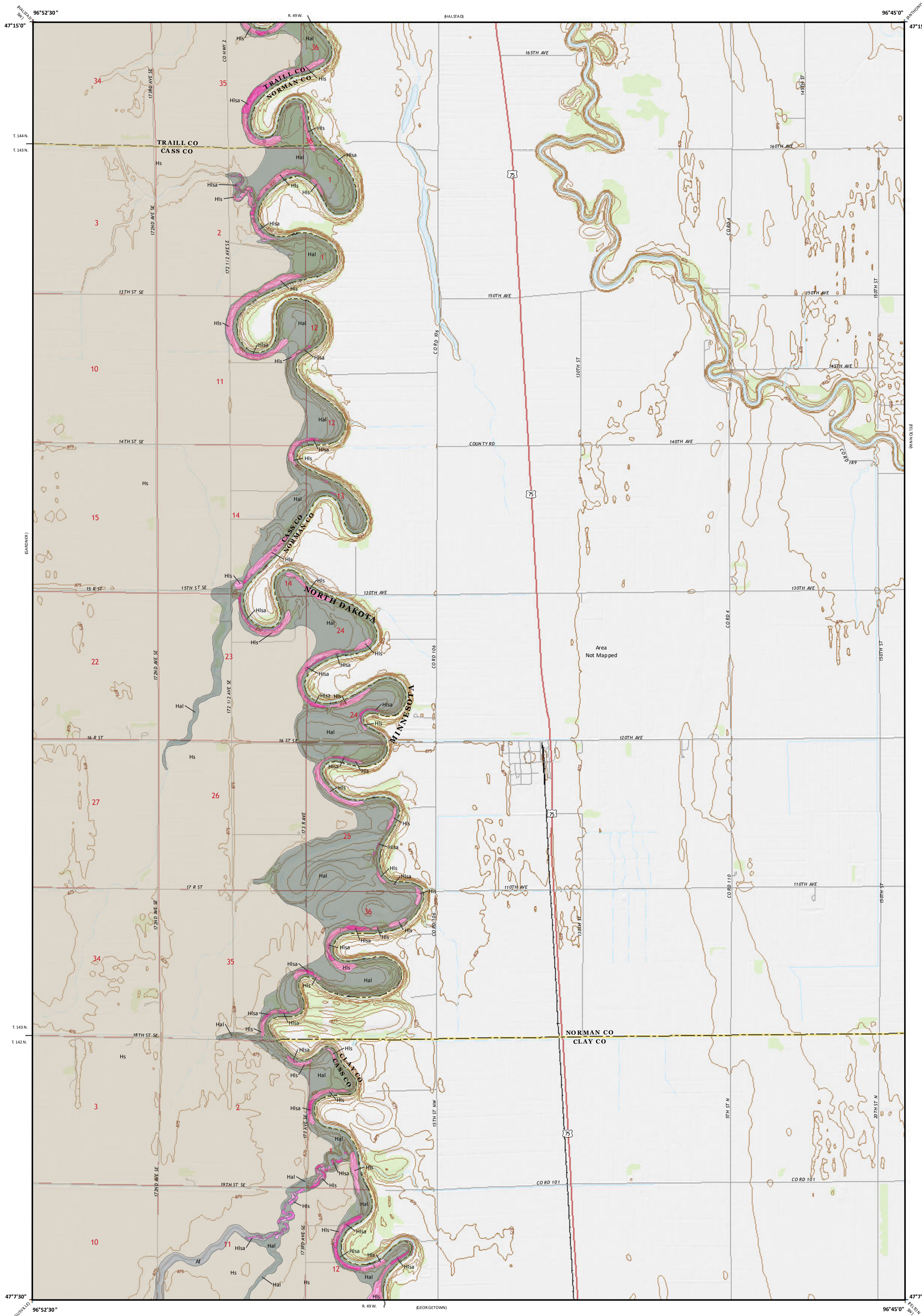


# Surface Geology

## Perley Quadrangle, North Dakota



**Fred J. Anderson**

**2023**

**EXPLANATION**

**ANTHROPOCENE**

**Af** **FILL DEPOSITS**  
Cut and fill materials consisting of silts, clays, and sands from adjacent surface formations placed by artificial means. Used in construction of drainage improvement embankments.

**QUATERNARY SYSTEM**

**HOLOCENE EPOCH**

**Hlsa** **LANDSLIDE DEPOSITS (RECENTLY ACTIVE)**  
Landslide areas showing movement between 2008 and 2020.

**Hls** **LANDSLIDE DEPOSITS**  
A mass of material that has moved downslope. Includes earth flows, slumps, and areas of soil creep.

**QAHE FORMATION**

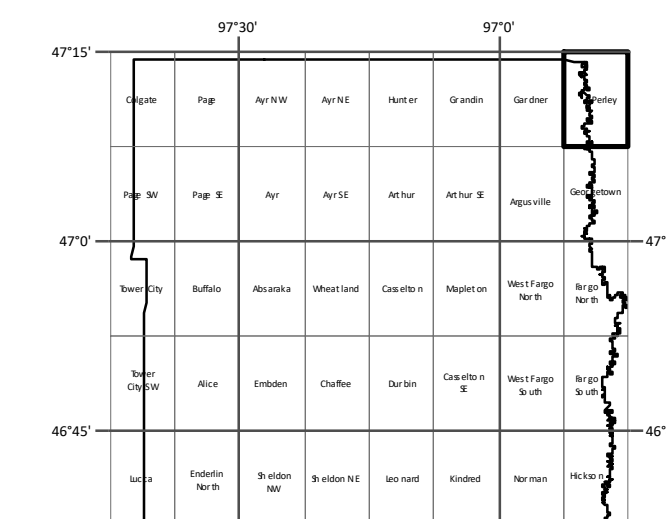
**Hal** **ALLUVIUM**  
Brown-gray, bedded to massive, sands, silts, gravels, and clays deposited as reworked and recent channel alluvium and overbank deposits. Constrained to areas within the Red River and older meander belts and tributary drainages on the Glacial Lake Agassiz Plain.

**SHERACK FORMATION**

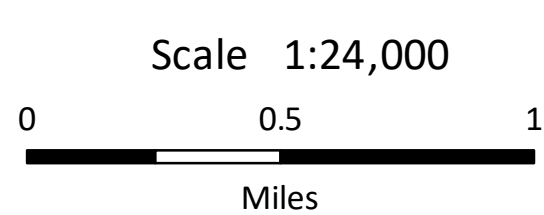
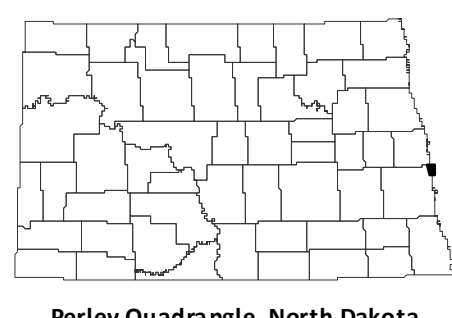
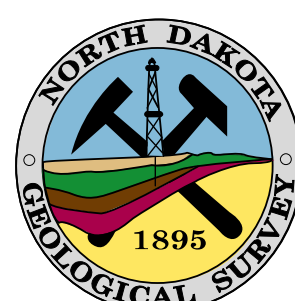
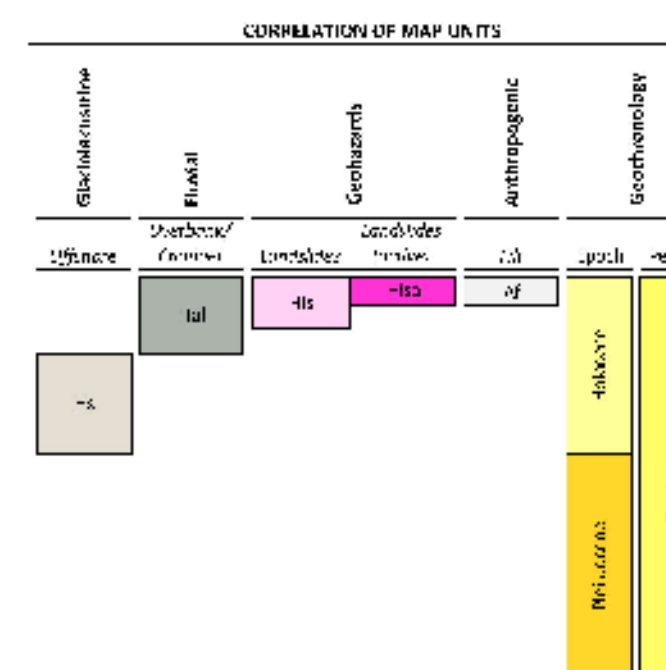
**Hs** **GLACIOLACUSTRINE OFFSHORE SEDIMENT**  
Yellow-gray, laminated to obscurely bedded, silt, clay, and silty-clay, cohesive. Ranges in thickness between 14 and 29 ft within the quadrangle. Glaciolacustrine sediments deposited in offshore environments of Glacial Lake Agassiz. Prone to slumping along cutbank meanders within the Red River and tributary drainages.

**Geologic Symbols**

— Geologic contact (Known)



Index to 1:24,000 Quadrangles, Cass County



Lambert Conformal Conic Projection  
North American 1983 Datum  
USGS 7.5 Minute Topo Map

Standard Parallels 47°30'N, 47°15'0"N  
NGVD 1988

