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

October 22, 2021

Lance Barker
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Mineral Mountain Gold, LLC
P.O. Box 247
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Re: Adequacy Review #2, Amendment AM1, Mineral Mountain Project, Permit M-2014-045

Mr. Barker:

On September 17, 2021, the Division of Reclamation, Mining and Safety (Division) received the response to the Division's August 6, 2021 Adequacy Review letter for the Mineral Mountain Project, LLC (Operator) 110d Reclamation Permit Amendment Application (AM1) on the Mineral Mountain Project, Permit No. M-2014-045. During the review of the material submitted, the Division determined that the following items need to be adequately addressed before AM1 can be considered for approval. The current decision date for the application is set for October 25, 2021. Please be advised that if you are unable to satisfactorily address the items identified in this review letter before the decision date, **it will be your responsibility to request an extension of the review period**. If there are outstanding issues that have not been adequately addressed prior to the end of the review period, and no extension has been requested, by Rule, the Division must deny AM1.

The Division is formally requesting the Applicant provide a cover letter responding to each adequacy item as well as providing appropriate replacement pages/sections/exhibits/etc. for each response. Please title your responses "Adequacy Review Response #2 AM1; M-2014-045". The Division has included the original adequacy item (standard font) and the Operator's Response (*italicized*) before any follow-up adequacy (**bold**) for the Operator's reference. Numbering has remained the same as the first adequacy review letter and previous items considered addressed and include no follow-up have been removed. Please note, Items 36-41 are new adequacy based on the Operator's adequacy review responses.

GENERAL APPLICATION PROCEDURES

3. The Division received a comment letter from History Colorado regarding the application. The letter is attached for your review. Please acknowledge and address any comments noted in the letter and make changes to the application as necessary.

Operator's Response: Letter from State Historic Preservation Officer states that no adverse effects will occur to properties listed or nominated for State Register of Historic Properties, and that if human remains are discovered during ground disturbing activities, then the permitee comes under the requirements of CRS 27-80 Part 13. The permitee will follow these requirements in the event human remains are found.

Division's Response: The response regarding the comment letter from History Colorado is adequate. Although not referenced in the original Adequacy Review letter, the Division provided the Operator with a comment letter from Colorado Parks and Wildlife on August 16, 2021, and requested it to be added to Item 3 and addressed. The Adequacy Review Response did not include a response to this additional comment letter. Please acknowledge and address any comments noted in the attached letter and make changes to the application as necessary.

EXHIBIT C – Mining Plan (Rule 6.3.3)

5. In Exhibit C 1(e), the Operator states "the facility remains a zero discharge facility, so the level of water use is, and will continue to be small." Additionally, in Exhibit C 1(h), the Operator states "the site has required minimal dust control to date, but dust control typically consumes a few thousand gallons when dust suppression is necessary. Drilling has typically required the use of a few thousand gallons for lubrication and cooling, and the test milling requires a small amount of makeup water to replace the small amount that remains in the tailings sand following dewatering." The use of these generalized statements regarding the consumption of water is not acceptable. As required by Rule 6.3.3(h), please specify how much water will be used in the operation. Additionally, please provide specific details regarding water storage at the site.

Operator's Response: For the reasons previously discussed in the Exhibit C, the amount of water to be used cannot be precisely determined, but to meet the regulatory requirement assumptions will be made concerning production and use. Section C1(h) has been updated, and the estimated amount of water required is 0.45 necessary acre feet. The water will be purchased from the Town of Cripple Creek as needed, and the town has sufficient capacity to provide the volume, the amount which is only slightly greater than the design requirements for a typical family household in Cripple Creek. Fresh water is currently stored on site in tanks, with the largest tank to be used being no larger than 10,000 gallons.

Division's Response: Within the revised Exhibit C, the Operator states "Fresh water is currently stored on site in tanks, the largest tank being no larger than 10,000 gallons with a total backup fresh water storage capacity not exceeding 15,000 gallons". During the July 2020 site inspection, the Division only observed four 1,250 gallon fresh water tanks in the northern portion of the mill. Please provide details regarding the location and size of each existing and proposed freshwater storage tanks located on-site. If tanks are located on the surface, please update Exhibit E-Mine Plan Map to depict their location; if tanks are located underground, please include them on the mill layout map discussed in item #10.

6. In Exhibit C, the Operator discusses the site is a zero water discharge facility and that mill processing water is recycled and reused. During the 2020 site inspection, the Division observed wet conditions on the decline tunnel adjacent to the tailings dewatering sump room and a small pool of water was observed against the face at the bottom of the decline tunnel. In accordance with Rule 3.1.6(1), please describe how the Operator will ensure water from the tailings is kept within the dewatering area and doesn't flow down into the workings.

Operator's Response: The inspector has jumped to conclusions regarding the "pool of water observed against the face at the bottom of the decline tunnel." Discussions with the operator found that the water was most definitely not associated with the milling, and a follow-up inspection and testing by the engineer confirmed that it had no chemicals associated with milling in it, thus it must have been from an alternate source. Other sources for this water in the mine include condensation caused by high humidity leading to sweating on the walls, and from the water used for drilling and dust suppression. Thus, the water was from one of these other sources, and the ponding of this water provided important insight into the permeability of the rock. Instead of the inspector reaching the conclusion that this water was bad, in fact it is quite the opposite. The presence of water at that location indicates that the rock in the mine has low permeability, thus it has the ability to preclude water flow through it. The water found in that area was water that had been used by the operator for drilling and dust control, and if the operator had been mucking at the time of the inspection, the water would have been consumed by mixing it with blasted rock as the rock was being trammed.

Division's Response: The Division recognizes the opinion of the source of the water based on the consulting engineer's inspection; however, the response fails to address the manner in which water from the tailings dewatering sump room is contained and is prevented from traveling down the adjacent decline tunnel. In accordance with Rule 3.1.6(1), please describe how the Operator will ensure water from the tailings is kept within the dewatering area and doesn't flow down into the workings.

8. Within the 110(2) Permit Application, the Operator provided an August 6, 2014 Engineering Report titled, "Rock Testing for Acid Generation and Rock Buffering." The 2014 Engineering Report included acid-base accounting (ABA) testing which was performed prior to permit issuance. This 2014 Engineering Report, which ultimately required the Operator to convert to a 110d permit, states that materials at the site were potentially acid-producing. Within the 110(2) to 110d Conversion Application CN1, the Operator committed to storing any potentially acid generating material inside the mine and to keep it isolated from outside precipitation. Within TR1, the Operator provided the results of ABA testing for the concentrate which showed the product extracted from the ore was acid generating. During the 2020 site inspections of the site, the Division observed ore being stockpiled at the surface prior to crushing as well as crushed ore stockpiled in the eastern half of a 3-sided structure at the surface prior to being hauled to the underground mill. The Operator states within AM1 Exhibit C 1(m), paragraph 2, material that is potentially valuable is reduced in size in a small crushing plant that is currently located on the waste rock pile. Please provide details how the Operator intends to handle the mined ore prior to crushing, the crushed ore prior to milling, and the concentrate products produced from milling. Please update the EPP to address the requirement of Rule 6.4.21(6). Please note, as the Operator has already demonstrated, the ore is acid generating and therefore, if the ore is stockpiled outside of the mine and is exposed to precipitation, the Operator will need to propose additional Environmental Protection Facilities (EPFs) in accordance with Rule 6.4.21(7) for the control and containment of acid-forming materials.

Operator's Response: The reviewer is correct that acid based accounting testing was performed in 2014, and DRMS demanded that the permit move to a 110(d), although there was disagreement between DRMS personnel and the engineers in the interpretation of the test results from a mine chemistry perspective. In hindsight, the moving of the site from a 110(2) designation to a 110(d) designation provided flexibility for the future for the handling both potentially acid generating "earth materials" defined in Rule 1, and "designated chemicals" should DRMS ever chose to designate chemicals beyond the cyanide and mercury which Mr. Waldron had considered the only designated chemicals at that time. The reviewer is correct in that the operator committed to storing any potentially acid generating material away from precipitation, storage to either be inside the mine or inside the warehouse, isolating it from precipitation. The reviewer is also correct that the acid based accounting results for the concentrate showed that it had the ability to generate acid and its buffing capacity had been diminished. However, inside mine storage was not intended to include the potentially valuable product produced, that had to be moved and managed in order to make a product that could be salable. However, the operator is completely committed to handling and storing that product in a safe manner at a location where it is not subject to precipitation, and at the time of the inspection the DRMS reviewer made no indication that he observed concentrate stored where it would be subject to the effects of precipitation, nor did he observe any negative environmental conditions associated with the method of storage at the time. We all hope for benefit of the operator that this is a valuable product and if it is valuable, then neither the environment nor the operator would benefit from having it exposed to weather that might cause it to degrade. The operator is committed to storing the concentrates where they will not be affected by precipitation. Thus, the requirements of an EPF are met by keeping the concentrates containerized and intact and dry, if these conditions are met, they pose absolutely no threat to the environment.

The reviewer then continues on to state that during the 2020 inspection, "ore" was stockpiled on the surface, as well as "crushed ore" stockpiled in a 3-sided structure. With the recent legal wording changes that have been adopted, the reviewer has referred to some material located on the leveled area as "ore' and might be forgiven by Federal regulators as naive, but miners and engineers will not be forgiven and using incorrect terminology could cause liability issues should they fall into that potential trap which has been laid out by the reviewer. Refer to the Canadian 43-101 requirements that have been adopted by the U.S. Securities and Exchange Commission, and the recent 2018 amendments to the Securities Exchange Acts. Under this terminology, we must refer to this, not "ore" but instead mined material. In regards to this features on maps have been relabeled, as the original designation was intended to assist the regulators, and now must be modified to be technically correct.

The reviewer in incorrect regarding his determination that the "ore" is acid generating. Referring back to the report produced by Braun in 2014, this material that has been mined and placed outside, was characterized in the report as being acid-neutralizing neutral, and the underlying material on which it was placed was characterized as being acid neutralizing. Further, the inspection of the material that was on the surface and within the enclosed structure by the engineers found no evidence that it was degrading to produce any acid, nor was it producing any acid to the adjacent surface below it. Factoring in the acid neutralizing nature of that underlying material, even in the unlikely event that a small amount of acid might be produced by the mineralized material, the acid neutralizing material below it would neutralize any acid production anyway. In the DRMS inspection reports, there is no indication that the inspectors found conditions different than those found by the Braun engineer. These observations are valid for both the material that was temporally located outside, and for the material located under the roof. It was also the conclusion of the engineer inspectors that the material under the roof was protected from precipitation and after talking to the operator, the reason that the roof had been constructed.

In this discussion, it is important to refer back to when the original regulations were written, of which I participated, that the 1995 revision (Rule 1.1(2) referring to materials contributing to "acid mine drainage" specifically stated that "Mined and stockpiled material does not include ore or other mined product that is, or will be processed within one hundred eighty (180) days of being stockpiled and removed from the permit area". This sentence was specifically written into the regulations to allow the operator the ability to handle and process material, while still maintaining adequate standards and environmental safeguards. The authors of the rule understood basic chemistry and knew that the degradation of minerals from weathering does not occur instantaneously, and they chose a time period that would allow the operator sufficient time to manage his materials and business, while creating little chance of danger to the environment. The physical characteristics of the materials on this site are typical of the materials found at other waste rock piles found around the Cripple Creek district, the majority of which are also non-acid generating. This subject that has been thoroughly discussed in previous documents provided to DRMS, and the Environmental Protection Plan has been modified to reflect the comment.

Division's Response: The Operator has committed to storing the concentrates where they will not be affected by precipitation. Please define where the concentrates will be stored.

Please note that any ore, or Potentially Acid Generating Material, stored on any surface location for longer than 180 days must be stored within a designed, constructed and certified Environmental Protection Facility. If the material is to be stored on the surface temporarily, please provide a written commitment that the Operator will not store any Potentially Acid Generating Material on the surface for longer than 180 days.

10. In Exhibit C 1(m), paragraph 3, the Operator has generally discussed the milling process and provided a typical example flow sheet for those unfamiliar with the type of operation. The Division appreciates the general discussion and the example flow sheet, however, the Operator will need to provide the specific details of the current milling process and a detailed flow sheet to reflect the actual mill being utilized at the site. The Division is aware the Operator is in a "mineral testing stage" and changes may occur to the current process. As previously discussed with the Operator, if processing changes (other than minor tweaks) are proposed in the future, the Operator will need to inform the Division of the change in writing prior to implementation. The Division will then notify the Operator if the change is substantial enough to require a Technical Revision to the approved plan. This is a similar concept to Item #3 on the attached AM1 Review Memo from Leigh Simmons regarding changes to the list of chemicals. Please provide the specific details of the current milling process and a detailed flow sheet to reflect the actual mill being utilized at the site.

Operator's Response: The current process includes crushing, grinding, gravity separation, and flotation. Crushing is performed in jaw and cone crushers, grinding occurs in a ball/rod mill. The product moves to the gravity equipment and the flotation tanks as was discussed in detail in Exhibit C. To make it simpler for the reviewer, a site specific detailed flow sheet has been added to Exhibit C showing the process and steps that have been and will be used.

Division's Response: Review of the revised Exhibit C 1(m) has determined the provided information to be insufficient. Please provide a more detailed description, accompanied by drawings, schematics and layout designs of the Milling Process. This information should include volumetric capacity of each component, depiction of when in the process water is added to create a slurry, where reagents will be added and an estimated dosing rate of each specific reagent. In addition to the discussion of the Mill Process, please address the secondary containment structures or devices in place and include the volumetric demonstration that the secondary containment structure possesses enough volume to contain 110% of all materials stored within that secondary containment area.

12. As the Operator is "still in a prospecting and mineral testing stage" and "since the Earth's rocks are not necessarily homogeneous, neither is the content and exact composition of the minerals in those rocks", the Operator will need to propose a periodic waste stream characterization plan in accordance with Rules 3.1.5, 3.1.6, 6.4.21(6)(c), and 6.4.21(14). Results from this periodic characterization (tailings chemistry, SPLP, ABA, TCLP, etc.) will determine if the Operator is authorized for the continued placement of mill tailings sand on the unlined waste rock dump regardless of changes in the ore body or changes to the milling process.

Operator's Response: Review of Rule 3.1.5 finds that paragraphs (1), (2), (3), (4), (5), (6), (7), (8), (9), (10), and (11) have been all addressed in the Reclamation Plan. The reviewer must be referring to Paragraph (5) reads "All refuse and acid forming or toxic producing materials that have been mined shall be handled and disposed of in a manner that will control unsightliness and protect the drainage system from pollution." This paragraph has been addressed in the Environmental Protection Plan (Sections 6, 14, and 19).

Review of Rule 3.1.6 finds that paragraphs ((1) regarding hydrology and water quality does not apply since there is no surface water, and no groundwater has been encountered in this mine or others in the nearby vicinity. Paragraph (2) relating to earth dams does not apply since the site has no impoundments meeting that definition. Paragraph (3) has been addressed in the reclamation plan and since there no surface or underground water has been found within the permit area, no sampling is possible with regards to (4), and (5) does not apply to this permit area.

Review of Rule 6.4.21(6)(c) states, "Based upon acceptable site-specific analyses of site construction materials, waste rock, ore, product stockpiles, and mill tailings, if applicable, provide an assessment of the nature, concentrations and expected fate of potential acid mine drainage-forming materials."

Testing of rock that would be mined and processed was performed in 2014 prior to issuance of the original permit. The acid base accounting testing characterized both the mineralized rock and the non-mineralized rock found within the permit area. The non-mineralized rock was determined to be acid neutralizing. The testing of the mineralized rock found the neutralization potential to equal the acid generating potential, with a result that it was neutral rock that had neither the ability to generate free acid or neutralize acid. Further testing ordered by DRMS was performed in 2020 of the sand material or tailings, and the results were exactly as would have been expected, that since the mineral that was potentially acid generating had been removed, and the material had changed from neutral to acid neutralizing. Based on those tests, it was concluded that from an acid based accounting prospective, the sand material was benign, with no pH lowering ability that could lead to the mobilization of metals, thus "acid mine drainage-forming materials could not exist.

Review of 6.4.21(14) is titled geochemical data and analysis, and specifies that testing be performed as: "(a) Such evaluations shall be site specific and appropriate for the types of materials exposed or to be exposed by the mining and reclamation operations. (b) Such evaluations shall be conducted on materials that are representative of the composition of the mineral, rocks or materials that are exposed or to be exposed during the proposed life of the mining operations. (c) Such evaluations shall be appropriate for the intended use or fate of the material exposed or to be exposed during the proposed life of the mining operations, and on a case-by-case basis shall include evaluation of weathering effects, shall simulate, to the extent reasonable, the conditions under which the material will be used, stockpiled or disposed and which shall reasonably be expected to prevail after mining and reclamation operations have ceased. (d) Such evaluations shall be performed on both ore and overburden, and shall identify the most reasonable sources, probable fate, and transport mechanisms of metal and acid-producing minerals that may be mobilized by ordinary weathering reactions that are likely to prevail after mining and reclamation operations have ceased. Such analyses may include only those tests that are necessary to satisfy the conditions of Subsection 6.4.21(14)(c), and such evaluations may be prioritized, in descending order of importance, as follows: (i) mineralogical analyses; (ii) trace element analyses; (iii) major element analyses; (iv) microprobe or other comparable analyses. (e) Where a net neutralizing, metal adsorption or metal ion exchange potential over the long-term cannot be demonstrated, the Operator/Applicant shall fully describe measures to prevent unpermitted discharges, and how reclamation, sufficient to achieve the post-mine land use will be assured."

The Environmental Protection Plan in Section 14 has addressed the above issues, in that the work relied on the materials that were discovered by exploration. That exploration provided the opportunity to collect materials that were representative of what would be encountered during mining, and what would be placed on the surface. In addressing paragraph (d) both the petrology and the rock forming minerals on the site have been thoroughly studied and in fact, a few years ago, one DRMS reviewer had to be educated with details of the rock units of the Cripple Creek area when he mistakenly corrected the engineer and the engineer had to instruct the reviewer. To understand the elements and to support the composition of the rock forming minerals, ICP analysis has been performed and the results have been provided to DRMS. The major elements are the ones that comprise the rock forming minerals in the Cripple Creek area, and these elements are well known, published, and are equivalent to those at the site. We do not consider item (iv) microprobe analysis useful for assessing environmental parameters for this site at this time.

Division's Response: Please provide a written commitment to provide periodic analysis of the tailings as the operation progresses to ensure consistency of materials being placed in the unlined facilities. In addition, please provide a written commitment that states, should the Operator encounter ore materials that a significantly different from the originally sampled material from a geochemistry perspective, written notification be provided to the Division, accompanied by geochemical analysis of the material, and verification that the new material will not alter the composition of the tailings.

15. In accordance with Rule 6.3.3(1)(e), please provide a table to account for all existing structures (permanent and temporary) and mine-related refuse/debris which has accumulated at the site. In addition to the detailed accounting, the Operator may submit a signed and notarized letter from the landowner identifying which structures are requested to remaining after reclamation is complete for the landowners use. In accordance with CRS 34-32-109(6), the Operator will need to submit a demonstration (correspondence from Teller County) that structures requested to remain comply with local land use zoning and are compatible with the selected post-mining land use. The Division will utilize the information provided in the accounting to determine the costs associated with the removal and disposal of the items for the reclamation cost estimate.

Operator's Response: All buildings are temporary, and buildings, refuse and debris, and equipment will be removed upon cessation of mining. Table 1 is a list of items to be removed.

Table – List of existing structures

Item
Shop-warehouse
Covered material storage
Crusher Portable
Containers (5)
Office Trailer (1)
Misc. Parts and construction items
Mine Portal
Shaft (2)

Division's Response: Please provide the dimensions, a description of materials, and foundation details, as applicable, for the Covered Material Storage, Containers, and Office Trailer. The Division will utilize this information to calculate the reclamation cost estimate for the removal and disposal of these structures. Based on the responses to this adequacy review letter, the Division will also update the reclamation cost estimate for the site. Tasks associated with the shop-warehouse, portal, and shaft closure will utilize similar methods and information as the 2014 reclamation cost estimate. The Operator will be provided a copy of the estimate prior to the decision date for review.

EXHIBIT U – Designated Mining Operation Environmental Protection Plan (Rule 6.4.21)

20. The proposed EPFs within AM1 require more detailed descriptions, including actual capacities, construction details dimensions and drawings, materials, linings, and permeabilities, and that those facilities designs are supported by engineering certificates. Pursuant to Rule 6.4.21(7)(e) a description concerning the release response procedures, redundancies and back-up measures to control, prevent, and mitigate releases of the designated chemicals from the containment facilities is required. All EPFs are required to be designed and constructed in accordance with Rule 6.4.21 and certified in accordance with

Rule 7.3. Pursuant to Rule 7.3.1(5), no chemicals used in the extractive metallurgical process or toxic or acid-forming materials shall be placed in constructed facilities until the Board or Office accepts the certification of the facility.

Operator's Response: Per the DRMS regulations, the "EPF" designation was originally intended for repositories for waste rock and large quantities of hazardous or potentially hazardous materials, and not intended for storing a drum or two of some non-hazardous reagent. I remember this well, as I was part of the development of those changes that were made to the regulations in 1995. Somehow the original intent has been bastardized to include what the EPA would consider simple secondary containment as addressed in Title 40 Code of Federal Regulations (CFR) Part 264, with more specific requirements for liquid products and secondary containment defined in the Clean Water Act (CWA, 33 U.S.C. ' 1251, Pub. L. No. 95-217, 91 Stat. 1567 (1977), and specifically in 40 CFR Part 112. Per EPA requirements, containment is for liquid quantities meeting a certain volume threshold, and in this case, as good stewards of the land, we believe it important to provide secondary containment for smaller quantities to protect the environment. Per the intent of the EPA and its requirements, the containment for liquids is to contain the quantity held by the largest container. Per the mining plan, the total quantity of chemicals stored will be 1,000 gallons or less, and the largest container will be 300 gallons. Stored solids are not addressed by EPA in those regulations, and standard of the industry practice call for them to be stored in a manner consistent with that specified in the SDS. Thus, these materials are to be stored in their containers, if shipped in such, and if transferred to another container, that container is to be compatible with the chemical stored inside. In order to protect personnel and the environment, they are to be kept under cover and away from precipitation, unless outside storage would result in no chemical changes in the compound. A description concerning a release response is already included in Section 6 of the Environmental Protection Plan.

There site contains one chemical storage area located near the mill room having dimensions of 6 by 20 feet. Per the bastardized definition, that area will be called the EPF. That area is completely surrounded on all sides, top and bottom, by solid nonfractured alkaline volcanic rock having acid neutralizing capacity of 13 tons CaCO3 per kiloton of rock, with an effective permeability of about 1 x 10-8 centimeters per second, similar to that of concrete. The rock is to be covered with a concrete floor having a thickness of 4 inches (thickness of a finished 2 x 4) which provides a smooth surface where spills could be easily removed should they occur. Containers as large as 300 gallons will be stored in this area, either within manufactured secondary containment trays, or within the secondary containment created by the concrete floor within an area capable of containing the entire volume of the container. Design drawings might be appropriate for a real EPF, but seems an excess for a 6 x 20 foot slab of concrete.

As discussed previously, the environmental protection facility designation was not intended to describe a simple chemical storage area, and in this context, none of the paragraphs in Rule 7.3, as it relates to warehouse storage of chemicals make much sense. If indeed this bastardized interpretation is to be adopted, then it appears that for this little storage area, the Board, per 7.3.1(1), is going to need to accept the pouring of about a cubic yard of concrete and the tramming of a manufactured spill bucket into the storage area is to be performed in phases, with the next phase dependent on the acceptance of the last. Pouring concrete and carrying a piece of plastic cannot be done in too many phases. I am not sure what 7.3.1(2) means as it applied to the storage area, but it appears to mean that a monolithic concrete floor cannot be allowed, which is a contradiction, since the reviewer has orally ordered that a concrete floor be installed. Paragraph 7.3.1(3) refers to designing capacities with regard to storm events, which are not pertinent to storage inside a warehouse setting, and this is further evidence that the reviewer is misusing a rule intended for waste rock-type facilities, unless he is considering designing for Noah's flood, which would not be a 2- or 10-year storm event. 7.3.1(4) refers to quality assurance and control certifications, which seems ridiculous to pour a simple concrete pad, and carry in a spill bucket. The last 7.3.1(5)

appears to be feasible, and the presence of the concrete floor and the spill containers can be certified of something if the Board should desire.

Division's Response: The Operator has failed to adequately address Item #20. Designs and drawings are required for the chemical storage area. Please note, all hazardous materials, designated chemicals or Potentially Acid Generating Materials must be stored within proper secondary containment structure that is designed and certified by the Division. Natural secondary containment structures will not be accepted by the Division and all containment structures must be designed to contain 110% of the <u>total</u> materials contained within it.

21. The mill includes the processing of acid-generating material as well as the use of designated chemicals, therefore pursuant to Rule 6.4.21, an expansion of the proposed EPF 1 or a proposed additional EPF to include the entire mill facility is required.

Operator's Response: The reviewer is once again incorrect, in that based on all testing, the "mill" is not processing acid generating material. Instead, the only acid generating material, or potentially acid generating material is the processed final product. The mill located below the ground surface, is totally encased within the Cripple Creek Breccia, an acid neutralizing rock which in itself satisfies the requirement for containment of acid-forming materials as defined in Rule 1.1(15). In fact, the Environmental Protection Agency (EPA) in 1992 in a report titled "Site Visit Nerco Minerals, Cripple Creek Operations" their personnel specifically recognized the nature of the rock and stated specifically as quoted, that "It is important, to note that the alkaline nature of the diatreme and the presence of carbonate minerals has resulted in relatively low potential for acid generation in the Cripple Creek area." (EPA, 1992). This fact was obvious to the EPA, is obvious to the casual observer across the entire Cripple Creek district, and has already been discussed previously for this site, with those observations have been confirmed by laboratory by testing. A second requirement for containment is necessary and that is whether the rock forms a hydrologic barrier. As with other hydrothermally altered alkaline lithic tuffs, the Cripple Creek breccia has a permeability in the range of 1 x 1-8 centimeters per second, similar to the permeability of concrete. Geologic mapping of the mill area had found no open fractures where any significant increase in permeability might occur. Thus, the rock itself has the properties necessary to neutralize any acid that might come in contact with it, and to also contain any spills of chemicals that might occur. Secondary containment will rely on the rock formations, a concrete floor to provide additional containment protection and allow good housekeeping, and commercial of locally fabricated spill trays.

Division's Response: The response to Item 21 remains inadequate. The Division identifies the Mill as an Environmental Protection Facility and must be addressed in accordance with Rule 6.4.21(7), Rule 7.2 and Rule 7.3. The Operator may wish to consider the mill and the adjacent chemical storage area as a single Environmental Protection Facility. As such, the Operator shall submit detailed descriptions and designs of the mill, including actual capacities, construction details, dimensions, drawings, materials, linings, and permeabilities. Pursuant to Rule 7.3.1(5), no chemicals used in the extractive metallurgical process or toxic or acid-forming materials shall be placed in constructed facilities until the Board or Office accepts the certification of the facility.

26. The AM1 Chemical List shows the maximum total quantity of chemicals listed 5,625 gallons of liquid and 5,800 pounds of dry chemicals. The AM1 Chemical List also contains a note which states "Column 4 of the Table shows maximum amount of any one chemical that might ever be on hand. As very few chemicals listed will be used past testing stage, the total volume of chemicals on hand at any one time will be less than 1,000 gallons". The contradiction between the list and the note is not acceptable. As required by Rule 6.4.21(5) and Rule 8.3.2(3), please clearly identify the maximum quantities of each chemical

which will be stored on site at any one time. This information will also need to be incorporated into the Emergency Response Plan (Adequacy Item #31). The Division will use this information to calculate a reclamation cost estimate for the disposal of the maximum total quantity of all listed designated chemicals and other chemicals that will be stored and used on site at any given time. Please provide the actual proposed quantities in column 4 of the Chemical List that will be stored on site at any one time.

Operator's Response: As is usual, with the reviewer, instead of working with the permitee to understand an issue or discussing it, comes to a crazy conclusion. There is no conflict in the numbers, and both the table and discussion are exactly correct. Further both were constructed after careful consideration and were based on the specific instructions from DRMS personnel. Once again, per DRMS specific instructions, the list of chemicals includes all of those that might be used or be present on the site. A professional with any chemistry training would conclude, the use of all of those chemicals simultaneously at one time would be ridiculous and would guarantee failure of the project. And, even though the reviewer did an excellent job of adding up the numbers on the table to reach a total, only certain chemicals out of the list will be used at one time, and those chemicals will include a limited number of the chemicals contained on the list. Thus, as already stated, the total volume of chemicals from that list that will be on the permit area at any one time will be less than 1,000 gallons.

Division's Response: The Operator has committed that the total volume of chemicals from the Chemical List that will be in the permit area at any one time will be less than 1,000 gallons; the Division has accepted this commitment for the liquid chemicals. The revised Chemical List contains seven solid chemicals with a maximum quantity of 6,600 pounds. Please specify the total weight of solid chemicals from the Chemical List that will be in the permit area at any one time and update the Chemical List note to reflect this additional commitment.

33. Pursuant to Rule 6.4.21(6), please describe how equipment that comes into contact with the chemicals in Table 1 will be detoxified and/or disposed of. Specifically, discuss the following:

- **a.** Personal protective equipment
- **b.** Replacement of equipment, flowlines, etc.
- **c.** Empty chemical containers or disposable mixing containers.

Operator's Response: In review, all of the chemicals that are listed by DRMS as being designated chemicals, are considered by the CDPHE and EPA to be nonhazardous to the environment, and based simply on the Occupational and Safety Administration hazcom coding, DRMS has listed them, while making no consideration for dose, exposure, concentration or any other important parameter. In fact two of the newly designated chemicals are common household compounds, one used for cooking and the second as a household cleaner. In specific response,

a. Personal protective equipment includes items such as gloves, safety glasses and shoes, earplugs or muffs, hard hats, respirators, or coveralls, vests and full body suits. All personal protective equipment should be safely designed and constructed, and should be maintained in a clean and reliable fashion. It should fit comfortably, encouraging worker use. If the personal protective equipment does not fit properly, it can make the difference between being safely covered or dangerously exposed. When engineering, work practice, and administrative controls are not feasible or do not provide sufficient protection, employers must provide personal protective equipment to their workers and ensure its proper use. Today, the U.S. Environmental Protection Agency (EPA) is encouraging all Americans to recycle materials where possible, and to properly dispose of personal protective equipment (PPE), especially during the COVID-19 pandemic. Contact with chemicals with PPE should be minimized, and any large spilled quantities onto PPE should be returned to the original containers as possible. Since the organic chemicals used are environmentally safe and non-toxic in small concentrations, and

those chemicals degrade naturally, so any used PPE that can no longer be used is to be placed into a plastic bag and disposed of as normal solid waste.

b. As described above, since the concentrations of the chemicals used are environmentally safe and non-toxic in small concentrations, and they degrade naturally, any used equipment, flowlines, etc. can be emptied of fluids and disposed of as normal solid waste.

c. Per EPA guidance, empty chemical containers are to be recycled when possible. For non-recyclable containers, the containers are to be fully emptied of any residual product, and since of the chemicals used are environmentally safe and non-toxic in small concentrations, all containers for the chemicals listed can be disposed of as normal solid waste.

Division's Response: Several of the proposed chemicals contain Safety Data Sheets (SDS) which state the material may meet the criteria of a hazardous waste and that measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. Additionally, other chemicals state to dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Lastly, other SDS sheets say to consult local, reginal, and national hazardous waste regulations to ensure complete and accurate classification. Please commit to following all federal, state, and local regulations regarding the disposal of equipment that comes into contact with the chemicals in Table 1.

New Adequacy Review Items:

36. The revised Chemical List states each chemical will be stored in the "Mill/Warehouse". Within the Adequacy Review Responses, the Operator has removed the proposal of having the warehouse designated as an EPF. Please revise the table to indicate the storage location of all designated chemicals will be in the Mill.

37. Section 15 of Exhibit U will need to be updated to reflect AM1 activities and compliance with Rule 6.4.21(15).

38. Section 16 of Exhibit U will need to be updated to reflect AM1 activities and compliance with Rule 6.4.21(16).

39. The Emergency Response Plan will need to be updated to reflect the requirements of Rule 8.3.2 and re-submitted for further review. Additionally, Emergency Notification requirements and procedures outlined in Rule 8.1 and 8.2 shall be incorporated into the Emergency Response Plan.

40. In accordance with Rule 3.1.13(1), please revise Section 3(A)(1) of the Emergency Response Plan to remove the option of contacting the Division via facsimile. Additionally, as the Operator has specified the current Environmental Protection Specialist's email, please also specify the Division's phone number (303-866-3567).

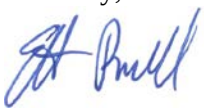
41. Any changes or additions to the application on file with the Division, must also be reflected in the public review copy. Please submit proof that the public review copy has been updated or a copy of the response to this adequacy letter has been added to it.

This concludes the Division's second adequacy review of AM1. Subsequent to receipt and review of the Operator's response to these items, the Division may identify additional items. As a reminder, please be advised that AM1 may be deemed inadequate, and the application may be denied on October 25, 2021, unless the above

mentioned adequacy review items are addressed to the satisfaction of the Division. **If more time is needed to complete the reply, the Division can grant an extension to the decision date.**

If you have any questions, please contact me by telephone at 303-866-3567 x8132, or by email at elliott.russell@state.co.us.

Sincerely,



Elliott R. Russell
Environmental Protection Specialist

Attachments: Colorado Parks and Wildlife Comment Letter

Ec: Jason Musick and Leigh Simmons, DRMS
Art Braun, Braun Environmental, Inc., braunenv@msn.com