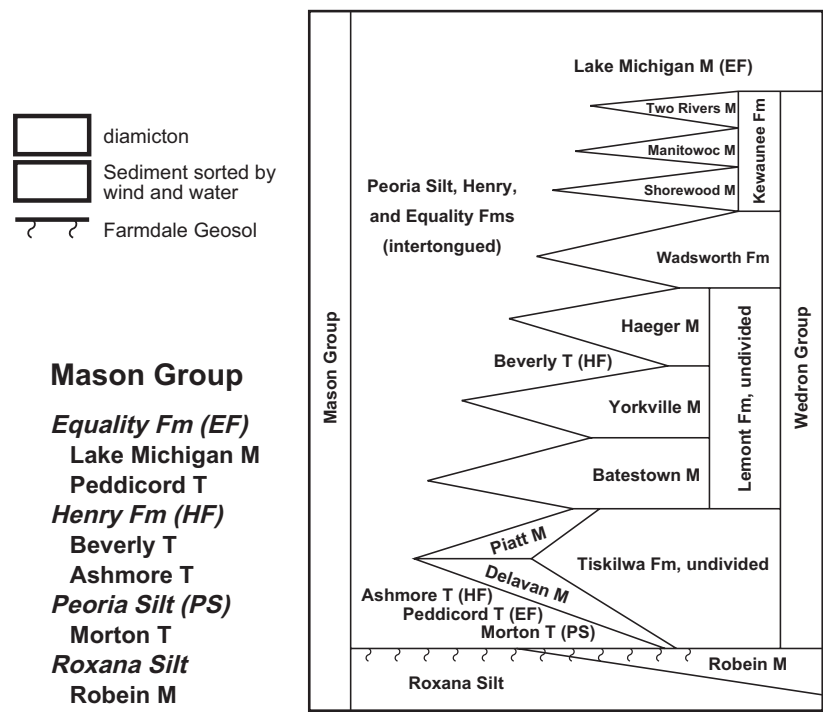
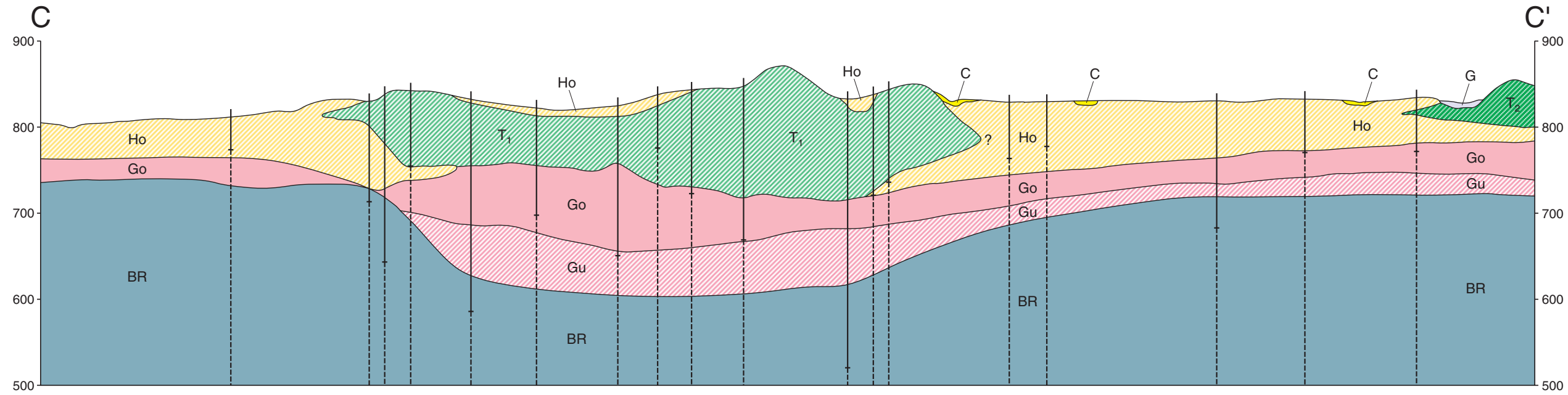
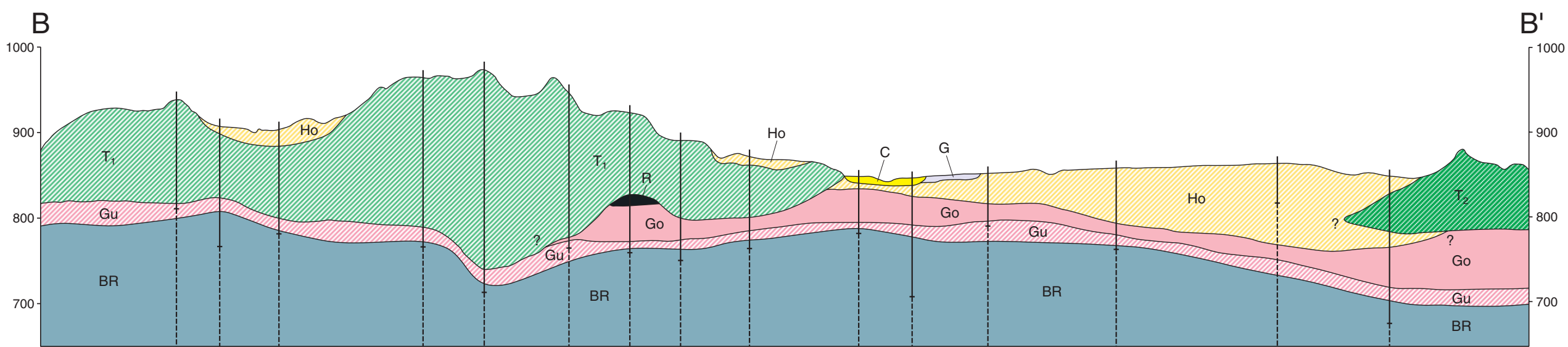
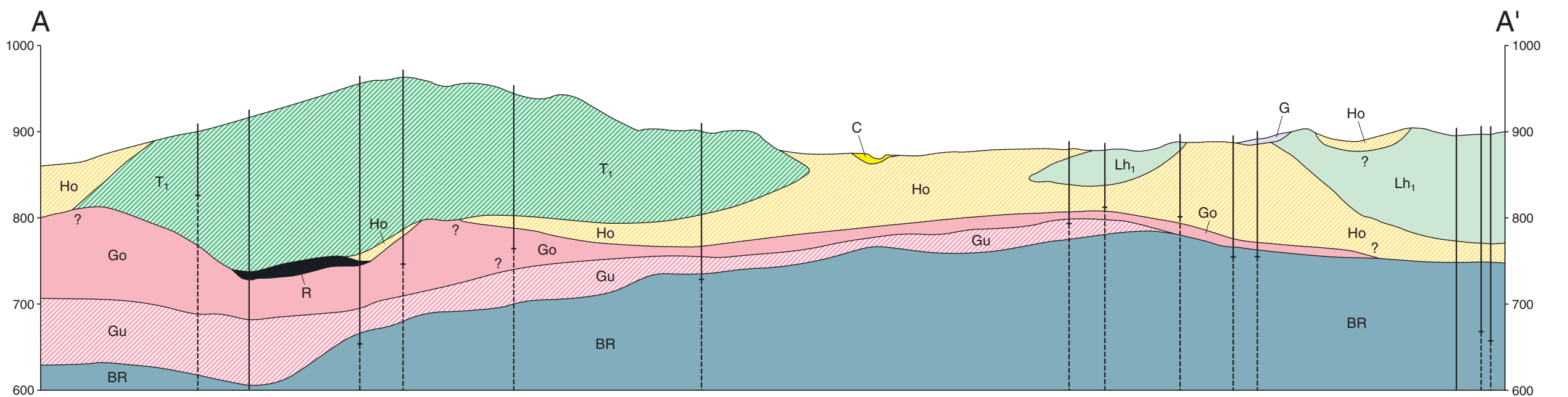
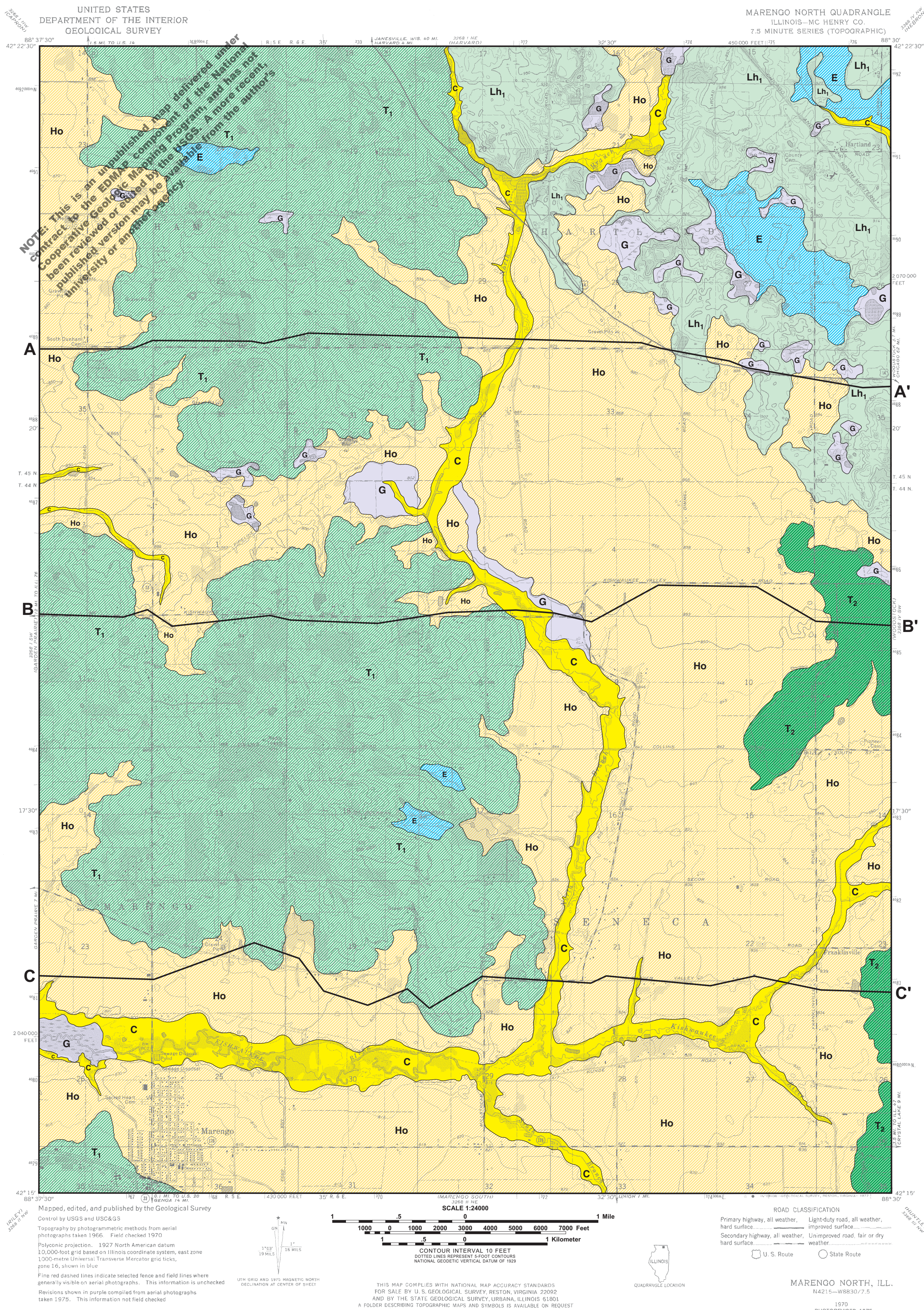


# Quaternary Geologic Map of the Marengo North Quadrangle

Jay Stravers, Beth Johnson, and Dean Ekberg, 2006

Dept. of Geology and Environmental Geosciences, Northern Illinois University, DeKalb, IL 60115

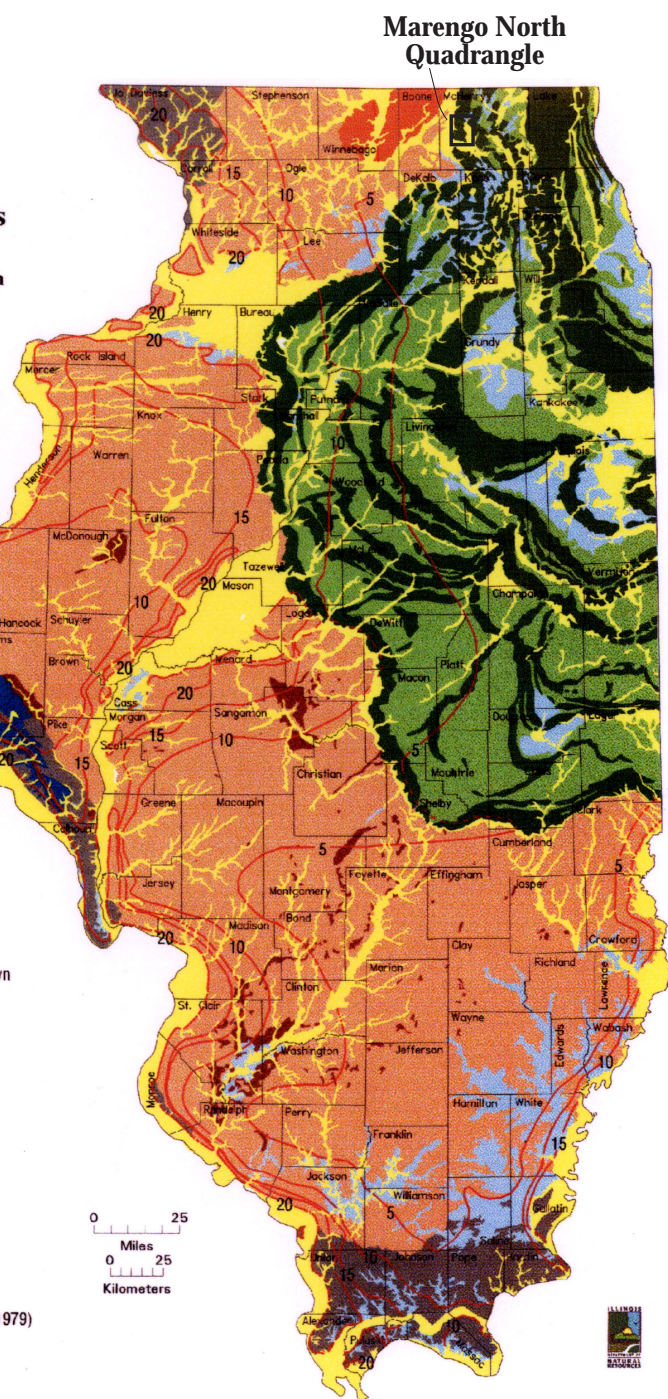


Stratigraphic relationships for the late Wisconsinan Wedron and Mason Groups. The Wedron Group consists primarily of unsorted or poorly sorted diamictons (subglacial tills and diamictons in end moraines) that are interbedded with the sorted sediments (loess, fluvial outwash, and lacustrine deposits) of the Mason Group. (from Hansel and Johnson, 1996)

## Quaternary Deposits of Illinois

revised by  
Ardith K. Hansel and W. Hilton Johnson  
1996

- Hudson and Wisconsin Episodes**
    - Mason Group and Cahokia Fm
      - Cahokia and Henry Fms: sorted sediment containing waterlain fine sandstone and siltstone and black sand
      - Equality Fm: fine grained sediment deposited in lakes
      - Thickness of Peoria and Roxana Silt: left described in text
    - Wisconsin Group (Tiskilwa, Lemont, and Wadsworth Fms) and Tiskilwa Fm:
      - Glaucous siltstone deposited as till and ice-marginal sediment
      - Thickness of Peoria and Roxana Silt: left described in text
      - Peoria Silt and Roxana Silt: left described in text
  - Pre-Illinois Episodes**
    - Peoria Silt and Roxana Silt: left described in text
    - Peoria Silt and Roxana Silt: left described in text
  - Paleozoic, Mesozoic, and Cenozoic**
    - Mostly Paleozoic shale, limestone, dolomite, or sandstone, exposed or covered by the Pleistocene or younger
- Illinois State Geological Survey Bulletin 104, plate 1  
Revised from Wilgus and Fry (1976) and Lindebeck (1979)  
Digital compilation by A.K. Hansel



## Map Units and Correlations

### Hudson Episode Units (Holocene)

- G** Grayslake Peat - Peat and organic rich fluvial or lacustrine sediment (locally marl) deposited in glacial and holocene lake basins or on shallow gradient flood plains.
- C** Cahokia Formation - Alluvium; primarily silt and sand or coarser sediment reworked from Wisconsin episode outwash.

### Wisconsin Episode Units

#### Mason Group Deposits

- E** Equality Formation - glacial lacustrine silts and clays of differing ages.
- Ho** Henry Formation - proglacial stratified sands and gravels of various ages, consisting of extensive outwash plains or ice marginal coalescing outwash fans at the surface; interbedded with Tiskilwa and Lh1 diamictons in the subsurface; locally includes the Ashmore tongue which underlies the lowermost Tiskilwa diamicton.
- R** Roxana silt/Robein member: lowermost unit of the Mason Group - brown to black to blue gray, stratified to massive organic rich silts and clays; reworked or colluviated organic rich loess and peat.

#### Wedron Group Deposits

- Lh1** Haeger Member (Lemont Fm) - sandy diamictons of the Woodstock Moraine (active proglacial deposition). End moraine deposits including interbedded sandy debris flow diamictons and sands and gravels.
- T1** Tiskilwa Formation - ice marginal deposits very similar to T1. Recessional phase moraine east of the Marengo Moraine.
- T2** Tiskilwa Formation - ice marginal deposits of the Marengo Moraine and subglacial deposits; loam to clay loam diamicton, gray to pinkish gray, oxidizes to red brown, brown, or yellow brown, locally contains thick beds of silt, sand, and gravel (or underlying Ashmore Tongue outwash); lowermost diamicton of the Wedron Group.

### Illinois Episode Units (Pleistocene)

- Go** Oregon member of the Glasford formation - red brown to gray loam diamicton (subglacial ground moraine), includes numerous interbedded sand and gravel bodies.
- Gu** Glasford Formation undifferentiated (subsurface) - gray to brown, loam, silty loam, and sandy loam subglacial diamictons of the Oregon, Fairdale, and Kellerville members (includes numerous interbedded sand and gravel bodies).

### Bedrock Units (Paleozoic)

- BR** Ordovician Maquoketa group dolomites and shales found on the preglacial drainage divides and Galena group dolomites subcropping in the bedrock valleys.

## MAPPING METHODS

Initial reconnaissance was conducted using 1:40,000 scale color infra-red aerial photography in conjunction with the definition of landform physiographic characteristics that were observable from the topographic base. Definition of the initial map units was also aided by the soils data and soils maps of Ray and Wascher (1965) and the 'stack unit' maps of Berg and Kempton (1988). Field investigations, ground truth verification, and sampling were conducted primarily through the use of hand augering. Lithologic logs from ISGS control wells, engineering borings, and numerous water well logs, were also used as an aid to defining the subsurface distribution of map/stratigraphic units. Several shallow excavations in developing subdivisions were also examined.

This geologic map also represents an extension of general geologic mapping completed for environmental planning in McHenry County (Curry et al., 1997) and 3-D mapping in quadrangles to the NE (Berg, et.al., 2000). The criteria for differentiating surficial map units and the stratigraphic nomenclature used here is adopted and expanded from those studies and from Hansel and Johnson (1996). Texture (grain size), sedimentary structures, clast lithology, and clay mineralogy where the primary characteristics used for differentiation and correlation of stratigraphic units. Holocene alluvial deposits were mapped on the basis of flood plain topography and morphostratigraphic sequence for the low terraces.

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