

# Surface Geology

## Dunn Center 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.

##### 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.

**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.

**Qcc** Glacial Channels

Generally contain less than 50 feet of channel fill deposits (sand and gravel, silt, and clay) typically much narrower than the proglacial channels. Overlain by Recent alluvium of variable thickness.

**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-PALEOCENE

**Tgv** GOLDEN VALLEY FORMATION

##### Camele 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 (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

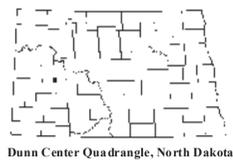
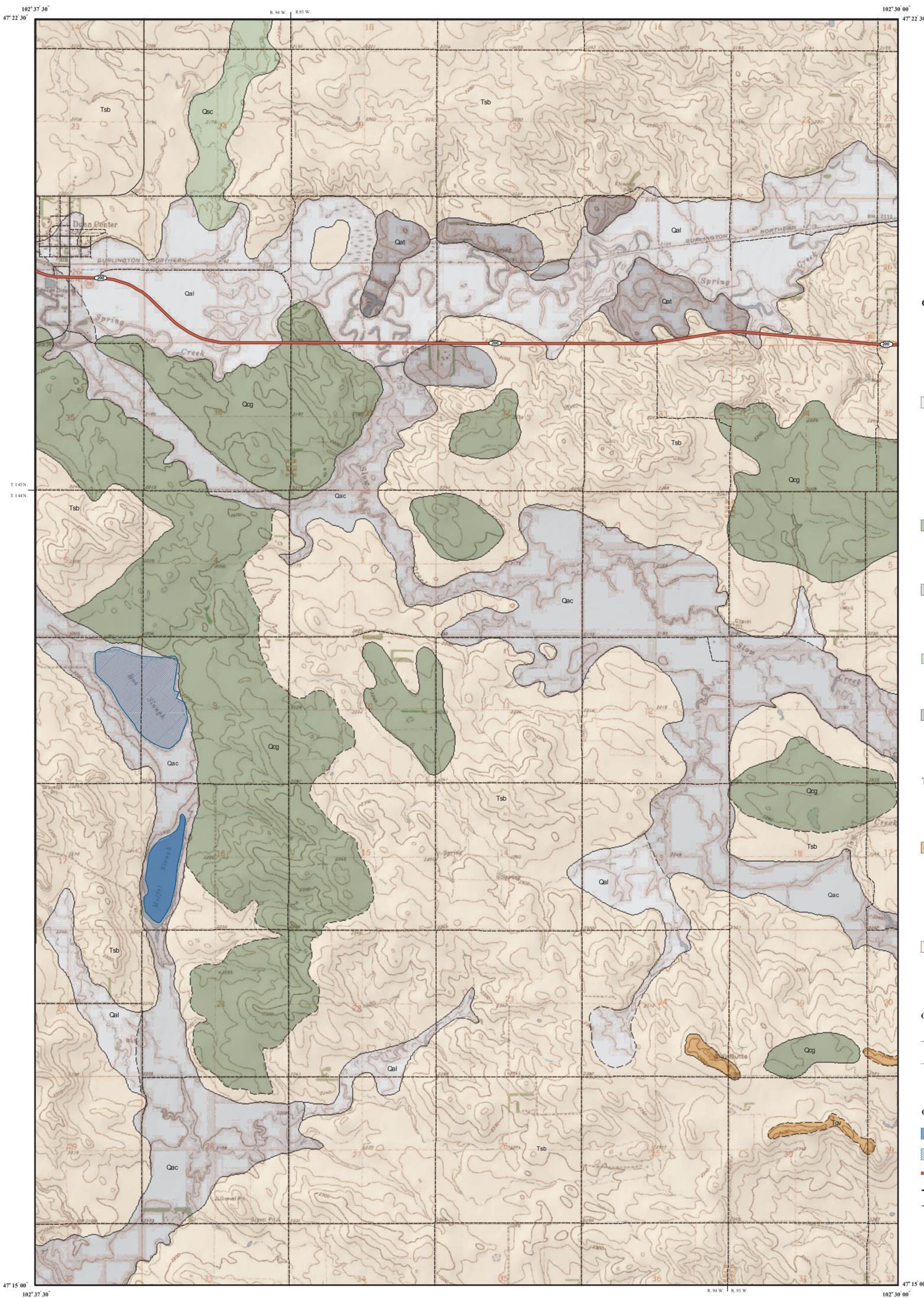
Water

Water - Intermittent

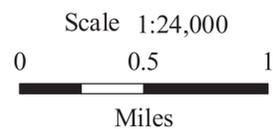
State Highway

Paved Road

Unpaved Road



Dunn Center Quadrangle, North Dakota



Lambert Conformal Conic Projection  
Standard Parallels 47° 15' 00" and 47° 22' 30"



This geologic map was funded in part by the  
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