Quaternary Geologic Map of the Huntley Quadrangle

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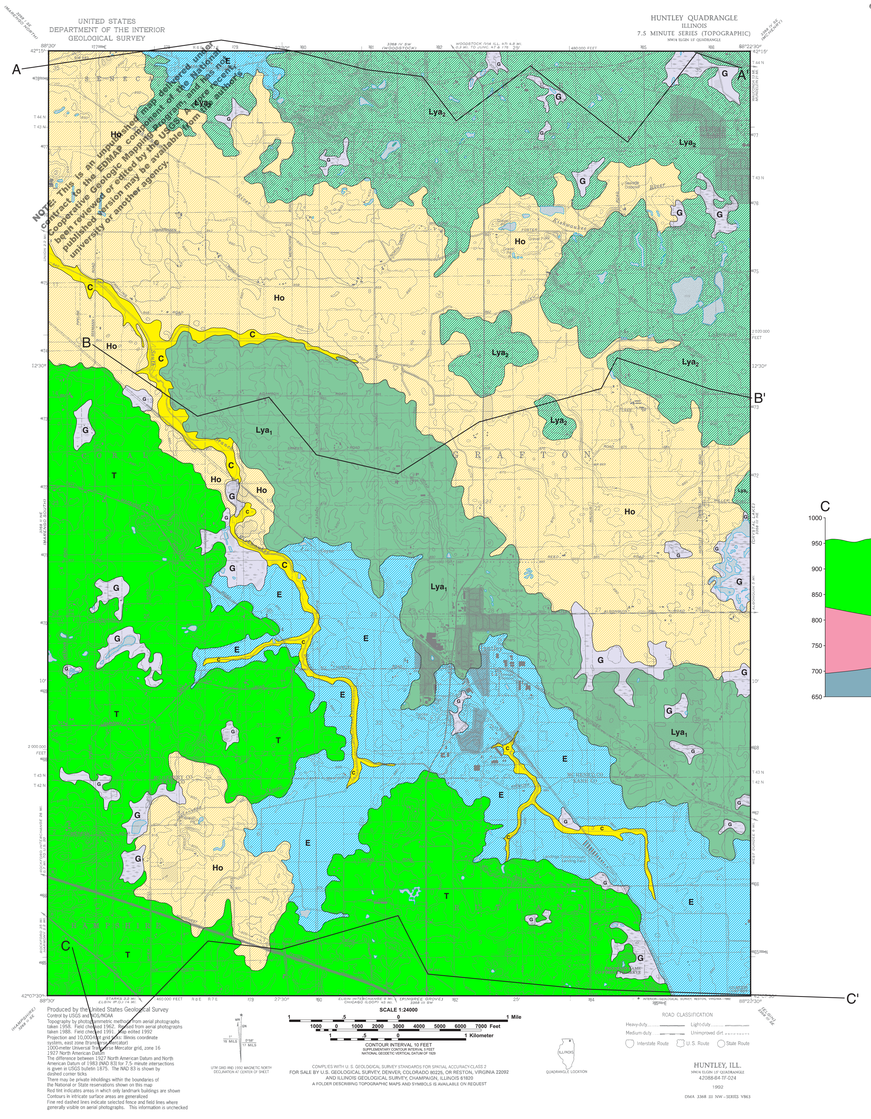
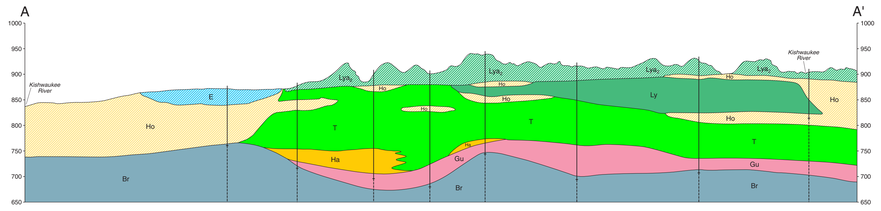
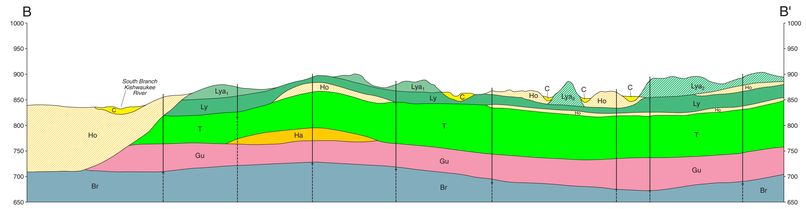
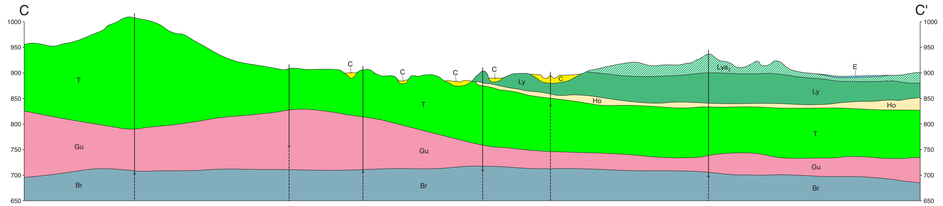
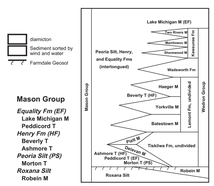










Stratigraphic relationships for the late Wisconsinan Wedron and Mason Groups. The Wedron Group consists primarily of unsorted or poorly sorted diamictons (subglacial tills and diamictons in end moraines) that are interbedded with the sorted sediments (loess, fluvial outwash, and lacustrine deposits)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

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 courser 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 coarse sands and gravels of various ages (interbedded with Lemont Formation deposits) - extensive outwash plain or coalescing outwash fan deposits.

Ha — Henry Formation - proglacial stratified coarse sands and gravels of the Ashmore Tongue, underlying the Tiskilwa Formation diamictons.

Wedron Group Deposits

Lya2 — Yorkville Member (Lemont Formation) - ice marginal ablation facies of the Barlina Moraine - interbedded sands, gravels, and debris flow diamictons (gray silty clay loam) - similar to Lya1 but of younger age.

Lya1 — Yorkville Member (Lemont Formation) - ice marginal ablation facies of the Huntley Moraine - interbedded sands, gravels, and debris flow diamictons (gray silty clay loam).

Ly — Yorkville Member (Lemont Formation - subsurface only) - silty clay to silty clay loam diamicton, gray, oxidizes to olive brown; contains lenses of gravel, sand (outwash), and interbedded silt and clay (lacustrine); middle diamicton of the Lemont Formation.

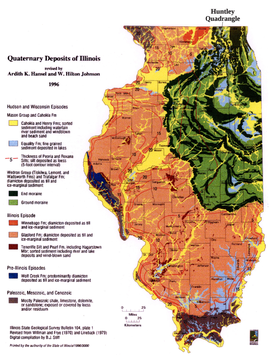
T — Tiskilwa Formation - ice marginal deposits of the Marengo Moraine and subglacial deposits; loam to clay loam diamicton, gray to pinkish gray, oxidizes to red brown, brown, or yellow brown; locally contains thick beds of silt, sand, and gravel (or underlying Ashmore Tongue outwash); lowermost diamicton of the Wedron Group.

Illinois Episode Units (Pleistocene)

Gu — Glasford Formation undifferentiated (subsurface only) loam to sandy loam diamicton; pinkish brown to yellow brown; locally contains beds of stratified silts, sands, and gravel (Pearl Formation - outwash deposits); of variable thickness due to erosion by succeeding glacial advances; directly overlies bedrock in this area.

Bedrock Units (Paleozoic)

Br — Silurian: dolomite; preserved as erosional remnants on bedrock highs, or Ordovician Maquoketa Formation; interbedded shales, shaley carbonates and limestones.



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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