

EXPLANATION

POSTGLACIAL SEDIMENT

Organic sediment: Peat and muck, thickness generally unknown but ranging from less than 1 m to probably greater than 5 m. This unit is underlain by fluvial, glacial, or lacustrine sediment, or water.

SEDIMENT DEPOSITED DURING THE WISCONSIN GLACIATION

COPPER FALLS FORMATION. Crab Lake Member, sediment of the Ontonagon Lobe deposited during the Winegar Phase.

Undifferentiated supraglacial debris-flow sediment and till in the Winegar moraine. Reddish-brown to brown, crudely stratified, gravelly sandy loam supraglacial debris-flow sediment and reddish-brown, uniform, compact, slightly gravelly, sandy-loam till in high-relief hummocky areas. Hummocks are typically equidimensional to elongate, steep-sided, and interspersed with numerous lakes and bogs.

Ccp Stream sediment in eskers: Sand and gravelly sand deposited in subglacial channels. The sediment is characterized by a wide range and abrupt changes in grain size over short distances. This unit occurs as elongate, somewhat sinuous, broad ridges that are commonly bordered by bogs.

Cgp Braided-stream sediment in plains: Very well to moderately well sorted, well stratified, predominantly sand and gravelly sand underlying extensive, gently sloping (generally less than 4 m/km) plains. The original depositional surface is identifiable in most areas. Collapsed areas are common and range from less than 50 m to greater than 5 km in their largest dimension. Adjacent to collapsed areas poorly sorted debris-flow sediment is common.

Ccp Stream sediment, collapsed: Similar to unit Cgp except that the original depositional surface is not identifiable because collapsed areas are very closely spaced. The unit consists of small uncollapsed areas of plains contained in extensive areas of kettles, irregular to elongate collapse hummocks and disintegration ridges.

COPPER FALLS FORMATION. Nashville Member, deposits of the Langlade Lobe.

Supraglacial debris-flow sediment and till in areas of drumlin topography: Brown, crudely stratified, gravelly sand to gravelly sandy loam supraglacial debris-flow sediment, and brown, uniform, compact, slightly gravelly loamy sand till overlying stratified sand and gravel in areas of subglacially streamlined topography. The supraglacial debris-flow sediment and till form a thin and discontinuous cover over stratified sand and gravel in the western-most areas of this map unit.

Nsp Stream sediment in eskers: Sand and gravelly sand deposited in subglacial stream channels. The sediment is well stratified and is characterized by a wide range and abrupt changes in grain size. Faulting is common. This unit occurs as elongate, somewhat sinuous ridges.

Ngp Stream sediment in ice-marginal fans: Well-sorted to poorly sorted, well-stratified to poorly stratified sand and gravelly sand deposited in small fan shaped plains adjacent to the margin of the retreating Langlade Lobe. The sediment is coarser and less well sorted and stratified near the ice-contact slopes. Collapsed areas are few and most common near ice-contact slopes.

Ngp Braided-stream sediment in plains: Very well to moderately well sorted, well stratified sand and gravelly sand in gently sloping plains. The original depositional surface is identifiable in most areas. Collapsed areas are common and debris-flow sediment is present adjacent to collapse features.

Ncp Stream sediment, collapsed: Similar to unit Ngp except that the original depositional surface is not identifiable because collapsed areas are closely spaced. This unit is widespread in a broad area associated with the Stormy Lake ice margin. The unit consists of extensive areas of kettles, irregular to elongate collapse hummocks, and disintegration ridges interspersed with numerous lakes and bogs.

COPPER FALLS FORMATION. Wildcat Lake Member, deposits of the Wisconsin Valley Lobe

Supraglacial debris-flow sediment and till in drumlin areas: Brown to reddish-brown, crudely stratified gravelly loamy sand supraglacial debris-flow sediment and reddish-brown, uniform, compact, slightly gravelly loamy sand to sandy loam till. Locally drumlins are cored with sorted and stratified sandy gravel and gravelly sand.

Wsp Supraglacial debris-flow sediment, till and stream sediment: Supraglacial debris-flow sediment and till as described in unit Wwd with 50 percent or more of the unit being made up of stream sediment in high-relief hummocky moraine topography.

Wsp Stream sediment in eskers: Sand and gravelly sand deposited by streams in subglacial stream channels. The sediment is well stratified and grain size varies greatly. The unit occurs as short, narrow ridges.

Wgp Stream sediment in ice-marginal fans: Well-sorted, well-stratified sand and gravelly sand deposited in small fan-shaped plains adjacent to the Flambeau ice margin. Exposures are few. The sediment is coarser near the ice-contact face. A few small collapsed areas are present.

Wgp Braided-stream sediment in plains: Very well to moderately well sorted, very well stratified to poorly stratified sand and gravelly sand in gently sloping plains. Poorly sorted debris-flow sediment is common adjacent to collapsed areas. The most extensive areas of this unit are associated with the Flambeau and Muskellunge ice margins. Collapsed areas are common and contain many lakes and bogs.

Wcp Stream sediment, collapsed: Similar to unit Wgp in lithology, but the original depositional surface has been destroyed by collapse and is not identifiable in most areas.

COPPER FALLS FORMATION. Undifferentiated, deposits of the Ontonagon, Langlade, and Wisconsin Valley Lobes.

Ugp Braided-stream sediment in plains: Similar to units Cgp, Wgp and Ngp except that material is not placed in a specific lithostratigraphic unit.

Ucp Stream sediment, collapsed: Similar to units Ccp, Wcp and Ncp except that material is not placed in a specific lithostratigraphic unit.

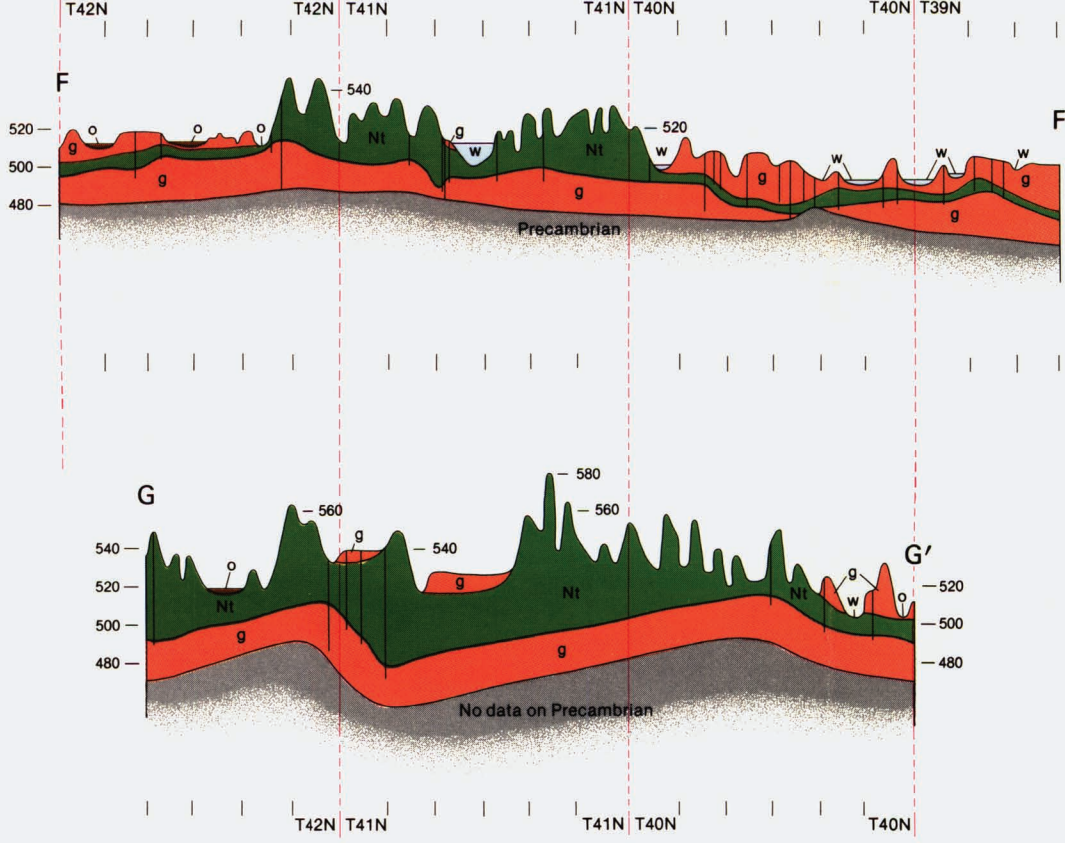
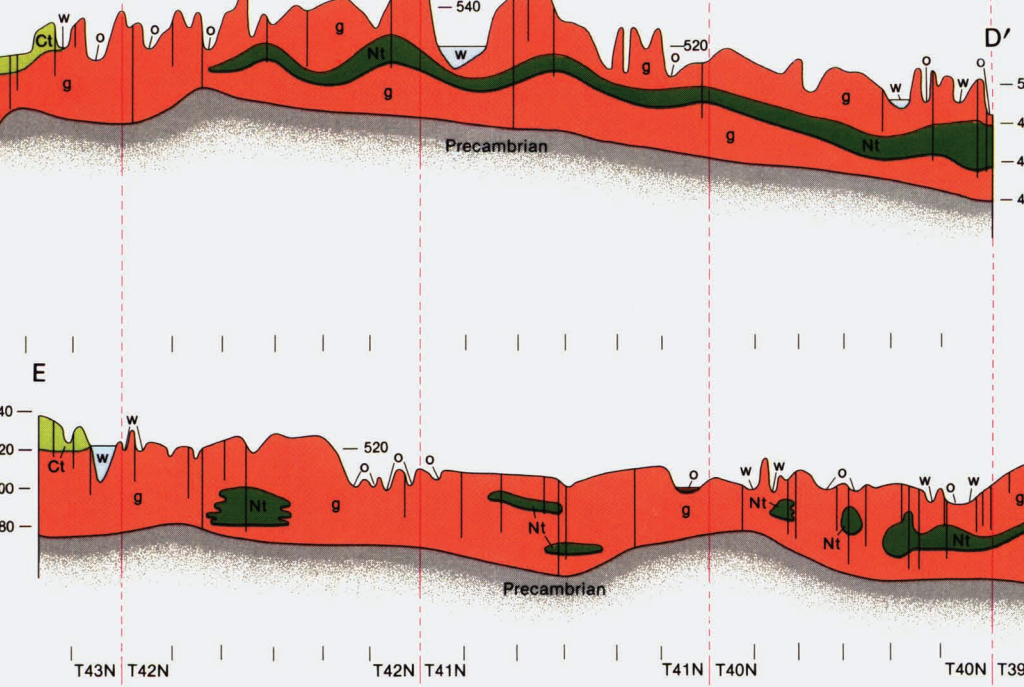
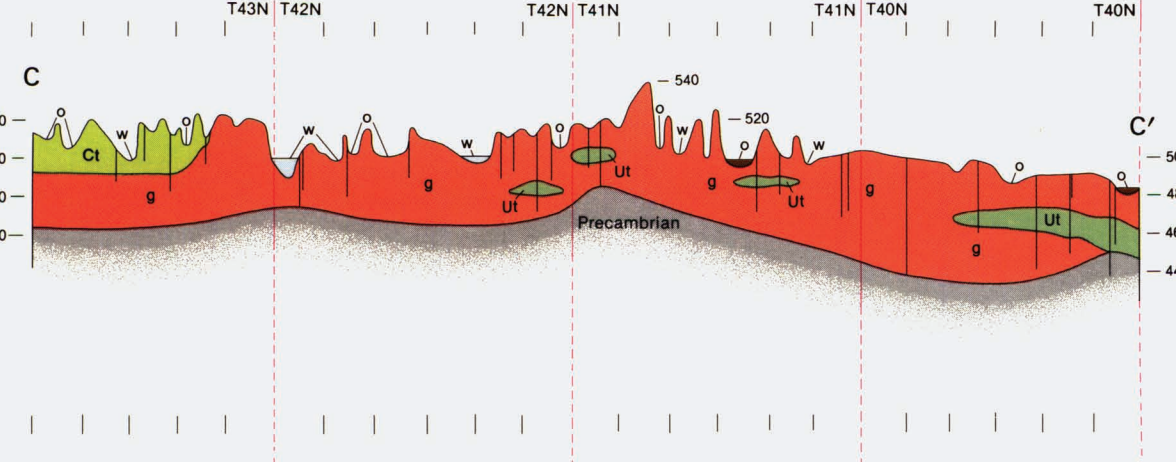
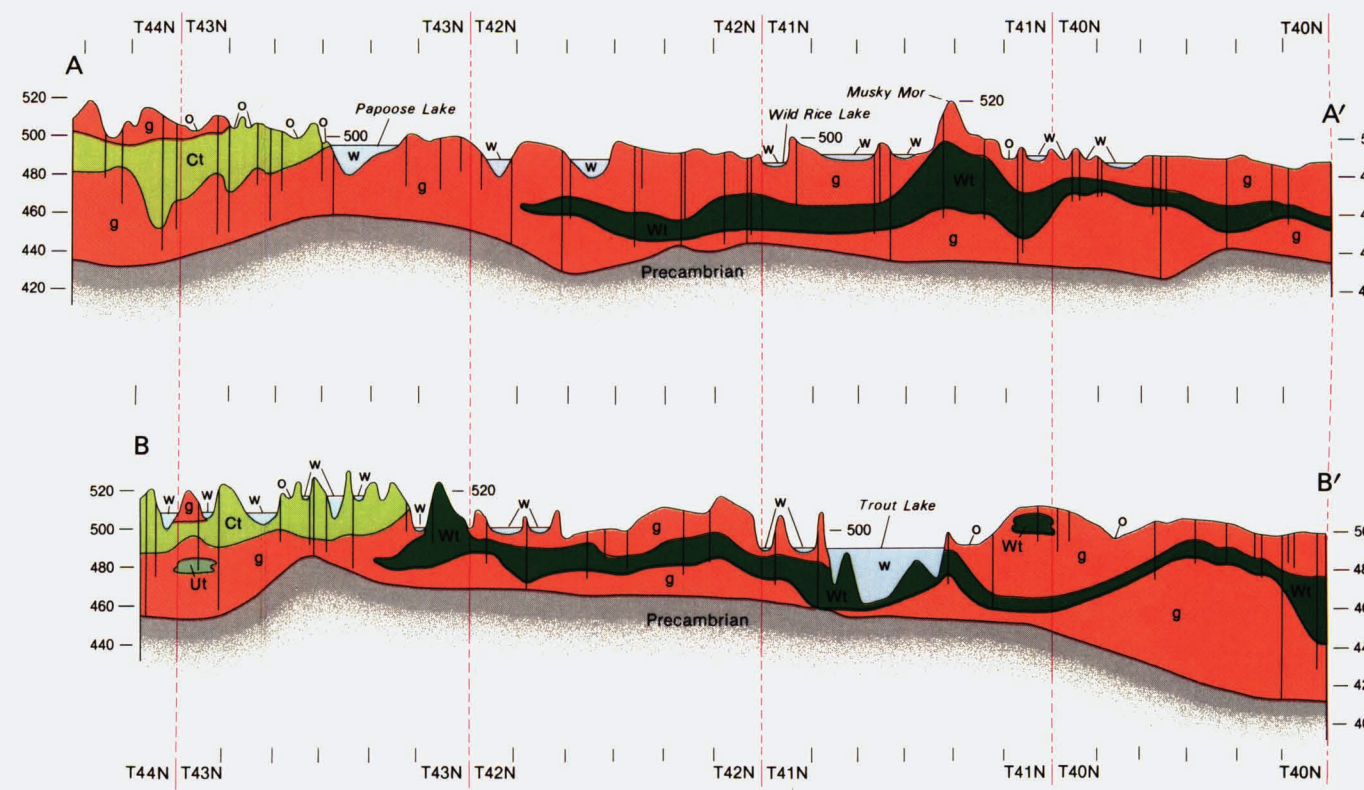
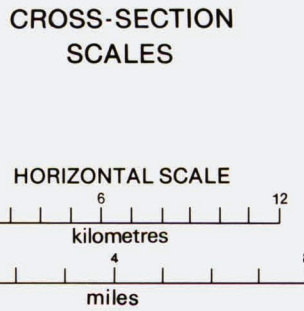
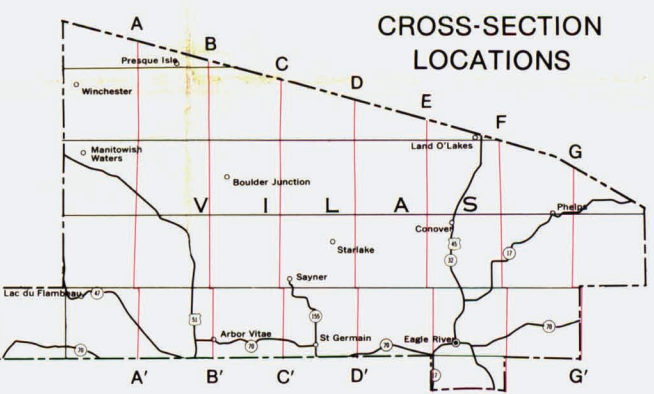
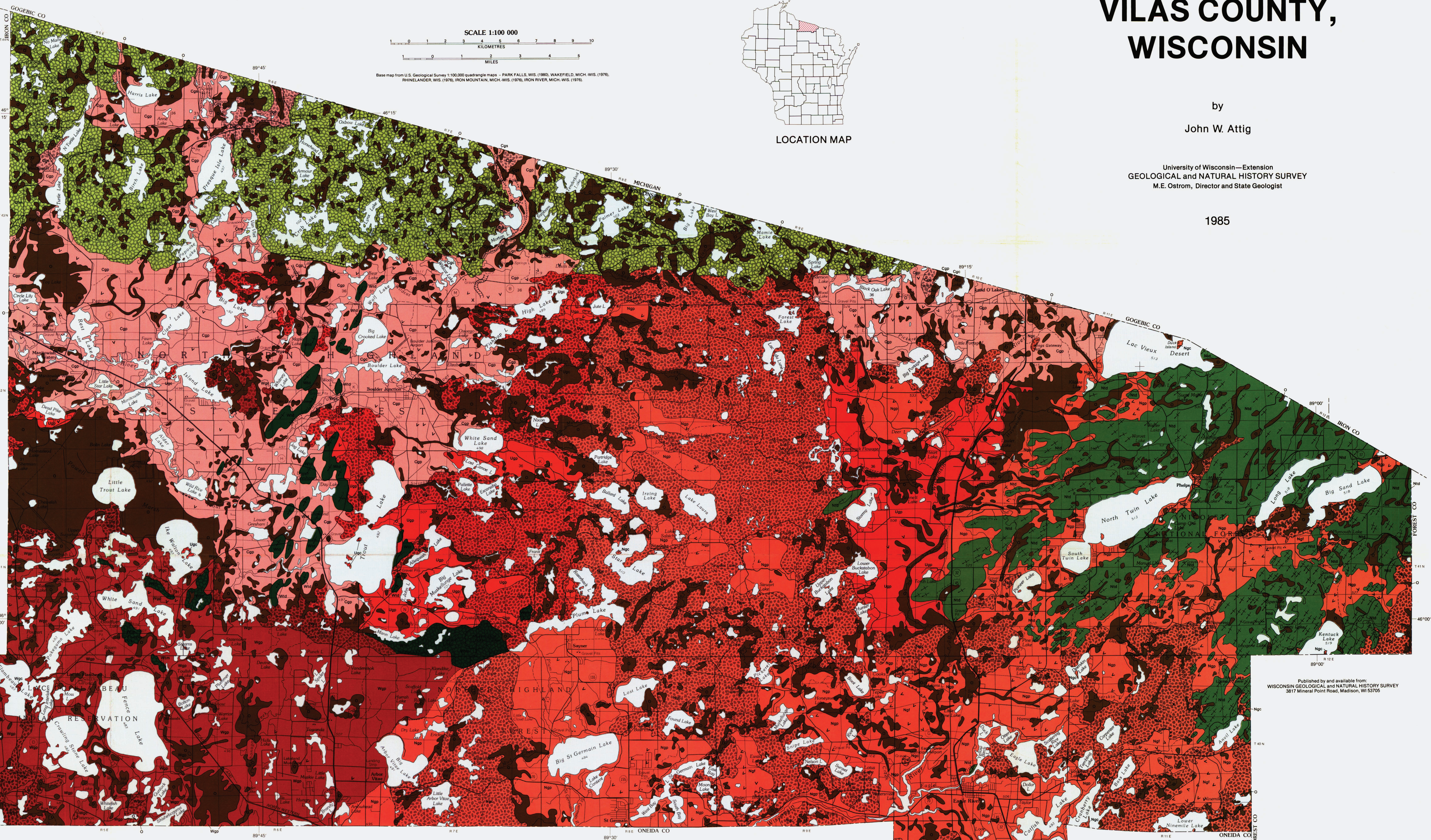
NOTE: The map area is mostly forested, exposures of geologic materials are few and the quality of available topographic maps and aerial photos differs from area to area. Map units are least precise in densely forested and roadless areas. In the Lac du Flambeau Indian Reservation the map is based primarily on the interpretation of aerial photos and U.S. Geological Survey topographic quadrangles. No detailed field studies were conducted in the reservation, and therefore the map is less precise in this area. Small areas of post-glacial stream sediment along modern streams and rivers and late glacial to post-glacial shoreline sediment around lakes are present throughout the map area. The limited extent of this sediment prohibits its being shown on the map, but it may make up a small part of most map units.

MAP SYMBOLS

- Flow direction on fluvial surfaces.
- Long axis of drumlin and direction of ice flow.
- Esker. Symbol shows flow direction and extent of fluvial sediment deposited in subglacial tunnels.
- Outcrop of Precambrian rock.
- Outbanks of glacial meltwater streams.
- Ice-contact face of ice-marginal fans. Barbs point up-ice.
- Disintegration ridges formed by the accumulation of glacial sediment in crevasses, around stagnant ice blocks, and from collapse of sediment overlying irregular ice masses. This symbol is not used where the map-unit description includes disintegration ridges.
- Ice-marginal ridge formed by deposition or glacial thrusting of sediment at the edge of active ice. The symbol is located approximately on the ridge crest.
- Clear contact between map units. This symbol is used where lithology and morphology provide good evidence for contact placement. This type of contact is judged to generally be located within 100 m of the true contact.
- Arbitrary contact between map units used to separate areas of similar morphology and lithology but interpreted to belong to different lithostratigraphic units. This type of contact is judged to generally be located within 1 km of its true location.

Each map unit (with the exception of organic sediment) is designated on the map using a three-letter symbol. The letters, defined as follows, are combined to produce the map unit designations.

First letter (lithostratigraphy)	Second letter (material)	Third letter (morphology)
C = Crab Lake Member	t = till and debris-flow sediment	m = hummocky moraine topography
W = Wildcat Lake Member	g = stream-deposited sand and gravel	s = subglacial fluvial sediment in esker
N = Nashville Member	u = uncollapsed fan	f = uncollapsed fan
U = Undifferentiated	p = uncollapsed plain	c = collapsed stream sediment
		d = drumlin topography



SOURCES OF DATA FOR SECTIONS A THROUGH G

Data for the elevation of the surface of Precambrian rock is derived from records of diamond-drill holes constructed by the F.I. Carpenter Syndicate that are on file with the U.S. Geological Survey in Madison, Wisconsin, or are reported by Allen and Barrett (1915), from seismic data reported by Okwuzie (1983), from U.S. Geological Survey seismic data (Patterson, 1984, unpublished data), from elevation of surface exposures, and from several logs of low-capacity wells on file at the Wisconsin Geological and Natural History Survey.

Data concerning the vertical distribution of Pleistocene material is derived from auger holes drilled during the course of this study and from interpretation of logs of low-capacity and high-capacity wells on file at the Wisconsin Geological and Natural History Survey.

RELIABILITY

The construction of sections A through G required several levels of interpretation and generalization that must be kept in mind by the user. All well logs used required interpretation of what lithostratigraphic units were penetrated. Each section is based on data from well logs that may occur up to 1.5 km east or west of the section line. Thus, each section represents an averaging of data. Data points for the sections (shown as vertical lines) represent up to ten or more wells.

GEOLOGIC UNITS

The letter symbols used to designate units on the cross sections are used in the same way as on the map except that the third letter, the letter designating morphology, is omitted and in the case of fluvial sand and gravelly sand (g) the first letter, the letter designating lithostratigraphic unit, is omitted.

Cartography by D.L. Patterson and M.L. Czechanski.