North Dakota Geological Survey
24K: Mndr NE - sg

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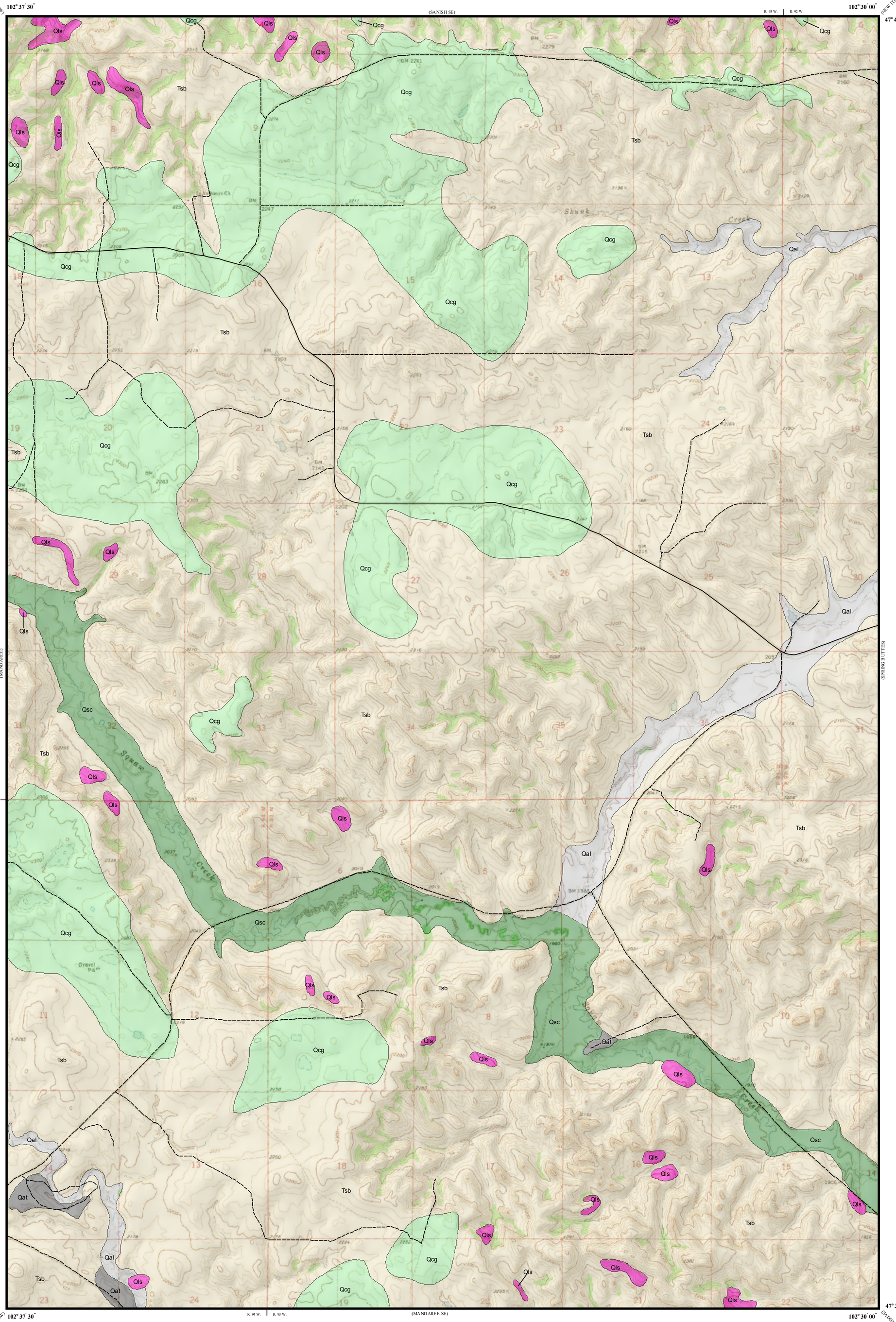
Surface Geology

Mandaree NE Quadrangle, North Dakota



Edward C. Murphy

2007

EXPLANATION

QUATERNARY SYSTEM

RECENT

OAHE FORMATION

Qal **Alluvium**

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

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, siltly, bouldery clay with lenses of sand and gravel (glacial till). May occasionally include thick deposits of glacial outwash.

Qsc **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, and siltstone) found beneath flat to gently undulating slopes adjacent to many of the major creeks and rivers.

TERTIARY SYSTEM

PALEOCENE

Tsb **SENTINEL BUTTE FORMATION**

Alternating beds of grayish brown to gray sandstone, siltstone, mudstone, claystone, and lignite.

Geologic Symbols

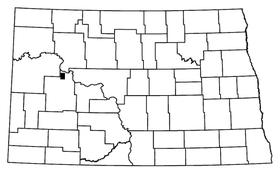
Known contact between two geologic units.

Approximate contact between two geologic units.

Other Features

Paved Road

Unpaved Road



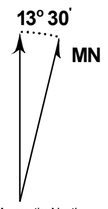
Mandaree NE Quadrangle, North Dakota

Scale 1:24,000

0 0.5 1

Miles

Lambert Conformal Conic Projection Standard Parallels 47° 37' 30" and 47° 45' 00"
1927 North American Datum NGVD 1929
USGS 7.5 Minute Topographic Map Contour Interval 20 Feet
Road Layer Rectified to 2003 NAIP Digital Orthophoto



1970 Magnetic North
Declination at Center of Sheet

Cartographic Compilation: Elroy L. Kadrmas