



March 3, 2023

Victor Schock
Director, Public Utilities Division
North Dakota Public Service Commission
600 E Boulevard Ave, Dept 408
Bismarck, ND 58505-0480

RE: PSC Case No. PU-22-391 Notice of Filings and Public Hearing

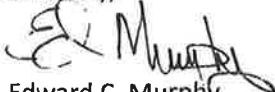
Mr. Schock:

As per my email of February 2, section 8.2.4 in Summit Carbon Solutions' *Consolidated Application for a Certificate of Corridor Compatibility and Route Permit* (SCS-0700-ENV-05-PE-008-A) cites a generic US Geological Survey publication regarding landslides in North Dakota (Jones et al., 2019, USGS Landslide Hazard Inventory), but does not cite any of the ND Geological Survey's landslide maps. These 1,464 detailed (1:24,000 scale) landslide maps cover all of North Dakota and were compiled by interpreting LiDAR and recent aerial imagery.

Since it is not clear that these landslide maps were utilized for this project, and time is of the essence, I asked our surface geologists to compare the shapefiles of our landslide layer with the pipeline route shapefiles that our paleontology section acquired in the fall of 2022. The attached table lists 14 possible landslide pipeline route intercepts and three nearby landslides. The three nearby landslides (15-17) have scarps that are projected to advance towards the pipeline route in the future. Each of these 17 localities should be evaluated to determine whether or not they pose a potential future risk to the pipeline.

Please contact me if you have any questions on our review.

Sincerely,


Edward C. Murphy
State Geologist

W113
PU-22-391

Attachment: Route Review Findings

64 PU-22-391 Filed 03/03/2023 Pages: 2
Agency Correspondence
North Dakota Mineral Resources - Geological Survey
Edward Murphy

113 PU-22-391 Filed 03/29/2023 Pages: 2
JW Exhibit W113 - ND Geological Survey letter dated 03-03-23
John H. Warford, as Trustee (Intervenor)

ND GEOLOGICAL SURVEY SUMMIT PIPELINE ROUTE REVIEW

| Id | Comments | Latitude | Longitude |
|----|--|----------------|------------------|
| 1 | Anthropogenic slope disturbance and/or landslide | 47.05451642990 | -101.19710043200 |
| 2 | Landslide | 47.05523186430 | -101.20085407400 |
| 3 | Anthropogenic slope disturbance and/or landslide | 47.05388138450 | -101.19306999000 |
| 4 | Anthropogenic slope disturbance and/or landslide | 47.05298157270 | -101.19265701800 |
| 5 | Possible mature landslide, muted expression from slopewash | 47.05100710750 | -101.19065099000 |
| 6 | Landslide | 47.01775564800 | -101.18983444700 |
| 7 | Possible mature landslide, muted expression from slopewash | 46.95703819400 | -101.03918881400 |
| 8 | Anthropogenic slope disturbance and/or landslide | 46.95133576410 | -100.86527698800 |
| 9 | Anthropogenic slope disturbance and/or landslide | 46.95143576450 | -100.85659357600 |
| 10 | Landslide - mature rotational bedrock slump | 46.94190863570 | -100.79247750100 |
| 11 | Landslide - shallow slide and/or soil creep | 46.94223339340 | -100.78388024900 |
| 12 | Landslide | 46.57195602000 | -97.09242855670 |
| 13 | Anthropogenic slope disturbance and/or landslide | 46.57436417400 | -97.09488631290 |
| 14 | Landslide - active bank failure | 46.74509319950 | -97.20657048100 |
| 15 | Nearby landslide scarp advancing toward route | 46.85467571380 | -100.58370544600 |
| 16 | Nearby landslide scarp advancing toward route | 47.05462289640 | -101.19538293700 |
| 17 | Nearby landslide scarp advancing toward route | 46.75062042120 | -97.20890013720 |