

STATE OF  
COLORADO

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

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**Re: Daniels Monthly Report**

1 message

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**Wyatt WEBSTER** <wyatt.webster@holcim.com>  
To: "Cazier - DNR, Tim" <tim.cazier@state.co.us>

Fri, Oct 14, 2022 at 8:25 AM

Tim,

October monthly report for Daniels Pit Slope Stability attached.

**Wyatt Webster** | Environmental and Land Manager  
Holcim Group | Holcim - WCR, Inc.  
Address: [1687 Cole Blvd., Suite 300](#)  
[Golden, CO 80401](#)  
Office & Mobile: (702) 379-4623  
Email: [Wyatt.Webster@holcim.com](mailto:Wyatt.Webster@holcim.com)On Thu, Sep 15, 2022 at 1:35 PM Cazier - DNR, Tim <[tim.cazier@state.co.us](mailto:tim.cazier@state.co.us)> wrote:  
Thanks Wyatt. Please keep me posted on the erosion mitigation.**Tim Cazier, P.E.**  
Environmental Protection Specialist III - Engineering  
Mobile: 303-328-5229**COLORADO**  
Division of Reclamation,  
Mining and Safety  
Department of Natural ResourcesP [303.866.3567](tel:303.866.3567) x8169 | F [303.832.8106](tel:303.832.8106) | C [303.328.5229](tel:303.328.5229)Mailing Address: Division of Reclamation, Mining & Safety, Room 215, (optional: c/o: Tim Cazier), [1001 E 62nd Ave., Denver, CO 80216](#)Physical Address: [1313 Sherman St., Room 215, Denver, CO 80203](#)  
[tim.cazier@state.co.us](mailto:tim.cazier@state.co.us) | <https://drms.colorado.gov>On Tue, Sep 13, 2022 at 3:13 PM Wyatt WEBSTER <[wyatt.webster@holcim.com](mailto:wyatt.webster@holcim.com)> wrote:  
Tim,

Attached monthly report for Daniels Pit Slope Stability. The plan is to rectify the erosion issues within the next month.

**Wyatt Webster** | Environmental and Land Manager  
Holcim Group | Holcim - WCR, Inc.  
Address: [1687 Cole Blvd., Suite 300](#)  
[Golden, CO 80401](#)  
Office & Mobile: (702) 379-4623  
Email: [Wyatt.Webster@holcim.com](mailto:Wyatt.Webster@holcim.com)On Mon, Aug 15, 2022 at 9:09 AM Cazier - DNR, Tim <[tim.cazier@state.co.us](mailto:tim.cazier@state.co.us)> wrote:  
Thanks Wyatt.**Tim Cazier, P.E.**  
Environmental Protection Specialist III - Engineering*[I am working remotely - please call me at 303-328-5229]*



October 11, 2022  
Project No.: 19125

2750 S. Wadsworth Blvd, Suite D-200  
Lakewood, Colorado 80227  
303.625.9502  
www.LithosEng.com

Aggregate Industries – WCR, Inc  
1687 Cole Boulevard, Suite 300  
Golden, CO 80401

Attention: Wyatt Webster & Neil Whitmer  
Environmental and Land Managers

Regarding: Daniels Sand Pit 2, Permit No. M-1973-007-SG  
Slope Stability Monthly Monitoring Report

Mr. Webster and Mr. Whitmer,

Lithos Engineering (Lithos) has been retained by Aggregate Industries to implement a slope stability monitoring plan for the Fountain Mutual Ditch within Daniels Sand Pit 2. Monthly monitoring will occur for the first year after construction completion. Lithos Engineering (Lithos) visited the site on October 11, 2022. **The ditch appears to be stable but the buttress slope is severely gullied in one location and moderately gullied in other locations. The gullies appear to have been formed from erosion due to runoff from the ditch road. In addition, erosion extending upward from the toe is visible in several locations along the alignment. We recommend that the gullies be backfilled with compacted soil within the next several weeks. We also recommend a drainage diversion berm be constructed along the crest of the berm such that runoff is directed toward the ditch. Per the approved design, the buttress slope should be vegetated per the reclamation plan.** Site notes and photographs are presented below:

- Weather: 42-76°, sunny to partly cloudy, winds 15-25 mph
- Visual observation of the Fountain Mutual Ditch:
  - No tension cracks
  - No toe erosion that was visible
  - Vegetation growing on banks and at invert of ditch
  - No water flowing/dry ditch
  - No sloughed slope surfaces
  - The condition of the ditch is stable



Photo 1. Fountain Mutual Ditch looking east





Photo 2. Fountain Mutual Ditch looking west





Photo 3. Fountain Mutual Ditch invert looking north (note vegetation)

- Visual observations of the Buttress Slope
  - The buttress slope varies from 3H:1V to 4H:1V
  - Vegetation (mainly weeds) are growing in some locations on the buttress
  - Several locations visible evidence of surface water runoff and erosion gullies throughout alignment
  - On the eastern side of the buttress (less weeds), surface/drainage erosion is present approximately 15 feet from the ditch. Just south of the access road, the erosion gully is approximately 3 feet wide and 3 feet deep. Another gully is beginning to form, approximately 1 ft wide and 1.5 ft deep.





Photo 4. Butress slope looking south with weeds (western slope)





Photo 5. Buttress slope looking east from toe



Photo 6. Buttress slope looking south, evidence of surface water drainage/erosion gully mid slope (eastern slope, less weeds)





Photo 7. Buttress slope looking north, note expanding evidence of drainage/erosion gullies forming.  
More sediment near toe





Photo 8. Erosion gully in relation to access road and ditch





Photo 9. Zoomed in erosion gully south of access road (eastern slope)





Photo 10. New surface drainage/erosion on access road (shallow), located middle alignment

If you have any questions regarding the contents of this report, please contact Aggregate Industries or Lithos Engineering.

Sincerely,

**Lithos Engineering**



Steve Kuehr, PE  
Senior Consultant

Sarah Myers, EIT  
Project Engineer