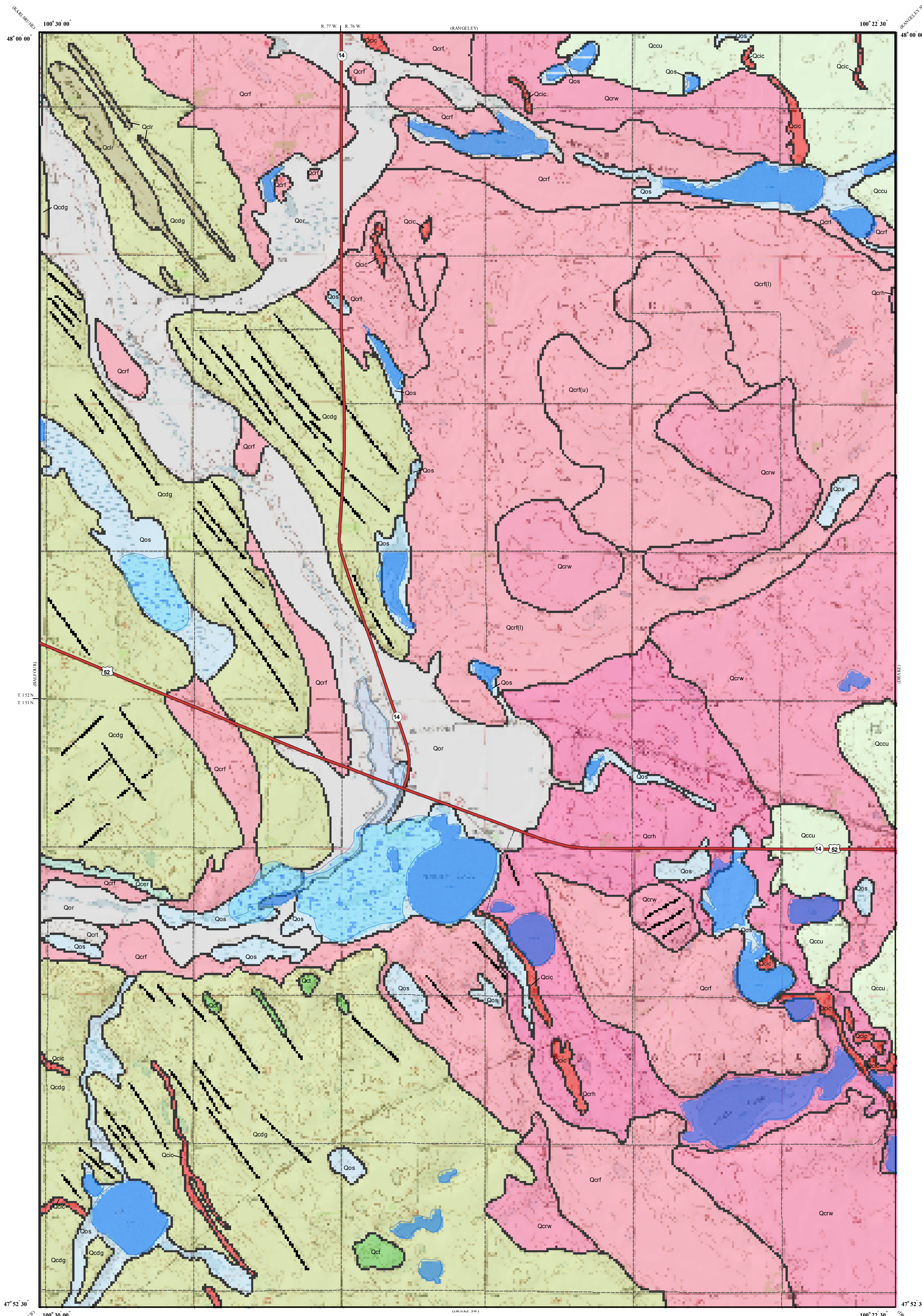


Surface Geology

Drake NW Quadrangle, North Dakota

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EXPLANATION

QUATERNARY SYSTEM

RECENT

OAHE FORMATION

- Qor** Alluvium
River and stream sediment. Dark obscurely bedded clay and silt (mainly overbank sediment); generally overlying cross-bedded sand (channel sediment); on plains of modern streams.
- Qos** Pond and Slough Sediment
Dark, obscurely bedded clay and silt; in modern ephemeral ponds.

PLEISTOCENE

COLEHARBOR GROUP

- Silt Facies**
(Insignificant amounts of this facies on this quadrangle)
- Sand and Gravel Facies**
River sediment. Moderately well-sorted, cross bedded sand and plane-bedded gravel, including sediment of meltwater rivers.
- Qcrf** Uncollapsed Flat Fluvial Plains
Flat-bedded sediment of nearly level plains and river terraces, commonly with braided channel scars, oxbows, and other relief markings; relief of 1 to 10 feet. Mainly along minor valleys.
- Qcrfl** Uncollapsed Flat Fluvial Plains (lower)
A lower level of Qcrf; the lower level was formed after the upper level.
- Qcrfu** Uncollapsed Flat Fluvial Plains (upper)
An upper level of Qcrf. This upper level formed before the lower level.
- Qcrt** River terrace sediment
Mainly gravel and sand along the edges of the Wintering River valley.
- Qcrw** Sand or Gravel Patches
Gravel or sand overlying glacial sediment; water-worn till surface.
- Qcrh** Collapsed Fluvial Plains
Faulted and contorted gravel and sand; hilly topography; relief up to 50 feet.

- Qcic** Ice-Contact Deposits
Mainly gravel and sand with cobbles and boulders common; inclusions of glacial sediment common; local relief up to 50 feet; eskers and kames.
- Till Facies**
Glacial sediment. Unsorted, unbedded mixture of angular, subangular, and rounded blocks of rock, gravel, and sand, generally in a stiff matrix of silt and clay; yellowish-brown to olive-gray in exposures depending on weathering intensity; contains discontinuous lenses of gravel and sand.
- Qcdg** Thin Layer of Till
Venor of till draped over and only slightly modifying the pre-existing topography (pre-glacial bedrock, older till, or gravel surface); relief up to 75 feet locally; some ice-thrust hills (Qct) that have been subsequently overridden by ice have a thin layer of till on top and are identified as Qcdg (hard to distinguish from Qct).

- Qccu** Collapsed Glacial Sediment-Undulating
Gently undulating to undulating surface with poorly integrated drainage; local relief generally less than 10 feet.
- Qcer** River-Eroded Glacial Sediment
Glacial sediment with flat to undulating topography resulting from stream erosion in the bottom of large meltwater trenches or over broad areas of till that have been washed by running water; overlain by a thin layer of fluvial sediment of the Coleharbor Group or Oahe Formation in places.
- Qclr** Longitudinal Ridges
Drumlins - some of the narrower of these are shown by lines; trend of all longitudinal ridges in this area is from NW to SE. The ridges are composed of varying amounts of till, and re-worked (molded) fluvial or lake sediment. They range from a few hundred feet to several miles long. Local relief is generally less than 20 feet.
- Qct** Ice-Thrust Masses
Glacial sediment draped over glacial or preglacial sediment or rock that has been sheared up into thrust slabs or folds near the ice margin; hilly areas with intense internal linearity; local concentrations of gravel and boulders; local relief may exceed 150 feet.

- #### Geologic Symbols
- Known contact between two geologic units
 - Ridge-Transverse
 - Ridge-Longitudinal (runs from NW to SE)

- #### Other Features
- US Highway
 - State Highway
 - Paved Road
 - Unpaved Road
 - Water
 - Water - Intermittent
 - Marsh - Perennial

