

December 10, 2023

Project No.: 19125

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Holcim

1687 Cole Boulevard, Suite 300

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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. As required, Lithos is performing quarterly monitoring at the site. 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 <sup>th</sup> of July 2022 through 15 <sup>th</sup> 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 visited the site on December 6, 2023. And notes the following observations.

- 1) One erosion gully has reached the ditch road (eastern portion of the buttress).
- 2) Some erosion gullies have been repaired. However, several erosion gullies still exist within the embankment slope. We recommend those areas be reconstructed ASAP and that the areas be seeded per the reclamation plan.
- 3) Weather: 40-68°, sunny, winds 10 mph
- 4) Visual observation of the Fountain Mutual Ditch and ditch road:
  - a) No tension cracks.
  - b) Vegetation growing on banks of ditch and on invert.
  - c) Water flowing in ditch.
  - d) The ditch berm stability is in question.
- 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) Several broken trees exist on the slope/buttruss crest near the ditch access road.



Photo 1. Erosion gully on ditch access road (zoomed in)





Photo 2. Erosion gully on ditch access road





Photo 3. Tree south of access road and on crest of buttress slope





Photo 4. Erosion gullies in eastern portion of buttress





Photo 5. Erosion gullies in central area of buttress, note sand at toe of slope





Photo 6. Erosion gullies in central area of buttress





Photo 7. Recent repair on western portion of buttress





Photo 8. Repair on buttress





Photo 9. Ditch and access road looking east





Photo 10. Ditch and access road looking west





Photo 11. Water present in ditch





Photo 12. Erosion gullies

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

Sincerely,  
**Lithos Engineering**

Benny Siljenberg, PE  
Vice President  
303.590.8306



*Sarah Myers*

Sarah Myers  
Project Engineer