



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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November 7, 2022

Michael Barr
Senior Project Coordinator
Bentonite Performance Minerals, LLC.
554 US Highway 212
Belle Fourche, SD 57717

RE: Security Large Scale Mine Permit Application

Dear Mr. Barr:

The department has completed its review of Bentonite Performance Minerals' (BPM) large scale mine permit application submitted on October 17, 2022, for the proposed Security Mine. Based on our review, we have determined that the mine permit application is incomplete. BPM will need to address the following items in order to complete the application:

1. Application Form: The general office address listed on the application form is "3000 N Sam Houston Drive Pkwy E Building J – 4th Floor, Houston, Texas". However, in Section 1.0 on page 66 of the mine permit application, BPM states that both the general and local address is "554 US Highway 212, Belle Fourche, SD". Please verify the correct general address for the application and list the correct address on either the application form or Section 1.0 of the application.
2. Certification of Applicant Form: BPM is required to attach a sheet to the Certification of Applicant form disclosing any of the applicable facts listed on the front page of the form, including any environmental violations at the company's mining and other operations in South Dakota and other states. The enclosed attachment listing several violations was previously submitted with the Certification of Applicant form for the Killinger and Purple mine permit applications. This violation list is required to be included with the Certification of Applicant form in this application. Any disclosures will not automatically result in denial of the application.
3. SDCL 45-6B-6(8(b)) and ARSD 74:29:02:04(1, 2, and 3): Under Mining Method and Type in Section 2 on pages 66 and 67 of the Operating Plan, please include a narrative

describing the depths of the various pits that will be mined during the project. Also, please include a narrative with details on the direction of mining during each phase of the project. Finally, please describe how many pits will be mined during each phase of the project.

Also, in Section 2.0 please include a narrative of the pre and post mining topography. In the narrative, please describe the pre and post mining slopes and slope directions and the post mining slopes of any permanent overburden stockpiles. During the October 5, 2022, inspection of the area, it was my impression after discussions with BMP personnel that the post mine topography may have a gentler slope with different drainage patterns than the current topography.

The mine plan map in Appendix A shows a total of 10 pits will be mined during Phase 2. However, no pits are shown for Phases 1, 3, 4, or 5. Please show on the map the pits that will be mined for these phases of the project.

In Section 5.6 on page 85 of the Reclamation Plan, BPM states that Section 5.0 of the Operating Plan outlines three “sequences” (A, B, and C). Please note that mine sequences A, B, and C are not mentioned in Section 5.0 of the Operating Plan. If these sequences are being proposed, please include a description of them in this section. If not, please remove the reference to them in Section 5.6 of the Reclamation Plan.

4. SDCL 45-6B-8: In Section 2.0 on page 78 of the Reclamation Plan, BPM states previous mining of any kind or variety has not occurred within the permit boundary. Also, during the two inspections of the Security area, we did not note, and BPM did not point out, any pre 1971 mining areas. However, in Section 5.0 on page 69 of the Operating Plan, BPM states pre-law disturbances are nearby the active pits. Also, in the Weed Control Plan on page 107 of the Reclamation Plan, BPM refers to Canada thistle within the pre-law mining areas. Finally, in the proposed list of technical revisions on page 3 of the application, BPM refers to existing pre-law land that is included in reclamation in technical revision category number 10. Please clarify whether there are any pre 1971 mining areas within the proposed mine permit boundary. If there are, please revise Section 2.0 of the Reclamation Plan. If not, please revise the other applicable sections.
5. SDCL 45-6B-10, ARSD 74:29:01:17, ARSD 74:29:02:09, ARSD 74:29:02:11(2 and 3) and ARSD 74:29:02:12: All maps in the mine permit application are required to comply with the requirements of SDCL 45-6B-10 and ARSD 74:29:02:12. Therefore, several revisions are required for the maps submitted with the mine permit application. First, each map in the application needs to have a title explaining the purpose of the particular map. In addition, each map needs to identify the particular statute and/or regulation, including subsection, the map is intended to fulfill. In the maps submitted with the application, BPM only refers to SDCL 45-6B-10 which does not completely address this requirement.

ARSD 74:29:02:11(2) requires geologic cross sections that are representative of the proposed mining area. The geologic cross-sections provided are for operations in Colony, WY and are therefore not representative of the proposed mining area. Please provide representative geologic cross-sections for the proposed mine area.

Regarding the mine pit cross-section drawing, it needs a title and a scale. Also, cross sections A-A' and B-B' are not shown on any of the plan view maps. Please include these cross sections on at least the mine plan map and final reclamation map. Finally, a green line on the cross sections is labeled as the pit surface. Should this be the backfilled pit surface or the final reclaimed surface? If so, please revise the label to reflect this. If not, please add a line showing the final pit backfill or reclaimed surface.

In addition, the map showing surface ownership and soils does not have township, range, or section boundaries. Please add those boundaries to the map.

The 3 View Road is labeled on the soil and surface ownership map, but the American Colloid haul road is not labeled. Please label the road on the map. Also, the Belle Fourche River is labeled on one of the maps in Appendix A, but Middle Creek is not. Please label Middle Creek on the map.

As I mentioned in my October 27, 2022, email, please submit a map showing the permitted petroleum contaminated soil and solid waste facilities in relation to the mine disturbance shown on the mine plan map.

Finally, the maps submitted with the application are rather busy since there are several items shown on each map. It would be helpful if BPM could submit several maps addressing only one or two requirements per map. In the Killinger and Purple mine permit applications, BPM submitted separate maps for the mine plan, pre-mine contours, post mine contours, surface hydrology, sediment control, roads and utility lines, surface and mineral ownership, soils, vegetation, and wetlands. It would also be helpful to put figure numbers on each map to help in referencing each map to the applicable section in the application.

6. SDCL 45-6B-10(2) and SDCL 45-6-44: On the surface ownership map, Dave Garman is shown as the surface owner of the 3 View Road and the American Colloid Haul Road. Please verify the correct landownership of these roads since it appears that Butte County should be the surface owner of the 3 View Road right of way and American Colloid may be the surface owner of the haul road. If this is the case, please show these adjacent surface owners on the surface ownership map and submit proof of consultation. The instrument of consultation can consist of a written receipt from those adjacent landowners stating that they received a copy of the reclamation plan.
7. SDCL 45-6B-37 and ARSD 74:29:07:04(1 and 2): In Section 5.6 on page 85 of the Reclamation Plan, BPM discusses mine sequence A in which permanent overburden stockpiles are possible. In the mine permit application, BPM is required to show the

location of these potential permanent stockpiles on the mine plan map, including possible final contours of these stockpiles. Cross sections of these permanent stockpiles are also required. Finally, BPM needs to discuss the final slopes of the permanent overburden stockpiles in this section.

In the grading plan, please describe in detail how the backfilled pits, a potential remaining final pit in which highwalls will be reduced, and any permanent overburden stockpiles will be graded to slopes which are visually and functionally compatible, structurally stable, and suitable for the post mining land use of rangeland and whether the final slopes of these areas will exceed the angle of repose. Also, please describe in detail how grading will control erosion and sedimentation. In Section 5.15, BPM references ARSD 74:29:07:04(2) in its discussion on sediment and erosion controls, but it does not describe methods it will use during final grading to control erosion and sedimentation. Finally, please describe how areas outside the permanent overburden stockpiles will be protected from slides during final grading.

BPM may want to consider combining Sections 5.5, 5.6, 5.9, and 5.10 into one section since they all address aspects of SDCL 45-6B-37 and ARSD 74:29:07:03 and 04.

8. SDCL 45-6B-38 and ARSD 74:29:07:05: As discussed in the October 26, 2022, email from Steve Kropp of DANR's Solid Waste Program, please discuss how BPM plans to avoid disturbance of the closed solid waste facility located within the proposed mine permit boundary. Also, please verify the state of Wyoming has no issues with BPM hauling petroleum contaminated soil and solid waste from the Security Mine to permitted facilities at its Colony Plant. If the state of Wyoming will not allow BPM to dispose of this material at the plant, BPM will need to discuss other options for petroleum contaminated soil and solid waste disposal.
9. SDCL 45-6B-39 and ARSD 74:29:07:06(2 and 3): In section 5.12.3 on page 88 of the Reclamation Plan, please describe in detail the size of the two vegetation reference areas shown on the mine plan map. Also, please describe in detail whether the areas will be affected by future mining, how they will be managed, and if they are representative of the post mine land use of rangeland.

In Section 5.12.1, BPM states topsoil may be seeded with a temporary cover crop in the event topsoil is reapplied outside of optimal seeding timelines. Also, on page 14 in the Stormwater Pollution Prevention Plan in Appendix B, BPM states that the seed mix contains rye grass to quickly establish vegetation. Please note that rye grass or any other temporary cover or nurse crop species are not in the seed mix recommended by the Butte County NRCS office in the mine permit application. Please note that any cover or nurse crop species are required to be part of the seed mix and need to be approved by the NRCS before the permit application can be considered complete.

Also, in Section 5.12.2 on page 88 of the Reclamation Plan, BPM discusses the potential of substituting species in the approved seed mix due to seed availability and cost. It

proposes to notify DANR and the landowner if three or more species are substituted. Please note that BPM is required to use the approved seed mix in the mine permit application regardless of cost or seed availability during seeding. Also, DANR views **any** changes or substitutions to species in the seed mix as a minor modification to the mine permit which requires a technical revision for each change or substitution. In fact, BPM lists changes to seeding mixtures and rates as a technical revision category on page 3 of the application. This allows the Butte County NRCS as well as the landowner to be involved in approving any changes. Species availability issues can be addressed to a certain extent without a technical revision, but it needs to be limited to substituting a variety of a species and not substituting one species for an entirely different species. If BPM has concerns over species availability or cost, you need to contact the Butte County NRCS office and surface owner Dave Garman and develop a list of acceptable substitute species for its approval that can be included as part of the mine permit application.

Finally, please address the potential for conducting permanent seeding during the spring in addition to the September to November timeframe.

10. SDCL 45-6B-7(11), SDCL 45-6B-40 and ARSD 74:29:07:07(2, 3, 5, 6, and 8): In Section 5.11.1 on page 87 of the Reclamation Plan, BPM states it will remove and replace subsoil and topsoil according to the topsoil salvage depths listed in Table A-4 of the baseline soil survey. Table A-4 does list the topsoil salvage depths, but it does not list the topsoil volume to be salvaged for each soil unit. Please note in this section, BPM does not address the volume of topsoil required for reclamation, whether excess topsoil is present, if a topsoil substitute is needed, or if subsoil or other soil will need to be amended if there is not enough topsoil. Therefore, please submit an estimate of the volume of topsoil (in cubic yards) that can be salvaged from the proposed disturbed area, the volume of topsoil (in cubic yards) that will be required for final reclamation, and the depth of topsoil that will be applied during final reclamation. After these estimates are developed, please address whether there will be any excess topsoil, and if so, what it will be used for. Also, please address whether a topsoil substitute will be required.

Also, for areas undergoing interim reclamation or during periods of temporary cessation, please address the temporary distribution of topsoil as required under subsection 2 of ARSD 74:29:07:07. In your discussion, please address whether topsoil productivity will be diminished, whether it will be protected from erosion, and whether it will be available for final reclamation.

Finally, in Section 6.0 on page 69 of the Operating Plan and Section 5.11.1 on page 87 of the Reclamation Plan, BPM states that any soils from the closed Petroleum Contaminated Soils (PCS) Land Farm facility will be removed and stockpiled separately from other soils salvaged within the mine permit boundary. Please show the proposed location of the PCS Land Farm topsoil and subsoil stockpiles on the mine plan map.

11. SDCL 45-6B-41, ARSD 74:29:02:11(9), ARSD 74:29:07:08(2 and 3), and ARSD 74:29:07:09(2, 3, 4, 5, 7, and 8): Figure 4 of the Storm Water Pollution Prevent Plan shows that one of the current drainages will be rerouted around the overburden stockpile area. Since this is an ephemeral drainage, it does not need to meet the requirements of ARSD 74:29:07:10. However, since it will be carrying surface runoff around the stockpile area, it will need to meet the requirements of ARSD 74:29:07:09. Some of the required information has been addressed in Section 11.0 on page 73 of the Operating Plan. However, BPM needs to address if the diversion will be constructed in rock, what methods will be used to prevent erosion, how the diversion will be constructed to minimize hazards to humans, livestock, and wildlife, and if the diversion will discharge onto topsoil or overburden stockpiles. Also, Figure 4 shows that culverts will be installed where needed along the diversion. Please show on a map the potential location of the culverts.

In addition, please submit a larger map showing the location of the rerouted drainage, any other potential rerouted drainages, and any potential erosion control structures such as filter dams, berms, meander bars, and retention basins. DANR realizes the map will be considered conceptual at this time since these structures will need to be modified as mining and concurrent reclamation progresses.

In the third paragraph in Section 5.2 on page 83 of the Reclamation Plan, BPM states the surface owner owns a water line within the mine permit boundary. Please show the location of this water line on a map and address the potential for this water line to be moved during the mining operation. If the water line is inside the proposed mining area, please also show the potential new location of the water line if it needs to be moved during mining.

Also, in Section 5.2 please discuss whether the mining operation will be conducted in compliance with state and federal water quality laws and dredge and fill laws.

Please address whether the restored drainage patterns discussed in Section 5.10 on page 86 of the Reclamation Plan will be similar to the current drainage patterns. During the October 5, 2022, inspection, BPM personnel said the restored drainages may be different than the current ones.

Finally, please include the discussion of the two wells outside the permit boundary mentioned in Section 4.2 on page 80 of the Reclamation Plan in Section 5.2 of the Reclamation Plan.

12. SDCL 45-6B-42 and ARSD 74:29:07:16: In addition to the warning signage and fencing discussed in Section 7.0 on page 90 of the Reclamation Plan, please discuss how access at the gate to the mine site will be controlled.

13. SDCL 45-6B-46: In addressing subsection 2 of this statute, please discuss whether there is unsuitable land, roads, permanent pools or lakes, or other features located on the land in which revegetation will not be feasible.
14. SDCL 45-6B-92: Please submit additional information for the following critical resources and how impacts to these resources will be mitigated if encountered:
 1. Wildlife – Please discuss if there is any critical deer winter range in the permit boundary area;
 2. Aquatic Resources – Please include a discussion on potential impacts to aquatic resources in Middle Creek;
 3. Vegetation – Please identify any threatened, endangered, and sensitive vegetative species;
 5. Visual Resources – Please discuss the visibility of the proposed mining operation from nearby residences, 3 View Road, and US Highway 212;
 6. Soils – Please identify any soils with low revegetation potential; and
 9. Noise – Please identify any noise impacts to nearby receptors, including residences.
15. ARSD 74:29:02:01: BPM is required to identify which sections of the permit application fulfill the requirements of SDCL 45-6B and ARSD 74:29. It appears BPM attempted to reference each statute and regulation in each applicable section of the application. However, in the Killinger and Purple mine permit applications, BPM included a table that listed each statute, regulation, and applicable subsections and the page number in the application where it is addressed. A similar table should be included for this application. I have attached a copy of the table from the Killinger permit application as an example you can use for this application.

BPM needs to ensure that each statute and regulation, including the applicable subsections, is correctly cited throughout the permit application. I have found the following sections of the application in which the statute, regulation, and/or related subsections were not correctly referenced or were not identified:

- a) Section 2.0, page 66, Operating Plan: Subsection (c) needs to be added to SDCL 45-6B-6(8(a, b, & d). Also, subsection 7 needs to be added to ARSD 74:29:07:04(6). Finally, ARSD 74:29:07:02(5) needs to be added to the reference list.
- b) Section 5.0, page 68, Operating Plan: The applicable subsections that are addressed in this section need to be added to ARSD 74:29:07:02.
- c) Section 6.0, page 70, Operating Plan: ARSD 74:29:07:14, including each applicable subsection, needs to be added to the reference list.
- d) Section 11.0, page 73, Operating Plan: ARSD 74:29:07:09 and 74:29:07:10, including each applicable subsection, needs to be added to the reference list.
- e) Section 14.0, page 73, Operating Plan: SDCL 45-6B-38 and ARSD 74:29:07:05 need to be added to the reference list.

- f) Section 18.0, page 74, Operating Plan: SDCL 45-6B-41 and ARSD 74:29:07:08(1) need to be added to the reference list.
 - g) Section 19.0, page 74, Operating Plan: ARSD 74:29:07:27 needs to be added to the reference list. Also, please list the subsection of SDCL 45-6B-6 addressed in this section.
 - h) Section 5.6, page 85, Reclamation Plan: ARSD 74:29:07:14 needs to be added to the reference list.
 - i) Section 5.13, page 89, Reclamation Plan: ARSD 74:29:07:14 is listed, but it is not addressed in this section.
 - j) Section 5.15, page 89, Reclamation Plan: SDCL 45-6B-41 and ARSD 74:29:07:08(4) need to be added to the reference list.
 - k) Section 5.15, page 89, Reclamation Plan: SDCL 45-6B-41 and ARSD 74:29:07:08(4) need to be added to the reference list.
 - l) Section 8.0, page 90, Reclamation Plan: ARSD 74:29:02:12(9) and 74:29:07:09 need to be added to the reference list.
 - m) I could not find a reference for ARSD 74:29:07:01.
16. ARSD 74:29:02:04(5) and ARSD 74:29:07:14(2 and 3): Since a permanent overburden stockpile would be considered a critical earth structure, please conduct a stability analysis for any permanent overburden stockpiles. Also, please address whether the overburden will be a source of water pollution.
 17. ARSD 74:29:02:06: In Section 4.1 on page 80 of the Reclamation Plan, BPM states the “Level III Cultural Resources Inventory of Bentonite Deposit” is attached to the application in Appendix C. However, the inventory could not be found in Appendix C. Therefore, please submit a copy of the inventory to our office. Please note that since this is considered a confidential document under SDCL 1-20-21.2, it should not be included in the copy for public review at the Butte County Register of Deeds office.
 18. ARSD 74:29:06:02(4)(b): Since the Solid Waste Program of the DANR has expressed some concerns with mining impacts to the closed Solid Waste and Petroleum Contaminated Soil Land Farm, please discuss how that agency’s concerns are being addressed.
 19. ARSD 74:29:07:01: Please address each subsection of this regulation in addressing how the reclamation plan rehabilitates the land to the post mine land use, how it meets concurrent, interim, and final reclamation requirements, and how reclamation will be completed prior to final and full bond release.
 20. ARSD 74:29:07:02(3, 5, 7, and 9): Please submit additional information for the following subsections of this regulation:

3. Please address the visibility of the mining operation and discuss how pits, stockpiles, equipment and other mine facilities will be visually screened during the operation;
 5. Please describe how access from the gate at the entrance to the mine will be controlled during the operation;
 7. Please describe how the location of subsoil, topsoil, and overburden stockpiles will facilitate reclamation and minimize environmental impacts; and
 9. Please describe how the design of mine facilities is compatible with surrounding land uses.
21. ARSD 74:29:07:12(1, 3, 5, 6, 7, and 8): In Section 16 on page 73 of the Operating Plan, please address if any roads will be constructed in riparian zones. Also, describe the types of drainage control that will be used on any roads and how they will be maintained. In addition, please describe how road culverts will be maintained and protected from erosion during the operation. Finally, please describe the width of vegetation clearing for any roads.
 22. ARSD 74:29:07:18: Please address the experience the individuals developing the Reclamation Plan have in developing reclamation plans.
 23. ARSD 74:29:08:02: Since the grading and seeding of topsoil stockpiles can also be considered interim reclamation, please include this in Section 11 on page 91 of the Reclamation Plan.

BPM should also be aware of the following general comments and questions concerning the permit application:

1. BPM does not need to include the entire Request for Determination of Special, Exceptional, Critical, or Unique Lands application in Appendix C of the mine permit application. The only items that need to be included are the baseline soil, vegetation, wildlife, hydrologic, and cultural surveys, the DANR Notice of Determination, the Archaeological Context summary in Attachment 7, and the Solid Waste and Petroleum Contaminated Soil Facility Map in Attachment 8.
2. ARSD 74:29:06:01: The department concurs with BPM that rangeland is an appropriate postmine land use.
3. ARSD 74:29:01:07. Regarding the determination of procedural completeness, upon submission of the large scale mine permit application, the department will determine the adequacy of the applicant's response. Within thirty days of the submission of the application, the department will notify BPM in writing of the determination. If the response is adequate, the application will be considered filed. If the response is determined to be inadequate, your company has the following options:

- a. Submit additional information necessary to complete the application;
 - b. Request in writing that the application be considered filed; or
 - c. Withdraw the application.
4. ARSD 74:29:01:04. The information requested in this letter must be filed with the Butte County Register of Deeds office. Proof of filing, such as a letter from the register of deeds office, is required to be submitted.
 5. ARSD 74:29:01:10. The department will begin drafting a summary document for the permit application. We will provide the summary document to BPM for review and comment at a later date.

We also have the following technical comments:

1. Page 3, Technical Revisions: BPM should consider adding a technical revision category to allow for the construction of stock ponds as a final reclamation feature.
2. Operating and Reclamation Plan Table of Contents: Please revise the page numbers in the table of contents for the Operating and Reclamation Plans so they refer to the actual page numbers of each plan. For example, in the Operating Plan Table of Contents, Section 1.0 – Security Bentonite Mine Overview is actually on page 66 instead of page 3 as listed in the contents.
3. Section 2.0, page 67, Operating Plan: In the second sentence of the sixth paragraph on this page, should the sentence “Post-mining contours shall reasonably match the **post** mining contours upon final reclamation” be changed to “Post-mining contours shall reasonably match the **pre** mining contours upon final reclamation”?
4. Section 5.0, page 68, Operating Plan: The sentence in the fourth paragraph of this section “As per SDCL 45-6B-36, BPM will...” is repeated in the fifth paragraph.
5. Section 5.12.1, page 88, Reclamation Plan: Since wildlife habitat is not the post mine land use, BPM is not required to consult with the Department of Game, Fish, and Parks during development of the seed mix.
6. Section 5.14, page 89, Reclamation Plan: In the last paragraph of this section, BPM states that it will submit a plan for evaluating reclamation success prior to final bond release. Please note that a revegetation success plan is already included in the Reclamation Requirements section of the Reclamation Plan for approval by DANR and the Board of Minerals and Environment. Therefore, this sentence can be modified by just referring to this plan.

7. Reclamation Requirements Section of Reclamation Plan: BPM should consider making this section an appendix to the Reclamation Plan.

If you have any questions, please feel free to contact our office.

Sincerely,

\s/

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Enclosure