

# Surface Geology

## Durbin Quadrangle, North Dakota

Fred J. Anderson

2022

**EXPLANATION**

**QUATERNARY SYSTEM**

**HOLOCENE EPOCH**

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

**OAHÉ 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 Maple 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. Commonly near 30-feet in thickness within the quadrangle. Glaciolacustrine sediments deposited in offshore environments of Glacial Lake Agassiz. Prone to slumping along cutbank meanders within the Maple River channel.

**PLEISTOCENE EPOCH**

**COLEHARBOR GROUP**

**Qcr** **COMPACTION RIDGE: GLACIOFLUVIAL SEDIMENTS**  
Approximate boundary of glaciofluvial channel compaction ridge sediments as mapped from topographic expression in LIDAR surface model. Brown-gray, water-bearing, silts, sands, and gravels of the Poplar River Formation up to 20-feet thick.

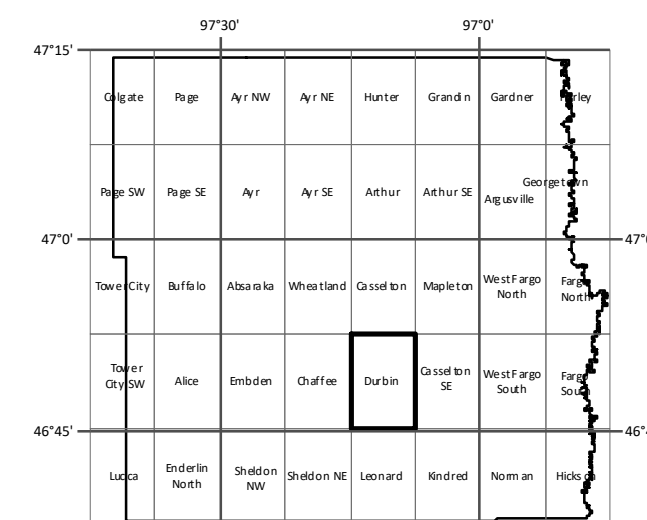
**BRENNA FORMATION**

**Qb** **GLACIOLACUSTRINE OFFSHORE SEDIMENT**  
*Not Exposed in Map Area, Shallow Subsurface Unit*  
Brown to very dark-gray, slightly laminated to unbedded, soft, slickensides. Directly underlies the Sherack Formation throughout the quadrangle. Depth and thickness values shown at available test hole/well locations.

**Geologic Symbols**

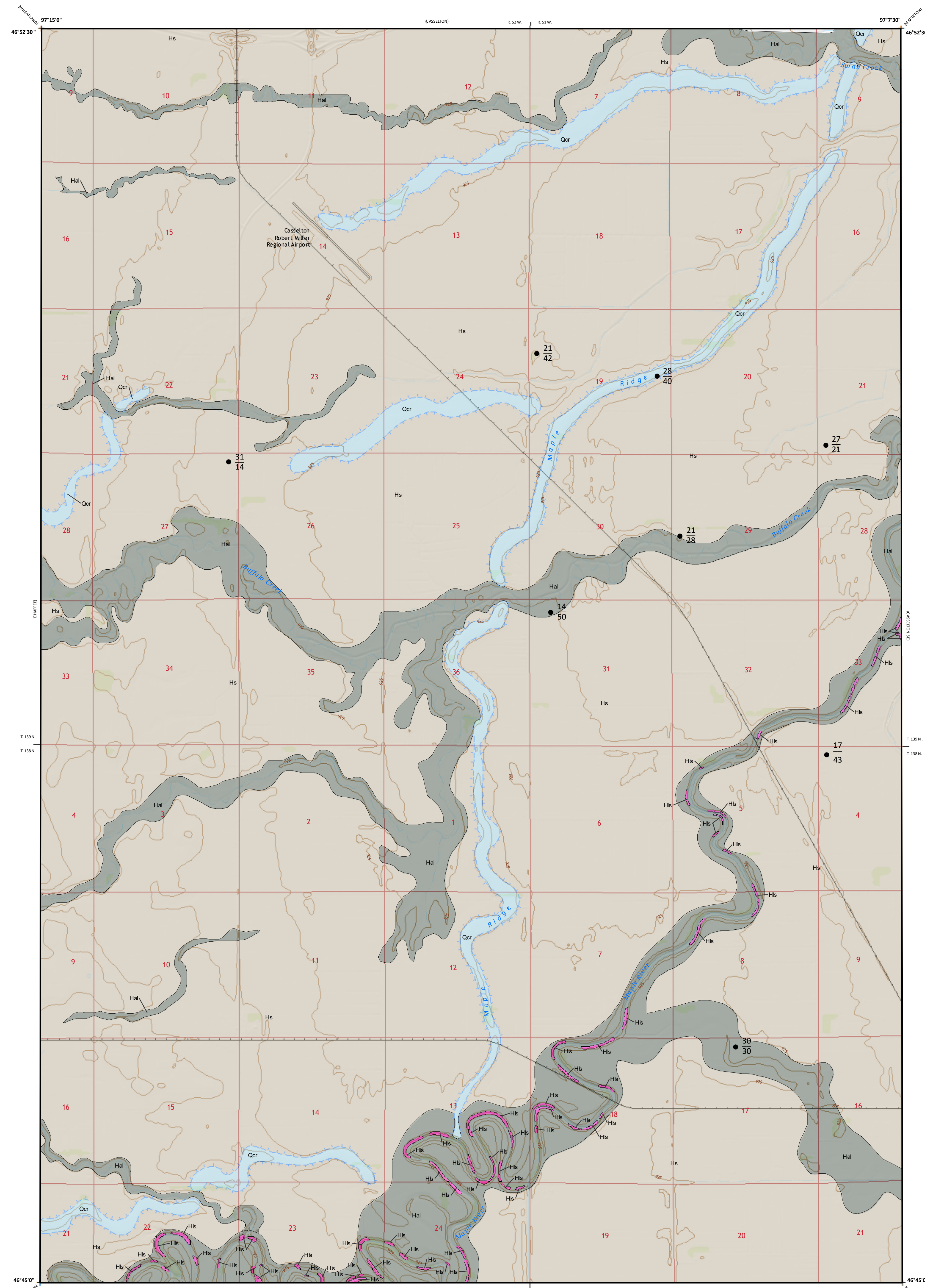
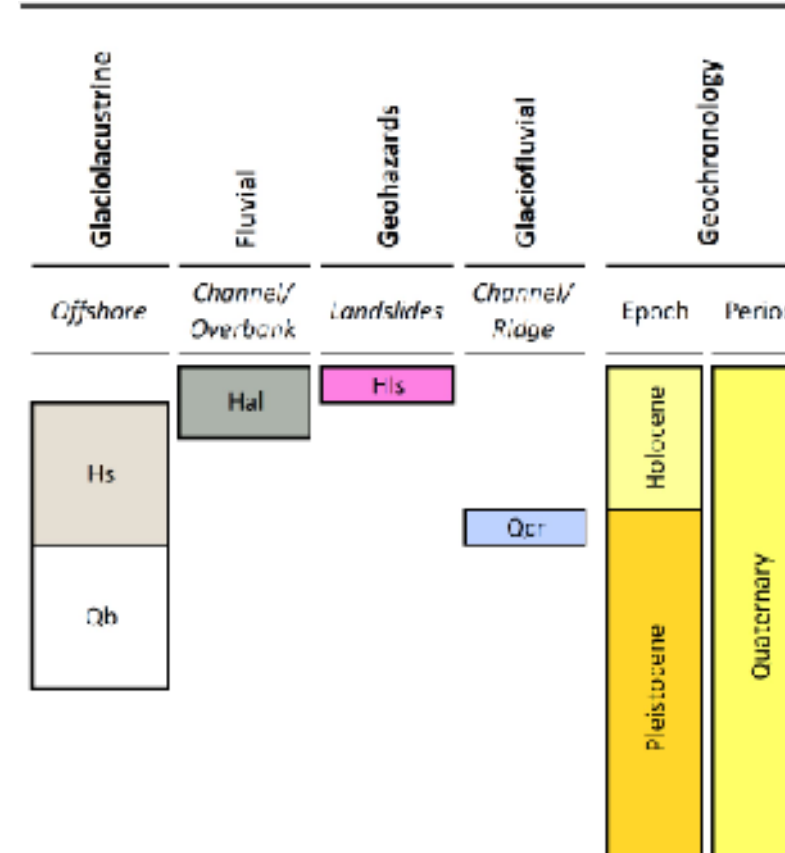
Geologic contact (Known)

BRENNA FORMATION — Depth (FT)  
Test hole/Well Location ● 21' — Thickness (FT)  
● 42'

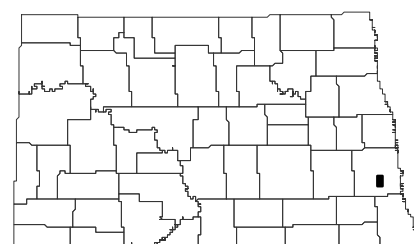
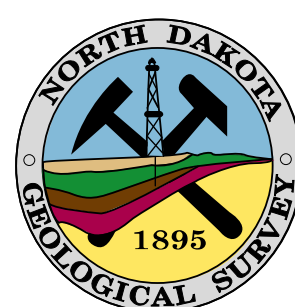
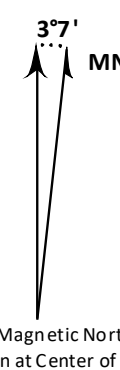
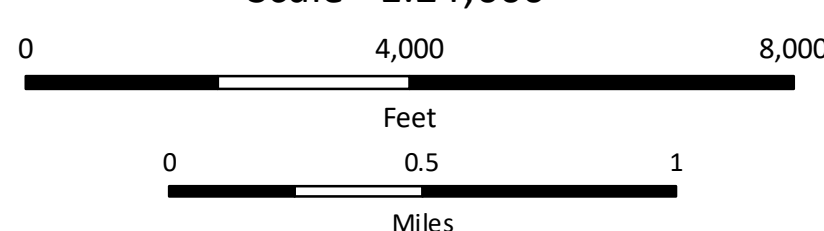


Index to 1:24,000 Quadrangles, Cass County

**CORRELATION OF MAP UNITS**



Scale 1:24,000



Durbin Quadrangle, North Dakota

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

Standard Parallels 46°45'0"N, 46°52'30"N  
NGVD 1988

2019 Magnetic North  
Declination at Center of Sheet