



July 22, 2021

Daniel Pollock
Grand Island Resources, LLC
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RE: Cross Gold Mine, Permit No. M-1977-410, 110(2) Hard Rock Permit Amendment Application (AM-02), Adequacy Review No. 2

Mr. Pollock:

The Division of Reclamation, Mining and Safety (Division) has completed its review of your adequacy response for Amendment No. 2 (AM-02), received on May 27, 2021. The Division has identified adequacy items in the application requiring clarification or additional information. These items are identified below under their respective exhibit heading, and are numbered sequentially.

- 1) Please clarify whether the revised application submitted on May 27, 2021 is intended to fully replace the original submittal, to be reviewed as a stand-alone document. In other words, does the operator intend for the Division to still consider portions of the original submittal in its review? If the operator would like for portions of the original submittal (not included in the revised submittal) to be part of the approved permit, these portions must be resubmitted with the adequacy response or the operator must differentiate the revised portions of the new submittal. This is typically done by putting any revised text in italics or in a differently colored font so that revised portions of the application can be easily identified. Since the operator resubmitted the entire application without any differentiation of revised portions, the Division reviewed this submittal as a replacement, stand-alone document.

Application Form

- 2) On page 3 of the application form, under Item #12, the operator selected “Forestry” as the primary post-mining land use. However, throughout the application, the operator refers to an “Industrial” post-mining land use for the site. If the operator is proposing in this amendment to change the post-mining land use from forestry to industrial/commercial, please check the appropriate box in this section.
- 3) On page 4 of the application form, under Item #15, the description narrative includes “an increase in the approved disturbance zone from 8.96 acres to 8.99 acres”. Firstly, please change the phrase “disturbance zone” to “permit area” which is more accurate. Secondly, please change “8.96 acres” to “8.95 acres”, which is the current approved permit area. Thirdly, please change “8.99 acres” to “9.99 acres”, as this is the acreage proposed throughout the application (a total increase of 1.04 acres). Finally, if the operator is proposing in this amendment to change the post-mining land use from forestry to industrial/commercial, this proposal should be added to the description.



Exhibit A – Legal Description and Location Map (Rule 6.3.1):

- 4) On page 4 of this exhibit, the application states the entrance to the Caribou 300 Level Portal is off Boulder County Road 128 (Caribou Road). However, during the pre-operation inspection conducted on June 24, 2021, the Division observed access to this area to be off of a gated U.S. Forest Service Road. Please identify the access road in this exhibit and be sure to label it on all applicable maps.

Exhibit B – Site Description (Rule 6.3.2):

- 5) On page 5 of this exhibit, the application provides a list (in Table 1) of all structures (not owned by the operator) located within 200 feet of the affected lands, including County Road 128 owned by Boulder County, a power line owned by Xcel Energy, and a phone line owned by Qwest. However, according to Map 4 submitted in Exhibit E and the Division's observations during the pre-operation inspection, there are other structures located within 200 feet of the proposed affected lands, including a U.S. Forest Service Road and a snow shed at the Caribou 300 Level Portal site, and historic structures and fencing at the Potosi Shaft site. Please include these structures and their owner(s) in the structure list.
- 6) On page 14 of this exhibit, the application states "a Jurisdictional Determination was approved by USACE on February 7, 2008" and also that "GIR is in the process of mapping the wetlands around Coon Track Creek, however this will not occur until early summer of 2021", and that "GIR will provide the new Jurisdictional Determination and the approval letter when completed". Please explain why additional mapping of the wetlands and a new Jurisdictional Determination is needed. Has the U.S. Army Corps of Engineers (USACE) requested the wetlands be re-mapped?

Exhibit C – Mining Plan (Rule 6.3.3):

- 7) On page 1 of this exhibit, the application states the (Potosi Shaft and Caribou 300 Level Portal) mine openings will be secured "with fencing and hazard sign posting to prepare for future use" and that "the Caribou 300 Portal will be stabilized and the opening secured to prevent entry or approach by the public as we evaluate future use". During the pre-operation inspection, the Division observed the snow shed at the Caribou 300 Level Portal to be damaged and easily accessible by the public (as evidenced by the trash present inside the shed). Given the distance of this site from the main mine site, and the frequent use of the area by the public, please describe how this mine opening will be stabilized and secured during operations.
- 8) The Division has the following comments regarding Table 1 – Disturbance Table:
 - a. Please provide an additional column to this table which includes approximate dimensions of each structure/feature.
 - b. The disturbance given for the "New Roadway" is 26,550 square feet and 0.609 acres, which is based on the dimensions of 885 feet L x 30 feet W. However, the application states an additional 5 feet of disturbance on both sides of the road will be required, which would give a total width of 40 feet, and therefore, a total disturbance of 35,400 square feet and 0.8127 acres. Please correct the disturbance values for this feature.

- c. The disturbance given for the “Ventilation Shaft & Escapeway”, the “Cross Mine Portal” and the “Idaho Tunnel Portal” is 64 square feet and 0.0014 acre (for each feature). However, the Division calculated an acreage of 0.0015 acre for each of these features (64 square feet = 0.00146924 acres). For the sake of accuracy (and because this table must be revised anyway), please correct the acreage values for these features.
- d. Please add a row for the disturbed hillside around the Idaho Tunnel Portal (which will require reclamation). The Division estimates this disturbance to cover approximately 0.1 acre.
- e. The disturbance given for the “Waste Rock Storage Area” is 43,124 square feet and 0.2479 acres. Firstly, please correct the acreage value since 43,124 square feet is equal to 0.9900 acres. Secondly, please clarify whether this disturbance amount includes all three existing waste rock storage areas at the site. The Division understands the application is proposing to use the waste rock from the two Cross Mine piles to construct the new road, and only the existing Caribou Mine pile will continue to be used by the operation for waste rock storage. However, the Division must calculate a reclamation bond that includes costs for reclaiming all existing disturbances, and at a minimum, the footprint of the two Cross Mine piles will need to be reclaimed once the material is removed. Therefore, please ensure the disturbance created by all three waste rock storage areas is included in this table, preferably as separate line items.
- f. The disturbance acreages given for “Pond 1”, “Pond 2”, and “Ponds 3A, 3B, 3C” varies fairly significantly from the disturbance estimated by the Division for these features (based on 10/2020 aerial imagery available in Google Earth). For “Pond 1”, the table has 0.0347 acre while the Division’s estimate is 0.10 acre. For “Pond 2”, the table has 0.1608 acre while the Division’s estimate is 0.21 acre. For “Pond 3A, 3B, 3C”, the table has 0.0497 acre while the Division’s estimate is 0.32 acre. The difference between the operator’s disturbance values and the Division’s disturbance values for these ponds leads to a total difference of 0.3848 acres, which would significantly affect the total disturbance value at the end of the table. Please correct the disturbance values for these features.
- g. The table includes estimated disturbance values for the “Caribou Storage Container 1 & 2 (in Idaho Tunnel)”, at 320 square feet and 0.0073 acre. Please be informed, the disturbance estimates required in order for the Division to calculate the reclamation bond only need to include surface disturbances. Therefore, this feature may be removed from the table so its disturbance value is not included in the total disturbance value at the end of the table. If the operator proposes removing these containers from the Idaho Tunnel for reclamation, the details of this plan should be provided in Exhibit D, and costs for completing this task should be included in the reclamation bond estimate.
- h. The disturbance values given for the “Offices and Dry Room” are 5,825 square feet and 0.1199 acre. However, 5,825 square feet is equal to 0.1337 acre. Please correct the disturbance acreage for this feature.

- i. Please add a row for the disturbance associated with the New Cross Mine Decline Portal (which will require reclamation). The Division estimates this disturbance to cover approximately 0.1 acre.
 - j. The “Total Disturbed Area” provided at the end of the table is 126,861 square feet and 2.9 acres. The Division believes this estimate is incorrect. Just based on the disturbance values presented in the table, the total disturbance should be 131,411 square feet, which would result in a 0.1 acre difference in the total acreage provided. However, there are changes to the table requested above which will impact the total disturbance value. Therefore, after all necessary changes have been made, please correct the total disturbance values accordingly. (Based on 10/2020 aerial imagery available in Google Earth, the Division has estimated total disturbance at the Cross/Caribou site to cover 5.37 acres, which does not include any proposed additional disturbances associated with the new road or the Potosi Shaft and Caribou 300 Level Portal areas.)
 - k. The “Total Undisturbed Area” provided at the end of the table is 34,8480 square feet and 7.1 acres. Firstly, please correct the erroneous comma placement in the square feet value. Secondly, please ensure the square feet value correlates with the acreage value given. For example, if the value is supposed to be 348,480 square feet, this would be equal to 8.0 acres and not 7.1 acres as provided. If, on the other hand, the acreage value is correct, then 7.1 acres is equal to 309,276 square feet.
 - l. Please ensure the combined disturbed and undisturbed areas do not exceed the 9.9 acre permit area proposed. If the operator proposes a total permit area of more than 9.9 acres, then a conversion application must be submitted to convert this permit from a 110 operation (less than 10 acres) to a 112 operation (10 acres or more).
- 9) On page 4 of this exhibit, the application provides dimensions of 885 feet L x 30 feet W for the proposed new road to be constructed at the Cross/Caribou site. The application then states “the total area of the road and disturbance equals 0.609 acres”. However, as mentioned above, the total road disturbance, based on an additional 5 feet of disturbance proposed for both sides of the road, would actually equal 0.813 acres (885 feet L x 40 feet total W). Please correct this error. Additionally, please provide the dimensions of the new road proposed for the Caribou 300 Level Portal site. During the pre-operation inspection, the operator mentioned the existing snow shed at this site would be removed prior to the operation’s use of the portal. Does this mean a road will need to be constructed from the access road to the portal? [Based on aerial imagery available in Google Earth, the Division estimates the distance between the access road and the portal (southern end of snow shed) to be approximately 80 feet.]
- 10) On page 5 of this exhibit, the application states that a Substitute Water Supply Plan (SWSP) was recently filed with the Division of Water Resources for the site. Please commit to providing the Division with a copy of the approved SWSP once obtained.
- 11) On page 5 of this exhibit, the application states that waste rock materials from the site are “benign and have been analyzed for leachability and acid production by DRMS-approved methods”, and “the results of the analyses demonstrated the materials are non-acid producing and non-metals leaching”. Firstly, please provide a copy of the analyses referred to in this section or specify where they can be found in the permit file (if previously submitted). Secondly, were the analyses conducted on waste rock from both the Cross Mine and Caribou Mine? It is the Division’s understanding the rock geochemistry and

mineralization varies between the two mines. This is indicated by the fact that water from the Cross Mine must be treated with lime and mixed with water from the Caribou Mine in order to meet discharge standards.

Please be advised, the Division is continuing to evaluate whether this operation will be considered a Designated Mining Operation (DMO), as described by Rule 1.1(20). Additional information may be required (through this amendment and/or outside of this amendment) in order for the Division to make this determination. If the Division does determine this mining operation is, or has a reasonable potential to be, a DMO, you will be provided notice of such a determination in accordance with Rule 7.2.2(2), which states the notice shall be accompanied by factual statements including a review of the permit application, approved permit application, proposed or existing metallurgical process, known site geology or geochemistry, and the most recent site inspection.

- 12) On page 6 of this exhibit, the application states “the permit boundary will be clearly marked to ensure all disturbances are within the approved permit area”. However, during the pre-operation inspection, the Division did not observe any boundary markers for the proposed Potosi Shaft and Caribou 300 Level Portal areas. Please describe how these new permit boundaries will be delineated in accordance with Rule 3.1.12(2). Additionally, please commit to posting a permit identification sign at each of these two sites in accordance with Rule 3.1.12(1), which states the sign shall be posted at the entrance to the area, which is clearly visible from the access road, with a minimum size equaling 187 square inches, such as 11 inches x 17 inches, with appropriate font size, and including the name of the operator, the operation name, a statement that a reclamation permit for the operation has been issued by the Colorado Mined Land Reclamation Board, and the permit number.
- 13) On pages 6 and 7 of this exhibit, the application states that a water monitoring program including proposed numeric protection levels for unclassified groundwater uses and points of compliance will be submitted in a subsequent permit revision. The Division has been in discussion with the operator for some years now regarding the need for an approved groundwater and surface water monitoring program for the site prior to recommencing with mining activities. In the last amendment application (AM-01; approved in 2012), the operator committed to proposing such a program in a subsequent permit revision. However, the operator has not yet submitted this program for the Division’s review. Therefore, please provide an estimated timeline for submitting the required surface water and groundwater monitoring program for this site.
- 14) In the original submittal, the application had mentioned a secondary commodity of construction aggregate resulting from waste rock. In its preliminary adequacy review letter, the Division asked (in Item #9) that additional details be provided on this activity, including whether the waste rock would be processed on site in any way (e.g., screening, crushing), and if so, where this activity will take place. However, this information was not provided in the revised submittal. The application only states the waste rock will be used on site as well as transported off site. During the pre-operation inspection, the Division observed the operation excavating material from the Caribou waste rock pile and screening it on site. Therefore, it would appear this material will at least be screened on site. Please specify whether the waste rock will be also be crushed on site and whether the processing activities are expected to occur in any other areas besides on top of the Caribou Mine waste rock pile. Since the application is

proposing to use the waste rock material currently stored at the Cross Mine to construct the new road, it would seem this material would require screening and crushing for use in this project.

- 15) As previously requested (in Item #4), please describe how the Potosi Shaft and Caribou 300 Level Portal are currently secured. Additionally, please describe any work that must be done to rehabilitate/improve these mine openings for use by the operation. Please describe these activities in this exhibit, including any new structures to be constructed at these sites in support of the operation (e.g., new snow shed, fencing, gates).
- 16) As previously requested (in Item #5), please describe how the proposed new permit areas will be used by the operation, including any surface disturbances anticipated to occur in these areas. In this application, the operator stated the Potosi Shaft may be used as an airway or secondary escape route. However, no information was provided on how the Caribou 300 Level Portal will be used by the operation.
- 17) As previously requested (in Item # 8), please clarify in this exhibit whether the operator is proposing to recommence with mining activities in the Caribou Mine. The operator only mentioned in the cover letter submitted with the revised application that “there are to be no mining operations at the Caribou Mine” and that “opening of the Idaho Tunnel is only to support the exploratory drill program to take place July 2021”. Please provide this information in this exhibit (and not just in the cover letter), including a description of the operation’s current plans for the Caribou Mine. Will the exploratory drilling program result in any materials derived from the mine (other than core samples) being placed at the surface? If so, where will these materials be stored? Will this program result in any change to the quantity or quality of water discharging from the mine?

Exhibit D – Reclamation Plan (Rule 6.3.4):

- 18) On page 1 of this exhibit, the application provides a list of site components to be reclaimed including mine openings, waste rock storage areas, ponds, roads, and structures. Please provide a description of all structures proposed to be demolished/removed for reclamation, including their approximate dimensions and the approximate thickness of any foundations. This information is needed in order for the Division to calculate the reclamation bond.
- 19) On page 2 of this exhibit, the application states there are currently 2 ventilation shafts, 3 shafts, and 2 portals that will require closure for reclamation. This would mean a total of 7 mine openings exist at the site which will require closure. However, Table 1 – Shafts and Portals includes only 5 mine openings. Please explain and/or correct this discrepancy between the text and the table.
- 20) On page 2 of this exhibit, Table 1 – Shafts and Portals includes the “Potosi Shaft”, “Cross Shaft”, “Caribou Shaft”, “Caribou Level 300 Portal”, and “Idaho Tunnel Portal”. The Division understands the Potosi Shaft and Caribou 300 Level Portal are the two mine openings proposed in this amendment, and the Idaho Tunnel Portal is the existing mine opening at the Caribou Mine. However, the Division was not sure whether the Cross Shaft refers to the existing portal at the Cross Mine, and also did not recognize the Caribou Shaft. Please provide clarification on the location of these two mine openings.

- 21) On page 2 of this exhibit, the application states that all shafts and portals will be plugged with concrete (examples shown in Figure 1) except for the Potosi Shaft, which will be closed with a bat grate (examples shown in Figure 2). The application states that ventilation and escape way shafts will be closed with one of the methods shown on Figure 3 (which shows precast concrete panel closure designs). The figures provided show more than one potential design. For the purposes of calculating the reclamation bond, the operator must commit to a specific design for each closure and provide details of the proposed closure in this exhibit (in addition to any figures provided). Therefore, please specify the closure plan to be implemented for each mine opening located within the affected lands. Please also provide additional details for the proposed gate and fencing to be installed at each mine opening, including the approximate dimensions anticipated at each location.
- 22) On page 2 of this exhibit, the application states “we do not anticipate mine drainage or the necessity of a hydraulic plug to prevent mine drainage”. However, the operator proposes sealing the two draining mine openings (Cross Mine portal and Idaho Tunnel portal) with 40 feet of concrete. Please provide demonstration the proposed closure design for the draining mine openings will be adequate to withstand the maximum hydrostatic pressure anticipated for these two mines. Please describe the effects that sealing these two portals with concrete is expected to have on the hydrologic balance and stability of these areas. Could sealing these mine openings create a new discharge point for the mine pools? If the operator is not able to provide sufficient information in this amendment to demonstrate the proposed concrete seals are adequate for the draining mine openings at the site, then a plan must be submitted to secure these openings from public access (maintaining drainage for now). In this case, the operator must commit to submitting a final closure plan that adequately addresses the draining mine openings in a subsequent revision. Until such time, the reclamation bond estimate will need to include costs for securing these portals as well as for continuing treatment of the mine drainage (for a 5 year period) to meet the water quality standards for the CDPHE discharge permit.
- 23) On page 2 of this exhibit, the application states “areas adjacent to mine shafts and portals...may be steeper than 2:1”. Please specify which areas the operator is proposing to leave steeper than 2H:1V. Have these areas been disturbed or are they expected to be disturbed by the operation?
- 24) On page 6 of this exhibit, the application estimates the waste rock footprints will not exceed 0.99 acre. Please clarify whether this estimated acreage includes all three existing waste rock piles (two at Cross mine and one at Caribou Mine), or only the Caribou Mine location which is the one proposed for continued use by the operation. Because the Division must calculate a bond for reclaiming all existing disturbance, please provide the estimate acreage for the footprint of each of the two Cross Mine waste rock piles (which will require reclamation once the material is used to construct the new road).
- 25) On page 6 of this exhibit, the application states all five ponds on site will be reclaimed, including removing the pond liners and disposing of this material off site, backfilling the ponds to two feet below the surface, regrading the areas for positive drainage, and retopsoiling and revegetating these areas. The operator states that pond slopes will be less than 2H:1V, and estimates the pond areas to cover 0.245 acres. Some additional details are needed in order for the Division to calculate the reclamation bond. Firstly, please provide the approximate dimensions of the liners to be removed from Pond 1, Pond 2, and a combined total to be removed from Ponds 3A-C. Secondly, please provide the approximate dimensions and depth of each pond, the estimated volume of material required to backfill each pond to

two feet below the surface, and the anticipated source for the backfill material. Additionally, please provide the approximate depth of topsoil replacement in these areas. Finally, (based on 10/2020 aerial imagery available in Google Earth) the Division estimates the total pond disturbance to cover 0.63 acre (Pond 1 = 0.10 acre; Pond 2 = 0.21 acre; Ponds 3A-C = 0.32 acre), which is more than the operator's estimate of 0.245 acre. Please ensure the total disturbance of each pond is accounted for in the disturbance estimate. On a separate note, please explain how leaving two foot deep depressions in the areas of the backfilled ponds will allow for positive drainage of these areas.

- 26) On pages 6 and 7 of this exhibit, the application discusses reclamation that will be needed in the portion of Coon Track Creek to be disturbed by the proposed road crossing. Please provide an estimated acreage which will require regrading, retopsoiling, and/or revegetation in this area. This information is needed in order for the Division to calculate the reclamation bond.
- 27) On page 7 of this exhibit, the application mentions the two new roads which will require reclamation, including the new road at the Cross/Caribou site and the new road at the Caribou 300 Level Portal site. Firstly, please correct the estimated disturbance provided for the Cross/Caribou road, which is said to be 0.609 acre, but as mentioned above, would actually cover 0.8127 acre (for 885 feet L x 40 feet total W). Secondly, the application mentions a culvert and other road structures (anchors, riprap, foundations) that will need to be removed for reclamation of the Cross/Caribou road, along with road base and other materials. In order for the Division to calculate a bond for reclaiming the site in accordance with the proposed reclamation plan, some additional details are needed. Please describe all materials to be removed for reclamation of the road, and include estimated volumes of each type of material and dimensions for any structures to be removed. Lastly, please provide the approximate dimensions of the proposed road to be constructed at the Caribou 300 Level Portal site.
- 28) On page 7 of this exhibit, the application states "at locations where equipment cannot operate, the seedbed will be prepared by hand, scarifying to a minimum depth of 1 inch". Because the costs for scarifying by hand vary fairly significantly from costs of using equipment to complete this task, please provide an estimated acreage that may require scarification by hand.
- 29) On page 7 of this exhibit, the application states that topsoil will be sourced locally from Nederland since there is no available soil on site for reclamation. Please provide an estimated volume of topsoil that will need to be imported from Nederland to complete reclamation of the site. This information is needed in order for the Division to calculate the reclamation bond.
- 30) On page 8 of this exhibit, the application states "soils having been compacted by traffic or other equipment will be tilled (deep chiseled or ripped if necessary) breaking up restrictive or compacted layers". Please provide an estimated acreage that may require tilling. This information is needed in order for the Division to calculate the reclamation bond.
- 31) On page 8 of this exhibit, the application states that 8-12 inches of topsoil will be replaced on some areas and two feet will be replaced on others (waste rock areas for instance). Please provide an estimated acreage to receive 8-12 inches of topsoil and an estimated acreage to receive two feet of topsoil. This information is needed in order for the Division to calculate the reclamation bond.

- 32) On page 8 of this exhibit, the application states “where practical, seed will be drilled” and “where not practical, due to slope steepness, the areas will be broadcast seeded”. Because of the difference in cost for broadcast seeding versus drill seeding, please provide an estimated acreage that will require each of these seeding methods.
- 33) On pages 9 and 10 of this exhibit, the application provides three seed mixes for the site, one for sub-alpine revegetation areas (Table 3) which will be used for all areas requiring revegetation, an Upland Tree & Shrub Reclamation Mix (Table 4) to be planted as a supplemental mix on the Idaho Tunnel slope, wetland, and Coon Track Creek bank areas, estimated to cover 4.71 acres, and a Wetland Reclamation Mix (Table 5) to be planted as a supplemental mix in the wetland and Coon Track Creek bank areas. Firstly, please provide an estimated acreage to receive the Table 3 seed mixture. Please also provide an estimated acreage to receive the Table 5 seed mixture. Additionally, for the Table 4 and 5 mixtures, please provide the estimated quantity of species to be planted per acre and the type and size (e.g., tubling, bare root seedling, small potted, container) per species. Finally, please provide an estimated acreage to receive hydromulch versus the hay or straw mulch application. This information is needed in order for the Division to calculate the reclamation bond. (It should be noted, the operator’s estimated disturbance for just the Idaho Tunnel slope, wetland, and Coon Track Creek bank areas to receive tree and shrub plantings is 4.71 acres, which exceeds the estimated total site disturbance of 2.9 acres provided in Table 1 of Exhibit C - this discrepancy further indicates the values provided in Table 1 are inaccurate).
- 34) On pages 10 and 11 of this exhibit, the application refers to Technical Revision No. 7 (TR-07) for reclamation of the Idaho Tunnel hillside. However, TR-07 was submitted to provide a geotechnical stability analysis for the slope and did not include an approved reclamation plan for the hillside disturbance. As previously requested (in Item # 10), please provide a detailed reclamation plan for the Idaho Tunnel which addresses the disturbed slope above the portal.
- 35) Please describe how disturbance associated with the New Cross Mine Decline Portal will be reclaimed. During the pre-operation inspection, there appeared to be significant sloughing of the steep hillside which was excavated for the new decline portal. Per C.R.S. 34-32-116(7)(i), all surface areas of the affected land shall be stabilized and protected so as to effectively control erosion. The new decline portal disturbance area does not appear to be stable at this time. Please provide a plan for stabilizing this slope during operations and a plan for final reclamation of this disturbance.
- 36) On page 11 of this exhibit, the application provides a list of several structures/features proposed to remain after reclamation, including parking areas, water lines, septic tanks and leach fields, the historic Cross cabin, the offices and dry room building, the NOAA shed, the hazardous materials shed, the Cross shop building, the Cross ore building, the Caribou conex storage bay, and the north munitions bunker. It appears the operator is proposing in this amendment a change in post-mining land use from forestry to industrial/commercial (clarification on this matter is requested in this letter). However, until the operator can demonstrate an industrial post-mining land use is compliant with local zoning and land use requirements, the Division must hold a reclamation bond for demolishing/removing any structures located within the affected lands which do not conform to the current post-mining land use of forestry with limited residential use (for the historic Cross cabin). This does not mean a change in post-mining land use cannot be approved in this amendment. However, the approval would include a condition on

the change in post-mining land use, requiring the operator to submit a Technical Revision (once the necessary county approvals are obtained) to demonstrate the industrial use is compliant with local zoning and land use requirements, and to revise the reclamation plan and bond estimate accordingly. For this amendment, please provide a description and dimensions of all structures to be demolished/removed from the site for reclamation, and be sure costs for demolishing/removing these structures are included in the reclamation bond estimate.

- 37) The application does not discuss the existing groundwater wells at the site. Will these wells be used by the mining or reclamation operation in any way? Will the wells be abandoned for reclamation? If so, please include a reclamation plan for abandoning these wells and ensure costs for completing this task are included in the reclamation cost estimate.
- 38) On Page 11 of this exhibit, the application states “all roads and parking areas will be surfaced with appropriately sized waste rock or purchased crushed rock”. Please provide an estimated acreage requiring surfacing and an approximate depth of rock placement. This information is needed in order for the Division to calculate the reclamation bond.
- 39) On page 12 of this exhibit, the application includes a Table 6 – Reclamation Cost Summary and a list of specific assumptions made to produce the estimate. The Division has the following comments regarding the reclamation cost estimate provided:
- a. Please separate the reclamation tasks/costs by the three separate permit areas (Cross/Caribou site, Potosi Shaft site, and Caribou 300 Level Portal site).
 - b. Please break the cost categories down by disturbance area or feature. For example, the “Earthwork/Recontouring” costs could be broken down as follows:
 - i. Caribou waste rock pile – grade approx. X feet slopes to 3H:1V.
 - ii. Cross waste rock piles – rip and/or grade approx. X acres.
 - iii. Idaho Tunnel slope – backfill approx. X cubic yards and grade approx. X feet slopes to 3H:1V.
 - iv. New Cross Mine Decline portal - backfill approx. X cubic yards and grade approx. X feet slopes to 3H:1V.
 - v. Pond 1 - backfill approx. X cubic yards and grade approx. X acres backfill area.
 - vi. Pond 2 - backfill approx. X cubic yards and grade approx. X acres backfill area.
 - vii. Ponds 3A-C - backfill approx. X cubic yards and grade approx. X acres backfill area.
 - viii. New Cross/Caribou road – remove approx. X cubic yards of X material (for each material type), rip approx. X acres, and/or grade approx. X feet slopes to 3H:1V.
 - ix. New Caribou 300 Level Portal road – rip and grade approx. X acres.
 - x. Cross Mine – grade approx. X acres where structures/features removed.
 - xi. Caribou Mine – grade approx. X acres where structures/features removed.
 - xii. Cross Mine portal – grade approx. X acres of disturbance adjacent to portal.
 - xiii. Caribou Mine portal - grade approx. X acres of disturbance adjacent to portal.
 - xiv. Potosi Shaft - grade approx. X acres of disturbance adjacent to shaft.
 - xv. Caribou 300 Level Portal – grade approx. X acres of disturbance adjacent to portal.

- xvi. Coon Track Creek/wetland areas – grade approx. X feet slopes to 3H:1V.
 - xvii. Parking areas and roads – place approx. X depth of crushed rock on approx. X acres.
- c. In the “Structure, Equipment and Facility Removal, and Misc” category, please include costs for removing and disposing of all structures which do not conform to the current approved post-mining land use, and break the costs down by structure. Please be sure costs for removing and disposing of the culvert and other structures associated with the new Cross/Caribou road are included in this category. Also, if any of the existing groundwater wells at the site are proposed to be reclaimed after mining operations are completed, please be sure to include costs for abandoning these wells.
- d. Please add a separate category including costs for the proposed final closure of each mine opening. As discussed above, the proposed closure design for the two draining mine openings may need to be revised to include securing these portals from public access (allowing the mines to continue draining for now), rather than installing concrete seals in these portals. In this case, the operator will also need to include a separate line item with costs for continuing treatment of the mine drainage (to meet water quality standards of the CDPHE discharge permit) for a 5 year period.
- e. This table includes a line item (E) for “Monitoring”. Please provide more details on this reclamation task, including the type of monitoring anticipated. Does the operator expect there to be continued groundwater and/or surface water monitoring required after reclamation?
- f. Please add a line item under the applicable category for removing the pond liners (including approx. liner dimensions) and disposing of this material off site. This item might also be included under the “Structure, Equipment and Facility Removal, and Misc” category.
- g. Please add a separate category for mobilization/demobilization costs, including the approximate type and number of equipment to be used [e.g., (2) CAT D7 dozers or equivalent, (1) CAT 637G scrapers or equivalent].

Exhibit E – Maps (Rule 6.3.5):

- 40) On Map 1, the locations of a Storage Magazine (#10) and an Old Stone Magazine (#28) are indicated. If these structures will be used by the operation in any way, please be sure to describe their anticipated use in Exhibit C. Additionally, this map shows several pipelines which convey water from the Cross and Caribou Mines to the ponds, from one pond to another, and from the ponds to the discharge location in Coon Track Creek. Please be sure to describe all water infrastructure in Exhibit C and provide a plan for reclaiming this infrastructure in Exhibit D (e.g., removal of above ground portions, removal of any buried portions, disposal). Costs for removing and disposing of any water infrastructure should be included in the reclamation cost estimate provided in Exhibit D.
- 41) On Map 2, please label all roads to the affected lands, including County Road 128/Caribou Road and the U.S. Forest Service Road that accesses the Caribou 300 Level Portal area.
- 42) On Map 4, please label the access roads and any other structures located on or within 200 feet from the proposed permit area (e.g., snow shed, mine openings, historic structures, fencing), and identify the

owner(s) of each structure. Additionally, please show the location of the new road to be constructed at the Caribou 300 Level Portal site. Finally, please label the landowner(s) of the affected lands and of the lands located within 200 feet of the affected lands.

- 43) On Maps 1, 2, and 4, the proposed permit area for the Caribou 300 Level Portal site is shown to partially overlap the access road to the north, which the Division believes is a U.S. Forest Service Road. If this is the case, then in Exhibit G, the operator will need to provide documentation of its legal right to enter any affected lands owned by the U.S. Forest Service.
- 44) Please provide a reclamation plan map for the Potosi Shaft and Caribou 300 Level Portal areas, indicating how these areas and the mine openings located in these areas will be reclaimed. Please ensure this map shows any structures/features proposed to remain in these areas after reclamation (e.g., snow shed, fencing, gates, roads).
- 45) On Map 6, please change the map label from “Amendment 1” to “Amendment 2”, as this mining plan map must be updated through the current amendment application. Additionally, please ensure this map shows the proposed new permit boundary for this area. Finally, please ensure all features at this site are labeled, including the explosives storage area(s), all waste rock stockpiles, all buildings and other structures, all ponds (labeled 1, 2, 3A, 3B, and 3C), wells, and any other structures/features that exist on the affected lands or are proposed to be constructed on the affected lands.
- 46) For Map 7, the Division has the following comments:
 - a. Please explain the waste rock storage area shown at the northern edge of the Caribou Mine, which is not discussed in the mining or reclamation plans or shown on the mining plan map (Map 6).
 - b. Please explain why reclamation of only one of the two waste rock piles currently located at the Cross Mine is shown. All areas requiring reclamation must be shown on this map.
 - c. Please show the proposed slope gradient (e.g., 3H:1V) for all reclaimed slopes (e.g., Idaho Tunnel slope, New Cross Mine Decline Portal slope, reclaimed creek banks, reclaimed road, backfilled pond areas, reclaimed waste rock pile areas). Please be sure any areas proposed to remain steeper than 3H:1V are indicated on this map.
 - d. Please add the type of closure proposed for each mine opening (e.g., bat grate, concrete panel).
 - e. Please show all areas to be retopsoiled and revegetated for reclamation.
 - f. Please show the location(s) from which topsoil will be derived from “the affected hillside area” to reclaim the waste rock storage areas. In the reclamation plan provided in Exhibit D, the operator states no available topsoil exists on site and therefore, any topsoil required for reclamation will need to be imported from Nederland. If at least some of the required topsoil will come from the site, please provide more details on this proposal in Exhibit D, including the proposed location(s) on site from which this topsoil will be derived, the approximate volume of topsoil to be obtained

from on site, and the approximate areas to receive this topsoil. If topsoil will not be used from on site, please remove the text from this map indicating as such.

- 47) This exhibit includes a separate reclamation plan map (Map 8) for the Cross/Caribou site which shows facilities proposed to remain for reclamation. Please ensure all structure/features proposed to remain in Exhibit D are shown and labeled on this map, and that all structures/features shown on this map are included in the list provided on page 11 of Exhibit D. Additionally, this map includes a “mill building (unconstructed)” to remain in the Cross Mine area. Please remove this feature as a mill is not part of the approved permit or part of the mining and reclamation plans proposed in this application. Finally, please ensure all wells shown on this map (4 total) are shown on Map 1 and/or Map 7.

Exhibit F – List of Other Permits and Licenses Required (Rule 6.3.6):

- 48) Please add any permits or approvals required from the Division of Water Resources for the operation. (The application mentions a well permit and a Substitute Water Supply Plan.)

Exhibit G – Source of Legal Right to Enter (Rule 6.3.7):

- 49) This exhibit provided a Colorado General Warranty Deed for the sale of “mining claims as described in Exhibit A” from Aardvark Agencies, Inc. to Grand Island Resources, LLC. Please indicate which of the mine claims listed in Exhibit A are associated with the Cross/Caribou permit area, the Potosi Shaft permit area, and the Caribou 300 Level Portal permit area.
- 50) On Maps 1, 2, and 4 provided in Exhibit E, the proposed permit area for the Caribou 300 Level Portal site is shown to partially overlap the access road to the north, which the Division believes is a U.S. Forest Service Road. If this is the case, then in this exhibit, the operator will need to provide documentation of its legal right to enter any affected lands owned by the U.S. Forest Service.

Exhibit I – Proof of Filing with County Clerk (Rule 6.3.9):

- 51) This exhibit provided documentation of the original application having been submitted with the Boulder County Clerk and Recorder back in December of 2020. However, per Rule 1.6.2(1)(c) any changes or additions to the application on file must also be reflected in the public review copy which was placed with the county clerk and recorder. An affidavit or receipt indicating the date this was done must be provided in this exhibit. This means a copy of the revised application (submitted to the Division on May 27, 2021) must be provided to the county clerk and recorder and an affidavit or receipt must be submitted to the Division indicating the date this was done. Please be informed, any changes made to the May 27, 2021 application submittal as a result of this adequacy review letter will require a separate affidavit showing a copy of the revised application has been placed with the county clerk and recorder.

Exhibit L – Permanent Man-Made Structures (Rule 6.3.12):

- 52) This exhibit identifies an Excel power line and an AT&T phone line located within 200 feet of the Cross/Caribou permit area for which the Division could not find updated structure agreements in the permit file for Grand Island Resources, LLC. Additionally, the Division is aware of additional structures

located within 200 feet of the proposed permit areas, including a U.S. Forest Service Road and snow shed at the Caribou 300 Level Portal site, and historic structures and fencing at the Potosi Shaft site. Please identify all structures located within 200 feet of the proposed affected lands in this exhibit. For all structures not owned by Grand Island Resources, LLC, the operator must provide a notarized agreement with the person(s) having an interest in the structure that the operator is to provide compensation for any damage to the structure. Where such an agreement cannot be reached, the operator shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation. Where such a structure is a utility, the operator 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.

Additional Items:

- 53) The application includes an Exhibit P called “Rule 1.6.2(1)(d) – Notice to Newspapers and Landowners” which states these notices will be filed after the application is accepted by DRMS. Please be advised, Rule 1.6.2(1)(d) requires that within 10 days after the Division notifies the operator that the application is considered filed (which was February 8, 2021 in this case), the operator must publish a public notice in a newspaper of general circulation in the locality of the proposed mining operation. The information to be contained in this notice is outlined in this rule. A sample notice is also provided in the application form. For 110 applications (such as this one), the public notice shall be published once [per Rule 1.6.3(3)]. Proof of publication must be provided to the Division prior to the application decision date, and may consist of either a copy of the last newspaper publication, to include the date published, or a certified or notarized statement from the paper including the date(s) of publication. Please provide proof the required newspaper notice has been published. (It should be noted, if the operator is proposing a change in post-mining land use in this amendment, and the proposed post-mining land use was not included in the newspaper publication, a new publication may be required.)

Additionally, Rule 1.6.2(1)(e) requires the operator to mail or personally serve a copy of the newspaper notice immediately after the final publication to all owners of record of the surface and mineral rights of the affected land, and the owners of record of all land surface within 200 feet of the boundary of the affected lands (which would include the proposed affected lands at the Cross/Caribou, Potosi Shaft, and Caribou 300 Level Portal sites). Proof of such notice, including return receipts of a certified mailing or proof of personal service, must be submitted to the Division prior to the application decision date. Please provide proof that a copy of the newspaper notice [required by Rule 1.6.2(1)(d)] was sent to all required recipients.

- 54) The application includes an Exhibit Q called “Rule 1.6.2(1)(e) – List of Surrounding Land Owners”. Please ensure this list includes all landowners which own land within 200 feet of the affected lands (and proposed affected lands). For example, on Figure 1 provided in Exhibit A, there appears to be a private land owner which owns the parcel just south of the proposed Caribou 300 Level Portal site. The Boulder County website shows the parcel located directly south of the proposed permit area at this site to be owned by William D Backman Jr (see enclosed image from Boulder County website), whom is not included in the list provided. If this landowner’s property is located within 200 feet of the proposed affected lands, please add them to this list to receive the newspaper notice required by Rule 1.6.2(1)(e).

- 55) The application includes an Exhibit S called "Rule 6.5 - Geotechnical Stability Exhibit" which includes a copy of Technical Revision No. 9 (TR-09) that was recently submitted to present geotechnical stability analyses for the slopes adjacent to the Idaho Tunnel. Please withdraw this information from the AM-02 application as it will be reviewed through TR-09. The Division will inform the operator if an engineering stability analysis is required in this application.

This concludes the Division's 2nd adequacy review of AM-02. The decision date for the application is currently set for August 8, 2021. Please ensure the Division sufficient time to complete its review process by responding to these adequacy items no later than two weeks prior to the decision date, by **July 25, 2021**. If additional time is needed to respond, you must submit an extension request to our office prior to the decision date.

Please remember that, pursuant to Rule 1.6.2(1)(c), any changes or additions to the application on file in our office must also be reflected in the public review copy which was placed with the local County Clerk and Recorder. Pursuant to Rule 6.4.18, you must provide our office with an affidavit or receipt indicating the date this was done.

If you have any questions, you may contact me by telephone at 303-866-3567, ext. 8129, or by email at amy.eschberger@state.co.us.

Sincerely,



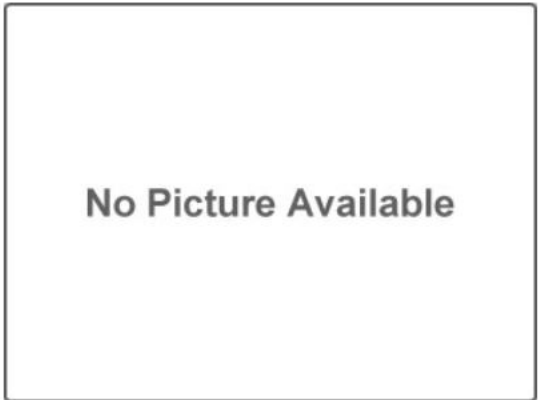
Amy Eschberger
Environmental Protection Specialist

Encl: Image from Boulder County website showing Caribou 300 Level Portal area

Cc: Richard Mittasch, Grand Island Resources, LLC
Michael Cunningham, DRMS

To see property information, click the appropriate header. Click again to collapse the tab.

Property—ownership, address and other property information



No Picture Available

Account Number:	R0026954
Owner:	BACKMAN WILLIAM D JR
Mailing Address:	14 PEBBLE BEACH LN
City:	LAWRENCEBURG IN
Zip:	47025-7393
Sec-Town-Range:	08 -1S -73
Subdivision:	MINING CLAIMS
Market Area:	902
Parcel Number:	158308200002
Property Address:	0 COUNTY RD 128-J
Location:	UNINCORPORATED
Jurisdiction:	Unincorporated Boulder County
Legal Description:	GRAY EAGLE LD 97 GRAND ISLAND 1.45 AC

