

Surface Geology

Manning NW Quadrangle, North Dakota

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UNIT DESCRIPTIONS

QUATERNARY SYSTEM

RECENT

OAHE FORMATION

Qal **Aluvium**
Brownish gray to black sand, silt, clay, and lenses of gravel; floodplain deposits (typically less than 30 feet thick) along recent drainages. Not differentiated where it overlies Qac.

PLEISTOCENE

COLEHARBOR GROUP

Qat **Terrace Deposits**
Five- to 20-foot-thick layers of sand and gravel (consisting primarily of siltcrete, 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-PALEOCENE

Tgy GOLDEN VALLEY FORMATION

Camels Butte Member:
Alternating beds of yellowish brown to brown, micaceous sandstone, siltstone, mudstone, claystone, and lignite.
Bear Den Member:
Brightly colored, kaolinitic claystone, mudstone, and sandstone typically overlain by a thin siliceous bed (siltcrete) or lignite.

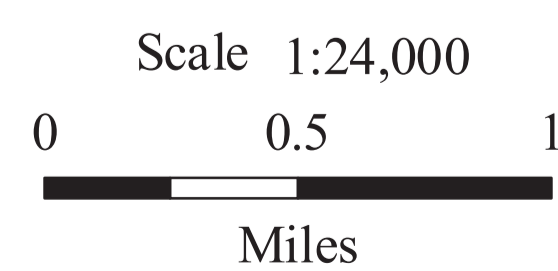
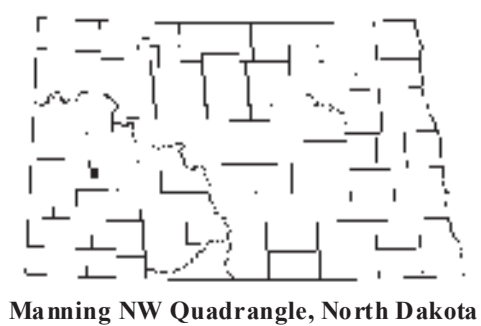
Tsb **SENTINEL BUTTE FORMATION**
Alternating beds of grayish brown to gray sandstone, siltstone, mudstone, claystone, and lignite.

Geologic Symbols

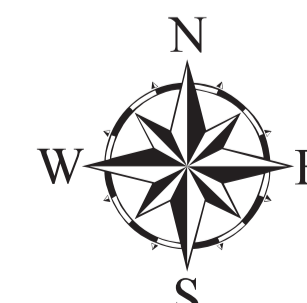
— Known contact between two geologic units.

Other Features

— Paved Road
- - - Unpaved Road



Lambert Conformal Conic Projection
Standard Parallels 47° 07' 30" and 47° 15' 00"



This geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program.