STATE OF COLORADO

Cazier - DNR, Tim <tim.cazier@state.co.us>

Fwd: Mica White Quarries Mining Continuation Recommendations

1 message

Nicole Martin <nicole@coloradoquarries.com> Fri, Jan 14, 2022 at 8:30 AM
To: "Carter, Stephanie S" <sscarter@blm.gov>
Cc: "Cazier - DNR, Tim" <tim.cazier@state.co.us>

Have a Great Day!
Nicole Martin
nicole@coloradoquarries.com

Begin forwarded message:

From: Bill Tezak <Bill@coloradoquarries.com>
Subject: Fwd: Mica White Quarries Mining Continuation Recommendations
Date: January 14, 2022 at 8:28:33 AM MST
To: Nicole Martin <nicole@coloradoquarries.com>

Sent from my iPhone

Begin forwarded message:

From: Darin Duran <DDuran@cesareinc.com>
Date: January 11, 2022 at 4:46:35 PM MST
To: Bill Tezak <Bill@coloradoquarries.com>
Cc: Aaron Tezak <Aaron@coloradoquarries.com>
Subject: Mica White Quarries Mining Continuation Recommendations

Bill,
At your request, Cesare, Inc. (Cesare) visited the Mica White Quarry on December 21, 2021 to observe the condition of the slope in the area of current mining activity at the quarry. It is our understanding that during excavation of the northwest highwall, a crack form above the excavation face. The location of the northwest highwall (arrows) and the crack (red line) are shown below in Exhibit 1. It is also our understanding that the crack formed during excavation of Bench 2 of the northwest highwall (Photo 1).

Exhibit 1. Map 2 from BLM Mine Inspection Report dated 12/01/21

Photo 1. View of Benches 1 (right) and 2 (left) on the northwest highwall.

The crack at the time of our visit did not show any signs of vertical displacement. The dip of the crack as observed in a cut face of an access road was about 75 degrees. We did not observe any signs of toe bulging in any of the benches in the northwest highwall. Cracking also occurred during mining of the NE/E highwall. The cracks in the NE/E highwall did not appear to extend to the cut face but terminated after 10's of feet (estimated as the area could not be safely accessed).

The cracking is likely associated with stress relief along predominant jointing orientation. The stress relief occurred during excavation of Bench 2. The likely instability will be toppling, where blocks rotate off the top, or high angle planar sliding. This is consistent with the description of the behavior of the NE/E highwall face. If this crack remains consistent in behavior, the risk of a large catastrophic failure of the northwest highwall is low.

Cesare recommends to conduct the excavation from the top down. The purpose is to reduce the driving forces in the slope. Additional excavation of Bench 2 into the slope should be avoided at this time as this can reduce the resisting forces. Blocks may topple or slide effecting individual benches, especially near the top. These blocks can cause debris to slide down to lower benches. The occurrence of these blocks should be monitored, especially above the upper bench. If the cracking increases in width or instability is noted, the unstable blocks can be scaled back. It is our understanding that the crack in the access road has been covered. The subgrade of the road should be monitored for the crack reappearing. If the crack reappears, then the stability should be re-evaluated.

Darin R. Duran, P.E.
Principal, Manager- Salida Crested Butte Office

CESARE, INC.
Geotechnical Engineers & Construction Materials Consultants
Legacy in Great People and Great Work

Direct Line: 303-436-2749
Cell Phone: 303-570-3291
dduran@cesareinc.com
www.cesareinc.com

116 Halley's Avenue
Poncha Springs, Colorado

Mailing:
PO Box 1348
Poncha Springs, CO 81242

Billing:
7108 South Alton Way, Unit B
Centennial, CO 80112