

Surface Geology

Glen Ullin NE, North Dakota Quadrangle

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UNIT DESCRIPTIONS

QUATERNARY SYSTEM

RECENT

Manmade Features or Deposits

- g Gravel Pit
- l Surface Lignite Mine
- c Excavation Pits of Unknown Origin

QAHE FORMATION

- Qal **Alluvium**
Brownish gray to black sand, silt, clay, and lenses of gravel; floodplain deposits along recent drainages. Includes lower terrace deposits. Alluvium is typically less than 50 feet thick.

RECENT/PLEISTOCENE

- Qb **Landslide Deposits**
Variable mixture of strata and deposits that have slid to the base of steep slopes.

PLEISTOCENE

COLEHARBOR GROUP

- Qac **Proglacial Channels**
Generally contain 50 to 200 feet of sand and gravel, silt, clay, and till (meltwater-channel fill). Overlain by Recent alluvium (Qal) of variable thickness. This map unit was created to distinguish between these very thick channel deposits and the moderate to thin deposits mapped as Qal.

- Qat **Terrace Deposits**
Five- to 20-foot-thick layers of sand and gravel (consisting primarily of silcrete, chert, flint, agate, petrified wood, siltstone) found beneath flat to gently undulating slopes adjacent to many of the major creeks and rivers.

TERTIARY SYSTEM

EOCENE

GOLDEN VALLEY FORMATION

- Tcb **Camels Butte Member**
Alternating beds of yellowish brown to brown, micaceous sandstone, siltstone, mudstone, claystone, and lignite.

PALEOCENE

- Tbd **Bear Den Member**
Brightly colored, kaolinitic claystone, mudstone, and sandstone typically overlain by a thin siliceous bed (silcrete) or lignite.

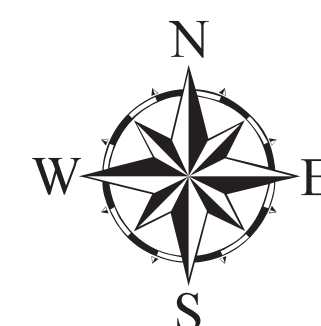
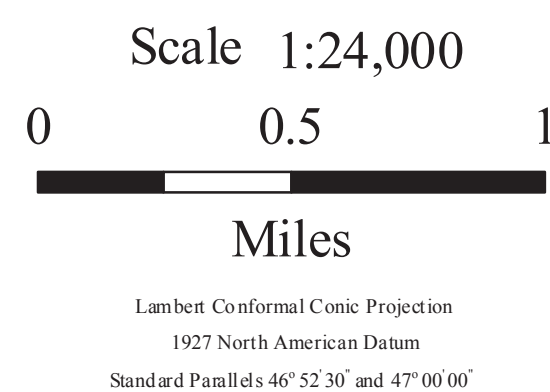
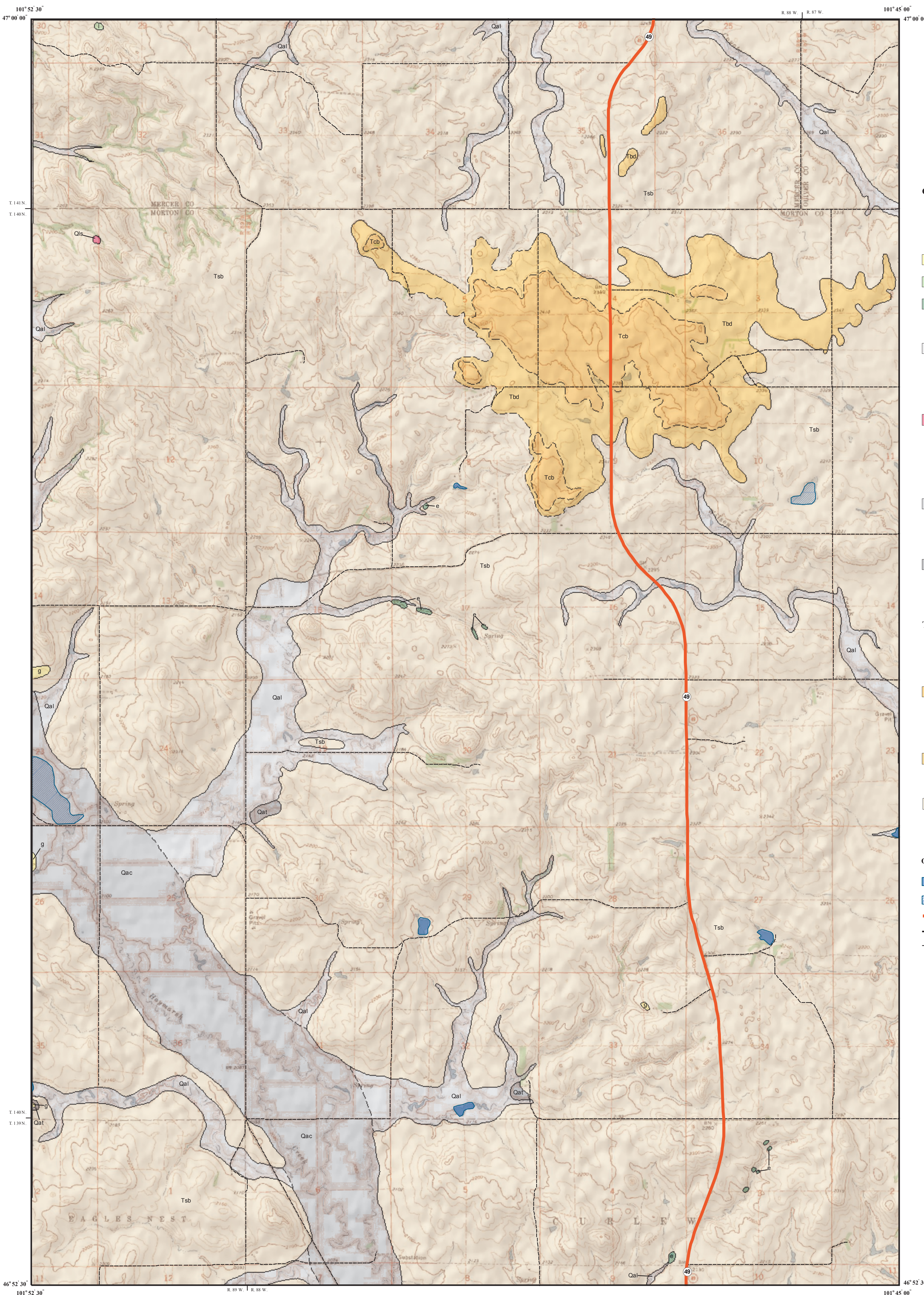
- Tsb **SENTINEL BUTTE FORMATION**
Alternating beds of grayish brown to gray sandstone, siltstone, mudstone, claystone, and lignite.

Other Features

- Water
- Water - Intermittent
- State Highway
- Paved Road
- Unpaved Road

Geologic Symbols

- Known contact between two geologic units
- Approximate contact between two geologic units



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