

Surface Geology

Lookout Butte Quadrangle, North Dakota

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2007

UNIT DESCRIPTIONS

QUATERNARY SYSTEM

RECENT

OAHE FORMATION

Qal Alluvium

Sand, silt, clay, and occasionally gravel deposited under fluvial conditions (by a river or creek). Organic content is variable but often contain paleosols (ancient soil horizons). Bedding typically ranges from small scale cross-bedding to planar to obscurely bedded.

HOLOCENE/PLEISTOCENE

Qat Alluvial Terrace Deposits

Silt, sand, and occasionally thin beds of gravel up to 80 feet thick preserved in terraces of variable thickness within the Valley of Cedar Creek, Cannonball, and associated tributaries.

TERTIARY SYSTEM

PALEOCENE

Tc CANNONBALL FORMATION

Marine, gray to black interbedded to shaly mudstone and fine grained, well sorted sandstone. The sandstone is typically poorly cemented but does contain several thin (less than 3 feet thick) well-cemented, lenticular lenses.

Tl LUDLOW FORMATION

Nonmarine, yellowish brown to grayish brown alternating beds of sandstone, siltstone, mudstone, claystone, and lignite.

CRETACEOUS SYSTEM

Kh HELL CREEK FORMATION

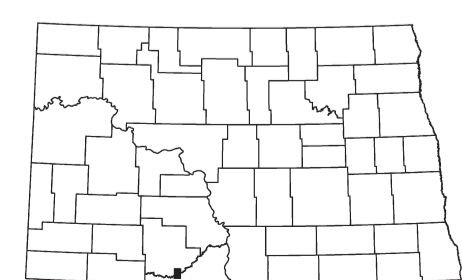
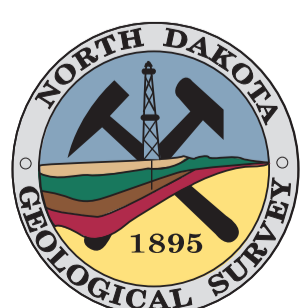
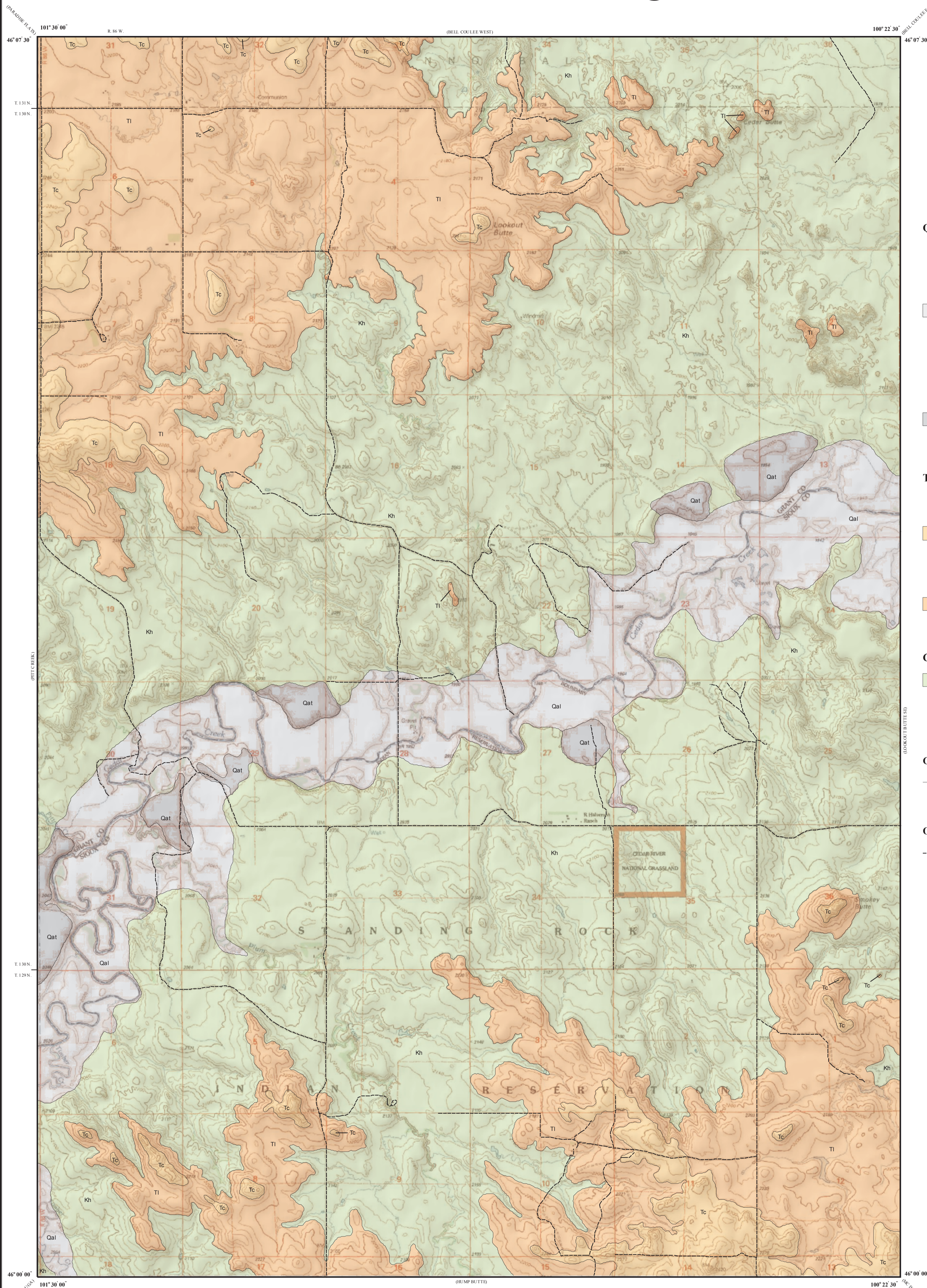
Nonmarine, gray to grayish brown colored beds of sandstone, siltstone, mudstone, and swelling claystone.

Geologic Symbols

— Known contact between two geologic units

Other Features

----- Unpaved Road



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Scale 1:24,000



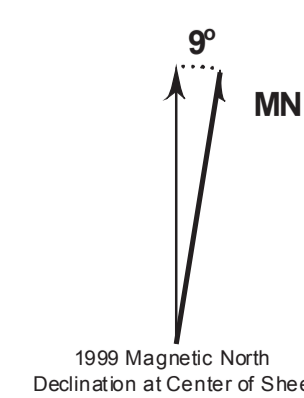
Miles

Lambert Conformal Conic Projection Standard Parallels 46° 00' 00" and 46° 07' 30"

1927 North American Datum NGVD 1929

USGS 7.5 Minute Topographic Map Contour Interval 20 Feet

Road Layer Recified to 2003 NAIP Digital Orthophoto



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Cartographic Compilation: Elroy L. Kadmas