

Surface Geology

Minot Quadrangle, North Dakota

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EXPLANATION

HOLOCENE

ANTHROPOGENIC (RECENT) DEPOSITS

Hlf Landfill Deposits

Anthropogenic deposits, landfill sediments and solid waste placed as fill in the Old Minot Landfill (1) and the new Minot landfill (2).

Hef Engineered Fill Deposits

Anthropogenic deposits of engineered sediments consisting of well sorted clays, sands, and gravels placed in cut and fill areas commonly located along roadways.

QAHE FORMATION

Hps Modern Pond and Slough Sediments

Dark brown to black obscurely bedded clay, silt, and organic debris generally around one to three feet in thickness.

QUATERNARY

Qls Landslide Deposits

Bedded and non-bedded sands, silts, and clays of the Fort Union, Coleharbor, and Oahe Formations where slumps and linear ridge-like landslide topography is displayed.

Qocf Colluvial Fan Deposits

Obscurely bedded sandy and silty clay originating as channel and slope wash sediments found at the mouths of coulees and ravines in alluvial fan type deposits along the margins of the Souris River floodplain.

Qot River Terrace Deposits

Planar bedded sands and gravels with abundant cobbles and boulders deposited in terrace form bars along the northern and southern valley walls of the Souris River.

Qalt Tributary Alluvium

Gray to brown fluvial channel and overbank sands, gravels, silts, and clays deposited within tributary coulees and drainages of the Souris River floodplain as reworked slope-washed till ranging from three to 30 feet in thickness.

Qalf Floodplain Alluvium

Gray to brown fluvial channel and overbank sands, gravels, silts, and clays deposited within the Souris River floodplain. Prone to slumping and instability along meander loop cutbanks along the Souris River. Commonly 100 feet or more in thickness within the floodplain.

COLEHARBOR GROUP

Qcke Kames and Esker Deposits

Generally poorly sorted bedded to non-bedded sands and gravels deposited as linear or circular collapse deposits mantling Coleharbor Group subglacial sediments. Typically located on the southern side of the Souris River drainage way.

Qcts Glacial Till (Slope Washed)

Dark-grey brown subglacial till consisting of clay with silt of low to moderate plasticity and cohesiveness, massive at outcrop consisting of clay matrix supported diamicton with occasional fine to coarse gravel clasts. Typically oxidized and unleached (calcium carbonate) with occasional clay and lignite clasts. Eroded by slope wash along the sides of coulees and ravines.

Qckt Kame Terrace Deposits

Brown to tan ice contact sand and gravel with cobbles deposited in kame terraces along the walls of the Souris River Valley. Commonly over 200-feet in thickness with typically greater relief and elevation than surrounding sediments.

Qcic Ice Contact Deposits

Brown to tan sand and gravel with silt, poorly sorted and generally displaying laminated or contorted bedding at outcrop. Typically overlain by subglacial diamicton (subglacial till) sediments. Exposed along lower portions of valley walls along the Souris River. Beds range in thickness from one to ten feet at outcrop.

Qcgt Glacial Till

Dark-grey brown clay with silt, generally moist with moderate plasticity and cohesiveness, massive, clay matrix supported diamicton, occasional fine to coarse gravel, cobbles, and boulders, typically oxidized and unleached for calcium carbonate with occasional clay and lignite clasts (subglacial till). Occurs within areas of low to moderate relief with undulating topography. Generally around 100 to 150 feet in thickness.

TERTIARY

EROSIONAL UNCONFORMITY

Tfu FORT UNION GROUP

Poorly exposed, weakly lithified, loosely consolidated, sandstone, siltstone, and claystone bedrock present beneath unconsolidated glacial sediments at depths between 100 and 200 feet.

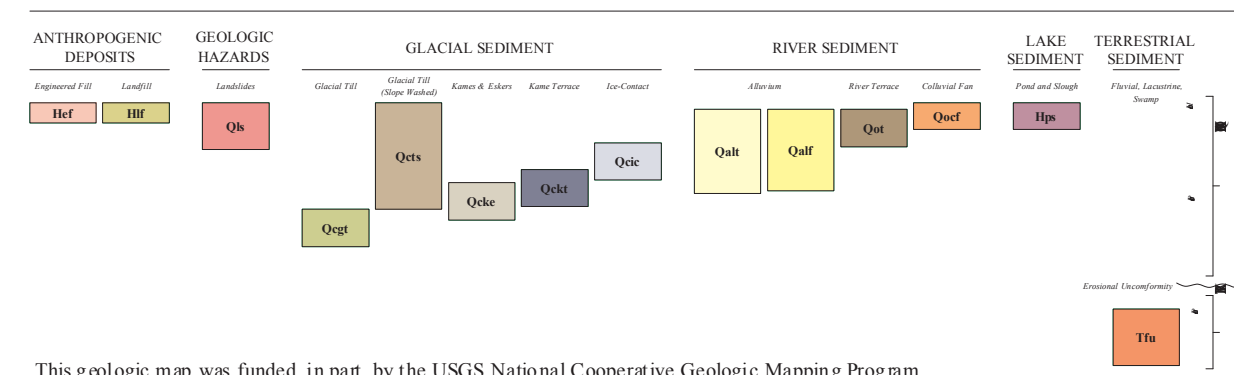
Geologic Symbols

- Known contact between two geologic units
- - - Approximate contact between two geologic units
- Lincation mapped from aerial imagery
- Control Point: Drill Holes, Observation Sites, and Outcrop Locations
- × Sand and Gravel Pit
- ↘ Direction of Landslide Movement

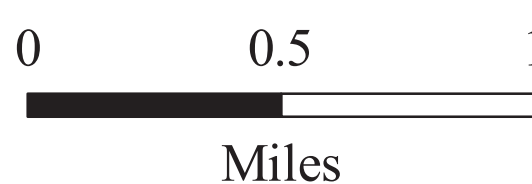
Other Features

- Water
- Water, Intermittent
- Water, Marsh
- Federal Highway
- Paved Road
- Unpaved Road

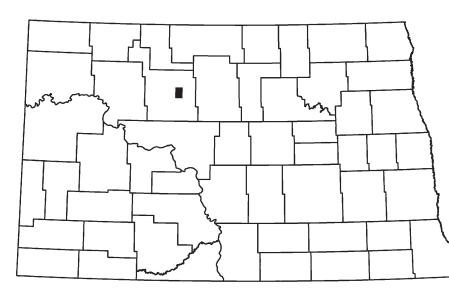
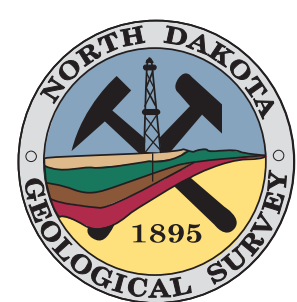
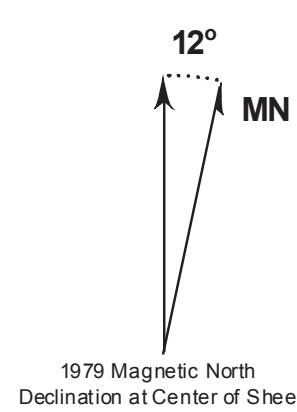
CORRELATION OF MAP UNITS



Scale 1:24,000



Lambert Conformal Conic Projection Standard Parallel 48° 07' 30" and 48° 15' 00"
1927 North American Datum NGVD 1929
USGS 7.5 Minute Topographic Map Contour Interval 5 Feet
Road and Hydrologic Layers Rectified to 2003 NAIP Digital Orthophoto



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