

# Surface Geology Hebron, North Dakota Quadrangle

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2004

### UNIT DESCRIPTIONS

#### QUATERNARY SYSTEM

##### RECENT

##### Manmade Features or Deposits

- Qff** Municipal landfill or garbage dump
- cl** Clay Pit
- c** Clinker Pit

##### QAHE FORMATION

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

##### RECENT/PLEISTOCENE

- Qw** Wind-blown Deposits  
Silt and sand transported and deposited by wind. Generally found as small dune fields or blowouts in upland areas.
- Qs** 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.

#### 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 (siltcrete) or lignite.

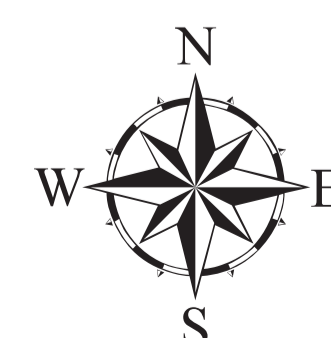
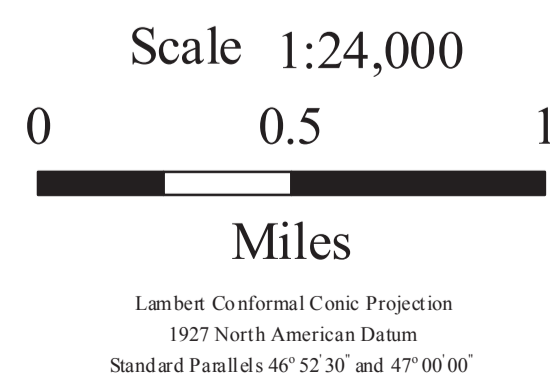
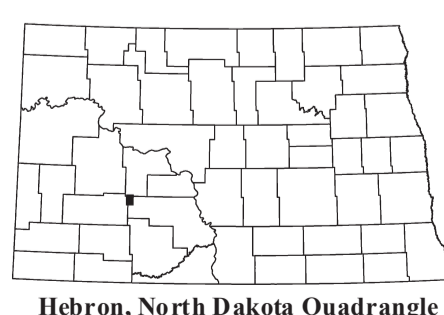
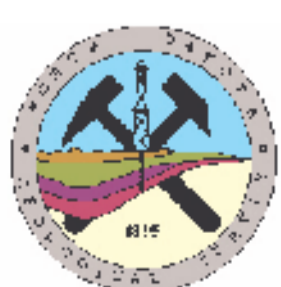
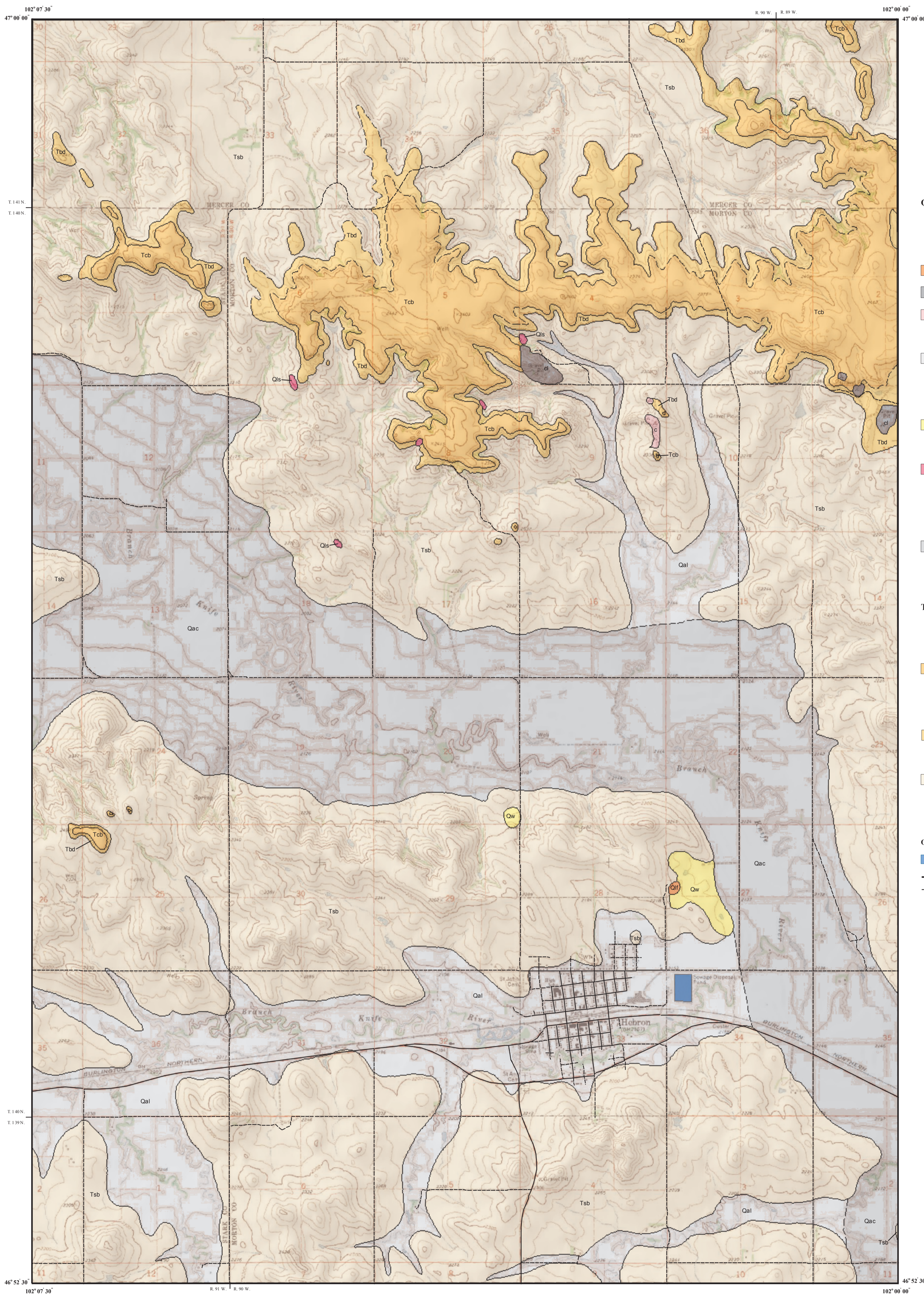
- Tsb** SENTINEL BUTTE FORMATION  
Alternating beds of grayish brown to gray sandstone, siltstone, mudstone, claystone, and lignite.

##### Other Features

- Water
- Paved Road
- Unpaved Road

##### Geologic Symbols

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



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