



November 17, 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 Second 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) second adequacy review for our 112 Construction Materials Reclamation Permit Amendment Application (AM-02) for the Parkdale Quarry, Permit No. M-1997-054 dated October 22, 2021. Please see the following responses, and the referenced supporting documentation for our responses.

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

5. Overburden and Topsoil Stockpiles: The response requires some clarification. The revised Exhibits C1 through C4 show combined topsoil and overburden stockpile locations. Exhibit C6 shows only an overburden stockpile location. Only Exhibit C5 identifies separate topsoil and overburden stockpile locations. Section 6, Materials Handling suggests topsoil and overburden will be stockpiled separately as required by Rule 6.4.5(2)(d). Please confirm the intent to segregate topsoil from overburden and show separate stockpile locations for topsoil and overburden on the Exhibit C maps.

Response: Overburden and topsoil stockpiles will be segregated. Exhibits C1 through C4, and C6 have been revised to show the separate stockpile areas for overburden and topsoil. The revised figures C1 through C4, and C6 are attached.

**6.4.4 EXHIBIT D – Mining Plan**

9. Conveyor System: The response is adequate. The DRMS will expect a technical revision to address demolition and reclamation costs for the proposed conveyor system at least 30 days prior to constructing a conveyor system.

Response: A technical revision to address demolition and reclamation costs for the proposed conveyor system will be submitted to DRMS at least 30 days prior to constructing the conveyor system.

13. Bench Design: The response requires additional clarification. The DRMS understands the bench configuration at the edge of the mine limits will be constructed at the 35 feet high by 30 feet wide reclamation configuration as mining progresses. However, we would expect the benches on the working face that progresses towards Phase 2, etc. will be constructed at the 60-foot high by 40 feet wide "production" configuration. As such, should the bond need to be revoked before final reclamation is completed, the DRMS needs to bond for reconfiguring the production benches to the proposed final reclamation geometry by blasting. This is what was intended to be conveyed in Attachment A of our July 14th PAR. Please consider the potential costs here and confirm you wish to proceed with a bench configuration that differs between production and reclamation.

Response: Mining benches will be constructed at the 35 feet high by 30 feet wide reclamation configuration. Section 4 of the mine plan, Exhibit D10, and Exhibit D 8 - Figure 2 - Cross-sections of Typical Production and Rec Benches, have been amended accordingly, and are attached.

#### **6.4.5 EXHIBIT E – Reclamation Plan**

17. Valley Floor Drainage Channels: The response was incomplete. No hydraulic design or analyses was provided. Please provide the hydraulic design / analyses for item (a):

- a. hydrologic and hydraulic analyses for channel design (note: based on our October 22, 2021 telephone conversation, the DRMS will accept a written commitment to submit a final design for the engineered channel cross-sections and geomorphological drainage layout, prior to initiating mining in each of Phases 1 through 5. These designs will need to be submitted as a Technical Revision.)

Response: A final design for the engineered channel cross-sections and geomorphological drainage layout will be submitted as a technical revision prior to initiating mining in each of Phases 1 through 5.

20. Reclamation Performance Standards: Please address item (a):

- a. Rule 3.1.7(6): The DRMS has not received this revised Exhibit to date. Please see Comment No. 23 below.

Response: As set forth in Rule 3.1.7(6), Points of Compliance for the evaluation of groundwater quality are provided in Section 5.2 of our Revised Parkdale Groundwater Monitoring and Mitigation Plan - 11162021, submitted to DRMS on November 16, 2021, and incorporated into this response by reference.

#### **6.4.6 EXHIBIT G – Water Information**

23. Groundwater: The DRMS provided comments to Exhibit G on August 6, 2021. The DRMS has not received this revised Exhibit to date.

Response: The Revised Parkdale Groundwater Monitoring and Mitigation Plan – 11162021 was submitted to DRMS on November 16, 2021, and is incorporated into this response by reference.

#### **6.4.12 EXHIBIT L – Reclamation Costs**

25. Seeding: Additional clarification is needed. It is unclear from the response if the 20 pounds of seeds per acre is for broadcast application or drill seeding. Exhibit E states seeding of the benches will be accomplished via hydroseeding, but no method of seeding the pit floor is provided. Please clarify if the 20 pounds of seeds per acre is a drill rate or broadcast rate and indicate if the pit floor will be broadcast (hydroseeded) or drill seeded.

Response: The 20 pounds of seed per acre is for broadcast seeding (including hydroseeding). The application rate for drill seeding is 10 pounds of seed per acre. The pit floors and other large flat areas will be drill seeded. Section 3.5 of Exhibit E - Reclamation Plan - Rev 2 11172021, a copy of which is attached, has been amended to clarify seeding rates for the applicable methods.

29. Clay liner fill: The response requires additional information. As 10% of the necessary clay liner will be imported from Martin Marietta's Penrose Pit, the DRMS requires a unit cost to purchase this material. This is because if the bond requires revocation, the State will need to purchase this material. We can estimate transportation costs given the 90-minute round trip travel, but we do not have a material cost for the clay. Please provide an estimated material cost (not to include transportation).

Response: The current material cost to purchase clay material from the Martin Marietta Penrose Pit is \$7.00 per ton F.O.B. the quarry site.

## 6.5 GEOTECHNICAL STABILITY EXHIBIT

34. Geotechnical Stability Exhibit: The DRMS has not received this revised Exhibit to date. Please submit 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 Phase 3 Central Pit will not be adversely affected by blasting through appropriate blasting, vibration, geotechnical, and structural engineering analyses.

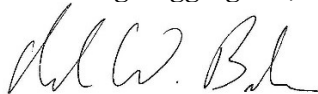
Response: The Geotechnical Stability Exhibit demonstrating the stability of the reclaimed highwalls in the BLM expansion area and that the area outside the permit boundary and adjacent to the southwest edge of the Phase 3 Central Pit will not be adversely affected by blasting through appropriate blasting, vibration, geotechnical, and structural engineering analyses is attached.

It has also come to our attention that the disturbance area shown for the approved low water crossing on Tallahassee Creek in Exhibits C, C6, D1 through D7, and F does not match up with the location of the low water crossing on the aerial photo used for the photo base for the site. We have revised Exhibits C, C6, D1 through D7, and F so that the depicted boundary and the disturbed area on the photo base match. The revised Exhibits C, C6, D1 through D7, and F are attached.

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 C - Pre-mining and Mine Plan Maps - Updated 11-15-2021  
Exhibit C1 - Pre-Mining Map C1 - 11-11-21  
Exhibit C2 - Pre-Mining Map C2 - 11-11-21  
Exhibit C3 - Pre-Mining Map C3 - 11-11-21  
Exhibit C4 - Pre-Mining Map C4 - 11-11-21  
Exhibit C6 - Pre-Mining Map C6 - 11-11-21  
Exhibit D1 thru D7 Mine Plan - Updated 11-15-2021  
Exhibit D8 - Parkdale Quarry Expansion Mine Plan – 11172021  
Exhibit D8 - Figure 2 - Cross-sections of Typical Production and Rec Benches – 11172021  
Exhibit E - Reclamation Plan - Rev\_2 11172021  
Exhibit F - Reclamation Plan Map - Updated 11-15-2021  
Rule 6.5 Geotechnical Stability Exhibit

STATE OF  
COLORADO

Cazier - DNR, Tim &lt;tim.cazier@state.co.us&gt;

**RE: M-1997-054 / Parkdale Quarry - Amendment #2 Second Adequacy Review Response (E-mail 1 of 2)**

1 message

**David Bieber** <David.Bieber@martinmarietta.com>  
To: "Cazier - DNR, Tim" <tim.cazier@state.co.us>

Mon, Nov 29, 2021 at 8:46 AM

Hi Tim.

The adequacy review response letter tat was supposed to go with the revised exhibits is appended.

Dave

**David W. Bieber, PG**

Manager of Geology/Survey | West Division

**Martin Marietta****1627 Cole Blvd Suite 200****Lakewood, CO 80401**

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**From:** Cazier - DNR, Tim <tim.cazier@state.co.us>  
**Sent:** Wednesday, November 24, 2021 3:26 PM  
**To:** David Bieber <[David.Bieber@martinmarietta.com](mailto:David.Bieber@martinmarietta.com)>  
**Subject:** Re: M-1997-054 / Parkdale Quarry - Amendment #2 Second Adequacy Review Response (E-mail 1 of 2)

**EXTERNAL EMAIL**

Thanks Dave. In the meantime, I'm looking at the geotech.

Tim Cazier, P.E.

Environmental Protection Specialist III - Engineering

*[I am working remotely - please call me at 303-328-5229]*

**COLORADO**  
Division of Reclamation,  
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Department of Natural Resources

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[tim.cazier@state.co.us](mailto:tim.cazier@state.co.us) | <https://drms.colorado.gov>

On Wed, Nov 24, 2021 at 2:41 PM David Bieber <[David.Bieber@martinmarietta.com](mailto:David.Bieber@martinmarietta.com)> wrote:

Hi Tim.

There should have been an adequacy response appended with the exhibits. I am away from a computer, but will resend it on Monday.

Dave

Sent from my iPhone

On Nov 23, 2021, at 3:22 PM, Cazier - DNR, Tim <[tim.cazier@state.co.us](mailto:tim.cazier@state.co.us)> wrote:

**EXTERNAL EMAIL**

Hey Dave,

Was there supposed to be an adequacy response letter with narrative addressing each unresolved comment, or just the updated Exhibits? I ask because you usually have a narrative response letter and I want to make sure I'm not missing anything.

Tim Cazier, P.E.

Environmental Protection Specialist III - Engineering

*[I am working remotely - please call me at 303-328-5229]*



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On Wed, Nov 17, 2021 at 4:12 PM David Bieber <[David.Bieber@martinmarietta.com](mailto:David.Bieber@martinmarietta.com)> wrote:

Hi Tim.

Our response to the Parkdale Quarry, Permit No. M-1997-054; Second Adequacy Review for 112 Construction Materials Reclamation Permit Amendment Application (AM-02) is appended. Amended exhibit "Exhibit D1 thru D7 Mine Plan - Updated 11-15-2021" is being sent in a separate e-mail due to file size constraints.

Dave

**David W. Bieber, PG**

Manager of Geology/Survey | West Division

**Martin Marietta**

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[www.martinmarietta.com](http://www.martinmarietta.com)

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**From:** Cazier - DNR, Tim <[tim.cazier@state.co.us](mailto:tim.cazier@state.co.us)>  
**Sent:** Friday, October 22, 2021 1:29 PM  
**To:** David Bieber <[David.Bieber@martinmarietta.com](mailto:David.Bieber@martinmarietta.com)>  
**Cc:** Michael Cunningham <[michaela.cunningham@state.co.us](mailto:michaela.cunningham@state.co.us)>; Eric Scott <[eric.scott@state.co.us](mailto:eric.scott@state.co.us)>; Stephanie S. Carter P.G. <[sscarter@blm.gov](mailto:sscarter@blm.gov)>  
**Subject:** M-1997-054 / Parkdale Quarry - Amendment #2 Second Adequacy Review Letter

**EXTERNAL EMAIL**

Dave,

Attached for your records is a copy of the subject letter (Note I have copied Stephanie Carter of the BLM).

Please let me know if you have any questions or concerns.

Tim Cazier, P.E.

Environmental Protection Specialist III - Engineering

*[I am working remotely - please call me at 303-328-5229]*



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**M1997-054 Parkdale Quarry Amendment (AM-02) Adequacy Response - Adequacy Review 2.pdf**

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