DEPARTMENT of AGRICULTURE and NATURAL RESOURCES
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March 30, 2022

Becky Morris
Environmental Scientist
H2E, Inc.
801 East 4th Street, Suite 5
Gillette, WY 82716

RE: Loring Quarry Large Scale Mine Permit Application

Dear Ms. Morris:

The department has completed its review of Simon Contractors of SD Incorporated's revised large scale mine permit application submitted on March 23, 2022, for the Loring Quarry. Based on our review, we have determined that the mine permit application is incomplete. Simon Contractors will need to address the following items in order to complete the application:

1. Operating Plan, Mining Method and Type, Section 2, page 2 (ARSD 74:29:02:04(2): In the fourth paragraph on page 3 of this section, Simon Contractors states that pre-mining contours are not available for the extreme northern end of the property. Please note that some contour lines for the northern area are shown on the USGS quadrangle base maps included in the application. If the contours are shown on the base maps, please explain why they are not available.

2. Operating Plan, Unsuitable and Previously Mined Land, Section 4, page 3 (SDCL 45-6B-92(10): Since DANR's special, exceptional, critical, or unique lands determination is addressed in this section, please add SDCL 45-6B-92(10) to the list of statutes and regulations referenced in this section.

3. Operating Plan, Minimizing Adverse Impacts, Section 5, page 3 (SDCL 45-6B-92(1 through 9): Since subsections 1 through 9 of SDCL 45-6B-92 are addressed in this section, please add SDCL 45-6B-92(1 through 9) to the list of statutes and regulations referenced in this section. Also, move the title "Critical Resources" from the top of page 8 of this section so it reads "Minimizing Adverse Impacts and Critical Resources". The title on the top of page 8 should be changed to "Cultural and Wildlife".

4. Operating Plan, Minimizing Adverse Impacts, Water, Section 5, pages 4 through 6 (SDCL 45-6B-92(2) and (4) and ARSD 74:29:07:09): Since subsections 2 and 4 of SDCL 45-6B-92 are addressed in this section, please add SDCL 45-6B-92(2) and (4) to the list of statutes and regulations referenced in the "Water" section.

Also, in paragraph 3 on page 4 of this section, Simon Contractors states that drainages (streams) will not be diverted. As a result, ARSD 74:29:07:10 does not need to be addressed. However, I could not find anywhere in this section where it addresses whether surface runoff diversions will be needed to divert stormwater around surface disturbance at the quarry. Therefore, please address whether surface runoff diversions will be needed, and if so, please address each subsection of ARSD 74:29:07:09.

In the first paragraph on page 5 of this section, Simon Contractors discusses visits made to the quarry following rain events greater than 0.25 inches and photos of the visits in Appendix C of the Operating Plan. Even though no surface water flow was noted, some of the photos show puddled water and wet soil patches where water appeared to flow in drainages during a rain event. This should also be mentioned in this paragraph. In addition, efforts should be taken to monitor drainages in the area during a rain event.

In the sixth paragraph on page 5, Simon Contractors should mention that the domestic well sampled is named domestic well 67605 to match the naming convention on the water quality data sheets in Appendix D. Also, Simon Contractors needs to discuss the potential impacts on the well from the mining operation.

After review of the well log for the Eudy well (domestic well 67605), it appears this well has been drilled into red shale and limestone which indicates it was drilled into Minnelusa Formation. The water level in the well is currently at 17 feet and was also noted to be at this level in the well drillers report. The well is also not screened across the alluvium which is at a depth of 20 feet, but it was screened from 30 to 100 feet. In addition, the well drillers report also indicates water was not encountered in the alluvium. Water was first encountered at a depth of 37 feet. Therefore, the presence of the alluvial aquifer has no bearing on the water level in the well. Therefore, please address the question from the February 14, 2022 letter regarding artesian flows in the adjacent well and the barrier that may prevent ground water from entering the quarry during mining activities in the southern and eastern portions of the quarry.

Please provide geologic cross-sections for the site as was requested in the February 14, 2022 letter. Simon Contractors states in the application, that the Madison is present in the quarry area as an elongated dome-like structure. This indicates the presence of geologic structures in the nearby vicinity which may make this location unique. Geologic cross-sections should be done to address all geologic formations known to be present in this area from surface to bedrock showing enough extent from the quarry area to provide some information on the potential structure which created the dome structure. This is important, as a domal structure will have localized impacts to groundwater flows in the

area. The analysis should be based on knowledge of the geology within the quarry area and general knowledge of local geology in the Black Hills.

Regarding the Potentiometric Map of the Minnelusa Formation in Section VIII of the application, please note the map should take into consideration potential localized impacts based on known geologic structure in this area. While DANR is aware there may be limited knowledge on true potentiometric contours due to limited groundwater data, it may be possible to include flow lines (dashed) to infer the potential direction of groundwater flows in this area.

Finally, please address comments from the February 14, 2022 letter regarding karstic flows in Madison and potential impacts from surface inflow in the mine area into the Madison aquifer.

5. Operating Plan, Minimizing Adverse Impacts, Soils, Noise, Air Quality, Visual Resources, Cultural and Wildlife, Section 5, pages 7 and 8 (SDCL 45-6B-92) and ARSD 74:29:07:01): Please identify which subsections of SDCL 45-6B-92 are being addressed for the Soils, Noise, Air Quality, Visual Resources, and Vegetation sections on page 7 and the Cultural and Wildlife section on page 8. Also, additional information is required for the following sections:

   - Soils – Please address whether the soils mentioned in the soil survey have low vegetation potential and mitigation measures if they do;
   - Noise and Air Quality – Please identify the potential nearby receptors, including residences and recreation areas, that may be impacted by noise and fugitive dust from the operation and show the locations on a map; and
   - Visual Resources - Since I could not find the viewshed map in Section VIII that is referred to in this section, please submit the map. Also, please explain what the relationship of the map is to the viewshed modelling. In other mine permit applications, viewshed modelling involves taking photos of several areas of a mine and conducting a computer generated view of what each area will look like before, during and after mining.

6. Operating Plan, Minimizing Adverse Impacts, Access, Section 5, page 7 (ARSD 74:29:07:12(1 through 10): For the Access section, the "On Property Road on the Water Resources maps in Section VIII is shown as a separate feature from the DOT approved access. Simon Contractor's needs to acknowledge in this section that the "On Property Road" is outside the DOT right of way, on Simon Contractor property, and is not a part of the approved access. As a result, the "On Property Road" is required to comply with each subsection of ARSD 74:29:07:12. Simon Contractor's has addressed subsections 2, 4, 6, and 8 of this regulation. However, the remaining subsections need to be addressed, including changing the reference in the Regulatory Cross-Reference from ARSD 74:29:07:12(4)(6)(8) to ARSD 74:29:07:12(1 – 10). Finally, the "On Property Road" and the DOT approved access need to be added to the Mine Plan and the Eastern Mine Sequence Maps.

7. Reclamation Plan, Grading, Section 3, pages 1 and 2 (ARSD 74:29:07:04): In the first paragraph on page 1 of this section, Simon Contractors states highwalls will be blasted and regraded to a 3:1 slope with the exception of highwalls left for bat habitat. However, in the second paragraph, the company contradicts this by stating stockpiled overburden will be used to backfill and recontour the highwalls to the appropriate slope, with all overburden being returned to its respective locations. It also states overburden will be placed over blasted limestone and limestone remaining on the quarry floor. Simon needs to clarify its plans for the quarry highwalls by discussing which highwalls will be blasted for slope reduction and which highwalls will be backfilled with overburden. It also needs to clarify what the stockpiled overburden will be used for, whether for highwall backfill, cover over blasted limestone or the quarry floor, or if it will be placed into its original locations. What will be the volume of overburden available for these purposes, including the volume of the existing overburden stockpile shown on the Mine Plan Map? The locations of blasted limestone from highwall slope reduction and final overburden placement need to be shown on a map.

8. Reclamation Plan, Revegetation, Section 5, page 3 (SDCL 45-6B-39, ARSD 74:29:07:06, and ARSD 74:29:07:19(1): In this section, Simon Contractors states it consulted with the Hell Canyon Ranger District of the US Forest Service, which indicated that it plants to a density of 150 ponderosa pine seedlings per acre. The company added that this density is not required for private property. It should not matter whether the area is on private or public lands in establishing a proper and definitive planting rate for ponderosa pine. In my February 14, 2022, letter, I suggested Simon Contractors contact the Forest Service to obtain a planting rate for ponderosa pine since the NRCS did not have one. We are looking for a defensible planting guideline for Simon to follow that would reasonably be expected to yield mature timber stand densities appropriate for ponderosa pine. Since the NRCS does not have a planting rate and only made a 100 seedling per acre recommendation, the 150 seeding per acre seedling rate used by the US Forest Service should be the rate used in the reclamation plan.

9. Reclamation Plan, Topsoil Salvage, Section 6, pages 3 through 5 (SDCL 45-6B-7(11), SDCL 45-6B-40 and ARSD 74:29:07:07(2, 3, 5, 6, and 8): In the first paragraph on page 3, Simon Contractors does not include any proof that the Custer County NRCS office was consulted during development of the topsoil stockpile seed mix in Table 2 on page 4 as I requested in my February 14, 2022 letter. The company only mentions that the seed mix adheres to South Dakota DOT and South Dakota Seed Laws. In Appendix B of the Reclamation Plan, the only consultation with NRCS was for the final reclamation seed mix which is different from the topsoil stockpile seed mix in Table 2. Therefore, please submit proof that the Custer County NRCS office was consulted during development of the topsoil stockpile seed mix.

   In the first paragraph on page 5, Simon Contractors included topsoil replacement estimates for the quarry. In these estimates, did Simon just use plan view acreage or did

it account for the slight increase in acreage from plan view during the reduction of the quarry highwalls to a 3:1 slope? Also, an existing topsoil stockpile was shown on the Mine Plan Map in Section VIII. What is the volume of the stockpile, and what effect would it have on the total volume of topsoil available for reclamation?

10. Reclamation Plan, Hydrologic Balance Section 7, pages 5 and 6 (SDCL 45-6B-33(4), SDCL 45-6B-41, ARSD 74:29:02:11(1, 2, 3, 4, 5, 7, and 8), ARSD 74:29:07:08(3) and (6), and ARSD 74:29:07:09 and 10): Since this section is basically a repeat of the Water section under Critical Resources in the Operating Plan, Simon Contractors may want to consider combining these two sections and address them in the Operating Plan since the water issues are more associated with that plan rather than the Reclamation Plan

11. Reclamation Plan, Spoil Piles, Section 9, page 6 (ARSD 74:29:07:14(3) and (4)): In the first paragraph of this section, please address subsections 3 and 4 of ARSD 74:20:07:14 in describing if the overburden stockpiles will be a source of water pollution and if the overburden is toxic or will prevent vegetation of the reclaimed land surface.

12. Reclamation Plan, Landowner Consultation, Section 10, page 7 (SDCL 45-6-44 and ARSD 74:29:06:02): Consulting with the US Forest Service just on the pine seedlings does not meet the adjacent landowner consultation requirements of SDCL 45-6B-44. Also, there is no mention of consultation with the other adjacent landowner, the South Dakota Department of Transportation (DOT). Simon Contractors is required under this statute to do a meaningful consultation with the South Dakota DOT and the US Forest Service during development of the reclamation plan. Even though under the statute Simon Contractors can send them a copy the reclamation plan after receiving a written request, the company is also required to do the consultation with these landowners. This consultation could include sending them a copy of the first nine pages of reclamation plan and the post mine contour map. The remainder of the plan could then be sent in the event a written request was received by either party. Also, a summary of the reclamation plan and the post mine contour map could be sent to South Dakota DOT and the US Forest Service. Proof of consultation is required to be sent to DANR such as certified mail return receipts. The proof of consultation is a completeness item and must be submitted before the application can be considered complete.

    Also, in the fifth sentence in the second paragraph of this section, Simon Contractors states no financial commitments from public agencies are required. Please note that ARSD 74:29:06:02 (4)(b) requires operators to address these public agency commitments in general, not financial commitments. Therefore, please remove the word "financial" from this sentence.

13. Reclamation Plan, Reclamation Choices, Operator Requirements, Section 11, page 7 (SDCL 45-6B-45(1) and ARSD 74:29:07:19(3): The baseline survey does not state what the pre-disturbance ponderosa pine stand density is for the area. Since Simon Contractors is using the baseline vegetation survey instead of a reference area to determine the success of the ponderosa pine tree stand and the understory vegetation, the baseline survey must include a discussion on the current ponderosa pine stand density which DANR can use to help assess the success of the tree plantings.

14. Reclamation Plan, Concurrent Reclamation, Section 13, page 8 (ARSD 74:29:06:02(4)(d), ARSD 74:29:07:01(2), ARSD 74:29:07:04(3), and ARSD 74:29:08:01): ARSD 74:29:08:10 states that concurrent reclamation **shall be** conducted during all phases of a mining operation and concurrent reclamation plans and estimated timetables **must be** included in the reclamation plan. In addition, the Board of Minerals and Environment has expressed concerns over the lack of concurrent reclamation at Simon Contractor's Rapid City and Madison quarries, which the company needs to take seriously. As a result, concurrent reclamation **must be** addressed in the mine permit application. DANR realizes constraints on working space will limit the opportunities for concurrent reclamation early in the project. However, as mine sequences are completed, reclamation such as highwall reduction, final grading, topsoil placement, and seeding can be completed in portions of the western mine area as mining continues which will not interfere with these constraints. If the sequences shown on the 2023 to 2042 Mine Sequence Map in Section VIII of the application carry through to the 2042 to 2085 Mine Sequence Map in the same section, concurrent reclamation could be carried out at least in sequences 5, 6, 7, 8, 10, 11, 12, and 13. It would be helpful to show mining sequences on the 2042 to 2085 Mine Sequence Map in developing the concurrent reclamation plan. Also, Simon Contractors could look at reclaiming current disturbed areas that will no longer be used or portions of the current stockpile area that will no longer be used after it is moved to areas mined from 2023 to 2030.

    Also, the development of a concurrent reclamation plan will require changes to discussions regarding final and concurrent reclamation in the following sections of the reclamation plan:

    - Last paragraph Section 3, Grading; and
    - Last paragraph Section 6, Topsoil Salvage.

15. Reclamation Plan, Critical Resources, Section 15, pages 8 and 9 (SDCL 45-6B-92): Since Critical Resources is already addressed in the Operating Plan, there is no need to address it here also. Therefore, Simon Contractors can remove this section from the Reclamation Plan.

16. Maps, Section VIII: On the Post-mining Contour Profiles, please add the quarry highwalls prior to slope reduction in a different color on each cross-section. It would

also be helpful to include a plan view map showing the highwall contours prior to slope reduction.

Also, as I requested in my February 14, 2022 letter, please include outlines of the existing quarry and western and eastern expansion areas on the mine sequence maps.

Simon Contractors should also be aware of the following general and technical comments concerning the mine permit application:

1. Table of Contents: Under the Operating (Section VI) and Reclamation (Section VII) Plans, please change the letters for each subsection to numbers to match the numeric format for the subsections in each plan. Also, Simon Contractors should include the title of each appendix under the Appendices heading for each plan.

2. Regulatory Cross-Reference (ARSD 74:29:02:01): On the Regulatory Cross-Reference, please indicate whether the numbers that appear after Operating Plan and Reclamation Plan are page numbers or section numbers since it is confusing to navigate through the application. Also, please make sure all statute and regulation references in the mine permit application are included in the Cross-Reference.

3. Section Cover Sheets: Please add the section numbers (I, II, III, IV, V, VI, VII, VIII, and IX) listed in the Table of Contents to the corresponding section cover sheets in the mine permit application.

4. Operating Plan, General Description, page 1 and Reclamation Plan, General Description, page 1: In the General Description on page 1 of the Operating and Reclamation Plans, Simon Contractors states the quarry is located approximately four miles south of Pringle, South Dakota. However, after reviewing maps, the quarry is actually approximately four miles **southwest** instead of south of Pringle, which is also the general location used in the Request for Determination of Special, Exceptional, Critical, or Unique Lands application. Therefore, please change the general location in the General Description to four miles **southwest** of Pringle.

5. SDCL 45-6B-7(12) and ARSD 74:29:02:08: Since mining will occur in sequences over many years, Simon Contractors may want to consider using phased bonding for the Loring Quarry. The original bond for the new permit could cover reclamation costs for the current disturbance and the first five mine sequences, with additional bond being submitted for future sequences.

6. Operating Plan and Reclamation Plan Maps: Simon Contractors included shapefiles of the Mine Plan Map with the March 23 submittal. However, I also asked for shapefiles of the various maps in Section VIII in my February 14, 2022 letter. Therefore, please submit shapefiles for the on property road and at least the mine sequence and pre and post mine contour maps, and the cross section profiles.

7. Reclamation Plan, Revegetation, Section 5, page 3: In this section, Simon Contractors states even though there are no annual species listed in the final seed mix, perennial species such as slender wheatgrass germinates quickly which makes it a suitable choice for quick cover. What I was referring to in my February 14, 2022 letter was a nurse crop, which is an annual species such as sterile wheat or annual rye that could help establish a quick vegetative cover until the other self-sustaining grass species such as slender wheatgrass are established. Therefore, please discuss the feasibility of adding an annual nurse crop species to the final seed mix with the Custer County NRCS office.

8. ARSD 74:29:06:01: The department concurs with Simon Contractors, who is also the surface owner, that forest is an appropriate postmine land use.

9. ARSD 74:29:01:04: The information requested in this letter and the revised mine permit application must be filed with the Custer County Register of Deeds office with the original mine permit application which is already on file for public review. Proof of filing, such as a letter from the register of deeds office, is required to be submitted.

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

Sincerely,

\S/

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cc: Mike Lee, Simon Contractors