

Surface Geology

Minot NW Quadrangle, North Dakota

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EXPLANATION

QUATERNARY

- Qop** **Modern Pond and Slough Sediments**
Dark brown to black obscurely bedded clay, silt, and organic debris generally around one to three feet in thickness.
All Modern Pond and Slough Sediment are not labeled.
- 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.
- Qalt** **Tributary Alluvium**
Gray to brown fluvial channel and overbank sands, gravels, silts, and clays deposited within tributary coulees and drainage ways 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

- 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.
- Qocr** **Collapsed Glacial Till - Rolling**
Unbedded and unsorted supraglacial sediment consisting of a mixture of clay, silt, sand, and pebbles with occasional cobbles and boulders found in low-relief hummocky landforms with non-integrated drainage. Found in the southwestern corner of the quadrangle forming the Missouri Coteau Escarpment and terminus of the Max Moraine.
- Qocc** **Collapsed Glacial Till - Undulating**
Unbedded and unsorted supraglacial sediment consisting of a mixture of clay, silt, sand, and pebbles with occasional cobbles and boulders found in moderate-relief undulating hummocky landforms with non-integrated drainage. Found in the southeastern corner of the quadrangle on the northeastern facing rise into the Missouri Coteau Escarpment.
- 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

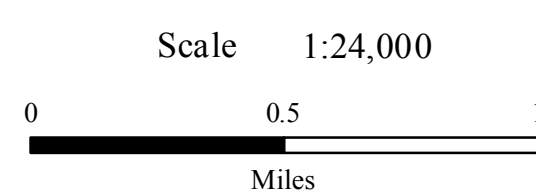
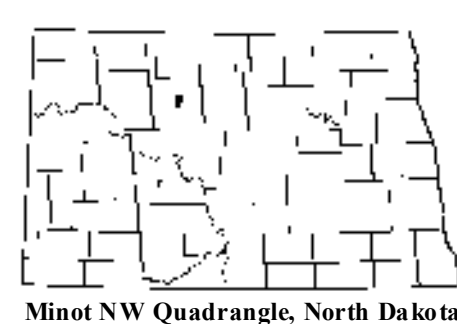
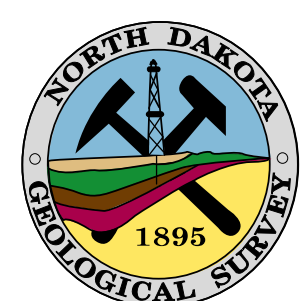
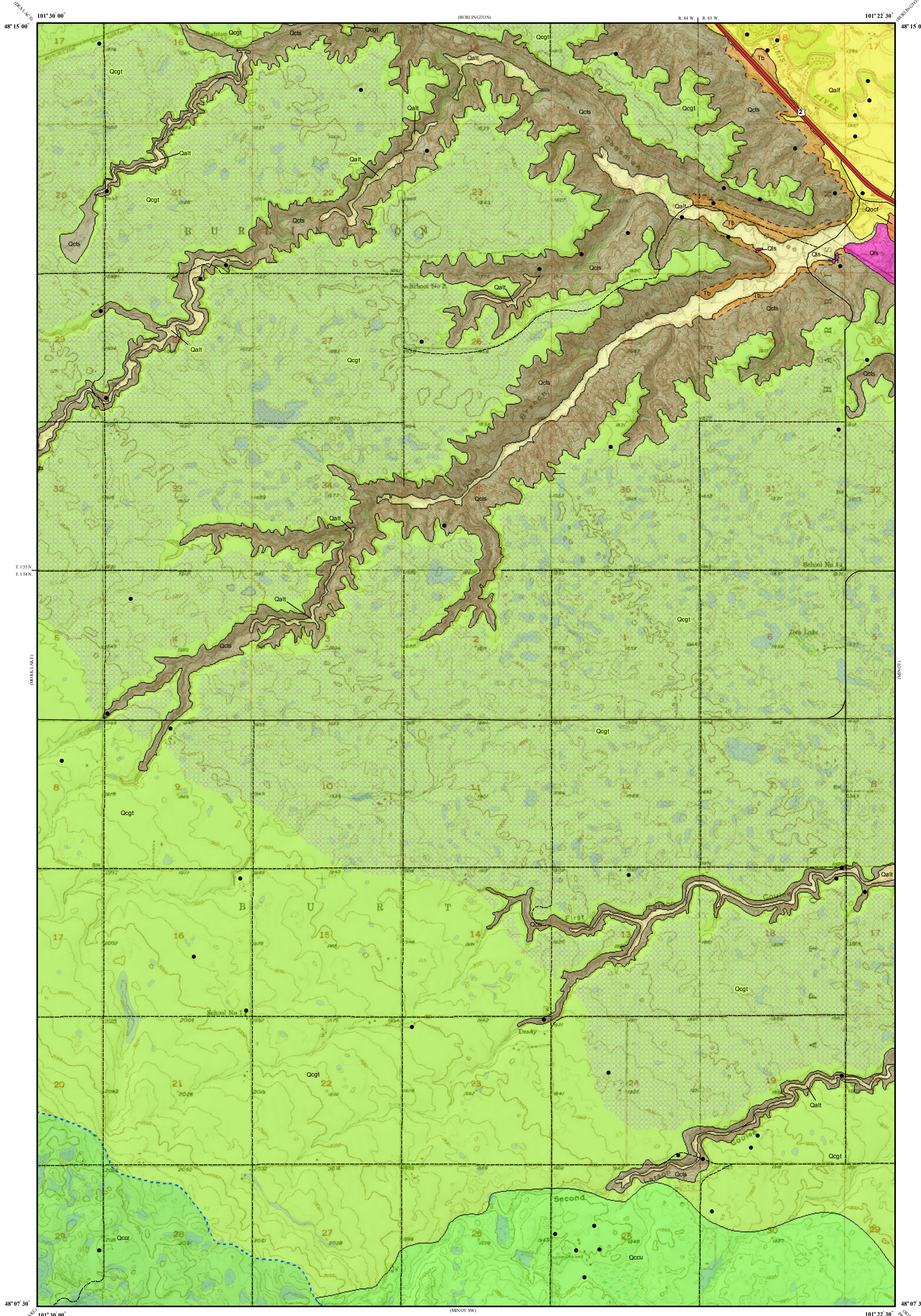
- Tb** **BULLION CREEK FORMATION**
Weakly lithified, loosely consolidated, sandstone, siltstone, claystone bedrock with interbedded lignite, present beneath unconsolidated glacial sediments at depths commonly greater than 100 feet. Poorly exposed along the confluence of Gassman Coulee and the Souris River Valley.

Geologic Symbols

- Known contact between two geologic units
- - - Approximate contact between two geologic units
- - - - Missouri Coteau Escarpment (Max Moraine)
- Control Point: Drill Holes, Observation Sites, and Outcrop Locations
- ◻ Hummocky Topography - Areas with LiDAR distinguishable sinuous and ring-shaped glacial collapsed topography.

Other Features

- Federal Highway
- Paved Road
- - - Unpaved Road



Lambert Conformal Conic Projection Standard Parallels 48° 07' 30" and 48° 15' 00"
1927 North American Datum NGVD 1929
USGS 7.5 Minute Topographic Map Contour Interval 10 Feet

