



December 14, 2022

Project No.: 19125

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Holcium

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 Holcium 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 December 14, 2022. At a few locations erosion extending from the toe is still visible. We recommend those gullies be backfilled with compacted soil within the next several weeks. The buttress slope still needs to be seeded per the reclamation permit requirements. Site notes and photographs are presented below:

- Weather: 15-39°, sun and clouds mix, winds 5-10 mph, some snow cover
- 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
  - Tumbleweeds present in ditch
  - Water flowing in 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 with berm





Photo 3. Fountain Mutual Ditch invert

- 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





Photo 4. Buttress slope looking south that was recently repaired (western slope)





Photo 5. Buttress slope looking east from toe





Photo 6. Buttress slope repair looking north from toe, erosion occurring around repair





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

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