

# Surface Geology

## Golden Valley NE Quadrangle, North Dakota

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### UNIT DESCRIPTIONS

#### QUATERNARY SYSTEM

##### RECENT

##### OAHE FORMATION

**Qal** Alluvium  
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.

##### RECENT/PLEISTOCENE

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

##### PLEISTOCENE

##### COLEHARBOR GROUP

**Qcg** Glacial Deposits  
Grayish brown, sandy, silty, bouldery clay with lenses of sand and gravel (glacial till). May occasionally include thick deposits of glacial outwash. Generally preserved as a veneer in the uplands.

**Qcgh** Hummocky Glacial Deposits  
Glacial deposits which have an irregular surface that contains numerous, small undrained depressions (hummocks). The hummocks are easily identified on aerial photographs.

**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.

**Qp** Pediment Deposits  
Slopes inclined away from the Killdeer Mountains, capped with layers of gravel consisting primarily of carbonate and chert cobbles and gravel.

#### TERTIARY SYSTEM

##### EOCENE-PALEOCENE

**Tgv** 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, kaolinic claystone, mudstone, and sandstone typically overlain by a thin siliceous bed (silcrete) or lignite.

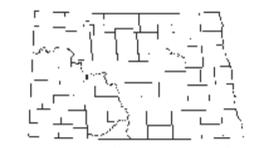
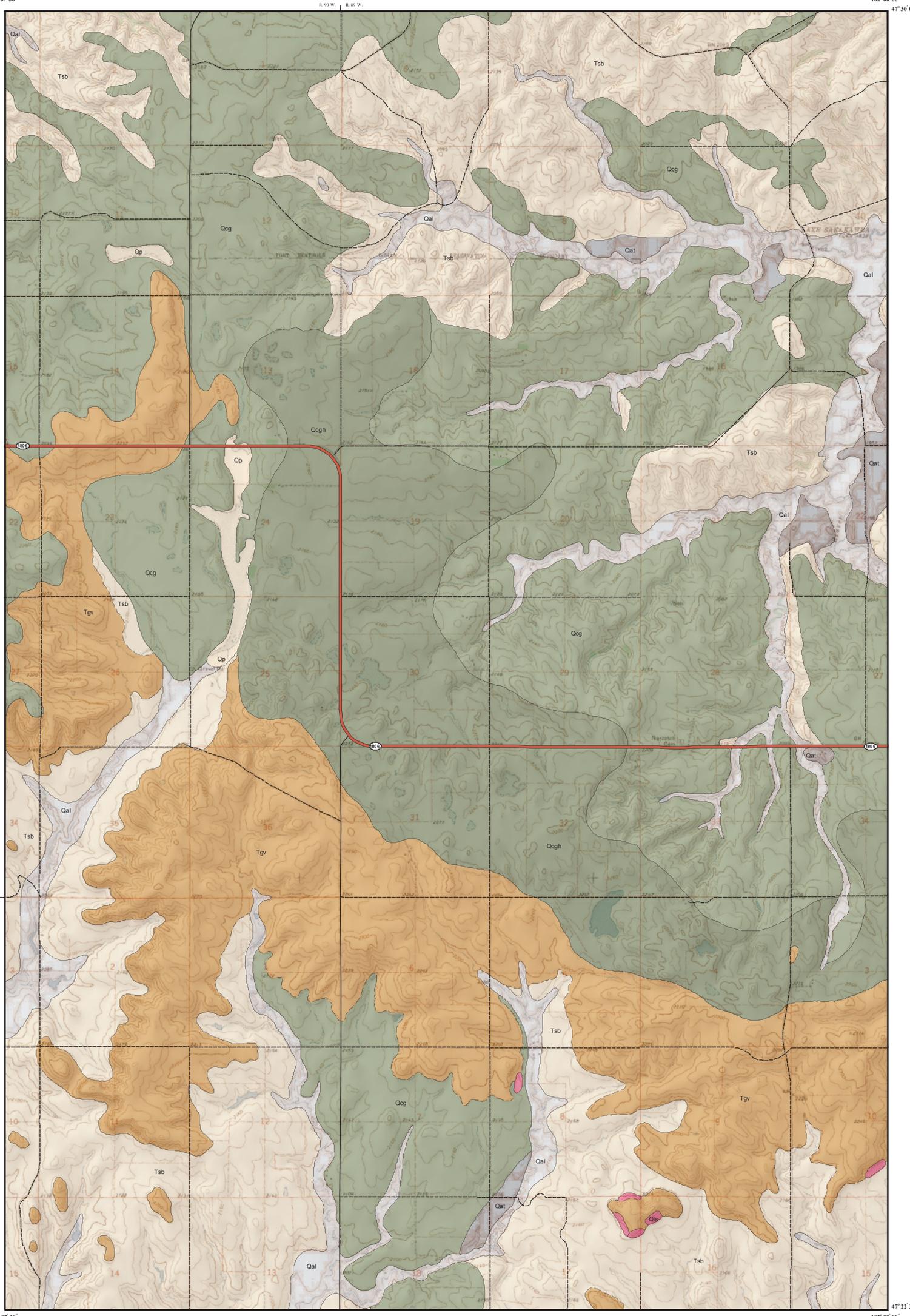
**Tsb** SENTINEL BUTTE FORMATION  
Alternating beds of grayish brown to gray sandstone, siltstone, mudstone, claystone, and lignite.

#### Geologic Symbols

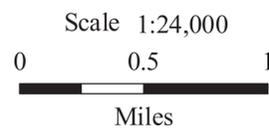
- Known contact between two geologic units.
- - - Approximate contact between two geologic units.

#### Other Features

- State Highway
- Paved Road
- Unpaved Road



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Lambert Conformal Conic Projection  
Standard Parallels 47° 22' 30" and 47° 30' 00"



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