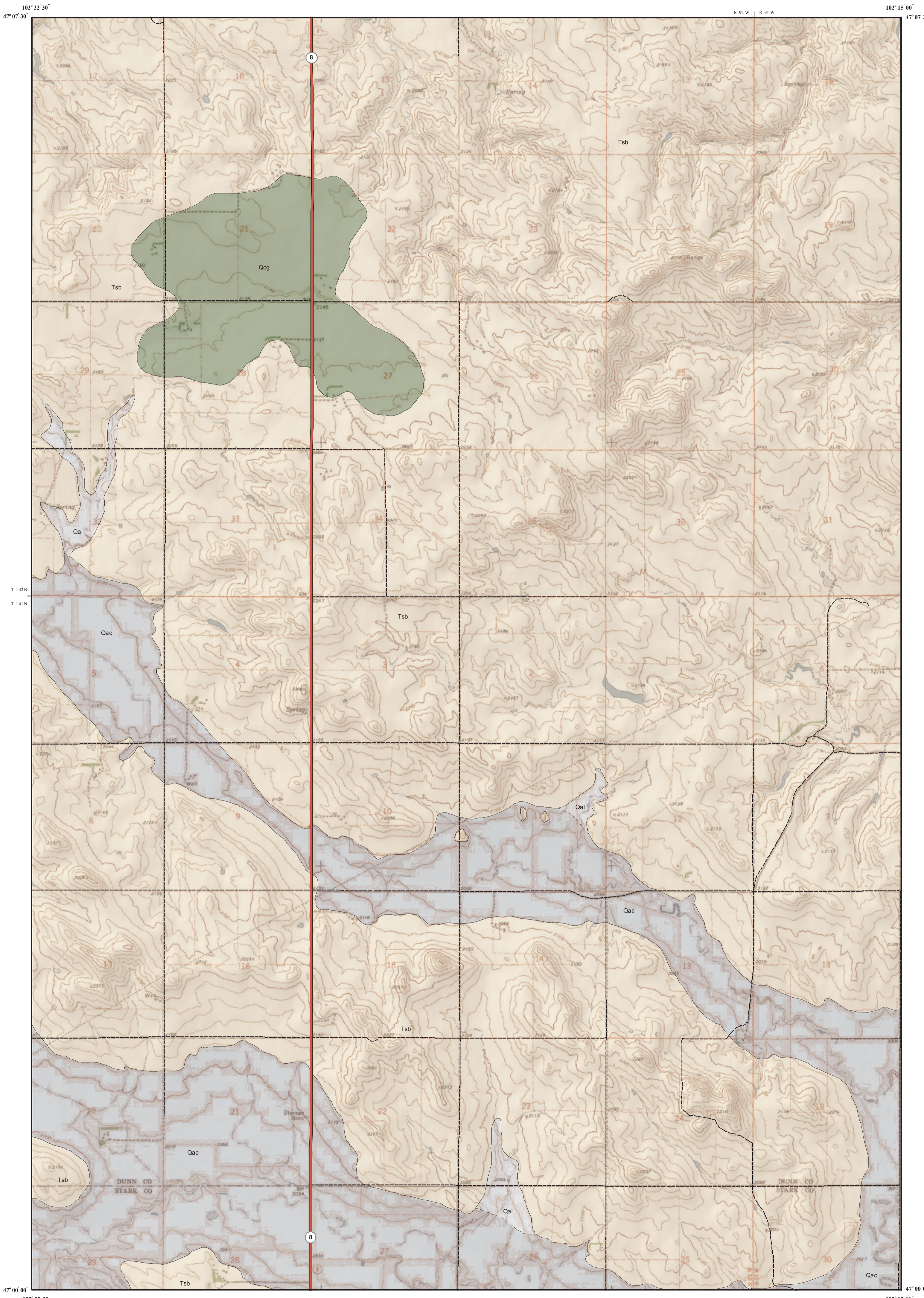


# Surface Geology

## Marshall SE Quadrangle, North Dakota

**Edward C. Murphy**  
2004



### 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 (melwater-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.

#### TERTIARY SYSTEM

##### PALEOCENE

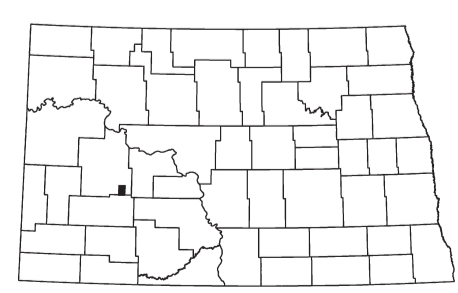
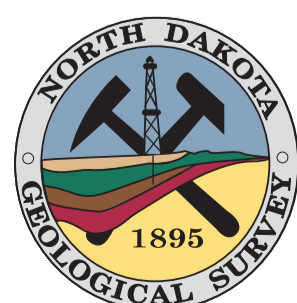
**Tsb** SENTINEL BUTTE FORMATION  
Alternating beds of grayish brown to gray sandstone, siltstone, mudstone, claystone, and lignite.

#### Geologic Symbols

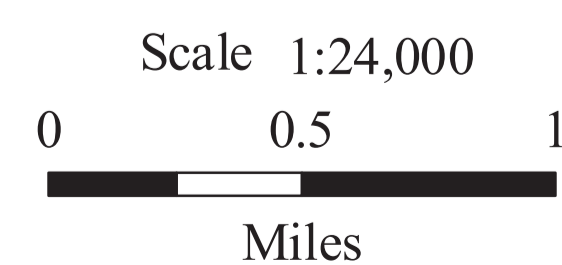
- Known contact between two geologic units.
- - - Approximate contact between two geologic units.

#### Other Features

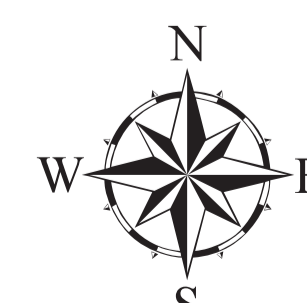
- State Highway
- Paved Road
- Unpaved Road



Marshall SE Quadrangle, North Dakota



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



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