

June 19, 2023
Project No.: 19125

Holcim
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 Holcim to implement a slope stability monitoring plan for the Fountain Mutual Ditch within Daniels Sand Pit 2. Monthly monitoring was required for the first year after construction, this report concludes the monthly reporting requirement. Stability monitoring is to occur as shown in the table below pending the State's review of these monitoring reports.

Monitoring Year	Reporting Frequency	Monitoring Report Due Dates
Year 1	Monthly	15 th of July 2022 through 15 th of June 2023
Year 2	Quarterly	9/15/2023, 12/12/2023, 3/15/2024, 6/15/2024
Year 3	Bi-Annual	December 15, 2024 and June 15, 2025
Final Report	One time	July 15, 2025

Lithos Engineering (Lithos) visited the site on June 16th, 2023. And notes the following observations.

- 1) At four locations erosion gullies have developed on the berm top road and very near if not into the Fountain Ditch berm separating the Ditch from the Daniels Sand Pit. We recommend that berm be cared for and restored prior to Fountain Ditch's next flowing event. Site photographs are presented below.
- 2) At several locations, erosion gullies have expanded in all three directions (longer up and down the slope, wider across the slope and deepening into the slope). We recommend those areas be reconstructed ASAP and that the areas be seeded per the reclamation plan. Photographs 4 & 5 below visually capture the expanded gullies over the last month.
- 3) Weather: 60-70°, cloudy, winds 5 - 10 mph, heavy rain in previous days
- 4) Visual observation of the Fountain Mutual Ditch and ditch road:
 - a) Erosion gullies have formed across the ditch road. At one location the gully's depth and width has made the ditch road impassible for a stock 4x4 truck

- b) No tension cracks.
 - c) Vegetation growing on banks of ditch.
 - d) No water flowing in ditch.
 - e) The condition of the ditch bottom is stable, the ditch berm stability is in question.
 - f) Berm between ditch and access road has questionable stability.
- 5) Visual observations of the Buttress Slope
- a) The buttress slope varies from 3H:1V to 4H:1V.
 - b) Vegetation (mainly weeds) are growing in some locations on the buttress.
 - c) Several locations show visible evidence of surface water runoff and expanding erosion gullies throughout the buttress.
 - d) East end of buttress slope was recently graded and seeded. Vegetation has grown well but expanding erosion gullies are present.



Photo 1. Berm Road Undermined due to Slope's Erosion Gully



Photo 2. Erosion Gully Traversing the Ditch Road.



Photo 3. A Dry Fountain Mutual Ditch being separated from the ditch road on right by a berm.



Photo 4. Erosion gullies in central area of buttress in June



Photo 5. Erosion gullies in central area of buttress in May

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

Sincerely,

Lithos Engineering

Benny Siljenberg, PE
Vice President
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