackets are required.

- Personnel shall wear appropriate winter clothing and be prepared to participate in an avalanche rescue or foot travel outside vehicles in an extreme winter or spring alpine environment.

Rescue Equipment

- During the winter and spring months, October through June, when Avalanche potential exists, avalanche rescue equipment shall be placed at Senator Gulch, the Rock Garden and the Revenue Mine Site.

- The following equipment, in OSMI vehicles transporting personnel and materials, shall be considered the minimum equipment for effective avalanche rescue:
  - Long handle shovels
  - Grain Scopes
  - Fixed probes
  - Hand saws
  - Liters or back boards.

- Vehicles shall be equipped with:
  - Pack shovel
  - Probe
  - Seat belt cutters
  - A windshield breaking tool
  - First aid/trauma kit
  - One long handle steel shovel
  - One aluminum grain shovel
  - One hand saw
  - One spotlight

- Additionally, hard hats will be required in zones 1 and 2, for the potential of rock and ice falls

Avalanche Awareness Training

- All OSMI Supervisors and personnel on the OSMI avalanche rescue team shall complete the 1 day Avalanche Awareness Training class that has been adapted to for the travel environment on The Road. This program is designed to educate personnel on avalanche rescue and skills to make informed decisions, in the event of an emergency condition. Furthermore, the program will train personnel to relay accurate information to avalanche mitigation and avalanche forecasting personnel.

- Avalanche Level 1 training shall be required for all OSMI personnel, vendors, contractors and material delivery providers serving the Revenue Mine Site before, December 1st. of each year.

Avalanche Condition Ratings

- "**NOTICE**" (Green): Natural avalanches are unlikely to significantly impact the road. Controlled avalanche release possible but would unlikely impact road or mine site area. Rock and ice falls can occur during periods of thaw and spring.
    - **Action:** Operational procedures (Travel Protocols) enforced for Low hazard ratings.

- "**CAUTION**" (Yellow): Natural avalanches D-2 or larger may impact the road. Controlled release of small to moderate avalanches likely. Rock and ice falls can occur during periods of thaw and spring.
    - **Action:** Operational procedures (Travel Protocols) enforced for Moderate hazard ratings.
    - Recommendations may require closures for further hazard evaluation, per recommendations from avalanche mitigation and avalanche forecast personnel.

- "**WARNING**" (Red): Natural and controlled avalanches will impact the road and Revenue Mine Site. D-2 or larger avalanches are likely to affect road and mine site area for significant periods of time.
    - **Action:** Operational procedures enforced for High hazard ratings.
    - **Recommendation:** Road closed pending notice from avalanche mitigation and avalanche forecast personnel that the road is safe for travel.

- Refer to (**Attachment B**) for details

- Hazard rating may change at any time during working shifts, as weather conditions affect snow conditions. This may occur frequently during spring conditions.

Travel Protocols

- All travel, from the first significant snowfall through April 30 or longer if conditions dictates, shall adhere to the WOP and Travel Management protocols. All OSMI owned and non-owned OSMI authorized vehicles shall have a hazard map, issued by

the OSMI warehouse, in the vehicle for accurate communication of hazard locations on road.

- During Periods of "NOTICE" (GREEN) rating the following protocols will be implemented:

- Avalanche Rescue Beacons will be worn by all OSMI employees, vendors and material delivery providers traveling or working outside of facilities and vehicles must travel with a vehicle spacing appropriate to surface road conditions. The appropriate spacing shall be determined by assigned experienced drivers. OSMI will examine and approve individual vehicle operator qualifications before authorizing road travel on behalf of OSMI.

- High visibility safety vests will be worn.

- Visitors and contractors shall wear OSMI issued avalanche beacons and high visibility safety vests. An OSMI ride along/escort is mandatory for first time travelers. A vehicle safety check, at the OSMI warehouse, shall be performed prior to departure. Visitor and contractors must have OSMI issued radios and trained in the use of such while traveling the road.

- During periods of "CAUTION" (YELLOW) rating, the following protocols will be implemented:

- Avalanche rescue beacons and high visibility green vests will be worn by all employees traveling or working outside Revenue Mine Site.

- While traveling between Road Points, conveying Vehicles will travel at a spacing appropriate for forecast conditions. The intent of this policy is to limit exposure to road travel conditions. Again, if forecast or observed conditions dictate the need, road travel shall be halted until conditions are safe.

- Visitors and contractors will wear avalanche beacons and high visibility orange safety vest. An OSMI ride along/escort is mandatory for first time travelers. A vehicle safety check, at warehouse, shall be performed prior to departure.

- The Road may close to traffic during "CAUTION" (YELLOW) hazard for in depth hazard evaluation.

- During Periods of "WARNING" (RED) hazard, the road will be closed to all travel until all mitigation work is complete, or an in-depth hazard evaluation has been completed and authorization has been conveyed by avalanche mitigation and/or avalanche forecast personnel that The Road and Revenue Mine Site can be safely re-opened for travel.

- If emergency travel is deemed essential by the General Manager, during, "WARNING" (RED) hazard conditions, risk-based safety platforms will be in place before travel by approved qualified personnel commences.

Snow and Avalanche Debris Removal

- Avalanche Rescue Beacons will be worn at all times by snow removal personnel.

- All vehicles and motorized equipment shall have:
  - A pack shovel
  - Probe
  - Seat belt cutter
  - A windshield breaking tool

- High Visibility Vest's shall be worn at all times by all personnel in vehicles and on foot.

- A communication plan shall include notification of work in progress at a location on the road travel map and any movements from one location to another along the road travel map.

- No work or snow plowing shall commence without a spotter in hazard zones shown on the map during "CAUTION" (YELLOW) or "WARNING" (RED) hazard conditions. Radio communication or visual contact shall be maintained during work on the ground or snow plowing activities performed by OSMI or Contractor equipment.

- The spotter will be in an OSMI owned or authorized vehicle equipped with the appropriate safety equipment.

- Any refueling, maintenance, or work breaks will be undertaken at designated road points, approved by avalanche forecasting personnel.

- Machinery will be returned to designated road points at end of the work shift.
- No equipment will be parked in hazard zones during or after road clearing operations.
- The location of plowing equipment and vehicles shall be communicated to dispatch at the end of every shift and conformation to dispatch that all OSMI personnel and contractors have safely cleared The Road.

Avalanche Warning and Mitigation

- The following protocol shall apply after an avalanche warning has been issued and the decision to close the road for avalanche mitigation has been made. OSMI management, in consultation with avalanche forecasting and mitigation personnel shall take the following pre-mitigation steps:
    - Avalanche forecasting personnel shall contact Ouray County Dispatch 970-325-7272 or EMS Director Glenn Boyd 970-325-0854 to trigger Wens report reading:
        - ***"County Road 361 (Road to Camp Bird Mine and Yankee Boy) past the Weehawken Bridge is closed until further notice for avalanche mitigation".***
- Refer to **(Attachment C)** for the Ouray County CALL LIST if unable to contact above personnel.
- OSMI personnel shall ensure the **"AVALANCHE CONTROL IN PROGRESS"** sign at the Senator Gulch gate is turned around and facing downhill. Ensure the Senator gate is locked.
- OSMI personnel shall close the Weehawken gate and ensure the **"AVALANCHE CONTROL IN PROGRESS"** is posted. This gate cannot be locked.
    - Exercise due diligence in looking for any person/s above Weehawken gate or cars parked above or below Senator Gulch gate. All observations of persons or vehicles shall be investigated to ensure the area is clear and safe for mitigation.
- Avalanche forecasting personnel shall Contact Ouray County Road and Bridge (Chad Reilling at (970) 318-0160) to ensure Ouray County Electronic sign **"Road Closed Avalanche Mitigation in Progress"** is placed at the Harris Bridge.

- Avalanche forecasting personnel shall contact San Miguel Power Dispatch @ (970) 240-6804 & Eric Pottrof (970) 238-0341 cell or (970) 209-3480 cell of the intent to perform avalanche mitigation.

- Avalanche forecasting personnel shall contact CDOT Vance Kellso (970)497-9188 and notify of intent to mitigate. Must query CDOT with the following:
  - ***Are they planning howitzer mitigation at the same time as OSMI?***
  - ***If Helitrax cannot fly due to CDOT also performing mitigation with a howitzer on Hwy 550 then OSMI Mitigation will be postponed until CDOT gives "ALL CLEAR" after CDOT completion of howitzer mitigation.***

- Avalanche forecasting personnel shall contact US Forest Service office (970) 240-5300, Caleb Valdez (970) 560-4239 and Snow Ranger Chris Snell (970) 708-7644 and notify of intent to mitigate.

- Avalanche forecasting personnel shall contact Commercial Operators, Residences & Other Users:
  - Mount Hayden Backcountry Lodge, LLC. Call Eric Johnson (303) 656-1550.
  - Mount Hayden Backcountry Lodge, LLC, vehicles shall have notes on the driver's side window detailing Day in, Day out, # in party.
  - Car make, model & license plate numbers and # in party should have been texted/emailed in advance to OSMI by Eric Johnson of Mount Hayden Backcountry Lodge. Check with OSMI office for most recent update from Mount Hayden Backcountry Lodge.

- Avalanche forecasting personnel shall communicate road closure & pending mitigation to Jim Gebhard (970) 250-2081.
  - OSMI personnel shall check for residential vehicles belonging to Jim Gebhard parked at the first switchback above the Senator Gulch gate. OSMI shall notify avalanche forecasting personnel if vehicles are observed in the area.

- Avalanche forecasting personnel shall communicate road closures and pending mitigation to Randy Loftins at (817) 229-3521, (House below Senator Gate).

- OSMI personnel shall take note of any cars parked below the Senator Gulch gate. If cars are present and the location of the occupants cannot be identified, avalanche forecasting personnel shall be immediately notified.

- **Avalanche forecasting personnel shall contact Ouray County Sheriff Dispatch (970) 325-7272 if the location of the occupants cannot be determined. If Dispatch can't be contacted, call Ouray Sheriff at (970) 901-0197.**

- During the Day of Mitigation OSMI management, in consultation with avalanche forecasting and mitigation personnel shall take the following steps:
    - OSMI shall authorize HELITRAX to perform Avalanche Mitigation with the following email message:
        - **"OSMI AUTHORIZES HELITRAX TO PERFORM MITIGATION FOR CURRENT "WARNING" and the DATE".**

- Avalanche mitigation will be performed as soon as HELITRAX deems it safe for operations. Providing Helitrax a 24-hour notice is preferable.

- OSMI management shall post designated personnel at the Senator Gulch gate to ensure the gate is locked and the "AVALANCHE CONTROL IN PROGRESS" sign is in position.

- OSMI personnel shall advise persons trying to go through the gate of impending avalanche mitigation. If they ignore the warning and go through the gate, take the following actions:
    - Notify avalanche forecasting personnel
    - **Notify the Ouray County Sheriff's Office Dispatch at (970) 325-7272. If no response at Dispatch, call Sheriff Justin Perry of the Sheriff's Office at (970) 901-0197.**

- Ensure protocols for San Miguel Power and Helitrax have been implemented.
    - **(Attachment D)** - San Miguel Power Mitigation Protocol
    - **(Attachment E)** – HELITRAX Mitigation Protocol

- Double check to ensure communications have occurred with CDOT & US Forest Service.

Post Avalanche Mitigation

- After mitigation activities are complete, Helitrax shall notify avalanche forecasting personnel of the current hazard rating. Helitrax will assess and communicate the Post Control Hazard Level and whether a post control wait period is required for equipment or staff to proceed past the Senator Gulch gate. Avalanche forecasting personnel shall notify OSMI management of the current conditions and recommendations for safe travel.

- After OSMI receives conformation the road is safe to travel, all safety recommendations shall be followed.

- Note - OSMI will attempt to open the climber's wall for access as soon as safely possible.

- When plowing is complete, OSMI shall contact Ouray County Dispatch 970-325-7272 or EMS Director Glenn Boyd 970-325-0854 to trigger Wens report reading:
  - **"Mitigation and plowing operations on County Rd. 361 are now complete"**

- Avalanche forecasting personnel shall contact CDOT (Vance Kellso) to notify of an "ALL CLEAR" and notable avalanche results.

- OSMI personnel shall reposition the Avalanche Control signs at the Senator Gulch Gate and the Weehawken Bridge Gate.

- Avalanche forecasting personnel shall contact Ouray County Road and Bridge to turn off the electronic sign at the Harris Bridge and remove as necessary.

Avalanche Mitigation Checklists:

	Avalanche Pre-Mitigation Checklist		
	Pre-Mitigation Checklist	**Date:**	
Action Number	**Action:**	**Responsibility**	**Completion Time:**
1.	Contact Ouray County Dispatch (970)325-7272 or EMS Director Glenn Boyd (970)325-0854 to initiate WENS Report.	SJMG	
2.	Ensure the "AVALANCHE CONTROL IN PROGRESS" sign at the Senator Gulch gate is turned around and facing downhill. Ensure the Senator gate is locked.	OSMI Management	
3.	Close the Weehawken gate and ensure the "**AVALANCHE CONTROL IN**	OSMI Management	

	PROGRESS" turned around and facing downhill. Do not lock the gate.		
4.	Contact Ouray County Road and Bridge (Chad Reilling at (970) 318-0160) to ensure Ouray County Electronic sign "**Road Closed Avalanche Mitigation in Progress**" is in place at Harris Bridge.	SJMG	
5.	Contact San Miguel Power Dispatch @ (970) 240-6804 & Eric Pottrof (970) 238-0341 cell or (970) 209-3480 cell of the intent to perform avalanche mitigation.	SJMG	
6.	Contact CDOT Vance Kellso (970)497-9188 and notify of intent to mitigate. Must query CDOT with the following: • Are they planning howitzer mitigation at the same time as OSMI? • If Helitrax cannot fly due to CDOT also performing mitigation with a howitzer on Hwy 550, then OSMI Mitigation will be postponed until CDOT gives "**ALL CLEAR**".	SJMG	
7.	Contact US Forest Service office (970) 240-5300, Caleb Valdez (970) 560-4239 and Snow Ranger Chris Snell (970) 708-7644 and notify of intent to mitigate.	SJMG	
8.	Contact Commercial Operators, Residences & Other Users: • Mount Hayden Backcountry Lodge, LLC. (303) 656-1550. • Check with the OSMI office to ensure parked vehicles can be identified.	SJMG	
9.	Check for residential vehicles belonging to Jim Gebhard parked at the first switchback above the Senator Gulch gate.	OSMI Management	
10.	Call Jim Gebhard (970 250 2081) and inform him of road closures & pending mitigation.	SJMG	
11.	Call Randy Loftin's at (817 229-3521), (House below Senator Gate) and inform him of road closures & pending mitigation.	SJMG	

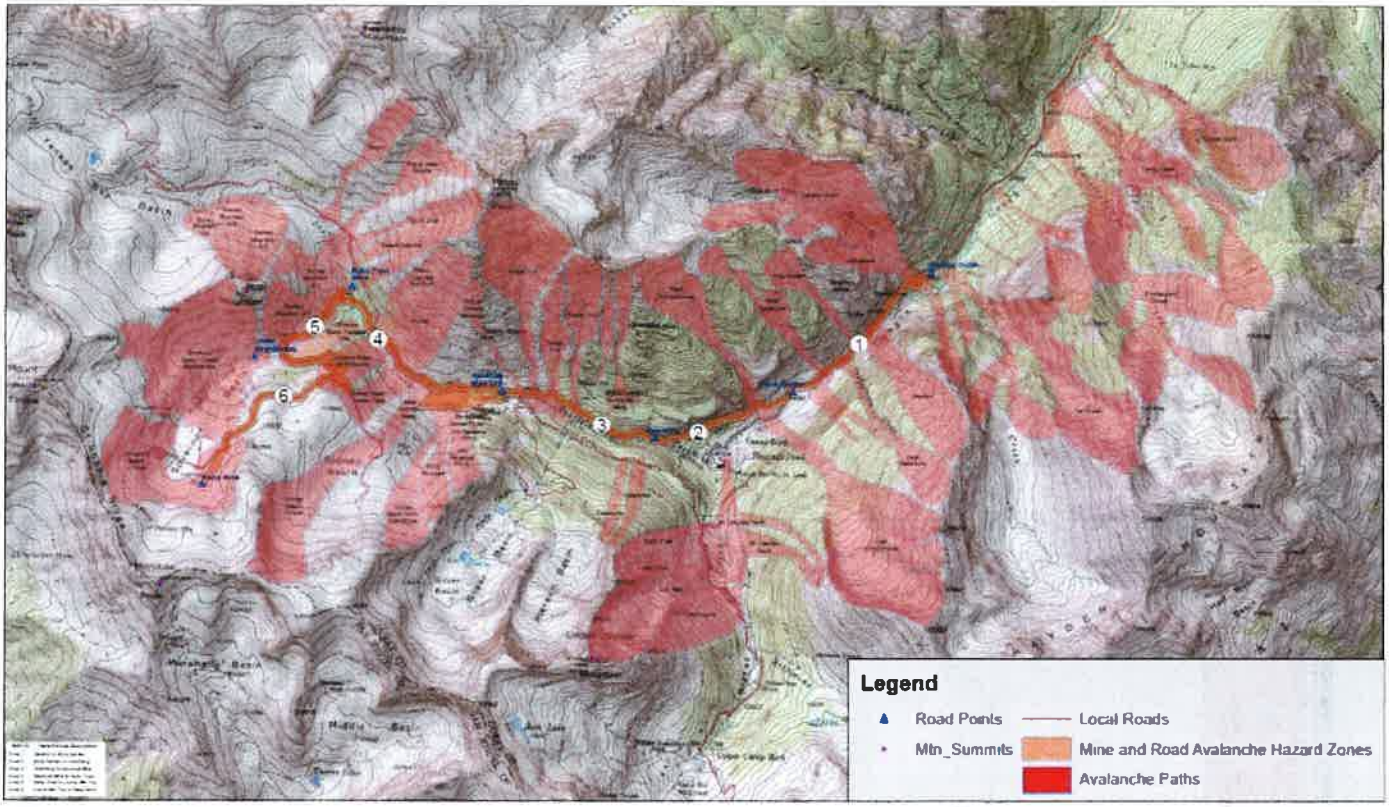
12.	OSMI personnel shall take note of any cars parked below the Senator Gulch gate. If cars are present and the location of the occupants cannot be identified, avalanche forecasting personnel shall be immediately notified.	OSMI Management	
13.	**Avalanche forecasting personnel shall contact Ouray County Sheriff Dispatch (970) 325-7272 if the location of the occupants cannot be determined. If Dispatch can't be contacted, call Sheriff Justin Perry at (970) 901-0197.**	SJMG	
14.	Authorize HELITRAX to perform Avalanche Mitigation services. (24-hour notice is preferable, when possible)	OSMI Management	
15.	OSMI shall post a guard at Senator Gulch gate to ensure the gate is locked and the "Avalanche Control in Progress" sign is turned in the downhill direction.	OSMI Management	
16	Ensure protocols for San Miguel Power and Helitrax have been implemented. • Attachment D San Miguel Power Protocol • Attachment B HELITRAX Protocol	SJMG	
17.	Double check that communication has occurred with CDOT & US Forest Service.	SJMG	
Post Mitigation Checklist			
1.	Helitrax will advise SJMG on the post control hazard level and whether a post control wait period is required prior to equipment or staff proceeding past the Senator Gulch gate.	SJMG	
2.	SJMG will communicate to OSMI post control hazard levels and road clearance protocols including but not limited to spotters and radio dispatch per hazard rating.	SJMG	
3.	OSMI will attempt to open the climber's wall for access as soon as safely possible.	OSMI Management	
4.	When Plowing is complete contact Ouray County Dispatch 970-325-7272 or EMS Director Glenn Boyd 970-325-0854 to trigger WENS report reading: "Mitigation and plowing operations on County Rd. 361 are now complete."	OSMI Management	
5	Contact CDOT (Vance Kellso) to notify of an "ALL CLEAR" and notable avalanche results.	SJMG	

6.	Avalanche Control Sign will be turned at the Senator Gulch gate and the Weehawken Bridge gate opened.	OSMI Management	
7.	Contact Ouray County Road and Bridge to turn off the electronic sign at the Harris Bridge and remove as necessary.	SJMG	

Exhibit B			
Mine Operations	**OSMI Winter Operating Plan**		
Implementation Date: April 14, 2020	**Standard: OSM-OPS-SAF-N-2.6**	**Revision: 0**	**Date: April 14, 2020**

Attachment A

Avalanche Paths and Hazards for the Camp Bird Mine Rd. Ouray, Colorado Index



Attachment B

LEVEL	DESCRIPTION: Avalanche Size	DESCRIPTION: Impact on "The Road"	OPERATIONAL PROCEDURES
NONE	Natural avalanches are unlikely to reach The Road.	Insufficient snow for avalanches to impact The Road.	-No operational changes for avalanche hazard -Notify avalanche forecasting personnel of any avalanche activity
NOTICE	Natural avalanches are unlikely to significantly impact The Road.	Avalanches may run onto the CR361, but will not require more than a loader to clear debris. Spring/ ICE ROCK FALL	-Avalanche rescue equipment required (At least 2 beacons shall be worn in the vehicle and all other occupants shall be wearing a RECCO Chip; carry shovel and probe in vehicle or personnel working outside) -Rescue Equipment, large shovels, saw, carried in vehicle and equipment -Notify OSM dispatch before working outside of your vehicle in an avalanche area -Notify avalanche forecasting personnel of any avalanche activity.
CAUTION	Natural avalanches, up to D2, can impact The Road. Travel may be restricted for evaluations.	Avalanches that run onto CR361 may require more than a loader to clear debris. Spring/ ICE ROCK FALL	-Avalanche rescue equipment required (At least 2 beacons shall be worn in the vehicle, vehicles shall travel in a convoy and all other occupants shall be wearing a RECCO Chip; carry shovel and probe in vehicle or personnel working outside) -Rescue equipment, large shovels, saw carried in vehicles and equipment. -No stopping in CR361 hazard areas -Do not work outside of vehicle in avalanche hazard areas -Notify OSMI dispatcher **before** performing any stationary work or removing debris in an avalanche area -Use a spotter when working in an avalanche area -Snow removal personnel follow OSMI snow removal protocols. -Notify avalanche forecasting personnel of any avalanche activity.
WARNING	Natural and controlled avalanches, D2 or larger are likely to impact The Road.	Avalanches large enough to bury passenger vehicles and damage maintenance vehicles are likely. Spring/ ICE ROCK FALL	-During WARNING Periods. -CR361 will be closed to all OSMI Employees and traffic until control work is complete, or an in-depth hazard evaluation has been complete and authorization has been conveyed by mitigation team that the road can be opened and/ or an in-depth hazard evaluation has been completed. -If travel is of a critical nature, extreme caution will be exercised. Multiple safety platforms will be in place before travel commences recognizing a high level of risk burial is possible. Travel during this time requires the completion of a JHA and approval of the OSMI General Manager.

Exhibit B			
			
Mine Operations	**OSMI Winter Operating Plan**		
Implementation Date: April 14, 2020	**Standard: OSM-OPS-SAF-N-2.6**	**Revision: 0**	**Date: April 14, 2020**

Attachment C

Contact List:

Helitrax	OSMI
Office 970-728-9377	Office 970-325-9830
Joe Shults 970-729-0250 or 970-728-3494	Nate Disser Cell 970 946 3973 Office 970 325.4925
Matt Steen 970-708-7393	Bob Sweeden Cell 970 275 1490
	Mike Lee Cell 406-490-8476

Ouray County * For Wens Notification	
*Glen Boyd (OC EMS) 970-318-0854	*Justin Perry (Ouray CO. S.O.) 970-901-0197
*West CO Dispatch (Montrose) 970-249-9110	*Dispatch (Ouray S.O. Dispatch) 970-325-7272
*Tim Pasek (OMR) 970-318-6894	Chad Rilling (OC Road/Bridge)970-318-0160

San Miguel Power	
Dispatch 970-240-6804	*Eric Pottorff 970-238-0341, 970-209-3480
*Brad Boulden 970-729-1066	*Duane Oliver 970-428-1860
*Terry Schuyler 303-883-6272	*Brad Zoporski 970-765-5554

US Forest Service	
GMUG USFS Office 970-240-5300	*Caleb Valdez 970-560-4239
*Chris Snell (Snow Ranger) 970-708-7644	*Brittany Duffy 970-210-9130
*Julie Leonard 970-596-4497	

Additional Contacts:

*All Personnel have registered to receive notifications form the "WENS" report system unless otherwise noted.

Bumper Williams (Camp Bird Mine) 970-209-3624	Mike Thompson (Camp Bird Mine) 970-426-2924
Phil Blackford (Blackford's Construction) 970-596-3145	Eric Johnson 303-656-1550 (or Radio)
Jim Gebhard (Senator Gate Resident) 970-250-2081	Randy Loftins (Resident below gate) 817-229-3521

*Contacts for CDOT/CAIC All Personnel have registered to receive "WENS" notifications.

Road Supervisor Vance Kelso 970-497-9188	(CAIC) Ann Mellick 970-219-7722
(CAIC) Jeff Davis 970-519-1011	(CAIC) Colin Mitchell 720-854-4556

(CAIC) Colin Mitchell 720-854-4556	(CAIC) Bill Nalli 385-414-4938

Attachment D

San Miguel Power (SMPA) OSMI Mitigation Protocol

- Avalanche forecasting personnel shall contact SMPA Dispatch at (970)240-6804

- Eric Potroff's (970)238-0341 & (970)209-3480) will also be contacted notifying of Hazard Rating and proposed mitigation times.

- Before HELITRAX conducts a Pre-Control Flight, HELITRAX will use the best information available to assess the hazard and then relay the assessment to avalanche forecasting personnel and the avalanche forecasting personnel shall promptly relay the hazard assessment to SMPA.

- Key Points to be relayed:
  - Fault indicators have been checked at Weehawken and if available Camp Bird. Every effort will be made to establish if we have power at the mine.
  - Probability of explosive triggered avalanches affecting the line and poles.
- Note - If probability is High, SMPA will de-energize the lines.

- While HELITRAX conducts a Pre-Control flight:
  - HELITRAX will attempt to view if power at the mine is on by examining exterior lighting during a fly by.
  - Any down lines or poles will be photographed and or video recorded by HELITRAX.
  - Information will be immediately relayed to the OSM management and avalanche forecasting personnel.
  - OSMI management shall immediately relay the information on damage & location to Eric Potroff of SMPA.

- Key Points to be relayed:
  - Lines are intact and power at the mine is on.
  - If line damage has occurred from explosive released avalanches, the location and an estimate of damage will be relayed.
  - Use Power Pole maps supplied by SMPA for locations.
  - If lines were de-energized and lines are clear of any damage SMPA will re-energize lines as soon as possible.

Attachment E

HELITRAX OSMI Mitigation Protocol

- Before HELITRAX conducts a Pre-Control Flight, HELITRAX will use best information available to assess the hazards and relay all pertinent information to the avalanche forecasting personnel who will relay such information to SMPA and OSMI management.

- HELITRAX Pre-Control Flight of the Mitigation Corridor; during the Pre-Control sweep of the mitigation corridor HELITRAX will sweep the corridor and surrounding area for people on the ground and the status of the power lines.

- HELITRAX will look for people on the ground in areas such as:
  - Climbers wall (sky light) (* 003,4,5,6,8) Senator Gulch ice climb (*002)
  - Rock Wall below West School House (*012) known as "Hall of Justice".
  - East Hayden PK. across from Senator Gulch climbs known as "Ribbon" and "Bird Brain Boulevard".
  - Residence at the base of Switch Back (*002) slide Jim Gebhard.
  - Mount Hayden Backcountry Lodge, LLC. Visitors traveling to and from Richmond Basin.
  - If any person/s are observed in the area, HELITRAX will stop mitigation activities, notify avalanche forecasting personnel and OSMI management. HELITREX shall not proceed until avalanche forecasting personnel and/or OSMI management has communicated the area is safe to proceed with mitigation activities.

- When Pre-Control sweep protocols are complete, avalanche mitigation can begin.

- HELITRAX will conduct a Post Flight of the mitigation corridor and will advise OSMI of results & impacts. HELIXTRAX will also issue a report on mitigation results, referencing avalanche map's and photos.

SMPA Power lines.

- HELITRAX will attempt to assess if power at the mine is on. Via exterior lights during a fly by. Lines will be swept from Senator Gulch to Mine site.

- Down power lines or poles will be photographed and/or video recorded by HELITRAX. The information will be immediately relayed to the OSMI Management and avalanching forecasting personnel on the ground. OSMI Management shall contact Eric Potroff (970238-0341 or 970

209-3480) to report the damage and location of the damage by using power pole maps supplied by SMPA.

- Failure to follow this procedure will lead to disciplinary measures, up to and including termination.

1.0.4 RESPONSIBILITIES

- It is the responsibility of all OSMI employees, contractors and vendors trained on this procedure to know, understand and follow this procedure.
- It is the responsibility of OSMI management to provide the support and resources necessary to successfully implement this procedure.

Exhibit B			
Mine Operations	**OSMI Winter Operating Plan**		
Implementation Date: April 14, 2020	**Standard: OSM-OPS-SAF-N-2.6**	**Revision: 0**	**Date: April 14, 2020**

In signing below, I assert that I have read, understand and agree to the establishment of this standard for current and future employees of Ouray Silver Mines Inc.

11-13-20

Brian Briggs — Date

Chief Executive Officer- Ouray Silver Mines, Inc.

11/23/2020

Chad Stewart — Date

Forest Supervisor- Grand Mesa, Uncompahgre and Gunnison National Forests

PURPOSE: To meet the documentation requirements of Clause B-29 USE AND STORAGE of EXPLOSIVES AND MAGAZINE SECURITY (FSH 2709.11 CH50) and FSH2719 for SPECIAL USE AUTHORIZATIONS INVOLVING THE STORAGE OF EXPLOSIVES.

ATF LICENSE: Insert a copy of the holder's current valid license issued by the U.S. Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) for the use and storage of explosives (FSM2719.04b(3) and FSH2709.11 CH50 Clause B-29(2)). This is applicable only to private parties, not states or federal agencies.

PERMIT ADMINISTRATOR (PA)/ARTILLERY PROGRAM MANAGER (APM) TRAINING LOG: Indicate the date that permit administrators received training to effectively monitor and verify the requirements of a permittee's operating plan, including required magazine security provisions for applicable permittees. (FSM2719.04b(6))

Date **##/##/####**	**Name (First and Last)**	**Type** **(PA or APM)**

INSPECTION REPORTS: If provided by the ATF, state or DOA, insert copies of any ATF "Report of Violations", state or DOA inspection reports corresponding to the inspection dates and deficiency corrections in the following log (FSM2719.04b(3) and FSH2709.11 CH50 Clause B-29(2)).

EXPLOSIVES MAGAZINE SECURITY LOG: Fill in this log or insert a copy of an existing log to indicate the type of inspection completed, the inspection date, and the date any deficiencies were corrected. Also fill in this log with the date of any lock and key replacements. (FSM2719.04b(3) and FSH2709.11 CH50 Clause B-29(2) and (3)(b))

Date **##/##/####**	**Inspection Type** (3-year or 7-day) or Lock/Key Replacement	**Date** that all deficiencies were corrected or N/A for Lock/Key Replacement

Structure Agreement

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of the Ouray Silver Mines, Inc. Revenue Mine located along County Road 26. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation may adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

a) 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; or

b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or

c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility.

The following structures are located on or within 200 feet of the proposed affected area:

1. Public Restroom on County Road 26

CERTIFICATION

The Applicant, Ouray Silver Mines, Inc., by Charles R. Andrews, as acting Chief Executive Officer and Chief Financial Officer does hereby certify that Six Basins shall be compensated for any damage from Ouray Silver Mines proposed mining operation to the above listed structure(s) located within 200 feet of the permit boundary described within Exhibit A of the Reclamation Permit Application for the Revenue Mine, Permit Number M-2012-032.

NOTARY FOR PERMIT APPLICANT

ACKNOWLEGED BY:

Applicant: Ouray Silver Mines, Inc.

Representative Name: Charles R. Andrews Signature: [signature]

Date: March 30, 2022 Title: CFO and Acting CEO

STATE OF Colorado)
) ss.
COUNTY OF Ouray)

The foregoing was acknowledged before me this 4th day of April, 2022, by Charles R Andrews as CFO & acting CEO of Ouray Silver Mines

Sep. 12, 2022 My Commission Expires:

Rebecca Suppeland Notary Public

REBECCA SUPPELAND
NOTARY PUBLIC - STATE OF COLORADO
NOTARY ID 20144035218
MY COMMISSION EXPIRES SEP 12, 2022

NOTARY FOR STRUCTURE OWNER

ACKNOWLEGED BY:

Structure Owner: Six Basins

Name: CRAIG E. HINKSON Signature: [signature]

Date 13 APR 22 Title PRESIDENT

STATE OF Colorado)
) ss.
COUNTY OF Ouray)

The foregoing was acknowledged before me this 13 day of April, 2022, by Craig Hinkson as President of Six Basins Project Inc.

October 21, 2025 My Commission Expires:

Mikala Salazar Notary Public

MIKALA KYAN SALAZAR
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID #20214041710
My Commission Expires October 21, 2025

United States Department of Agriculture
Forest Service
Ouray Ranger District
2505 South Townsend
Montrose, CO 81401
970-240-5300
Fax: 970-240-5367

File Code: 2820
Date:

Colorado Mined Land Reclamation Board
Colorado Division of Reclamation, Mining, and Safety
1001 E 62nd Avenue
Room 215
Denver, CO 80216

Dear Colorado Mined Land Reclamation Board,

I am writing to provide a statement on the structure agreement for Ouray Silver Mines Inc., (OSMI) for their amendment to its Division of Reclamation Mining and Safety (DRMS) mine permit No. M-2012-032. Following Rule 6.4.19 of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal and Designated Mining Operations, OSMI is required to identify permanent manmade structures located within 200 feet of OSMI's permit boundary and compensate the owner of such structures should its operations cause damage to the structure.

OSMI identified a portion of Forest Service Road NFSR 853/CR 26 (Camp Bird Road) located within the 200-foot boundary. The use and maintenance of NFSR 853 will be authorized under special use permit issued by the Forest Service when their current authorization (AuthID: OUR712) is amended to include summer access by OSMI this summer. The use and maintenance of the road on NFS lands will be administered according to the Terms and Conditions of that permit and Forest Service Special Use regulations.

If you have any questions about this statement, please contact me at dana.gardunio@usda.gov.

Sincerely,

X _____

DANA GARDUNIO
Ouray District Ranger

cc: Nick Szuch; Pamela Leschak

Updated Exhibit U

Environmental Protection Plan

Exhibit U: Designated Mining Operation Environmental Protection Plan

Contents

List of Tables

List of Figures

1 Introduction

This Exhibit U describes the Environmental Protection Facilities (EPFs) operating at the Revenue Mine and presents an updated Environmental Protection Plan (EPP). The purpose of the EPP is to describe how OSMI will protect areas that have the potential to be affected by designated chemicals, toxic or acid forming materials or acid mine drainage. In addition, the EPP includes an Emergency Response Plan for designated chemicals used on site as well as appropriate measures to protect wildlife from designated chemicals, toxic or acid forming materials and acid mine drainage. This Exhibit U satisfies the requirements of Rule 6.4.21 of the Hard Rock/Metal Mining Rules and Regulations of the Colorado Mined Land Reclamation Board (July 15, 2019).

The information contained in this EPP includes:

- Scope of the EPP (i.e., what areas of the mine are covered by the EPP)
- A description of designated chemicals stored
- A description of the EPFs and other facilities
- A summary of other environmental protection measures
- A summary of groundwater and surface water quality
- The Emergency Response Plan used to respond to an environmental incident related to the designated chemicals.

Where appropriate, the sections in this EPP reference relevant Technical Revisions and other Exhibits included with this permit application, including Exhibits D, E and G for details on mine operations, reclamation, and water, respectively.

2 Scope of EPP

In preparing this EPP, the mine plan (Exhibit D) was evaluated to assess what portions of the project have the potential to be affected by designated chemicals, by toxic or acid-forming materials, or acid mine drainage. The scope of this EPP includes the following areas, which are considered EPFs.

1) The Mill Reagent Room
2) The Mill Building and associated areas (i.e., tailings thickener, flotation gallery, old reagent room) ==
3) The Passive Mine Water Treatment System and Mine Water Management System.
4) The Revenue Tailings Storage Facilities (TSF)
5) The Atlas TSF

The chemicals used at the Revenue Mine stored for use within the Reagent Room and Mill are listed in Table U-1, which includes information on chemical use, dosing rates, typical storage volumes, and the fate of the reagent. The storage location for designated chemicals and the location of EPFs are shown on Map U-1.

The scope of this EPP concerns activity within the permit boundary near the Revenue portal. The three ventilation shafts that are part of the permit boundary do not contain chemical storage nor do these areas generate water discharge that could contribute to acid mine drainage. Water generated within the ventilation shafts drains underground and is treated through the five-stage passive mine water treatment system at the Revenue Portal.

A brief description of the EPFs is provided in the sections below.

2.1 Mill Reagent Room

Construction of the Reagent Room was permitted in 2016 as part of the Mill Filter Building expansion in Technical Revision 09 (TR-09). The expansion is located on the east side of the Mill Building (See Map U-1). The request for certification of the Reagent Room as an EPF was submitted to DRMS as TR-14 and is conditionally approved pending completion of construction and final inspection by DRMS.

Mill reagents including designated chemicals are stored in the Reagent Room. Retaining and footing walls are in place to contain reagents along with sump pumps to recycle spilled material, if any, back into the process. Of the permitted 6,004 square feet that were approved for the Mill Filter Building expansion under TR-09, approximately 3,000 square feet are used for the Reagent Room.

Final design of the Reagent Room was completed by Barr Engineering. A complete set of engineering drawings issued for construction was provided to DRMS as part TR-14 and related adequacy review responses. Secondary containment and sumps are shown on the engineering drawings. Designated chemical piping is double walled where piping is located outside of secondary containment. There are no under drains or liners. The Reagent Room will contain, at a maximum, 12,730 total gallons of reagents at any given time. The secondary containment volume for the Reagent Room is 28,019 gallons including the sump volume of 268 gallons, which is sufficient to contain 110% of the maximum volume of reagents stored.

Mill reagents are mixed and stored in the Reagent Room. Totes or bags (in the case of dry reagents) of chemicals will be added to the mixing tanks located inside the Reagent Room. The mine's Spill Prevention Control and Countermeasures (SPCC) Plan and Materials Containment Plan (MCP) have been updated to account for the management of the designated chemicals in the Reagent Room. Copies of the SPCC and MCP along with the Emergency Response Plan are included in Appendix 1 of this Amendment 2 application.

From the Reagent Room mixing tanks, reagents are pumped to storage tanks in the Reagent Room, then to smaller day tanks in the mill. Piping outside of areas with secondary containment is double walled. The double-walled piping going into the Mill was field fit and tested by the contractor prior to use per TR-15 obligations. Reagents will be used in the milling process as described in Exhibit D and in TR-15.

Empty totes and other reagent containers are returned to the manufacturer when possible or disposed of in accordance with solid waste regulations.

2.2 Revenue Mill

Certification of the Mill as an EPF was originally granted by DRMS on January 11, 2016. Modifications to the mill were requested in a Technical Revision (TR-09) in February 2017, which was approved by DRMS on March 16th, 2017. On April 9th, 2021, DRMS decertified the mill citing mill reconfiguration, equipment modifications and a change to designated chemicals as the reason for decertification. OSMI submitted TR-15 to request recertification of the mill, which was conditionally approved by DRMS.

The Revenue Mill is designed as an underground mill with a 540 ton per day ore capacity. There are four tunnels that make up the mill complex, which are:

1) The mine car unloading tunnel and coarse ore bin;
2) The crusher gallery with conveyor leading to the mill tunnel (fine ore bin incline);
3) The mill tunnel, which contains the flotation circuits (lead and zinc) and leads to the filter building at the outside edge of the mill tunnel; and

4) The decline tunnel, which provides equipment aces to the crushing gallery from the mill tunnel.

The original mill was designed by CH2MHill in Denver, Colorado based on ore samples and production targets for the mine and mill. Tunnel excavation began in March of 2013. Installation of concrete flooring, crushers, screens, ball mill, flotation cells, water handling systems, filter presses, control room, reagent storage, and electrical room equipment occurred in April of 2014.

Barr Engineering of Minneapolis, Minnesota updated the mill design in 2016 under OSMI direction. Mill upgrades were necessary to improve ore recovery. A simplified flow diagram that outlines the milling process and indicates which components are new is found in Figure 1. A general description of the milling process is provided below.

2.2.1 Crushing

Ore is transported by mine cars to the slusher tunnel (Coarse Ore Bin), which has the rail siding above the crushing gallery. Here the ore cars are side dumped to a long, narrow holding area, where a slusher gathers the ore and delivers it to a spiral chute, which leads to a pan feeder, feeding a conveyor leading to the main crushing gallery, where the ore enters jaw crushers.

Material leaving the primary jaw crusher is –2 1/2". Material is conveyed from the primary jaw crusher to a ¾ inch screen and then sent to the rod mill. Oversized material is sent to the secondary crusher screen which sorts oversized material to send to the secondary jaw crusher. At both jaw crushers dust is suppressed using raw water. Following the secondary crusher, a conveyor belt brings -3/4" material to the rod mill. The -3/4" material goes into rod mill along with process water where the ore is further crushed and sends it to one of two slurry storage tanks (12690 gallons each). The two slurry storage tanks are currently being engineered and will not be in place when the mill is commissioned. The slurry storage tanks are for surge capacity and the mill can be started without them. Material will be sent directly to the Derrick screens until the slurry tanks are installed. The slurry tanks will be added to the circuit in 2022. A list of tanks described in this section may be found in Exhibit D.

All remaining processes are fully wet from this point forward. From the slurry storage tanks material is pumped to the 2 Derrick stack sizer screens, which are -130 mesh. These screens replaced the previously used hydro cyclone. Undersized material is sent to the Lead conditioning tank (1064 gallons). Oversize material is sent to the ball mill where it is crushed to -130 mesh and sent back to the screens and on to the Lead conditioning tank. The ball mill reduction takes place in a wet, enclosed ball mill. Sodium metabisulfite (pH control & zinc suppressant), zinc sulfate (zinc suppressant), and lime (pH adjustment) are introduced into the process in the ball mill. Typical dosing rates for these chemicals may be found in Table U-1.

2.2.2 Lead Concentrate

In the Lead conditioning tank, process water, Aerofloat 242, Aerophine 3418A, and MIBC are added to promote the flotation of lead and silver while depressing the zinc to prepare for the concentrate separation in the lead rougher flotation cell (1320 gallons). The rougher flotation cell mixes air into the slurry with a rotor so that lead can adhere to the bubbles and float to the surface. The rougher flotation cell feeds tailings from the bottom of the cell into lead rougher scavenger flotation cells which consist of two sets of tanks (1320 gallons each) with three rotors in each tank (these tanks will also have two products - a concentrate and a tails). The concentrate goes to the lead cleaner flotation cell. The tails from rougher scavenger cells report to the zinc rougher feed. The concentrate comes off the top of the rougher flotation cell and is fed to the lead cleaner flotation cell or lead cleaner column determined by recovery/concentrate grade.

The slurry then enters lead cleaner floatation cells (unless bypassed to the lead cleaner column) which consist of two banks that both have two tank cells (1st cell 449 gallons, 2nd cell 290 gallons). This step also creates two products – concentrate and tails. The concentrate reports to the lead cleaner flotation columns. The tails from bank #1 tank #1 report to the bank #2 tank #1. Tails from bank #1 tank #2 goes to bank #2 tank #2. Tails from bank #2 tank #1 goes to bank #1 tank #2. Bank #2 tank #2 tails report to the zinc rougher conditioning tank (which is mislabeled on drawing 300-PI-004). Concentrate from the lead cleaner flotation cells reports to the lead cleaner column (214 gallons). Like all other tanks in the circuit, the lead cleaner column creates both a concentrate and tails. The tails from the lead cleaner column are pumped back into the lead cleaner flotation tank cell #1. The concentrate from the lead cleaner column reports to the lead concentrate thickener. Process water and flocculant are added to the slurry at the lead concentrate thickener.

After the lead concentrate thickener, material reports to the lead concentrate filter feed tank (933 gallons). From the lead concentrate filter feed tank, the concentrate is pumped to the lead concentrate filter. Water removed from this step is sent to the filtrate water tank. The lead concentrate is sent to a conveyor that feeds the bagging system. Once bagged the lead concentrate is trucked off site to be sold.

2.2.3 Zinc Concentrate

The tails from the lead circuit are sent to the zinc conditioning tanks (1064 gallons each) where lime from the recirculation circuit is added for a pH adjustment and CuSO4, Oreprep, and xanthate are added to promote the flotation of zinc and to prepare for the concentrate separation in the zinc rougher flotation tank cell (1320 gallons). The rougher flotation cell mixes air into the slurry with a blower so that zinc can adhere to the bubbles and float to the surface. A concentrate is collected off the top the zinc rougher flotation tank cell and sent to the zinc cleaner flotation cells. Tailings from the bottom of the zinc rougher flotation tank cell report to the zinc rougher

scavenger flotation cells. The zinc rougher flotation cells consist of two banks (1320 gallons each). The concentrate from the zinc rougher scavenger flotation cells reports to the zinc cleaner flotation cells along with the concentrate from the zinc rougher flotation tank cell.

The zinc cleaner flotation cells consist of two banks (1320 gallons each). Tailings from the zinc cleaner flotation cells report back to the zinc conditioning tank and the concentrate that is produced in this step goes to the zinc cleaner flotation column (214 gallon). The concentrate that is removed from the top of the zinc cleaner flotation column reports to the zinc concentrate thickener. The tailings that are produced by the zinc cleaner flotation column is sent back to the zinc cleaner flotation cell or the zinc conditioning tank, determined by recovery/concentrate grade.

Following the zinc concentrate thickener, the concentrate goes to the zinc concentrate filter feed tank (1728 gallons). The concentrate is then pumped into the zinc concentrate filter where water is removed. Water is either sent to the zinc concentrate thickener or the filtrate water tank depending on recovery/concentrate grade. The zinc concentrate cake created by the filter is then put on a conveyor and moved to the zinc concentrate bagging system where the concentrate is placed in a super sack and transported off site for sale.

2.2.4 Tailings

Tailings from the zinc rougher scavenger flotation cells report to the tails filter feed tank or the tails thickener depending on the water content of the slurry. If additional water needs to be removed the tails will go to the tailings thickener. The tailings can be recirculated through the tailings thickener if need be before being sent on to the tailings filter feed tank (18,000 gallons).

The tailings filter feed tank reports to the tailings filter presses. Here the water is squeezed out of the tailings and the cake tailings are allowed to drop down into two concrete floor bays, where a front-end loader will load the filter cake out for permanent placement in the Revenue and Atlas tailings storage facilities (TSFs). The tailings from the filer presses will be approximately 13-18% moisture, which is appropriate for good compaction in either of the two permanent TSFs in the permit area.

The water removed from the tailings is recycled back into the process water circuit to be used in the mill process.

2.3 Passive Mine Water Treatment System

Water discharging from the Revenue Portal is near neutral and therefore not considered acid generating. However, it is possible that certain underground mine workings could intercept veins conveying acidic water that could have the potential to generate acid mine drainage. Therefore, the mine water treatment system is considered and EPF and is discussed as part of the EPP.

Mine water from the underground workings accumulates underground and reports to the main ditch in the Revenue Tunnel from various sources and eventually discharges at the Revenue Portal (location UG-5, as shown on EPP Map U-1). Mine water is routed through a five-stage passive treatment system that was permitted as part of TR-10. The system includes an initial dose of a flocculant (i.e., ferric chloride) to reduce total suspended solids, if needed, a settling pond called the Mine Water Pond (Mine Water Pond #1), a sulfate reducing bioreactor (Mine Water Pond #2), a combination of an open channel and pipeline to aerate the water before it reports to a final polishing step in Mine Water Pond #3. After Mine Water Pond #3, the water discharges through permitted Outfall 002A into Sneffels Creek pursuant to Colorado Discharge Permit System (CDPS) Permit No. CO-0000003. Sneffels Creek ultimately confluences with the Uncompahgre River.

2.4 TSFs and Waste Rock Disposal

The tailings generated by the mill and waste rock generated during mining are generally considered inert due to the calciferous nature of the host rock. However, there is a potential for future mining activities to intercept acid-generating vein structures and therefore the TSFs are considered EPFs and discussed further as part of the EPP.

2.4.1 Tailings

As described in the mine plan (Exhibit D), tailings from the underground mill will be produced at a rate of approximately 75,000 tons per year. The ore generally consists of approximately a 1 to 1.5 foot thickness of quartz vein host rock and approximately 3.5 feet of wall rock, which allows room for miners and equipment. The quartz veins have 4 minerals of interest:

- galena (PbS)
- sphalerite (ZnS)
- chalcopyrite ($CuFeS_2$)
- tetrahedrite ($Cu_{12}Sb_4S_{13}$) with a variant freibergite which has some silver (Ag) replacing some of the copper.

The other minerals present in the vein (which make up most of the mass) are inert quartz and other host materials, including the San Juan tuff, which is a calcite-rich material and acid neutralizing.

It is expected that these minerals will comprise approximately 20-40% of the vein material. The wall rock around the veins is primarily andesitic tuff, which is a very fine volcanic rock, consisting of feldspar, amphiboles, and biotite. Since the milling process is designed to extract the sulfide minerals, the tailings consist of feldspar, amphiboles, and biotite, which are inert minerals.

See Exhibit D for details about the mine plan, mill design and process flow.

Tailings will be placed in one of two TSFs, the Revenue TSF and the Atlas TSF, both of which are described below.

The Revenue TSF is in an active avalanche path. Ouray Silver Mines will control blast avalanches as necessary and will only haul tailings to the Revenue TSF when it is safe to do so. Tailings will be hauled directly to the Revenue TSF from the mill but will be hauled along a short stretch of County Road 26 across Sneffels Creek to reach the Atlas TSF. The Atlas TSF has no threat of avalanches due to the terrain above it, therefore it will be used during winter operating conditions.

Tailings will be managed in accordance with the current Tailings and Waste Rock Management Plan, which was developed as part of Amendment 1 in 2015 and was resubmitted to DRMS again as Attachment 3 to TR-15. A copy of the Tailings and Waste Rock Management Plan is included in Appendix 6 of this Amendment 02 application.

2.4.2 Waste Rock

Waste rock is generated from development mining and mining ore. In addition, there is currently waste rock on the surface at the Revenue portal area and the Monongahela/Hubb Reed area in Governor Basin from historic mining and development activities. It is expected that new waste rock will be produced at the rate of approximately 30,000 tons per year. It will be blasted rock of approximately minus 8” in size. This material is expected to be inert as it does not contain vein material. Most waste rock generated is left in the mined-out stopes as part of the mining process. See Exhibit D and Appendix 6 for mine plan details and management of waste rock. Results from waste rock testing are discussed in Section 13 of this EPP.

3 Other Agency Environmental Protection Measures

OSMI has in place permits and licenses that are applicable to the use, handling, storage, or disposal of designated chemicals and acid mine drainage-forming materials within the permit area. Such permits and other authorizations are listed in the following section. A complete list of OSMI's other permits and licenses necessary to perform mining and related activities is provided in Exhibit M. Copies of the permits are available in OSMI's environmental electronic files.

4 Federal Agencies

- Fringe Lease (USFS): OSMI has leased several claims from the Forest Service (FS) and Bureau of Land Management (BLM) to access locatable minerals on FS-owned claims that adjoin OSMI's patented claims. OSMI has a prospecting permit from the BLM and is pursuing a mineral lease from the BLM for the locatable minerals on these lands. This will allow OSMI to access minerals from underground on adjacent claims owned by the FS. None of the Fringe Lease claims are expected to include storage of designated chemicals as the lease prohibits any surface activity and water generated through mining these claims will drain to the main Revenue tunnel and will be captured and treated in the five-stage passive mine water treatment system and discharged via the permitted outfall.
- OSMI has a current Spill Prevention, Control and Countermeasure (SPCC) Plan in conformance with the U.S. Environmental Protection Agency's (EPA's) regulations for aboveground storage of more than 1,320 gallons of petroleum products. This plan provides measures for properly storing and handling petroleum products and responding to, and reporting, spills. In addition, OSMI maintains a Materials Containment Plan (MCP), which addresses non-petroleum-based chemical storage and spill prevention. Copies of the SPCC Plan and MCP may be found in Appendix 1.
- OSMI has an Army Corps of Engineers (ACOE) permit for the Mine Water Pond (Pond #1).

4.1 Other State Agencies

OSMI has several state-issued permits for water as well as programs for addressing waste management and chemical usage.

4.1.1 Water

- CDPS permit number CO-0000003 issued by the Water Quality Control Division (WQCD) establishes the discharge limits and environmental controls for the five-stage passive mine water treatment system. Mine water is treated in the passive system although this water is not considered acid mine drainage.
- Stormwater Permit No. COR-040289. OSMI maintains several stormwater run-on and runoff control features at the site. Quarterly inspections are completed in accordance with the permit certification. Stormwater best management practices (BMPs) are detailed in the site Stormwater Management Plan (SWMP). Stormwater generated on site is not acid mine drainage.

4.1.2 Waste Management

- OSMI is considered a very small quantity generator (i.e., generates less than 200 lbs of hazardous waste per month). The mine site has an EPA ID Number although none of the waste generated on site is related to designated chemicals or acid mine drainage. Should designated chemicals require offsite disposal they will be managed in accordance with solid waste regulation and if necessary, OSMI has the ability to change its generator status to manage additional waste volumes.

4.1.3 Other Agency Permits/Authorizations

- See exhibit M for complete list of permits, licenses, and authorizations necessary to perform mining operations.

5 Designated Chemical Evaluation

The following section provides information about the types, quantities, and concentrations of designated chemicals within the permit boundary and provides information relating to their known potential impacts to human health and the environment. In addition, the expected concentrations, process solution volumes and fate of designated chemicals is provided in this section.

A list of chemicals to be used in the underground mill for ore processing is provided in Table U-1 of this Exhibit U, which provides the information required by Rule 6.4.21(5). Table U-1 also includes the approximate concentrations (dosing rate) for each chemical used in the milling process recognizing that concentrations and dosing rates may fluctuate depending on the composition of the ore being processed.

In addition to mill reagents, other chemicals are used on site, but are not considered designated chemicals. These include:

- Magnesium chloride or a similar non-hazardous chemical may be used to treat haul roads within the mine, the TSF area and the portion of County Road 361 that is needed to access the Atlas TSF. The chemical, if used, will be added in a dilute solution to the road surface. The hard surface created by this treatment minimizes the amount of fugitive dust generated by mine activities.
- Ferric Chloride used as a flocculant for water treatment. This material is an approved treatment chemical under OSMI's CDPS Permit No. CO-0000003.
- Diesel fuel, small amounts of oils, and antifreeze are used in the mine equipment. Storage and use of these products are discussed in Exhibit D and the SPCC Plan.

6 Designated Chemicals and Materials Handling

Table U-2 provides a listing of the volume and total amount of each chemical reagent stored on site including the new Reagent Room and Mill. Reagents will be staged at the Main Warehouse in Ouray and transported to the mine by delivery truck on an as needed basis. Once on site, reagents are offloaded to the Reagent Room. The maximum storage amounts of each chemical that will be stored in the Reagent Room at any given time are provided in Table U-3. Reagents are stored in their manufacturer-supplied containers and are used as needed in the milling process. The Reagent Room and the Mill have sufficient secondary containment to prevent releases of designated chemicals. Containment volumes are presented on Table U-3.

In general, chemical reagents will not be stored in the previously permitted mill reagent room (old reagent room). The plan is to transport enough chemicals to fill the mixing, storage and day tanks to operate the mill. However, Per TR-14, OSMI anticipates that minor amount of chemicals may be stored in the old reagent room on an as needed basis if the chemicals need to be moved from the new Reagent Room for maintenance or similar activity. The old reagent room would be used as a staging area rather than storage area. The chemicals will be placed just inside of the garage doors that access the old reagent room.

There is sufficient secondary containment volume in the old reagent room to accommodate temporary chemical storage. Specifically, the old reagent room of the mill filter building is roughly 60’ x 25’ and has an 8” curb for containment, plus a 50-gallon sump, which equates to approximately 8,500 gallons of secondary containment. As noted above, the old reagent room will be used for temporary staging of chemicals, as needed. The chemicals will be placed on spill pallets to prevent mixing.

6.1 Reagent Handling and Disposal

The following section describes the use, handling and disposal of designated chemicals.

6.1.1 Reagent Use and Handling

The chemical list for the mill operation is provided in Table U-2.

Table U-2 List of Reagents and Volumes Stored on Site

Reagent	Day Tank (gal)	Mixing /storage tanks (gal)	Packaging (gal)	Total	Comment
Zinc Sulfate	70	240	18	328	120gal mixing tank feeding 120gal solution tank & packaging - day tank in mill tunnel

Reagent	Day Tank (gal)	Mixing /storage tanks (gal)	Packaging (gal)	Total	Comment
Sodium Metabisulfite	70	280	40	390	140gal mixing tank feeding 140gal solution tank & packaging- day tank in mill tunnel
Aerophine 3418A	70	300	55	425	only 300 gallon mixing tank in reagent area & packaging - day tank in mill tunnel
Aero 242 (Danafloat)	70	300	55	425	only 300 gallon mixing tank in reagent area & packaging - day tank in mill tunnel
OrePrep 549 (Polyfroth)	70	300	110	480	only 300 gallon transfer tank in reagent area & packaging - day tank in mill tunnel
Lime	9200	1320	620	11140	all in reagent area
Copper Sulfate	70	240	26 or 620	336 or 930	120gal mixing tank feeding 120gal solution tank & packaging- day tank in mill tunnel
Sodium Isopropyl Xanthate (NAX 31)	70	240	20	330	120gal mixing tank feeding 120gal solution tank & packaging- day tank in mill tunnel
Floc AF-309		310	27	337	70gal mixing tank feeding 240gal solution tank

Table U-3 Maximum Volumes Stored on Site and Containment Volumes

		Volume (gal) Total						
Storage Location	Containment Volume (gal)	Mixing Tank	Storage Tank	Daily Use (gal)	Daily Use (lbs)	Storage Zize (gal)	Reagent Packaging Size	Number stored on site
Lime area	12,281	1,320	9,200	<240	1,400	<620	100 lb super sacks	2
Flocculent Area	6,758	300		<2.3	17	<27	50 lb bag	4
Xanthate (NAX) Enclosed Containment Room	1,031	120	120	1.1	11	20	50 lb bag (dry product)	4

		Volume (gal) Total						
Storage Location	Containment Volume (gal)	Mixing Tank	Storage Tank	Daily Use (gal)	Daily Use (lbs)	Storage Zize (gal)	Reagent Packaging Size	Number stored on site
MIBC (OrePrep)(Polyfroath) Frother	793		300	7.3	64	110	55 gal drum	2
Aerophine 3418A	1,084	300		0.54	5	55	55 gal drum	1
Common Area	6,072							
Sodium Metabisulfite (MBS)		120	120	11	140	40	50 lb bag	10
Zinc sulfate		120	120	5.0	140	18	50 lb bag	10
Copper Sulfate		120	120	3.0	58	26	50 lb bag or supersack	10
Aero 242 (DanaFloat)		300		0.31	3	55	55 gal drum	1

Chemical Safety Data Sheets (SDSs) for the chemicals listed above are included in Appendix 8.

The new Reagent Room will be equipped with a concrete apron so that reagents may be unloaded and placed in the building without leaving secondary containment. The concrete apron is 78 feet long and 9-10 feet wide. The thickness of the reinforced concrete is 6". A swale was formed in the concrete apron, which is 6" to 8" deep and leads to a sump on the east side of the building. The apron can contain roughly 1,300 gallons. A level-controlled pump of 300 gpm capacity has been installed in the sump to automatically pump liquids or slurry back to the thickener or the 18,000-gallon slurry tank.

Operation of the new Reagent Room and mill is detailed in Exhibit D.

6.1.2 Chemical and Acid-forming Materials Disposal

During decommissioning of the Mill and Reagent Room, the intent will be to consume designated chemicals prior to ceasing operations. If this is not possible, residual reagents will be handled and disposed of in accordance with manufacturers' recommendations or disposed of as a solid waste in accordance with solid waste disposal regulations. Process water that may contain residual reagents will be characterized and hauled off site and disposed of in accordance with appropriate solid waste regulations. As noted in the Reclamation Plan, designated chemicals that

remain once operations have ceased will be rinsed from tanks, pipes and other appurtenances and characterized and disposed of in accordance with solid waste regulations.

While acid-forming materials are not anticipated at the Revenue Mine, mine water from the main portal will continue to be treated in the passive mine water treatment system until it can be demonstrated that treatment is no longer necessary to achieve ambient stream standards for Segment 9 of Sneffels Creek.

6.2 Ore, Concentrate and Waste Rock Handling

Ore is concentrated in the milling process and will consist of fine ground galena, sphalerite, tetrahedrite, chalcopyrite and a minor amount of free gold. Ore is direct hauled from the mine to the mill and placed in the dump with direct feed to the crushing circuit.

Temporary lined pads have been constructed on the TSFs 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.

Recovered concentrate from the milling process is packed in supersacks, which are stored in the mill tunnel, removed from the tunnel by forklift, loaded on highway trucks and shipped offsite for sale. More details about the lead and zinc circuit and concentrate handling may be found in Exhibit D.

Waste rock is inert and not expected to generate toxic or acid forming materials. Most of the waste rock generated is used to backfill mined out stopes. The small quantity of waste rock that comes to the surface is tested for hazardous characteristics and used for road base on and off site, which was permitted as part of TR-10. See Section 13 for typical analysis of waste rock.

Tailings will be closed in place within the TSFs as designed and as described in 2015 Tailingsand Waste Rock Management Plan and the Reclamation Plan (Exhibit E).

6.3 Preventing Adverse Off-site Impacts

The following sections describe how designated chemicals are handled during operations of the mill and how the potential for acid mine drainage is managed to prevent off-site impacts during active operations and times of temporary cessation.

6.3.1 Mill Reagents

- Active Operations: Adverse off-site impacts are prevented through engineering controls and administrative controls. Engineering controls include secondary containment in the new Reagent Room, mill and crusher gallery as well as in the other areas where fuels and

oils are stored. Other engineering controls include process automation of pumps and valves to prevent tanks from overtopping.

Administrative controls include various emergency response plans including the site-wide SPCC Plan, the MCP and Emergency Response Plan, copies of which are provided in Appendix 1. These plans have a section devoted to the handling of designated and non-designated chemicals.

Personnel are trained in the proper handling, storage and use of the chemicals, as well as the procedures for handling spills. Inspections are performed of the entire process area as described in the MCP/SPCC Plan.

- Temporary Cessation: During times of temporary cessation, mill reagents will be removed from the site and either stored in the warehouse or returned to the manufacturer. Chemicals that cannot be stored or returned will be disposed of in accordance with appropriate waste disposal regulations.

6.3.2 TSF and Waste Rock Storage Areas

- Active Operations. As noted above and as demonstrated in Section 13, tailings and waste rock are expected to be near neutral and not acid generating. Therefore, the potential for these facilities to produce acid main drainage or toxic or acid forming materials is low. The Tailings and Waste Rock Management Plan details the design and construction of these facilities to prevent off-site impacts. In addition, each of the TSFs have sediment ponds to capture stormwater runoff during operations. Detailed plans for reclaiming the TSFs and waste rock areas are presented in Exhibit E.
- Temporary Cessation. During times of temporary cessation, a maintenance crew will be assigned to routinely inspect the TSFs and waste rock storage areas to confirm berms and other controls are functioning. In addition, the site Stormwater Permit will remain active during temporary cessation, which requires maintenance of stormwater best management practices as well as inspections.

6.3.3 Mine Water Treatment

- Active Operations. The five-stage mine water treatment system provides treatment to remove certain metals from the mine water exiting the Revenue portal during active operations. The water leaving the portal is near neutral pH and therefore is not acid generating nor is it acid mine drainage. However, there is a potential for future underground workings to intercept veins or fault structures that have the potential to convey lower pH water.

- Temporary Cessation. The passive mine water treatment system was designed to be low maintenance with the ability to treat mine water during times of temporary cessation and post mining until the mine water achieves water quality standards. The water treatment system also serves to capture stormwater runoff prior to it leaving the site.

7 Facilities Evaluation

EPFs and other facilities are effective at controlling designated chemicals and acid generating materials. The EPFs discussed in this EPP are shown in the attached Maps U-1 and U-2, and a list of reagents stored on site is provided in Table U-2. Table U-4 provides a summary of the EPFs.

Table U-4 Summary of EPFs

Facility	EPF (yes/no)	Designated Chemicals/Acid Mine Drainage	Inspection/Monitoring Frequency
Revenue TSF	Yes	Potential for acid generating materials	Weekly walkthroughs and monthly inspections
Atlas TSF	Yes	Potential for acid generating materials	Weekly walkthroughs and monthly inspections
Mill Building (includes tailings thickener)	Yes	Designated chemicals	Daily walkthroughs and routine inspections of secondary containment and tanks
New Reagent Room	Yes	Designated chemicals	Daily walkthroughs and weekly inspections
Old Reagent Room	No	Temporary staging area for designated chemicals	Daily walkthroughs and weekly inspections
5-Stage Passive Treatment System	Yes	Ferric Chloride Mine water	Bi-monthly and quarterly monitoring per CDPS Permit N0. CO-0000003

7.1 Site-specific Conditions

The Revenue Mine is located at approximately 10,600 feet elevation in a narrow valley surrounded by steep mountainous terrain. The area is exposed to cold temperatures and, at times, severe snowpack. The area also is prone to avalanches. The site has been mined periodically since the late 1800's and as a result, the surface is impacted by historical mining activities.

The surface facility is comprised primarily of waste rock from historic operations. The waste rock is San Juan Tuff, which is calcite-rich and acid neutralizing and has proven to be suitable for capping a portion of the TSFs.

These site conditions were taken into consideration when the EPFs were designs to mitigate risks. The mill was constructed underground to minimize risk from avalanche and to provide space for crushing and milling equipment. The Atlas TSF was constructed to provide additional tailings storage space and to provide safe winter access during avalanche season. The passive mine water treatment system is lined to prevent untreated mine water from impacting groundwater, whereas, the stormwater conveyance and sedimentation ponds are not line to allow run-on to infiltrate. The TSFs have been designed to minimize impacts to wetlands.

7.2 Effectiveness of the EPFs

A discussion of each of the EPFs and other facilities in accordance with 6.4.21.(7) is provided below. The effectiveness of each of the EPFs as related to designated chemicals and/or acid forming materials was considered when developing this EPP. Total containment for the on-site facilities is provided in Table U-3.

7.2.1 New Reagent Room

The Reagent Room is designed to contain 100% of the maximum amount of the designated chemicals stored. Equipment stored within the building is protected from the elements and there is a concrete apron outside the building to contain spills should they occur during unloading.

7.2.2 Old Reagent Room

The old reagent room is not considered an EPF although it is used to temporarily store certain mill chemicals for staging purposes when maintenance of the new Reagent Room is required. The old reagent room is equipped with secondary containment, a curb and sump to contain spills should they occur.

7.2.3 Mill Building

The Mill Building is designed to contain 100% of the maximum volume of reagents used in process. The majority of the mill process is located underground, and the floor is sloped towards the back of the mill. Spills of process water or reagents, should they occur, would be directed back into the mill building and captured in various sumps and pumped back into the process water tank for use. If a spilled reagent cannot be used in the process, it will be stored in drums, characterized, and shipped off-site for disposal in accordance with solid waste regulations.

The tailings thickener tanks will be covered with a structure to eliminate exposure to the elements. The tank has adequate secondary containment to contain >100% of the volume of the tank should there be a tank failure or leak.

7.2.4 TSFs

Tailings from milling operations will be stored permanently on site in one of two TSFs as described in Exhibit D. These facilities will contain a blend of tailings and waste rock and will be

reclaimed as they are constructed as described in the Tailings and Waste Rock Management Plan (2015). The two TSFs are unlined facilities to allow water to drain through the tailings and infiltrate into groundwater. This practice is acceptable because the tailings and waste rock are inert and do not leach metals. SPLP, TCLP and ABA testing completed on the tailings to date show that leachate from the tailings is well below approved groundwater standards and the material is acid-neutralizing. A summary of the testing for the tailings and waste rock is provided in Section 13.

In addition to the testing completed on leachability of the tailings, there also are six monitoring wells that monitor groundwater downgradient of the TSFs and the mine water treatment system. Results from sampling groundwater for the past 5 quarters are provided in Table U-6. The groundwater monitoring program is described in Section 11.

To effectively control the tailings placed in the TSFs, the following best management practices are followed.

- Runoff from the undisturbed south hillside is diverted away from the Atlas TSF embankment, using diversion ditches designed for the 10-yr, 24-hr storm event.
- A stormwater channel was constructed around the south side of the Atlas TSF to prevent stormwater run on from coming into contact with the tailings and to divert it towards the wetlands.
- A sediment control pond was constructed as part of the Atlas TSF to capture and contain stormwater and snow melt that comes into contact with the tailings.
- A stormwater diversion ditch conveys run on from the main portal area and diverts it around the Revenue TSF.
- Stormwater runoff that comes into contact with the tailings in the Revenue TSF is captured by Mine Water Pond #2 and is treated in the passive mine water treatment system.
- A portion of final TSFs and waste rock embankments will be capped with a minimum of 6 inches of topsoil and planted with a stable mix of native grasses and forbs per Exhibit E. Areas that are not to receive topsoil will be armored with crushed San Juan Tuff to blend into the surrounding landscape. The vegetation and rock cap are designed to minimize erosion and will absorb most of the direct precipitation and surface water runoff that occurs on the reclaimed embankment. This will minimize the amount of water that can percolate into the reclaimed material. Details of this plan are shown in Exhibit E.
- The gradual slopes (3H:1V) and revegetated /graded surface of the waste rock embankment will minimize erosion of topsoil and prevent exposure of the underlying waste rock.

- The permeability of the waste rock is reduced by the compaction that is specified (94% of maximum dry density). The material is placed in thin lifts to achieve this compaction. This compaction also serves to greatly improve the slope stability of the permanent TSFs.
- Monitoring wells are located at the downgradient edge (north of the north toe) of each TSF to monitor the water quality in the downgradient groundwater.
- SPLP tests are conducted on the tailings every 6 months (or more frequently if chemistry of the tailings changes) and will be reported to DRMS in the Annual Report to ensure that the tailings are inert on an ongoing basis.
- Waste rock cannot make up more than 15% of the material to be placed in the permanent TSFs to prevent void spaces which may reduce compaction and provide conduits for water flow.

7.2.5 Passive Mine Water Treatment System

Details about the passive mine water treatment system are provided in Section 9.3 of this Exhibit U.

Waste Rock

Waste rock generated from development mining and mining of ore will be permanently placed as backfill in the mined-out stopes or used to blend with tailings as part of the final design of the TSFs. Waste rock also will be tested and crushed for use as road base on and off site. A copy of the recent analyses of waste rock is provided in Section 13.

8 Groundwater Information

The following section gives a brief overview of the groundwater system in the vicinity of the Mine. More detail about the groundwater system may be found in Exhibit G.

8.1 General Area Discussion

Groundwater in the Revenue Mine area is almost completely supplied by infiltration of high-elevation surface water seeping through fracture systems in the area. No sedimentary aquifers are found in this area. Additionally, the groundwater regime is strongly influenced by historical mining activity. Since documentation of pre-law mines is incomplete, it is not possible to provide a complete inventory of groundwater sources and flows. From historical documentation of the Revenue/Virginius mining activity in the area, it is known that the original Virginius mining area is located above and is connected to the Revenue tunnel. Other mines exist in the Sneffels Creek drainage above the Revenue tunnel, such as the Atlas Mine, Ruby Trust, Lower Mountain Top, Upper Mountain Top, and Humboldt. These features do not connect via mined passages but may have hydrologic connection via naturally occurring veins and fractures. The Lower Mountain Top and Ruby Trust each have substantial water discharges that are either permitted or were permitted at one time under the Colorado Discharge Permit System. Below the Revenue Mine is the Camp Bird, a significant, year-round groundwater drain of the Six Basins area.

Within the Sneffels Creek drainage lies the Atlas Mine, Torpedo Eclipse Mine, Bimetallist Mine, Virginius Mine, Humboldt Mine, Ruby Trust, Smuggler Mine, the Mountain Top Mine, the Lower Mountain Top Mine, and the Liberty, among others. The area has been mined since the late 1800s. Substantial pre-law waste rock piles may be found throughout the area. The recently reclaimed Atlas Mill tailings lie immediately upgradient of the Revenue portal.

See Map G-2 for tributary water courses, wells, springs, etc. within the permit boundaries and within 2 miles of the main Revenue Mine and the Monongahela / Hubb Reed Raise.

8.2 Known Aquifers and Related Subsurface Water-bearing Fracture Systems

There are no known aquifers in the area. Rather groundwater flows through fractured bedrock and historic mine workings.

The San Miguel / Ouray County line shown on Map G-2 generally serves as the hydrologic divide between the Uncompahgre River Basin in Ouray County and the San Miguel River Basin in San Miguel County. Groundwater moves through the San Juan Tuff host rock surrounding the Mine via fractures and mine workings as the tuff itself has a generally low hydraulic conductivity and porosity without fracture. The predominant mine workings in the area include those associated with the Idarado and the Camp Bird mines as well as the Revenue Mine.