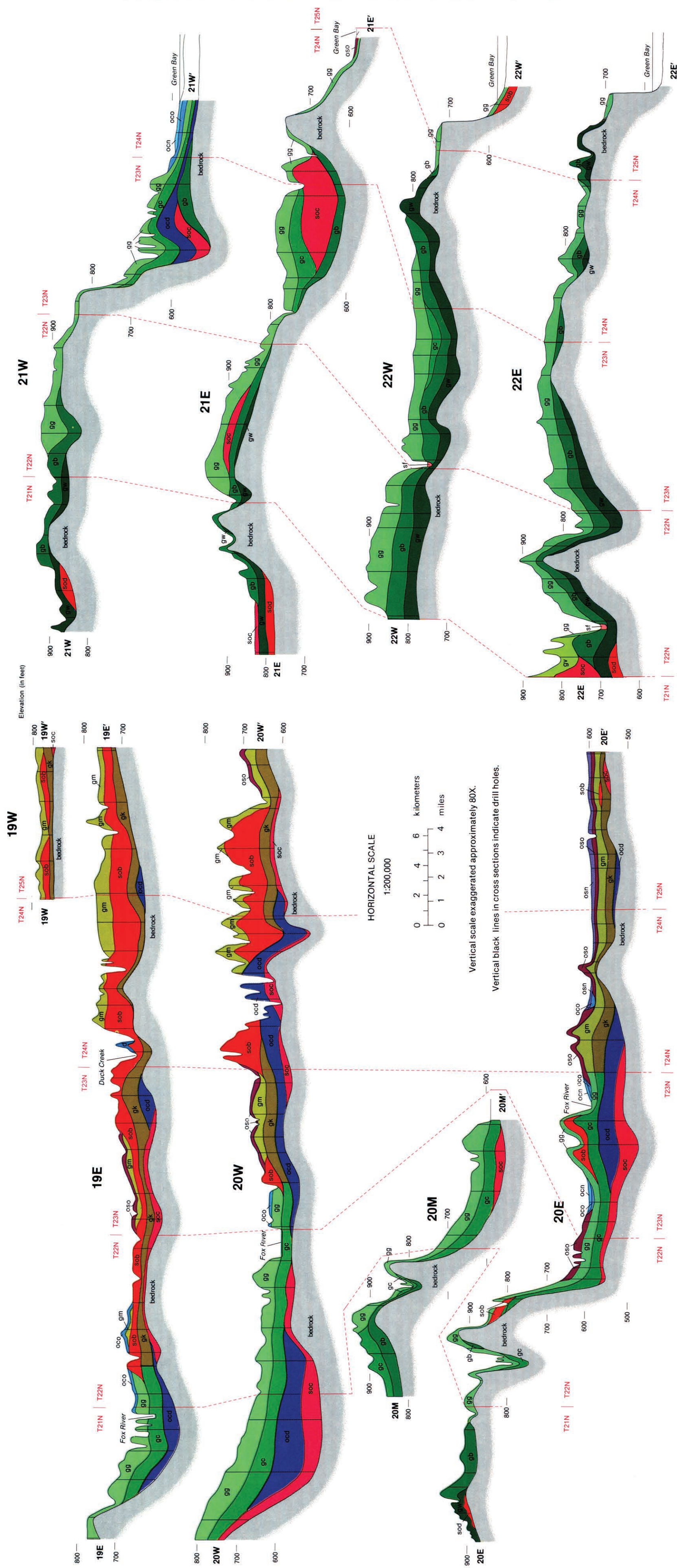


PLEISTOCENE GEOLOGY OF BROWN COUNTY, WISCONSIN

BY EDWARD A. NEED

1983

NORTH-SOUTH CROSS SECTIONS



EXPLANATION

MODERN DEPOSITS

- MODERN STREAM SEDIMENT.**
 - sa Silt loam and silt channel-fill and floodplain deposits with organic material commonly interstratified; includes some hillside deposits at edge of floodplain; generally more than 1 m thick.
- WINDBLOWN SAND.**
 - v Well-sorted fine sand in transverse dunes; less than 1 m to several tens of metres thick.
- ORGANIC AND HILLSLOPE SEDIMENT IN TOPOGRAPHIC DEPRESSIONS.**
 - o Loam to silty clay slopewash sediment overlain by peat and muck; marl and other sediment of short-lived lakes included in places; probably several metres thick.

KEWAUNEE FORMATION

- SILTY OFFSHORE SEDIMENT ON THE NIPISSING LAKE PLAIN.**
 - osn Crudely-stratified silt loam and silt having smooth, gently sloping to nearly flat topography; generally several metres thick, but up to 10 m thick in places; includes beach sand next to Green Bay.
- SILTY OFFSHORE SEDIMENT ON THE LAKE OSHKOSH PLAIN.**
 - osd Crudely-stratified silt loam and silt, having smooth, gently sloping to nearly flat topography commonly dissected by streams; generally several metres thick, but up to 10 m thick in places.
- CLAYEY OFFSHORE SEDIMENT ON THE NIPISSING LAKE PLAIN.**
 - oon Well-stratified silty clay loam, silty clay, and clay having smooth, nearly level topography; generally several metres thick, but up to 10 m thick in places.
- CLAYEY OFFSHORE SEDIMENT ON THE LAKE OSHKOSH PLAIN.**
 - ood Well-stratified silty clay loam, silty clay, and clay having smooth, gently sloping to nearly flat topography commonly dissected by streams; generally several metres thick, but up to 10 m thick in places.
- STREAM SEDIMENT IN SPILLWAYS.**
 - st Crudely-stratified gravelly sand, sand, and sandy gravel point-bar and channel-lag deposits in steep-walled channels draining proglacial Lake Oshkosh; modern stream sediment and thin organic sediment included in places; less than 1 m to 10 m thick.
- TILL OF THE MIDDLE INLET MEMBER.**
 - gm Reddish brown, calcareous, loam till; becomes finer-grained near lake axis; leached of carbonates to a depth of less than 70 cm; up to several tens of metres thick.
- TILL OF THE GLENMORE MEMBER.**
 - go Reddish brown, calcareous silty clay loam having relatively low magnetic susceptibility; leached of carbonates to a depth of less than 70 cm; up to several tens of metres thick.
- DUCK CREEK RIDGE COMPLEX.**
 - d Complex of sediment of the Middle Inlet and Kirby Lake Members, stream sediment (sob and soc) and clayey lake sediment (ocd) in a glacially eroded, elongated ridge; stratigraphic sequences change significantly over short distances; bedding is commonly tilted; 10 to 30 m thick.
- MELT-WATER-STREAM SEDIMENT EXPOSED BY GLACIAL AND POSTGLACIAL EROSION.**
 - scd Well-sorted sand, exposed in glacially eroded, elongated ridges and steep slopes resulting from stream and hillslope erosion; deposited by meltwater streams at or near the ice margin during retreat; contains a broad overall fining-upward sequence from pea gravel to a very fine sand; several metres to several tens of metres thick.

- TILL OF THE KIRBY LAKE MEMBER.**
 - kb Reddish brown, calcareous, clay loam to silty clay loam till; becomes finer grained near lake axis; up to several tens of metres thick; present in the subsurface and exposed only in gravel pits, quarries, and deep road cuts.
- TILL OF THE CHILTON MEMBER.**
 - gc Reddish-brown, calcareous, silty clay loam to clay loam till; leached of carbonates to depths greater than 70 cm where exposed at surface.
- TILL OF THE VALDERS MEMBER.**
 - gv Reddish brown, calcareous, silt loam to loam till; up to several tens of metres thick.
- CLAYEY OFFSHORE SEDIMENT EXPOSED BY GLACIAL AND STREAM EROSION.**
 - oon Well-stratified silty clay loam, silty clay, and clay; deposited in proglacial lakes predating Chilton and Kirby Lake Members; up to several tens of metres thick.
- MELT-WATER STREAM SEDIMENT.**
 - scd Gravelly sand, sand, and sandy gravel with minor amounts of silt loam; deposited by meltwater streams at or near the ice margin; up to several tens of metres thick.
- TILL OF THE BRANCH RIVER MEMBER.**
 - gt Light reddish brown, calcareous, loam till; leached of carbonates to depths greater than 70 cm where exposed at surface; up to several tens of metres thick.

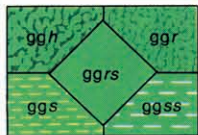
HORICON FORMATION

- TILL OF THE WAYSIDE MEMBER.**
 - wt Light-grayish brown, calcareous, stony loam till; leached of carbonates to depths greater than 70 cm where exposed at surface; up to several tens of metres thick.
- MELT-WATER-STREAM SEDIMENT.**
 - scd Sand and gravel; probably deposited by meltwater; not exposed at the surface.

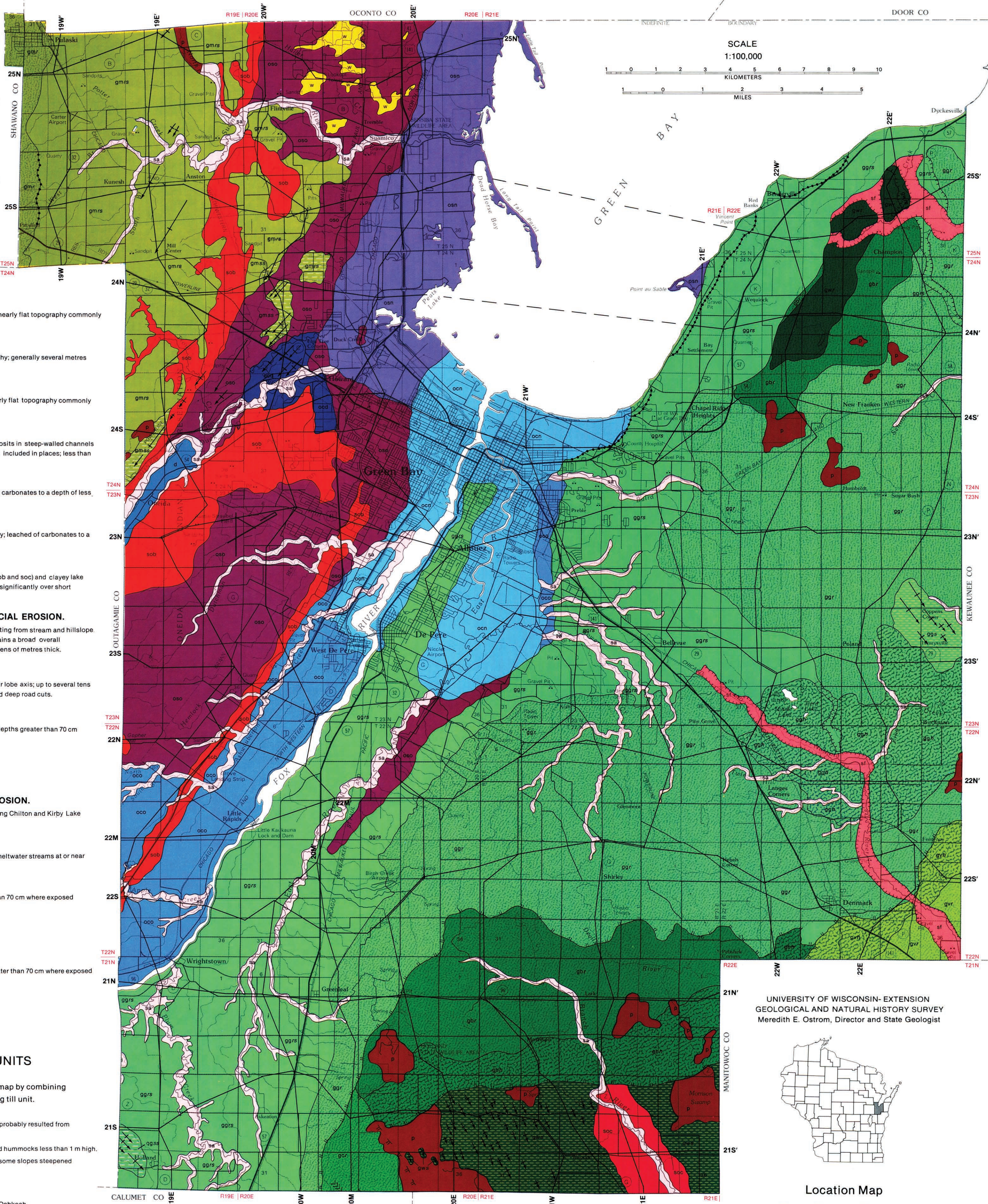
MORPHOLOGIC CHARACTERISTICS OF TILL UNITS

- The morphology of till units *gg*, *gm*, *gc*, *gv*, *gb* and *gw* is indicated on the map by combining the following patterns and italic modifiers with the color of the corresponding till unit.
- gg* Irregular topography with broad, to steep-sided hummocks several metres high, which probably resulted from collapse of supraglacial till during ice melt.
 - gm* Gently sloping to low rolling topography on upland surfaces; includes areas with broad hummocks less than 1 m high.
 - gc* Smooth, gently sloping topography on surfaces submerged by glacial Lake Oshkosh; some slopes steepened by postglacial stream erosion.
 - gv* Subglacially molded, streamlined topography on upland surfaces.
 - gb* Subglacially molded, streamlined topography on surfaces submerged by glacial Lake Oshkosh.

EXAMPLE OF COLOR/PATTERN COMBINATION USED ON MAP



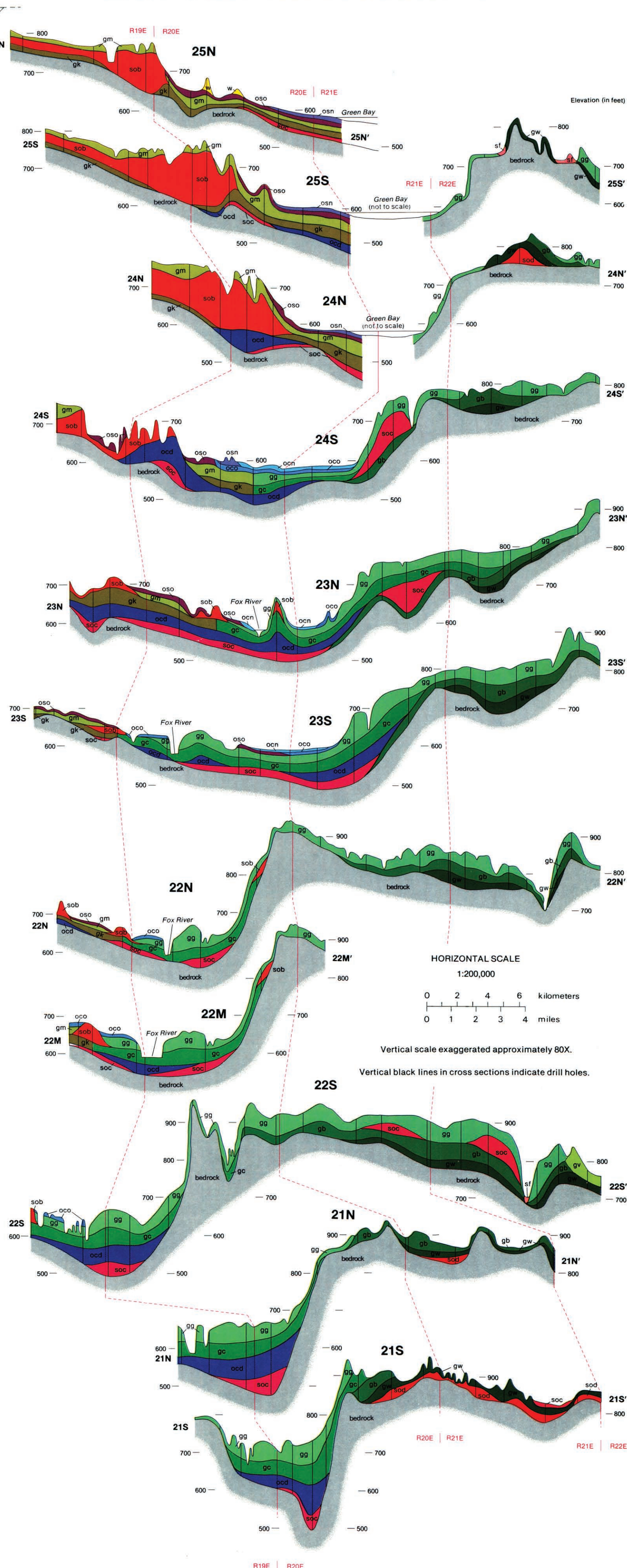
This example shows the combination of the color representing the Till of the Glenmore Member with the patterns indicating morphology (h, r, -r, -s, -s, -s).



LINE SYMBOLS

- large abandoned channel
- shoreline features
- maximum ice-margin positions, dashed where uncertain
- contacts
- streamlined forms
- esker

EAST-WEST CROSS SECTIONS



UNIVERSITY OF WISCONSIN- EXTENSION
GEOLOGICAL AND NATURAL HISTORY SURVEY
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Location Map
Brown County, Wisconsin

Base map provided by the U.S. Geological Survey
Cartography by M.L. Czechanski and Jon C. Zuilker