

Surface Geology

Balfour 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.

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

Veneer 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.

Qcer River-Eroded Glacial Sediment

Deeply eroded glacial sediment, mainly along the north slope of the Wintering River Valley.

Qcrl 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.

Qcet 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.

Qcem Ice Sculpted

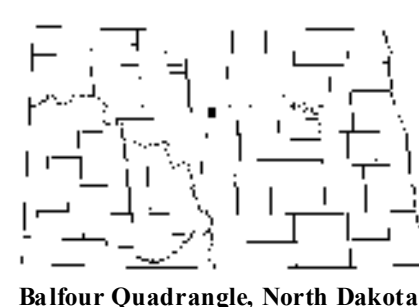
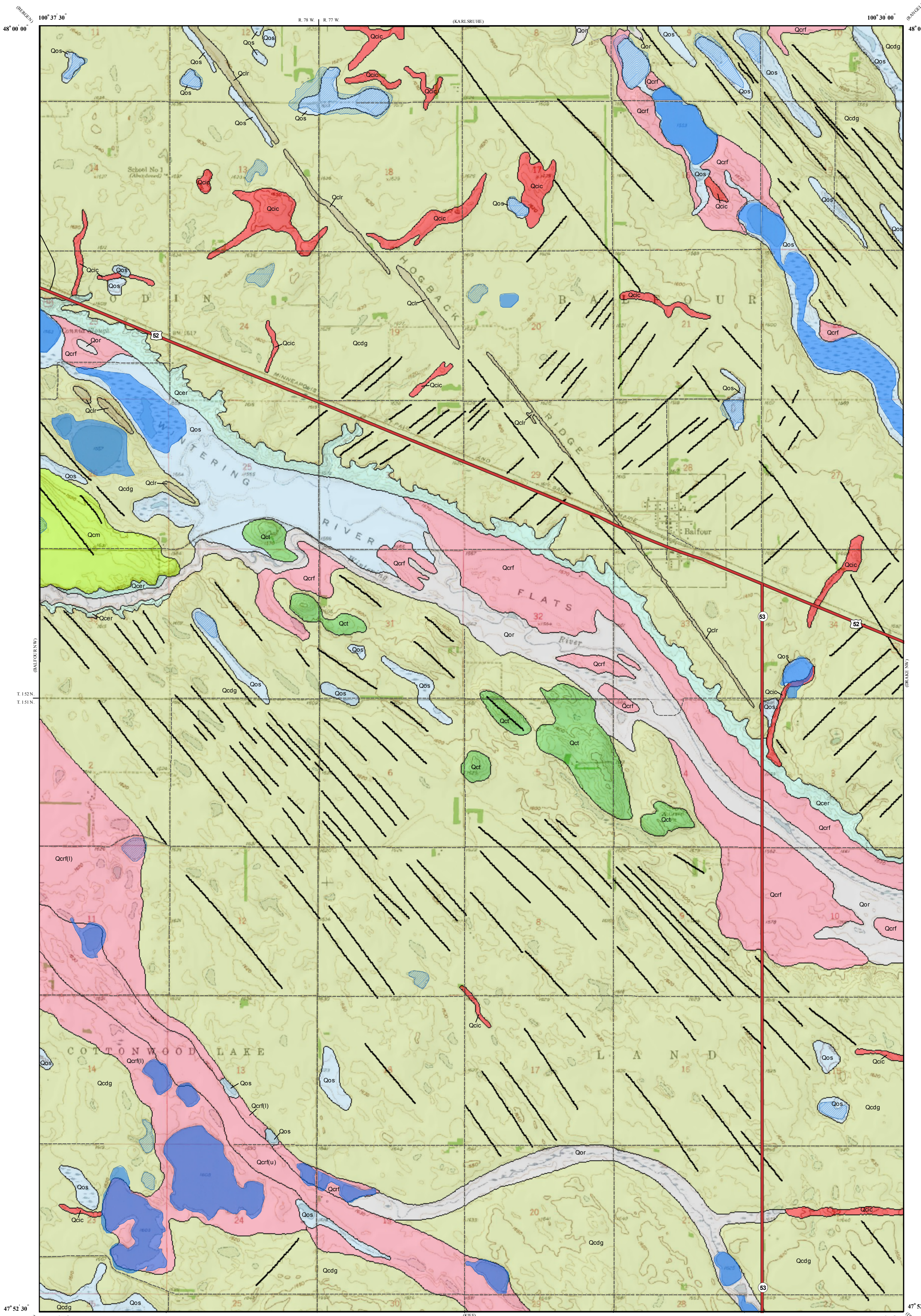
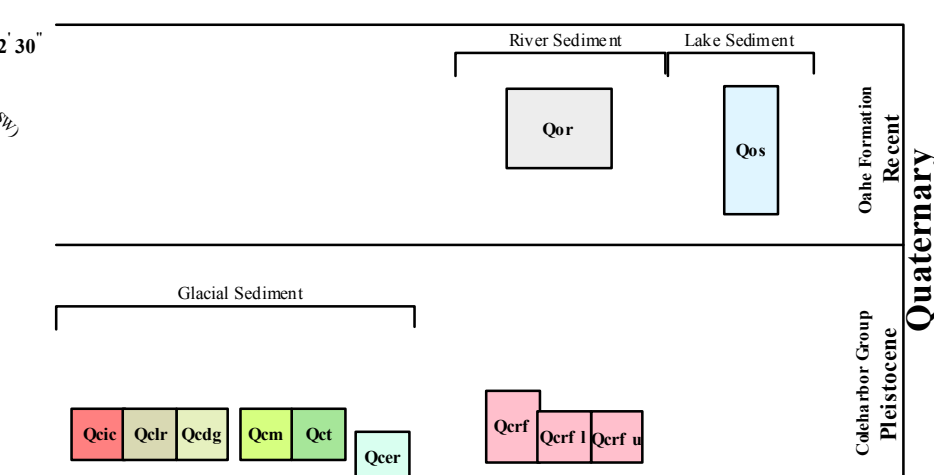
Molded surface with abundant longitudinal ridges; local relief up to 40 feet.

Geologic Symbols

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

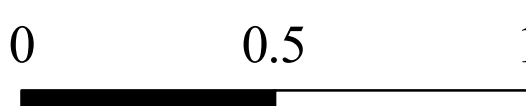
Other Features

- Water
- Water - Intermittent
- US Highway
- State Highway
- Paved Road
- Unpaved Road



Balfour Quadrangle, North Dakota

Scale 1:24,000



Miles

Lambert Conformal Conic Projection Standard Parallels 47° 52' 30" and 48° 00' 00"
1927 North American Datum NGVD 1929
USGS 7.5 Minute Topographic Map Contour Interval 10 Feet
Road and Hydrologic Layers Rectified to 2003 NAIP Digital Orthophoto

