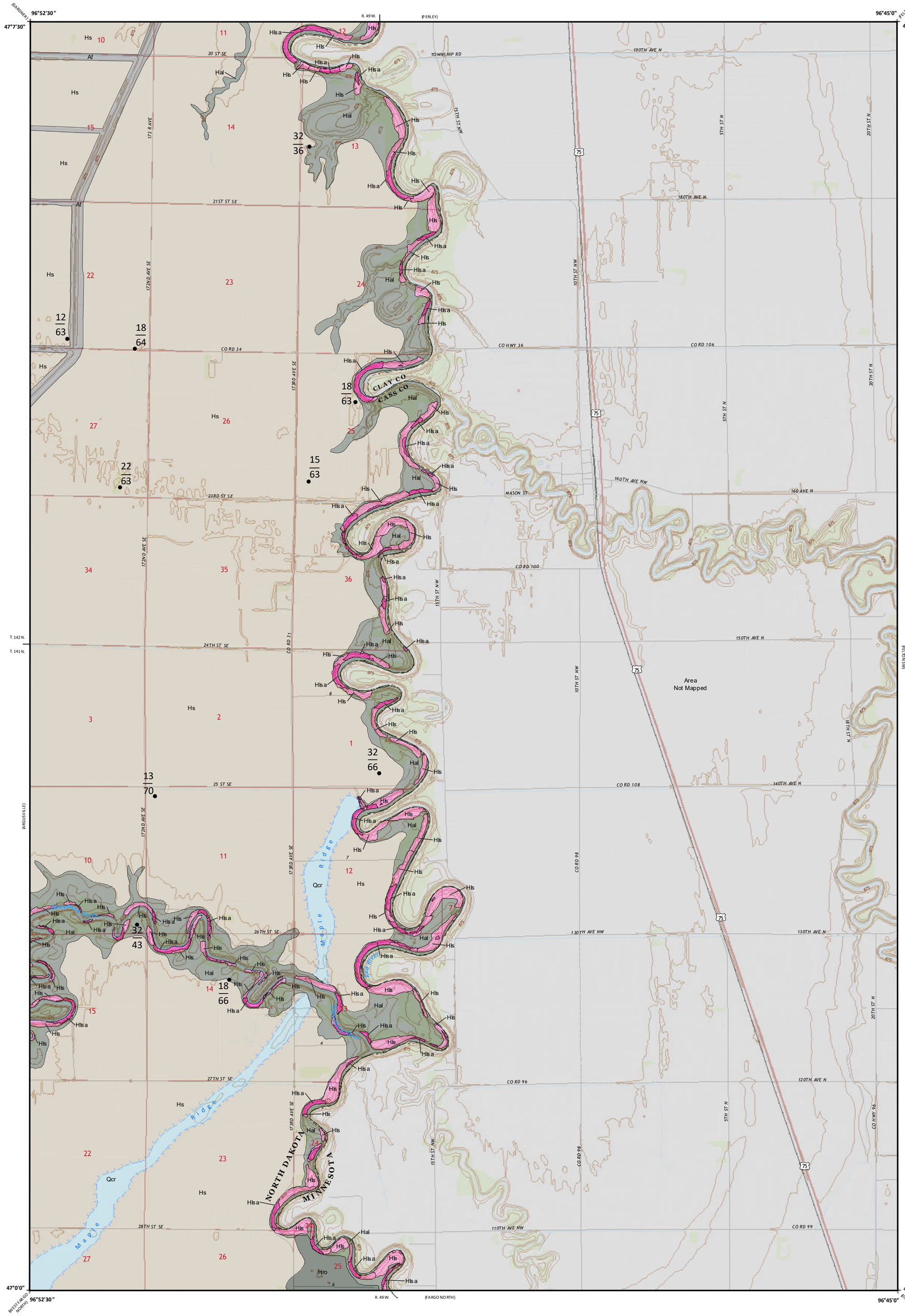
North Dakota Geological Survey
24K: Grgt - sg

Edward C. Murphy, State Geologist
Lynn D. Helms, Director Dept. of Mineral Resources

Surface Geology
Georgetown 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 embarkments.

QUATERNARY SYSTEM

HOLOCENE EPOCH

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

Hlsa — **LANDSLIDE DEPOSITS: RECENTLY ACTIVE**
Slumps along the Sheyenne and Red Rivers active between 2008 and 2020.

OAHE 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 and Sheyenne River and older meander belts and tributary drainages on the Glacial Lake Agassiz Plain.

Hro — **RED RIVER ALLUVIUM**
River Sediment (Overbank) Gray to dark gray clay, silt, sand, and disseminated organic debris, obscurely bedded, commonly one to three feet in thickness. Overbank deposits from the Red River.

SHERACK FORMATION

Hs — **GLACIOLACUSTRINE OFFSHORE SEDIMENT**
Yellow-gray, laminated to obscurely bedded, silt, clay, and silty-clay, cohesive. Ranges from 12 to 32-feet in thickness. Glaciolacustrine sediments deposited in offshore environments of Glacial Lake Agassiz. Prone to slumping along cutbank meanders within the Red and Sheyenne River channel.

PLEISTOCENE EPOCH

COLEHARBOR GROUP

Qcr — **COMPACTION RIDGE: GLACIOFLUVIAL SEDIMENTS**
Approximate boundary of glaciofluvial channel compaction ridge sediments that form the northeastern limb of the Maple Ridge. 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

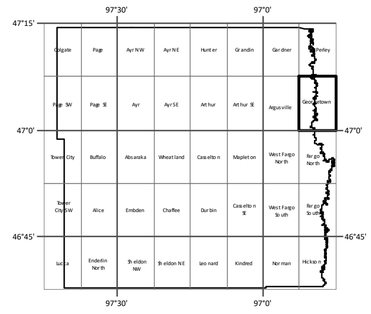
Qb — **GLACIOLACUSTRINE OFFSHORE SEDIMENT**
Not Exposed in Map Area, Shallow Subsurface Unit

Brown to very dark-gray clay, 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.

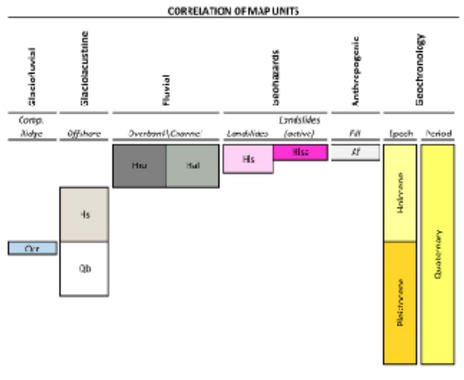
Geologic Symbols

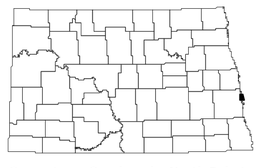
Geologic contact (Known)

BRENNA FORMATION
Test hole/Well Location ● 32/66 — Depth (FT) / Thickness (FT)



Index to 1:24,000 Quadrangles, Cass County





Georgetown Quadrangle, North Dakota

Scale 1:24,000

0 0.5 1

Miles

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

Standard Parallels 47°0'0" N, 47°7'30"N
NGVD 1988

2°25' MN

2019 Magnetic North
Declination at Center of Sheet

Cartographic Compilation: Navin Thapa