

# Surface Geology

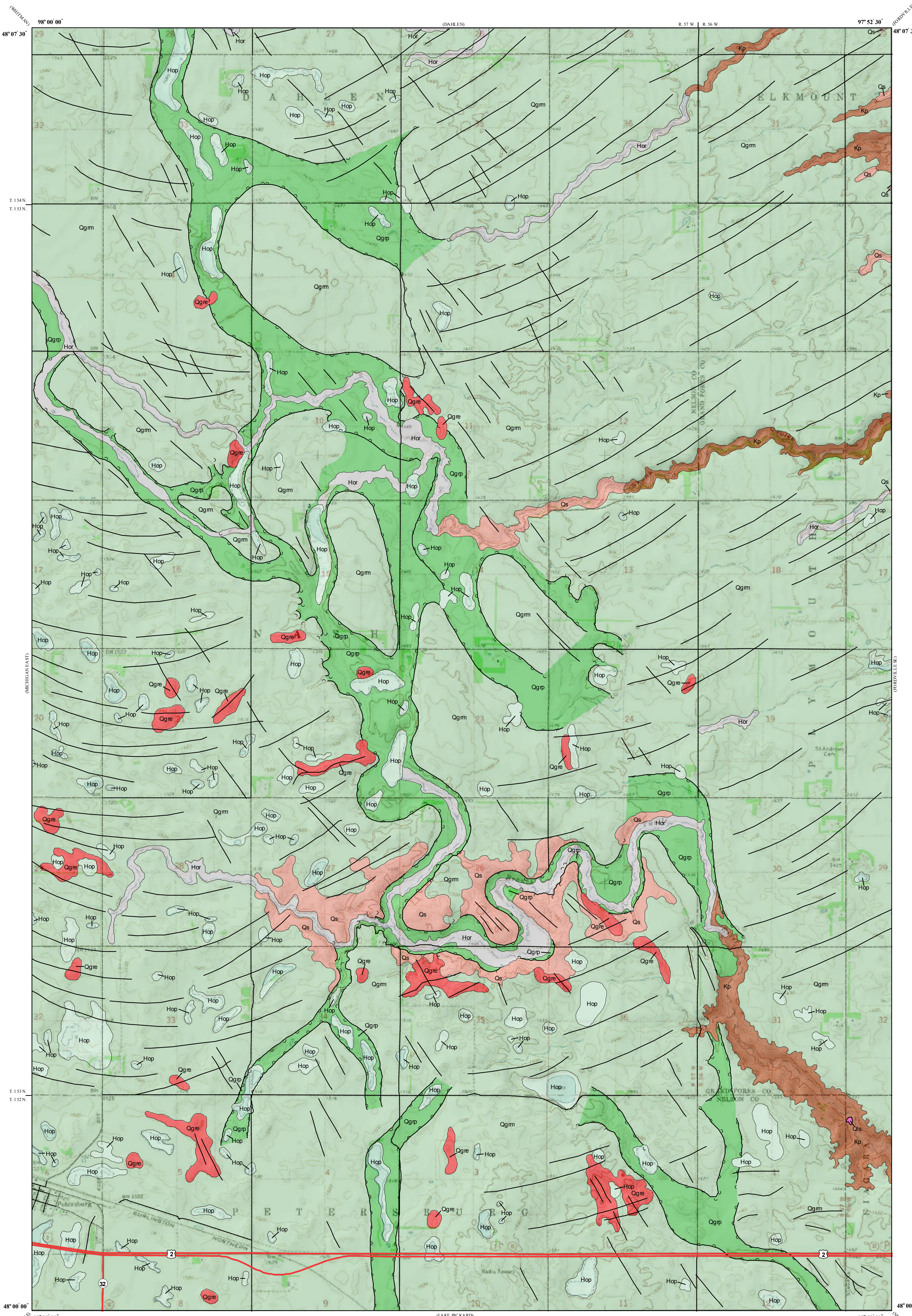
## Fordville SW Quadrangle, North Dakota

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EXPLANATION



### QUATERNARY SYSTEM

#### HOLOCENE

##### Qls Landslide Deposits

Variable mixture of strata and deposits that have slid to the base of steep slopes.

##### Oahe Formation

Sand, silt, clay, gravel, and organic debris; all postglacial sediment deposited on the landscape; includes river sediment, windblown sediment, lake sediment, and slope wash.

##### Hor Alluvium And Overbank Sediment

Sand, silt, clay and disseminated organic debris; obscurely bedded; dark colored; in many places associated with sand and gravel of older river-channel sediment; commonly more than three feet (1 meter) thick.

##### Hop Pond and slough sediment

Organic debris, clay, and silt; obscurely bedded; dark colored; generally more than three feet (1 meter) thick; deposited in poorly drained depressions in the landscape.

#### HOLOCENE AND OLDER

##### Qs Sediment eroded by slope processes

Sand, silt and clay; unsorted; unbedded; often pebbly; steeply sloping and eroded by mass movement and slope wash; lithology reflects the upslope material; colluvium commonly present at the base of steep slopes.

#### PLEISTOCENE

##### COLEHARBOR GROUP

The Coleharbor Group includes all sediments in North Dakota associated with deposition by Pleistocene glaciers.

##### GOOSE RIVER FORMATION (UNDIFFERENTIATED)

Sediment deposited by a glacier as a result of a readvance from the north west (Riding Mountain provenance) of the generally retreating Late Wisconsinan ice sheet into the Red River lowland.

##### Qgrm Clay-Loam, pebbly

Unsorted; unbedded; contains cobbles and boulders; shale pebbles abundant; as much as 80 feet (24 meters) thick; deposited by glacial ice on an ice-cored glaciated landscape; collapsed glacial sediment with less than 30 feet (10 meters) of relief.

##### Ogri Sand and gravel

Moderately well-sorted sand and gravel; crossbedded to flatbedded faults and soft-sediment deformation structures common; contains inclusions of well sorted silt; cobbles, boulders, and inclusions of till common; level to undulating ridges (eskers) and mounds (kames) with local relief up to 80 feet (24 meters); channel sediment deposited by streams flowing in, on, or under glacial ice.

##### Qgrp Clay-loam, pebbly

Unsorted; unbedded; contains cobbles and boulders; shale pebbles abundant; glacial sediment covering, but not obscuring, pre-existing topography; buried meltwater channels are the most common feature present; may include exposures of sand and gravel; draped (palimpsest) features are visible on aerial photographs "through" the collapsed glacial sediment; deposited on an ice-cored glaciated landscape.

#### CRETACEOUS SYSTEM

##### Kp Pierre and Niobrara Formation, undifferentiated (Upper Cretaceous)

Shale; commonly obscured by a thin veneer of till; offshore marine deposits.

#### Geologic Symbols

— Known contact between two geologic units

— Other lineations

Established from aerial photographs; line marks the dimension of the feature; located in glacial sediment and thinly veneered glacial sediment; interpreted as disintegration trenches, streamlined bedforms associated with the movement of glacial ice, or lineations of unknown origin; generally difficult to discern on topographic maps and on the ground.

— Palimpsest channel

Established from aerial photographs and LiDAR; lines indicate the crests of the scamps; half-circles indicate the downslope direction; interpreted as a buried meltwater channel; generally apparent on topographic maps, may not be apparent on the ground.

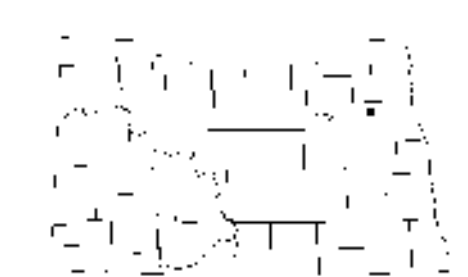
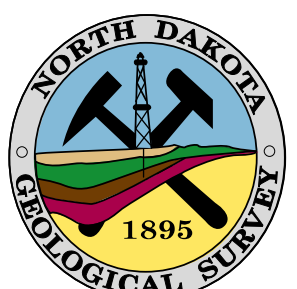
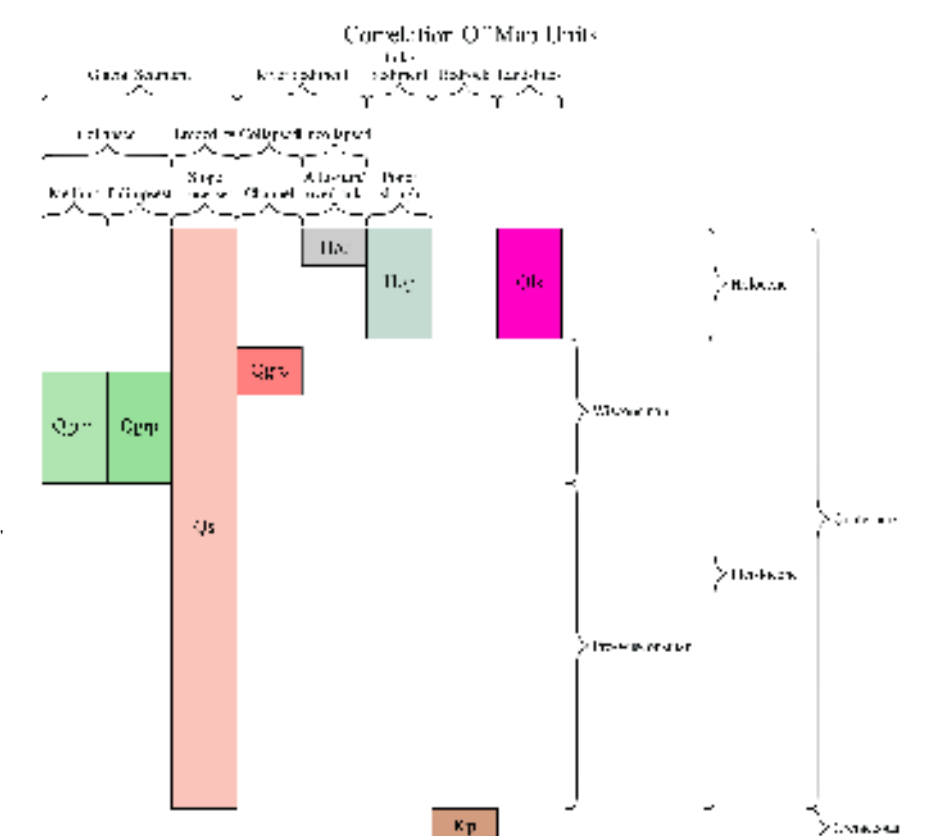
#### Other Features

— 21 US Highway

— 32 State Highway

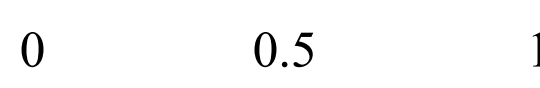
— Paved Road

— Unpaved Road



Fordville SW Quadrangle, North Dakota

Scale 1:24,000



Miles

Lambert Conformal Conic Projection Standard Parallels 48° 00' 00" and 48° 07' 30"  
1927 North American Datum NGVD 1929  
USGS 7.5 Minute Topographic Map Contour Interval 10 Feet

