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December 18, 2020

Eric Scott, Environmental Protection Specialist
Colorado Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Subj: Adequacy Response to Preliminary Review of a 112c Construction Materials Reclamation Permit Application Package, Kilgore Companies, LLC dba Peak Materials - Peak Ranch Resource, Permit M2020-041

Dear Mr. Scott:

This letter is in response to your letter of October 27, 2020 regarding the Preliminary Adequacy Review of the 112c Construction Materials Reclamation Permit Application for the Peak Ranch Resource project in Summit County, submitted on August 19, 2020, Permit M2020-041.

The recommendation date for this application was stated in the letter to be January 15, 2020. However, the Applicant recognizes this was an error and that the actual recommendation date is January 15, 2021 with responses due by January 8, 2021.

Below you will find responses to comments received from DRMS, including those received from Peter Hays pertaining to the Geotechnical Stability Analysis. Details for exhibits and topics that were commented "*adequate as submitted*" or "*already provided*" are omitted from this letter.

We have also reviewed and responded to the referral agency comment letters. Copies of our responses to each agency are attached to this letter. The one exception is that you will not find a letter in response to the letter from the Town of Breckenridge. Breckenridge's letter simply referred to the letter from Glenn Porzak to Russ Larsen regarding the Structure Agreement and drainage easement. The Structure Agreement was executed with Breckenridge and a copy of it was previously sent to the DRMS. In addition, a new drainage easement has been granted across the property to the Town of Breckenridge to adequately accommodate their drainage ditch through the property.

Finally, we also received copies of the 142 objection letters that were submitted to the DRMS. We reviewed the letters. Many of the comments made in the letters are not within the jurisdictional purview of the DRMS, but we have prepared a report that essentially summarizes the comments made by topic and provides a response.

DRMS Comments and Responses

We have formatted the content so that the comments made by the DRMS are listed in *italics* and our responses to each comment are provided in [blue](#).

Please note that any changes or additions to the application on file in our office must also be reflected in the public review copy, which has been placed with the Summit County Clerk and Recorder.

[The Applicant acknowledges this request and will include any changes or additions to the application with this response letter.](#)

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

Please properly label and identify the Green Mountain ditch/canal located near the northwest corner of the property even though it is just over 200 feet from the mining boundary.

Exhibit C has been revised so that Green Mountain Ditch/Canal easement is labeled.

Although contour lines are present on the map in appropriate intervals, they are faint, and the labels are very difficult to read. It may be useful to separate this information onto another map so that legibility may be improved without obscuring the other required information presented.

The linework has been modified to make the contours on the map darker and easier to read.

Figure C-2A depicts several groundwater monitoring wells within topsoil/overburden berms, and the labels for well GW1 and GW5 appear to be misplaced. Please correct these items on all figures as needed.

The bottom of the topsoil/overburden berms are planned to be near the GW1 and GW5 wells. Due to map scale challenges, it was hard to illustrate this clearly. Figure C-2A has been modified to clearly show the wells are not located under the berms. Attached is a revised version of the Exhibit C maps. In addition to making the changes described above, modifications were made to the proposed mining plan in response to suggestions made by Colorado Parks and Wildlife (CPW). They asked that we maintain a 300' setback from the Blue River to the mining cell. In order to accommodate this request, the mining plan was changed to propose deeper extraction on the north cell, which means a second open water pond will be created when the site is reclaimed. The overall acreage of disturbance and total affected area will not increase as a result of these changes.

EXHIBIT D - Mining Plan (Rule 6.4.4):

The plan as presented states in section 1.1 that CDOT approved improvements to Hwy 9 will be completed prior to commencing operations. Please state what type of improvements are proposed and where, and if they will be completed prior to any activity on this site or completed prior only to off-site transport of mined materials.

The Applicant is in the process of acquiring an access permit for this site. The traffic study calculations indicate that a right turn acceleration lane on Highway 9 from the site is recommended, but not required. In the interests of safety, Peak Materials does plan to construct this lane. In addition, the study indicates that a left turn deceleration lane on Highway 9 into the site will be required and it too is planned to be constructed. These road improvements will be completed prior to off-site transport of mined materials. We have clarified this in Exhibit D.

As noted in the pre-operation inspection, the applicant has stated that they are working with the Town of Breckenridge to return the Town's drainage easement to a functional condition as required by the Town's decree. What is the proposed timeline for the realignment of flow from the culverts under Hwy 9, and the re-establishment of the Town of Breckenridge return flow drainage easement across the property? The "wet meadow"/wetlands area in the northeast part of the site as it currently exists is, at least in part, due to the failure of this easement to function properly in the past. Therefore, restoring proper function of the drainage easement may have adverse effects on the existing wet meadow/wetland areas. The permittee will need to engage and work with the US Army Corps of Engineers (COE) to determine what the COE permitting implications of this may be and what, if any, mitigation measures will be required. The applicant must also commit to obtaining, as necessary, an approved wetlands delineation and appropriate permit from US Army Corps of Engineers (COE) prior to any mining or mining related disturbance of any potential wetland areas on site.

Peak Materials has worked with the Town of Breckenridge to facilitate the return of the drainage ditch in question to good working order. The drainage ditch easement of record did not adequately meet the Town's needs so Peak Materials granted the Town a new easement that would fully contain their drainage ditch from the east side of the Peak Ranch Resource site all the way to the west edge of the site. At the end of November/early December, the Town of Breckenridge completed the construction work necessary to reestablish their drainage ditch. Prior to completing the work, Breckenridge worked with the US Army Corps of Engineers (COE) to obtain a permit because of their work in the wetlands. They also worked with Summit County to obtain a grading permit. As you mention, we do believe that the wetlands that exist on this site were at least partially created due to the Breckenridge ditch not flowing properly across the property. As a result, it is possible that over time, these wetlands may lose their water source now that the ditch has been reconstructed to function properly.

Peak Materials has been in communication with the COE about the wetlands on this site. Peak Materials is submitting a request to the COE for a jurisdictional determination (JD) regarding the wetlands. However, the report and request for a JD was delayed until after Breckenridge completed their ditch improvement work so that their work could be documented in the wetlands delineation report. Following the JD by the COE, Peak Materials will work with the COE to obtain the appropriate permit from the COE prior to disturbance of any wetlands on the site. Peak Materials will also work with the COE on a mitigation plan, if needed. No mining is proposed by Peak Materials in the wetlands; the only disturbance proposed is to accommodate the access road into the site. While we attempted to avoid impacting the wetlands, for safety reasons, CDOT determined that we must align our access point with Elk Run Road. In order to accommodate this CDOT request, we will impact a small portion of this wetland area.

Please verify and demonstrate that there is sufficient material available on-site to construct the berms as proposed and shown while still segregating topsoil from overburden material as required by rule. The amount of topsoil proposed to be salvaged and utilized for berms and reclamation appears to exceed the amount of topsoil shown in the boring logs and soil survey for the site. If the applicant is proposing to salvage additional material beyond topsoil as specified in Rule 3.1.9(6), please specify what, if any, testing/amendments will be needed prior to or during reclamation to ensure that the material will be suitable for reclamation and re-vegetation.

The three primary sources for understanding topsoil depth at the Peak Ranch Resource site are the NRCS soil survey data, ERC's field survey and the boring logs from exploration work on-site. The soil survey from NRCS indicates there is zero to six inches of gravelly loam atop 6-15 inches of gravelly sandy loam atop 15-60 inches of very cobbly sandy loam. Any visitor to the site would notice that alluvial cobble (rounded river rock) is readily present on the surface. Included in the revised version of Exhibit D is a photograph that demonstrates typical ground conditions on-site. Interspersed amongst this alluvial cobble are loam and sandy loam components that are host to the vegetation growing on-site. ERC's field survey essentially verifies the NRCS data indicating a thin surface horizon and a thicker sub surface horizon below that. According to the boring logs, there is a two-inch layer of topsoil. This would more properly be referred to as an O or AO horizon which is often used to describe the very thin surface layer of soil which usually contains more organic matter and therefore appears to be distinct from the rest of the upper horizon. However, texture and color are more appropriate descriptors to delineate the horizons in general and especially on this site. For this reason, the highly organic top layer is typically salvaged with the entire A horizon, or in this case, the H-1 horizon.

Considering the information available, there is clearly not a substantial depth of high-quality topsoil present at the Peak Ranch Resource site. Any "topsoil" that is available will be salvaged to retain soil components that are valuable to successful revegetation. Due to the cobbly nature of the soil horizons and the type of construction equipment that will be used to mine the site, salvaging only two inches of material is not feasible. Therefore, this layer will be included in the minimum topsoil stripping depth of

six inches, thereby ensuring all topsoil present is salvaged for use in reclamation. The NRCS soil survey data shows the top horizon of soil ending at six inches, confirming that stripping beyond six inches would likely lead to a mixing of soil and subsoil material that would reduce the topsoil quality.

It is for the reason explained above that we assumed a six-inch strip depth for all topsoil salvage calculations in the DRMS application. All berm volumes and the topsoil replacement plan are based on this stripping depth. Topsoil to be used for reclamation will be segregated from overburden. Note that the south berm which will be constructed of overburden with a layer of topsoil on top, will be permanent.

Since the topsoil salvaged for reclamation is stripped to a thickness based on the NRCS soil survey data and it will be either directly placed or stored in segregated stockpiles, no testing or amendments to the soil are proposed. However, if at the time of reclamation Peak Materials encounters problems with revegetation measures, they will utilize testing or amendments to help remedy the problem.

We have amended Exhibit D to incorporate some of this additional explanation regarding the assumed topsoil depth.

The applicant must commit to not exposing groundwater anywhere on the site prior to obtaining an approved permanent augmentation plan from the State Engineer's Office. The other potential options for exposing groundwater for the proposed Phase II mining (bonding for and backfilling the final excavation to 2 feet above static water level, or bonding for and lining the pit with a compacted clay liner or slurry wall meeting SEO standards) have not been presented or discussed as part of this application. Please also make this correction in Exhibit G, section 8.1.

We have added a statement to Exhibit D to make it very clear that Peak Materials commits to not exposing groundwater anywhere on the site prior to obtaining an approved permanent augmentation plan from the State Engineer's Office.

This same clarification was also added to Exhibit G, Section 8.1.

How will the operator be able to document that excavation will be maintained at a minimum of two feet above the Pierre Shale underlying the site, or the 2:1 slopes as specified in the mining plan for Phase II?

The Pierre Shale will be protected from accidental exposure at the Peak Ranch Resource site in the same manner it is protected at Peak Materials' Maryland Creek Ranch facility. Operators at the Maryland Creek Ranch facility have found that the size of cobble dramatically increases within 4-6 feet of bedrock. When the cobble reaches such a size, the operator of the excavator (dragline) can feel the change in the material. Peak Materials has been very successful at avoiding bedrock by using this system. We have added information about this to Section 2.0 of Exhibit D.

Peak Materials is also confident that they will be able to manage the creation of 2H:1V mining slopes because they are successfully doing this at their Maryland Creek Ranch facility. Once again, the operator of the dragline is in control of this. The operator places the bucket of the dragline into the water and then pulls the bucket toward the dragline to extract material. When the bucket gets to where the toe of the slope needs to be located for the final slope, the operator will move the dragline bucket at the appropriate angle to create the final slope.

Why is the 2.9-acre lined augmentation pond required for Phase II? How will this pond to be lined, and how will it be reclaimed?

We anticipate that the lined augmentation pond will be required as part of the planned augmentation plan and it will need to be in place for the life of the approved augmentation plan. Therefore, this area will not be reclaimed. The pond will be designed to have a liner in accordance with the requirements of

the approved augmentation plan. The design will be determined as part of the augmentation plan approval process. A future technical revision incorporating the augmentation plan into the Peak Ranch Resource permit will include the augmentation pond design. This pond will be designed to be permanent with maximum slopes of 3H:1V. The liner will be installed from an offsite source. No material will be needed from Peak Ranch to line the pond.

We have added information about this to Exhibit D.

Will an SPCC plan be required for fuels stored on site?

No SPCC Plan will be required because of the small quantity of fuel (less than 1,000 gallons) proposed to be stored at Peak Ranch Resources site. This fuel will be stored in a double-walled steel tank that can easily be moved to make sure it is out of the way of mining operations. For security reasons, outside of the mining season (mid- December through mid-March), the tank will be stored at Peak Materials' Maryland Creek Ranch facility. This information has been added to Exhibit D.

Although it is not part of the Peak Ranch permit, please note that a technical revision to the existing permit for the Peak Materials, Maryland Creek Ranch site will need to be submitted and approved prior to importation of any off-site materials to that location.

Peak Materials will pursue a technical revision to the permit at Maryland Creek Ranch to allow for the importation of off-site materials prior to any import. A statement to this effect has been added to Exhibit D, Section 1.0.

EXHIBIT E - Reclamation Plan (Rule 6.4.5)

CPW noted that "The property currently provides limited value to big game species due to forage conditions..." Rule 3.1.8(2) states that "Habitat management and creation, if part of the Reclamation Plan, shall be directed toward encouraging the diversity of both game and non-game species, and shall provide protection, rehabilitation or improvement of wildlife habitat." CPW has offered to provide a modified or alternative seed mix for the reclamation that would improve the suitability of the reclaimed site for forage and wildlife. DRMS recommends the applicant consult with CPW to determine the best reclamation seed mix for the site, and to emphasize the use of native species as stated in Rule 3.1.10(1).

The Applicant has worked with CPW to propose a revised the seed mix that will better meet the needs of wildlife while still using native species. The seed mix listed in Exhibit E reflects the revised seed mix.

The seed mix presented in Table E-3 doesn't match the seed mix presented on Figure F-1, please address as necessary. You may want to also include the seed mix on Figure F-2 for consistency.

The seed mix has been updated in Table E-3 and on Figure F-1 and we have added the seed mix to Figure F-2 for consistency. Updated versions of Exhibits E and F which included the updated seed mix are all attached.

The reclamation plan doesn't adequately specify the numbers or types of trees to be planted, or where they will be planted, please address as necessary.

The reclamation and mining plan maps have been revised to more clearly indicate the number and types of trees to be planted and where they will be planted.

How will the 2.9-acre lined augmentation pond be reclaimed?

The augmentation pond will not be reclaimed as we anticipate that it will be necessary for the life of the associated augmentation plan.

Will the existing monitoring wells/piezometers be abandoned or retained for future use? If they will be abandoned how and when will this be done?

The existing monitoring wells/piezometers will remain and be used as monitoring wells only.

EXHIBIT F - Reclamation Plan Map (Rule 6.4.6):

Figure F-1- Please identify 3:1 vs. 2:1 slopes in Phase II lake area. There also appear to be existing structures partially shown on the north shoreline of Figure F-1, please remove.

The plans have been modified as requested to specify the slopes in the lake areas and remove the existing structures that were showing up on the north shoreline of Figure F-1.

Figure F-2 – The 2:1 contours shown on the interior of the south cell should be removed. Also please remove the text for lake elevation and acreage in the south cell.

The plans have been modified to eliminate incorrect contours. In addition, the text for lake elevation and acreage has been removed from the south cell.

In addition to making the changes requested by the DRMS, additional changes were made to Exhibit F in response to the suggestions made by CPW. The most significant change is the addition of a second open water pond in the north cell.

EXHIBIT G - Water Information (Rule 6.4.7):

Section 1.0 – Exhibits C and F do not show piezometers P-1 through P-6 as stated, please correct.

The language in Section 1.0 of Exhibit G was modified to indicate that the piezometers are shown on Exhibit C, Sheet C-1.

Please update the analytical data tables provided to include all data collected for surface water and groundwater to date, including any sampling events that have taken place since the application was initially submitted.

Compare existing data to the appropriate standard(s) for the site as detailed below.

According to the Water Quality Control Commission (WQCC) Regulation 41 – The Basic Standards for Groundwater, the site is subject to the Interim Narrative Standards for Groundwater. In accordance with this standard “ground-water quality shall be maintained for each parameter at whichever of the following levels is less restrictive:

(A) existing ambient quality as of January 31, 1994, or

(B) that quality which meets the most stringent criteria set forth in Tables 1 through 4 of “The Basic Standards for Ground Water.”

Regulation 41 also states that “Data generated subsequent to January 31, 1994, shall be presumed to be representative of existing quality as of January 31, 1994, if the available information indicates that there have been no new or increased sources of groundwater contamination initiated in the area in question subsequent to that date.” At this time, due to the consistent history and use of this site and the surrounding area as ranchland or similar, DRMS feels that existing groundwater conditions are representative of water quality as of January 31, 1994.

Therefore, DRMS will require that all existing groundwater data for the site to-date be compared to the standard values in Tables 1-4 of Regulation 41 and that any exceedances of those values at this time be highlighted and noted as “existing ambient quality”.

The groundwater data included in Appendix G-2: Baseline Groundwater Quality Data is now being compared to the Regulation 41 Interim Standards for Groundwater. Any exceedances have been noted and highlighted as “existing ambient quality”.

DRMS notes that GW-1 has been selected as the point of compliance for GW monitoring and agrees with this determination as it is the most downgradient well on the site from the proposed activity.

DRMS will compare subsequent water quality data from the point of compliance to Table Value Standards, or pre-activity ambient quality as appropriate, to determine compliance. Comparing data from the point of compliance to drinking water standards in an unclassified area, as is currently proposed in Exhibit G, is not appropriate at this time. Please modify Exhibit G to remove references to comparisons to drinking water standards for determining compliance (section 8.2).

The references to comparisons to drinking water standards have been removed from Section 8-2. The groundwater water quality data is now being compared to standard values in Tables 1-4 of Regulation 41.

All existing surface water data to-date should be compared to the aquatic life standards for the appropriate reach of the Blue River. If existing, pre-mining, background levels of any reported analytes exceed the applicable standards, these should be clearly identified. It may be useful to utilize the CDPHE Section 303(d) Listing Methodology, 2022 Listing Cycle guidelines when collecting and reporting surface water data which can be viewed at the following link:

<https://drive.google.com/file/d/1jlgq37fgFV5MpUC3HPA5misOmvhKeMrZ/view>

Section 7.1 of Exhibit G has been revised to explain that surface water data is now compared to the Stream Segment Standards for Segment 17: Mainstem of the Blue River from the outlet of Dillon Reservoir to the confluence with the Colorado River. Peak Materials has reviewed the CDPHE Listing Methodology and will report water quality sampling data with these guidelines in mind.

DRMS believes that if Phase II of the operation is initiated (dredge mining in unlined, exposed groundwater lake), monitoring of the water quality in the unlined pit may provide useful information with respect to potential groundwater or surface water quality impacts. Therefore, DRMS will require the operator to commit to quarterly monitoring of the water in the unlined/exposed groundwater pond in addition to the quarterly monitoring of the groundwater wells, and surface water.

A new Section 8.3 has been added to Exhibit G which states that Peak Materials commits to quarterly monitoring of the water in the unlined/exposed groundwater ponds in addition to the quarterly monitoring of the groundwater wells and surface water.

DRMS will also require, for review, a copy of the Sampling and Analysis plan that will govern the field data and sample collection, sample analysis, and data reporting for surface and groundwater monitoring, as well as monitoring of water quality in the Phase II unlined pond.

The Water Quality Monitoring Plan for the Peak Ranch Resource site was revised to include monitoring the water quality in the Phase II unlined pond. A copy of the revised Plan is incorporated into Exhibit G as Appendix G-3.

DRMS notes that the sampling event scheduled for spring of 2020 was not conducted. Please be advised that DRMS will expect that ALL quarterly monitoring events of surface and groundwater will be completed in the future. Weather conditions, etc, will not be acceptable reasons for skipping quarterly data collection, and failure to comply with the approved groundwater monitoring plan may lead to enforcement action by the Division.

The Applicant notes that the reason for not being able to sample during the first quarter of 2020 was not related to weather conditions. The plan had been to take a reading at the end of March, but that did not work out because of the unexpected, mandated stay-at-home order from the Governor due to COVID-19. It is understood that skipping quarterly data collection is not acceptable and we appreciate your leniency for this unusual and unanticipated event.

DRMS notes that water level data and analytical data collection will occur quarterly, what reporting schedule does the applicant propose? DRMS suggests that all monitoring data be submitted with the annual report for the site. Please note that any exceedances of groundwater standards still requires notice to DRMS in accordance with Rule 3.1.7(9).

All Peak Ranch Resource monitoring data will be submitted to the DRMS as part of the annual report. This commitment is made in Appendix G-3: Water Quality Monitoring Plan.

It may also be useful to obtain background water quality data from adjacent residential wells if access can be obtained.

Peak Materials will offer to take a water quality sample from appropriate adjacent residential well owners when we gather water quality samples in Quarter 1 of 2021. This offer will be presented in the form of a certified letter to these local well owners. A copy of the offer letter will be provided to DRMS along with proof of mailing to well owners. If the owners elect to allow us to take a sample from their well, the water will be tested like all the other samples and the results reported along with our other Quarter 1 readings. This information is included in Appendix G-3: Water Quality Monitoring Plan.

A copy of the revised Exhibit G is attached.

EXHIBIT H - Wildlife Information (Rule 6.4.8):

DRMS has reviewed the provided Wildlife Impact and Mitigation Report and noted that there are several recommendations and mitigation measures included. Does the applicant intend to implement all the recommendations provided, and if not, why not.

All the mitigation measures outlined in section 7.0 of the Wildlife Impact and Mitigation Report will be implemented. One of the recommendations was to maintain a 200' setback from the Blue River. However, in response to a comment from the CPW, we are increasing the setback from the Blue River to 300' as opposed to the 200' recommended in the report. We have added a new Section 6.0: Mitigation Measures, to Exhibit H to clarify this.

C.P.W. provided comments on this application as well which have been provided for your review - please address as appropriate.

Peak Materials responded to CPW's comment letter. A copy of our response letter is attached.

EXHIBIT J - Vegetation Information (Rule 6.4.10):

DRMS has reviewed the Aquatic Resources Delineation Report prepared by ERC and provided in this exhibit. It appears that the Wetland Determination Data Forms provided in Appendix B are multiple copies of one form for location DP-A1a? Please address and provide the data forms for all data points utilized in the report. Please also review the application for accuracy and consistency with regard to the information provided for location and extents of "wetlands."

We apologize for not catching this error before submitting the report. A revised version of the report is attached. In addition to providing all the correct forms, the report now also recognizes the new Breckenridge ditch easement and the ditch that was reestablished by Breckenridge through this wetland area.

What is the status of the site with respect to the required US ACOE permitting? Has the ERC delineation report been provided to ACOE for review and determination of jurisdictional wetland status?

ERC submitted the delineation report to the COE for a jurisdictional determination. Submittal of the report for a jurisdictional determination was delayed pending the Town of Breckenridge completing their work in the wetlands. The revised version of the delineation report which is attached to this letter is the version of the report that was submitted to the COE. Peak Materials will work with the COE to complete the appropriate permitting based on the results of their jurisdictional determination. The wetlands on the site will not be impacted by Peak Materials until this step has been completed and the appropriate permits are in place to allow them to proceed.

Please provide the Weed Control Plan for the site to be implemented by the operator during operation and reclamation.

We have added a Weed Control Plan to Exhibit J.

EXHIBIT L - Reclamation Costs (Rule 6.4.12):

DRMS will calculate the required reclamation bond for the site when all identified adequacy issues have been addressed.

The Applicant understands that the DRMS will be calculating the required reclamation bond amount after all adequacy review issues have been addressed.

EXHIBIT M - Other Permits and Licenses (Rule 6.4.13):

Please verify that no additional floodplain related permitting will be required from Summit County for this operation which is outside of the 100 year floodplain as proposed.

No additional floodplain-related permitting is required from Summit County for this operation because all proposed activity will occur outside of the 100-year floodplain. A revised Exhibit M is attached.

EXHIBIT S - Permanent Man-Made Structures (Rule 6.4.19):

DRMS notes that damage waiver agreements have been provided to all listed structure owners. As it is unlikely that all the agreements will be executed and returned, DRMS has reviewed the provided geotechnical stability report for the site. Comments on the report have been provided with this letter and will need to be addressed prior to DRMS acceptance of the geotechnical stability assessment.

We have reviewed Peter Hays' comments regarding the geotechnical stability report and made the requested revisions. Below are the comments from Peter followed by an explanation of how we responded.

10/15/2020 Adequacy Review of Exhibit 6.5 – Geotechnical Stability
Comments From: Peter Hays; Division of Reclamation, Mining & Safety

Peak Materials would like the Division to note that due to the change in excavation configuration brought about by CPW comments, new slope stability analyses were conducted along each cross section identified in the original application submittal. These revised analyses and associated revised GALENA models consider the Division comments presented in this section of their adequacy review.

In accordance with Table 1 - Recommended Factors of Safety for Slope Stability Analysis for Operations and Reclamation within Section 30.4 of the Policies of the Mined Land Reclamation Board (MLRB) effective May 16, 2018, the Division will require the Applicant to comply with the factor of safety (FOS) of 1.5 for critical structures in static conditions since the Applicant utilized generalized strength measurements in the analysis.

Peak Materials has designed and engineered the slopes at the Peak Ranch Resource based on an assumed minimum factor of safety of 1.5.

The following information is required by the Division to complete the stability analysis review.

1. The proposed Mining Plan states groundwater is anticipated at seven (7) feet below grade. The Applicant modeled the depth to groundwater at depths greater than (7) feet below grade. Please explain these discrepancies and update the Mining Plan and/or Stability Analysis Models accordingly.

The groundwater depth has been revised to incorporate monitoring well measurements that have occurred since the original application. The slope stability analysis has been revised to reflect the most recent data. Please see the revised Rule 6.5 Geotechnical Stability Exhibit. All groundwater data can be found in Exhibit G.

2. On Page GS-1 of the Geotechnical Stability Analysis, the Applicant states the sand and gravel will be mined to a 3H:1V slope with a loader and dozer. The proposed Mining Plan states the South Mining Area will be mined during Phase 2 utilizing a dragline. Please explain this discrepancy and update the Mining Plan and/or Stability Analysis Models accordingly.

The Geotechnical Stability Analysis Report has been revised to refer to Exhibit D for mining equipment specifics for consistency.

3. On Page GS-1 of the Geotechnical Stability Analysis, the Applicant states the sand and gravel will be mined to a 3H:1V slope with a loader and dozer. Therefore, one slope model was developed and analyzed: full mining at the end of Phase 2 with a 3H:1V slope extending down into the groundwater lake. The proposed Mining Plan Map -Phase 2, Exhibit C-2B, indicates the South Mining Area will be mined during Phase 2 at a 3H:1V slope above groundwater and a 2H:1V slope ten (10) feet below groundwater. Please explain this discrepancy and update the Mining Plan Map and/or Stability Analysis Models accordingly.

The slope stability analysis was conducted on the mining conditions described in Exhibit D. The text in the Geotechnical Stability Analysis Report has been revised to correctly reflect this.

4. On Page GS-1 of the Geotechnical Stability Analysis, the Applicant states the sand and gravel will be mined to a 3H:1V slope with a loader and dozer. Therefore, one slope model was developed and analyzed: full mining at the end of Phase 2 with a 3H:1V slope extending down into the groundwater lake. The Galena models provided for Profiles 2 and 4 through 7 indicate a slope combination of a 3H:1V and 2H:1V slope. Please explain this discrepancy and update the Mining Plan Map and/or Stability Analysis Models accordingly.

The slope stability analysis was conducted on the mining conditions described in Exhibit D. The text in the Geotechnical Stability Analysis Report has been revised to correctly reflect this and the GALENA models have been adjusted to match.

Note that the GALENA models analyze maximum slopes; in areas where shallower slopes may be installed as part of reclamation for aesthetics, maximum slopes were still used in completing the slope stability analysis.

5. Please update the Galena models to indicate the Property Line, Edge of Wetlands and structures as depicted in the Slope Stability Analysis cross-sections provided to the structure owners with the structure agreements.

The GALENA models have been updated to reflect the presence of applicable items shown on structure agreement cross sections. Cross section figures corresponding with the GALENA models have been added to the geotechnical stability exhibit for clarity.

6. Please update the Galena models to indicate the offset from the nearest structure or property line as depicted in the Mining Plan Map - Exhibit C-2B.

The GALENA models show the nearest structure or property line as depicted on Exhibit C-2B.

Thank you for your consideration. If you have any questions or need any additional information, please let me know.

Sincerely,



Ben Langenfeld, P.E.
Greg Lewicki and Associates

- Enclosures:
- Response to CPW Comment Letter
 - Response to SEO Comment Letter (Colorado DWR Conditions for Approval)
 - Response to USFS Comment Letter
 - Response to US Army COE Comment Letter
 - Response to Summit County Comment Letter
 - Response to History Colorado Comment Letter
 - Revised Exhibit C
 - Revised Exhibit D
 - Revised Exhibit E
 - Revised Exhibit F
 - Revised Exhibit G including the Water Quality Monitoring Plan for the Site
 - Revised Exhibit H
 - Revised Exhibit J
 - Revised Exhibit M
 - Revised Geotechnical Stability Analysis

- CC:
- Michael Cunningham, DRMS
 - Peter Hays, DRMS
 - Russ Larsen, Peak Materials