David W. Bieber
Manager of Geology/Survey

September 10, 2021

Tim Cazier
Colorado Division of Reclamation, Mining and Safety
1313 Sherman Street
Denver, Colorado 80203

Re: Parkdale Quarry, Permit No. M-1997-054; Response to Preliminary Adequacy Review for 112 Construction Materials Reclamation Permit Amendment Application (AM-02)

Dear Mr. Cazier.

Front Range Aggregates, LLC. received a copy of the Division of Reclamation, Mining and Safety's (DRMS) preliminary adequacy review of our 112 Construction Materials Reclamation Permit Amendment Application (AM-02) for the Parkdale Quarry, Permit No. M-1997-054 dated July 14, 2021. Please see the following responses, and the appended supporting documentation for our responses. Responses to Item 24, Groundwater, and Item 34, Geotechnical Stability will be submitted separately from this response.

GENERAL COMMENTS

1. Map Exhibits: Rule 6.2.1(2) requires all maps, except the index map (Exhibit B) to show the name of the Applicant, be prepared and signed by a qualified person, as well as other requirements that are generally met. The Applicant for the Parkdale Quarry is Front Range Aggregates, LLC. All the maps in Exhibits C, D, F, and I have the Martin Marietta logo in the title blocks and only the initials of the preparer. The intent of Rule 6.2.1(2)(b) is to identify who prepared, authorized, or approved the map. Please resubmit Exhibit C, D, F and I maps with the preparer' signature and/or name and Front Range Aggregates, LLC in place of Martin Marietta.

Response: Please see revised Exhibits C, D, F, and I reflecting the required changes.

2. Nine figures were received with the Application. Six are continuous and included in Exhibit G. The numbering sequence for the other three (Figures 1 and 2 referenced from Exhibit D, and Figure 9) suggest there are Figures 3 through8 that could not be found in the Application. {*Note: Figure 9 should be referenced from Exhibits E and/or F*} Please provide the missing figures or confirm there were no Figures 3 through 8 (outside Exhibit G).

Response: There are no Figures 3 through 8 (outside Exhibit G). The Conceptual Drainage Channel Layout has been combined with the Reclamation Map and numbered as Exhibit F. The Reclamation Plan, Exhibit E, has been amended accordingly to reflect the updated figure designations.

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6.4 SPECIFIC EXHIBIT REQUIREMENTS – REGULAR 112 OPERATIONS

6.4.2 EXHIBIT B - Index Map

2.

3. Exhibit B: This map is intended to show the regional location of the affected land and all roadsand other access to the area. The submitted map labels highways 9 and 50, but in very small font. Please resubmit Exhibit B with readable highway and other labels, such as the railroadas it is site access for product transportation.

Response: Please see revised Exhibit B reflecting the required changes.

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

4. Exhibit Maps: Please see Comment No. 1 above. All structures within 200 feet of the affectedarea boundary (not the mining limits) need to be identified. Structures on the maps that are not identified and are within 200 feet of the affected area include the railroad, the existing Tallahassee Creek bridge (noted in Exhibit L); and the following structures discussed in Exhibit S: the buildings and corrals to the west of the alluvial quarry, the Black Hills Energy powerline, and Fremont County Road 157. An expected structure related to crossing Tallahassee Creek using the proposed conveyor to the expansion area is not indicated. There is also an apparent discrepancy in affected area between the Index Map and maps in Exhibits C (Pre-Mining BLM Boundaries and Pre-Mining only). Exhibit B and Exhibit maps C4 andC5 show the previously approved sandstone quarry as affected area; the other mentioned maps do not. If the sandstone quarry is to be released from the affected area boundary, a separate acreage reduction revision must be requested. Otherwise, all maps need to show consistent boundaries. There are notes regarding the image date on Exhibits C (Pre-Mining BLM Boundaries and Pre-Mining) citing Google Earth. [Please note Google Earth imagery dates are found by hovering the mouse/cursor in the margin of Google Earth, just below the image and to the left of the displayed coordinates].

Response: The noted structures have been added to the maps in Exhibits C5 and C6, as applicable. Though no mining of the sandstone is anticipated, for purposes of this amendment, the sandstone quarry area has been included in the affected area boundary on the maps that include that area. The affected area boundary has been corrected to be consistent between the maps in Exhibits B, C1 through C6, D1 through D7, F, and I2. Exhibit S has been updated to reflect the Tallahassee Bridge remaining after the site is reclaimed.

5. Overburden and Topsoil Stockpiles: In order to estimate haul distances for reclamation, please indicate on Exhibit C (or D) maps where topsoil and overburden are to be stockpiled.

Response: Overburden and Topsoil Stockpile Areas have been added to Exhibits C1 through C6, as applicable.

6.4.4 EXHIBIT D – Mining Plan

6. Exhibit Maps: Please see Comment No. 1 above. There is also an apparent discrepancy in affected area between the Index Map and maps in Exhibits D. Exhibit B and Exhibit maps C4 and C5 show the previously approved sandstone quarry as affected area; the Exhibit D maps do not. If the sandstone quarry is to be released from the affected area boundary, a separate acreage reduction revision must be requested. Otherwise, all maps need to show consistent boundaries. There are notes regarding the image date on Exhibits D1 – D7 (Mining Plan) citing Google Earth. [Please note Google Earth imagery dates are found by hovering the mouse/cursor in the margin of Google Earth, just below the image and to the left of the displayed coordinates]. Adding contour labels will also help with Comment No. 7 below. Please resubmit Exhibit D maps

Response: Please see revised Exhibit D1 through D7 maps reflecting the required changes.

7. Thickness of Deposit: Rule 6.4.4(f) requires information be provided on the nature, depth and thickness of the deposit to be mined and the thickness and type of overburden to be removed. This information could not be located. If contour labels were added to the seven Exhibit D maps, that would probably be the best way to describe the depth and thickness of the deposit to be mined, given the rugged terrain. Please provide information on the overburden thickness the depth/thickness of the deposit to be mined, noting Comment No. 1 above.

Response: Contour labels have been added to the Exhibits D1 through D7. Information on the overburden thickness the depth/thickness of the deposit to be mined have been added to Exhibit D8, Section 1.

8. Mining Limits: The second paragraph of Exhibit D describes moving the southern limit of the existing granite quarry and removing the previously approved sandstone mining area from the permit. As indicated in Comment No. 4 above, if these areas are to be removed from the affected area boundary, a separate acreage release request must be submitted. If the intent is to simply remove these areas from the mining/excavation limits (which the DRMS views as primarily a distinction for the Operator only, other than how it affects the approved mining plan), then no release is necessary for the affected area, but reclamation cost estimates for the bond will be adjusted accordingly. Please clarify the intent for adjustments to the existing granite quarry the sandstone quarry boundaries.

Response: The intent is to simply remove these areas from the mining/excavation limits. If these areas are to be removed from the affected area boundary, a separate acreage release request will be submitted.

9. Conveyor System: Both the first and third bullet on the first page of Exhibit D mention the possible construction of a conveyor system. The construction of a conveyor system will a significant impact on the expected reclamation cost. As this item is uncertain, please commit in writing to submitting a Technical Revision to the DRMS for reclamation cost consideration

at least 30 days prior to constructing a conveyor system.

Response: Front Range Aggregates hereby agrees that we will submit a Technical Revision to the DRMS for reclamation cost consideration at least 30 days prior to constructing a conveyor system.

10. Mine Phasing: The duration of each phase is provided. When do you anticipate beginning to mine Phase 1? Will they overlap?

Response: Front Range Aggregates anticipates beginning construction of the access for Phase 1 development of the expansion area in 2022, and anticipates the start of mining in Phase 1 in 2024. It is anticipated that the only overlap in Phases will be where mining is carried over to a new phase from mining in a contiguous area of the then current phase.

11. Phase 6 Plan: Exhibit D7 – Mining Plan suggests the mostly below grade mining in existing Granite Quarry will not take place till the completion of Phase 5 (East Pit) mining. If this is the case, it will have some impact on a phased bonding effort (if that is what is desired). Please clarify the planned extent of the current mining in the Existing Granite Quarry vs. Phase 6 on Exhibit D7; and confirm the request for a phased bonding approach.

Response: Mining of the Existing Granite Quarry shown as Phase 6 of the amendment will continue after mining in Phase 1 has started to allow for development of adequate production of material from Phase 1 to meet demand. Some mining may also continue to occur in the Phase 6 area throughout the life of the mine if weather or other events prevents mining in the Phase 1 through 5 areas. Mining of the below grade portion of Phase 6 is not anticipated to be completed until after the completion of the Phase 5 mining. A phased bonding effort is desired, accounting for disturbance in Phases 1 through 5, and the disturbed/unreclaimed areas within Phase 6.

12. Haul Road: The mine plan states the haul road will have 33 inches of material placed and be 60 feet wide. For the purpose of estimating reclamation costs, please indicate how long the roads will be and how reclamation is to be accomplished (grading, placing as sub-topsoil backfill, etc.), given the high gravel content will likely make poor growth media.

Response: The main mining access haul road will be approximately 6,800 feet long. The anticipated maximum temporary haul road lengths by mine phase are as follows:

- Phase 1: 3,000 feet
- Phase 2: 4,000 feet
- Phase 3: 4,000 feet
- Phase 4: 4, 000 feet
- Phase 5: 2,400 feet
- Phase 6: 2,000 feet

Roads will be reclaimed as mining progresses by removing the material used to construct the road during final mining of the area where the road is located. After material used to construct the road is removed, the former road location will be graded to blend with the surrounding area and reclamation would proceed as specified in Exhibit E, based on whether the area is a valley floor or bench area. The Reclamation Plan, Exhibit E, has been amended to clarify this.

13. Bench Design: Section 4 and Figure 2 explain the different configurations between production and reclamation benches. The DRMS has done some rough estimates on the volume of rock that would need to be removed for each bench (first bench up to a ninth bench – see **Attachment A**). The expectation is the first bench would require 750 cubic feet per linear foot of bench length be removed via blasting to meet the proposed reclamation configuration from the production configuration. This volume increases to 6,150 cubic feet per linear foot for a ninth bench. Current blasting costs are about $0.66/ton or $1.40/cubic yard. The DRMS will need to bond for this highwall reconfiguration under worst case conditions, should the State have to take over reclamation. Please consider the potential costs here and confirm you wish to proceed with a bench configuration that differs between production and reclamation.

Response: We will be practicing concurrent reclamation of benches in which reclamation is performed as benches are completed. Therefore, benches will be reclaimed as mining moves down slope and laterally so not all nine benches will be open at one time. We anticipate mining will not disturb more than four benches at any time and that no more than 4,000 feet of face will be open and unreclaimed on any bench at one time. The Mining Plan, Exhibit D8, has been amended to clarify this.

14. Material Handling: Sections 5 and 6 discuss material handling for the Alluvial Quarry and the Granite Quarry, respectively. Please confirm material handling will be the same for the expansion area as it is for the Granite Quarry. If it is different, please provide details.

Response: Material handling will be the same for the expansion area as it is for the Granite Quarry.

15. Water Supply: Section 7 indicates water usage is not anticipated to increase as mining progresses into the BLM area. If the haul roads are significantly longer than to the existing granite quarry, would dust suppression water usage not increase accordingly? Please explain.

Response: A conveyor system is being established for transporting material from the granite quarry. Therefore, the number of trips per shift on the main haul road should be 75-percent or more less than if material were transported by truck. The haul distances within each mine phase will be shorter on average than current haul distances. The conveyor is planned for construction within the first three years of operation in the new mining area as part of the initial development. Therefore, water for dust control should not increase significantly from current volumes, and may decrease.

6.4.5 EXHIBIT E – Reclamation Plan

16. Reclamation similar to Webster Park: Section 3 indicates "reclamation on the BLM mining area will be to create a topographic and ecological setting that is similar to that of Webster Park and the hillsides surrounding Webster Park". Please provide photographs of the Webster Park area as examples of the intended reclamation.

Response: Please see photographs in revised Exhibit E, Section 3.1.1.

17. Valley Floor Drainage Channels: Section 3.1.1 states drainage channels will be excavated into the valley floor, directing flows to Current Creek and have "a depth, cross-section, and sinuosity similar to that of the natural drainages in Webster Park". If these channels are undersized, frequent flood events will scour the growth media and vegetation on the overbanks. A natural sinuosity is geomorphologically dependent upon flow rates, channel gradient and scour resistance of the drainage bed. The DRMS supports the proposed more natural approach to reclamation. However, designs supported by hydrologic and hydraulic analyses need to be provided. Furthermore, construction of these channels must addressed for the reclamation cost estimate (Exhibit L). Will blasting be required or is a more conventional construction anticipated? Based on Figure 9 (which should be referenced), the DRMS estimates about 25,000 feet of channel will need to be constructed (~6,900 feet on the west side, ~9,800 feet in the central area, and ~8,200 feet on the east side). Pursuant to Rules 3.1.6(3), 6.4.4(j) and 6.4.5(1), please provide:

    a. hydrologic and hydraulic analyses for channel design, and
    b. anticipated construction techniques for the reclamation effort (blasting, dozers, excavators, etc.)

Response: Please see revised Exhibit E, Section 3.1.1 and hydrologic and hydraulic analyses in Exhibit E, Attachment E1.

18. Bench Vertical Slopes: Section 3.1.2 indicates some parts of the benches will be left with near vertical slopes. If this is a significant portion of the benches, it will impact the reclamation cost estimate. Please define what is meant by "some" and if it is not insignificant, these areas should be shown on the Exhibit F map in accordance with Rule 6.4.6(a).

Response: The text has been updated in revised Exhibit E, Section 3.1.2 to clarify that "some" is 10-percent or less and that the distribution of near-vertical rock slopes will be random to present a more natural post-mining appearance.

19. Bench Configuration: Section 3.1.2 describes the reclamation benches as being 40 to 80 feet high and about 80 feet wide. Figure 2 shows reclamation benches being 35 feet high and 30 feet wide. Please provide a narrative and figure that are consistent. If the proposed

configuration is different than that presented in Figure 2, the estimated reclamation volumes in **Attachment A** will need to be revised.

Response: The figure is correct. The text has been updated in revised Exhibit E, Section 3.1.2 to clarify the slope construction and geometry.

20. Reclamation Performance Standards: Rule 6.4.5(2)(c) requires the applicant address reclamation performance standards in Rule 3.1. Please address the following:

    a. Rule 3.1.7(6): Given the groundwater monitoring results in Exhibit G, points of compliance for groundwater monitoring need to be established. Please see CommentNo. 23 below.

    b. Rule 3.1.10(6): Exhibit M lists a Weed control plan approved by the Fremont County Weed Advisory Board. Please provide a copy of this plan for the public record.

Response: The points of compliance will be documented in a separate Response to Comments specific to the. Mitigation and Monitoring Plan for Surface Water and Groundwater The weed control plan approved by the Fremont County Weed Advisory Board is appended as Exhibit M1.

21. Seeding: The end of the second paragraph in Section 3.5 states "Seeds will applied to benches and the valley floor area at a seeding rate of approximately 20 pounds of pure live seed (PLS) per acre…" {*note Exhibit L indicates an application rate of 16 pounds per acre*}, then switches to discussing the seeding rate for temporary stockpiles, before ending the paragraph stating seed will be broadcast. It is unclear if all seed is to be applied via broadcast methods, or just for the stockpiles. Please be aware it is DRMS practice to double recommended drill seed rates for broadcasting application methods. Please clarify if the seeding rates in the two tables for "Roads and Quarry Floors" and "Quarry Benches" are drill or broadcast rates and what application method is intended for each.

Response: Seeding rates in the tables are drill rates. Seeding of the valley floor will be drill, slopes are hydroseeded. Stockpiles will be seeded by broadcast seeding.

6.4.5 EXHIBIT F – Reclamation Plan Map

22. Exhibit Maps: Please see Comment No. 1 above. There is also an apparent discrepancy in affected area between the Index Map and maps in Exhibit F. The legend indicates the topographic contours are "10", but no units are provided. Exhibit B and Exhibit maps C4 and C5 show the previously approved sandstone quarry as affected area; Exhibit F does not. All maps need to show consistent boundaries. There is a note regarding the image date on Exhibit F citing Google Earth. [*Please note Google Earth imagery dates are found by hovering the mouse/cursor in the margin of Google Earth, just below the image and to the left of the displayed coordinates*]. As stated in Comment No. 17 above, different type of reclamation also need to be shown on Exhibit F. Please resubmit Exhibit F with the following:

a. Show name of Applicant (Front Range Aggregates) and preparer's name/signature on all maps;
b. Include the existing affected area boundary (Rule 6.2.1(2)(d) – specifically the alluvial pit) and its final contours;
c. Identify structures that will remain after reclamation (original Harvey Ranch residence and associated outbuildings?);
d. show final land use – Rule 6.4.6(b): Wildlife habitat vs water storage (and vertical highwalls if not insignificant – See Comments No. 17 above, and No. 29 below), andthe drainage channels (or reference Figure 9);
e. Include the sandstone quarry affected area boundary on all maps showing that area;
f. Include contour labels on the map and the interval in the legend; and
g. Google Earth imagery dates on maps using Google Earth imagery.

Response: Please see revised Exhibit F reflecting the required changes.

6.4.6 EXHIBIT G – Water Information

23. Groundwater: Based on our July 13, 2021 meeting with site representatives, the DRMS is continuing to review Exhibit G and will provide supplementary adequacy comments at a later date.

Response: A revised Exhibit G Monitoring and Mitigation Plan for Surface Water and Groundwater will be submitted separately from the other responses to the July 14, 2021 Adequacy Review.

6.4.12 EXHIBIT L – Reclamation Costs

24. Scope of Submitted Cost Estimate: The cover sheet of Exhibit L includes tasks for the "Granite Quarry Reclamation" and the "Alluvial Area Reclamation". Based on the 34 acres of "top dressing" on the top of the second page, it appears this is just for the existing granite quarry area. The cost estimate needs to include all five phases of the expansion area and Phase 6 of the existing Granite Quarry area. (*Note: If you prefer a phased bond approach, a financial warranty phases 2 through 5 will not be required*). Please provide a bond estimate for all phases of mining.

Response: The quantity for Top Dressing has been updated to reflect the current granite quarry disturbance, plus anticipated maximum disturbance during each phase of mining of the BLM Expansion Area in revised Exhibit L Reclamation Cost Estimate. The cost estimate anticipates a phased bond approach for Phases 2 through 5 to reflect the use of concurrent reclamation.

25. Seeding: Exhibit E states seeding of the valley floor and benches will use 20 pounds of seeds

per acre. Exhibit L indicates only 16 pounds per acre will be used. Please update the quantity of seed.

Response: Please see revised Exhibit L Reclamation Cost Estimate

26. Tallahassee Bridge Demolition: Page 3 indicates 400 tons of bridge debris will require disposal. Please provide the following:

    a. a description of the bridge (length, width, height and primary materials of construction: wood, steel, or concrete),
    b. location of planned disposal (on/off site, distance to facility).

Response: The permit application has been revised to reflect the bridge remaining after the completion of mining. The Reclamation Plan (Exhibit E), Reclamation Plan Map (Exhibit F), Reclamation Cost Estimate (Exhibit L), and section on Permanent Manmade Structures (Exhibit S) have been revised accordingly.

27. Top Dressing: Pages 2 and 4 indicate top dressing will be six inches. Exhibit E, section 3.2 states an average of nine inches of topsoil will be placed. Please revise Exhibit L accordingly.

Response: Exhibit L, Reclamation Cost Estimate, has been revised accordingly.

28. Toe Drain Construction: There is a line item on the fifth page for toe drain construction. The DRMS cannot find any previous mention of the toe drain in either the original permit or amendment 1. Please provide details on the toe drain or where it was previously included in the permit.

Response: The toe drain is not a part of the proposed construction and was a carryover from another estimate that did not get removed for the Parkdale estimate. The toe drain item has been removed from the estimate and Exhibit L, Reclamation Cost Estimate, has been revised accordingly.

29. Clay liner fill: The seventh page indicates 10% of the necessary clay liner will be imported from Martin Marietta's Penrose Pit. The previous page (sixth) states at the top that "Approximately half of the required liner material can be derived onsite". Where will the other 40% of the material be obtained?

Response: The "Approximately half of the required liner material can be derived onsite" was a carryover from another estimate that did not get removed for the Parkdale estimate. Exhibit L, Reclamation Cost Estimate, has been revised accordingly to reflect that 90-percent of the material will be derived onsite.

30. Alluvial Revegetation: The ninth page states "less than the 66 acres {only 60 acres} outside of the pit area because of roads, graveled parking areas, and other areas that will remain and

[sic] will not be revegetated". This statement reinforces the need to show on Exhibit F map(s) the intended types reclamation and areas discussed above in Comment No. 22d. Please identify all areas that won't be revegetated on the Exhibit F map(s).

Response: Exhibit L, Reclamation Cost Estimate, has been revised and corrected to reflect 131 acres to be reseeded, with an additional 15 acres for the reservoir, 12 acres for the roads and shop area to remain after reclamation.

31. Valley Floor Drainage Channels: Please provide excavation and material volumes for construction of the proposed valley floor drainage channels.

Response: Exhibit L, Reclamation Cost Estimate, has been revised based on a phased reclamation approach to reflect 9,778 cubic yards of channel excavation for 8,000 linear feet of channel with a 33 square foot cross-section.

32. DRMS Estimate: The DRMS will generate a reclamation cost estimate based on this amendment application and responses to this adequacy review letter. Please be aware the bond estimate provided in Exhibit L may be modified based on our reclamation cost estimate. No response is necessary.

Response: Noted, thank you.

6.4.19 EXHIBIT S – Permanent Man-Made Structures

33. Eligible Structures: The purpose of Exhibit S is to provide damage compensation agreements, or where those cannot be obtained, engineering analyses demonstrating structures within 200 feet of the affected area (not to be confused with excavated areas only) will not be damaged by the proposed activity. The following structures listed in Exhibit S, appear to be within 200 feet of the affected area and require proof of attempting to obtain a structure damage compensation agreement (Rule 6.4.19(a) and (c)), or in lieu of that, an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation (Rule 6.4.19(b)):

    a. Black Hills Energy powerline,
    b. Royal Gorge Express Railroad rail tracks along the southern permit boundary,
    c. County Road 157.

Response: Exhibit S has been updated, and the structures agreements for the three structures noted are included as Attachments to Exhibit S.

GEOTECHNICAL STABILITY EXHIBIT

34. Geotechnical Stability Exhibit: The submitted exhibit is from the 2008 amendment and

applies only to the existing granite quarry. The DRMS requires geotechnical stability analyses to demonstrate the following:

a. Stability of the reclaimed highwalls in the BLM expansion area will be stable Pursuant to C.R.S 34-32.5-102(1) and Rules 1.1(45), 6.5(2) post reclamation; and pursuant to Rule 6.5(4).

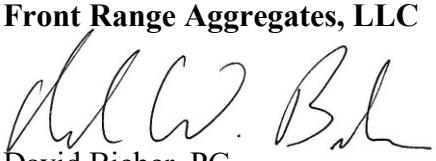
b. The area outside the permit boundary and adjacent to the southwest edge of the Phase3 Central Pit will not be adversely affected by blasting through appropriate blasting, vibration, geotechnical, and structural engineering analyses.

Response: A revised Geotechnical Stability Exhibit will be submitted separately from the other responses to the July 14, 2021 Adequacy Review.

If you have questions about this response, please contact me at (720) 245-6423 or e-mail at david.bieber@martinmarietta.com.

Sincerely,

Front Range Aggregates, LLC



David Bieber, PG

Attachments:

Exhibit B - Index Map – 08052021
Exhibit C1 - Pre-mining Map – 08052021
Exhibit C2 - Pre-mining Map – 08052021
Exhibit C3 - Pre-mining Map – 08052021
Exhibit C4 - Pre-mining Map – 08052021
Exhibit C5 - Pre-mining Map – 08052021
Exhibit C6 - Pre-mining Map – 08052021
Exhibit D - 1 thru 7 Mine Plan – 08052021
Exhibit D 8 - Parkdale Quarry Expansion Mine Plan – 08052021
Exhibit E - Reclamation Plan – 08052021
Exhibit E1 Attachment - Hydraulic Analysis from Parkdale EIS – 08052021
Exhibit F - Reclamation Plan Map – 08052021
Exhibit I-2 - Soils Map – 08052021
Exhibit L - Parkdale 2020 Reclamation Cost Estimate – 08052021
Exhibit M1 - Weed Management Plan – 08052021
Exhibit S - Permanent Manmade Structures with Structures Agreements - 09102021