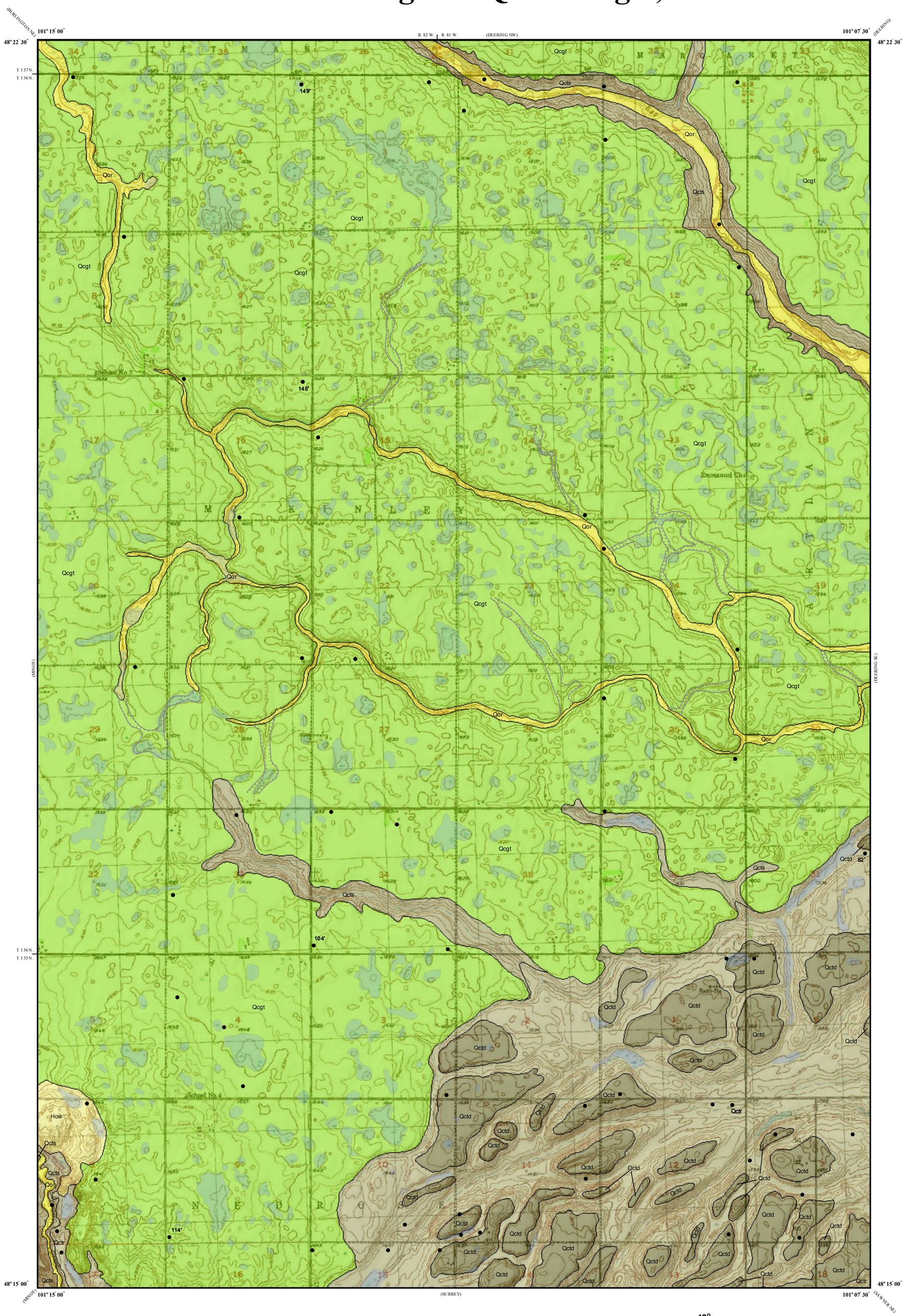
North Dakota Geological Survey
24K: Drng SW - sg

Edward C. Murphy, State Geologist
Lynn D. Helms, Director Dept. of Mineral Resources

Surface Geology

Deering SW Quadrangle, North Dakota



Fred J. Anderson
2016

EXPLANATION

HOLOCENE

OAHE FORMATION

How — **Loess**

Yellow to tan silt deposited as windblown sediment above glacial sediments commonly 10 feet or more in thickness at outcrop.

QUATERNARY

Qop — **Modern Pond and Slough Sediments**

Dark brown to black obscurely bedded clay, silt, and organic debris generally around one to three feet in thickness.

All Modern Pond and Slough Sediment are not labeled.

Qor — **Tributary Alluvium**

Gray to brown fluvial channel sands, gravels, silts, and clays deposited within drainageways leading into the Souris River and a Souris River discharge plain as.reworked slopewashed till ranging from three to10 feet in thickness.

COLEHARBOR GROUP

Qctr — **Glacial Till (Channel Washed)**

Dark-yellow brown clay with silt, low to moderate plasticity and cohesiveness, massive, clay matrix supported diamicton, occasional fine to coarse gravel clasts. Typically oxidized and unleached (calcium carbonate), with ocassional clay and lignite clasts. Eroded by discharge of the Souris River towards the former Glacial Lake Souris expressed as relatively broad glaciofluvial channels of relatively low local topographic relief.

Qctd — **Glacial Till (River Washed)**

Dark-yellow brown clay with silt, low to moderate plasticity and cohesiveness, massive, clay matrix supported diamicton, occasional fine to coarse gravel clasts. Typically oxidized and unleached (calcium carbonate), with ocassional clay and lignite clasts. Eroded by over-capacity discharge of the Souris River out of the valley and into the former Glacial Lake Souris.

Qcts — **Glacial Till (Slope Washed)**

Dark-yellow brown subglacial till consisting of clay with silt of low to moderate plasticity and cohesiveness, massive at outcrop consisting of clay matrix supported diamicton with ocassional fine to coarse gravel clasts. Typically oxidized and unleached (calcium carbonate) with ocassional clay and lignite clasts. Eroded by intermittent precipitation events along the sides of coulees and ravines.

Qcgt — **Glacial Till**

Dark-yellow brown clay with silt, generally moist with moderate plasticity and cohesiveness, massive, clay matrix supported diamicton, occasional fine to coarse garvel, cobbles, and boulders, typically oxidized and unleached for calcium carbonate with occasional clay and lignite clasts (subglacial till). Occus within areas of low to moderate relief with undulating topography. Generally around 100 to150 feet in thickness, increasing in depth from east to west in the map area.

Geologic Symbols

Known contact between two geologic units

Collapsed Channel Scarp

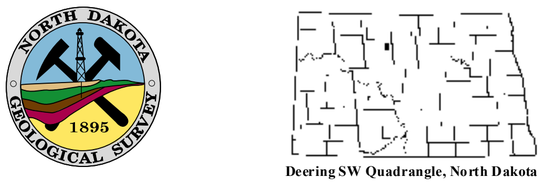
Control Point:
Drill Holes, Observation Sites, and Outcrop Locations

104' Test Hole:
with thickness of glacial till sediments above sedimentary bedrock (if known).

Other Features

Paved Road

Unpaved Road



Deering SW Quadrangle, North Dakota

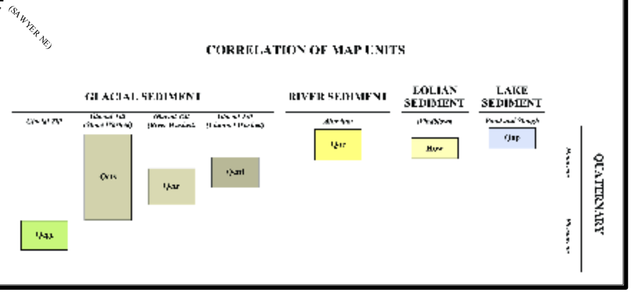
Scale 1:24,000

0 0.5 1
Miles

Lambert Conformal Conic Projection Standard Parallels 48° 15' 00" and 48° 22' 30"
1927 North American Datum NGVD 1929
USGS 7.5 Minute Topographic Map Contour Interval 5 Feet

12°
MN
1979 Magnetic North
Declination at Center of Sheet

CORRELATION OF MAP UNITS



Cartographic Compilation: Elroy L. Kadrmas