Bedrock Geology of Ogle County, Illinois

Legend
- Major Roads/Highways
- Other Roads/Drives
- Township Boundary
- City/Village Boundary

ORDOVICIAN SYSTEM:
- Silurian rocks, chiefly dolomite with some chert and shale, unconformably overlie the Ordovician Maquoketa Group and fill erosional valleys cut as deep as 100 ft. (30.5 m) into the Maquoketa (Larson et al. 1993; Kolata and Graese 1983; Willman 1973). The formations of the Silurian System were not differentiated in this study due to the absence of bedrock exposures and similarity in lithology of the units. The Silurian rocks range in thickness from 0 to approximately 450 ft. (0 to 137 m) in Ogle County.

Maquoketa Group: The Maquoketa Group is composed of silty, dolomitic shale to silty, argillaceous dolomite (Kolata and Graese 1983). This uppermost Ordovician unit ranges in thickness from 0 (where eroded) to about 225 ft. (0 to 69 m). The Maquoketa Group has been differentiated into four formations in northeastern Illinois; however, lithologic distinctions are not readily identifiable or mappable in northwestern Illinois. Maquoketa Group rocks were not differentiated for this study.

Galena and Platteville Groups: The Platteville and Galena Groups consist of a nearly continuous sequence of carbonate rocks (chiefly dolomite with minor limestone in northern Illinois) which overlie the Ancell Group with a minor planar unconformity marked by the occurrence of phosphatic (apatite) pellets and nodules (Willman and Kolata 1978). These rocks vary from 0 (where eroded) to 350 ft. (0 to 107 m) thick. Due to limited bedrock exposures, difficulty in identification of the formations from core or well cuttings, and similarity of their lithologies, these rocks were mapped as a single unit and not differentiated into formations for this study.

Ancell Group: The Ancell Group is generally 0 (where eroded) to 350 ft. (0 to 115 m) thick in this area and fills irregularities in the older Early Ordovician and Late Cambrian surface. The upper 1 to 15 ft. (0.3 to 4.6 m) consists of interbedded fine grained, impure dolomite, sandstone and green shale. In contrast, the majority of the group is a pure, chiefly medium grained well sorted, quartz sandstone (Willman et al. 1975). Ancell Group rocks were not differentiated for this study.

Prairie du Chien Group: The Lower Ordovician units of the Prairie du Chien Group consist of cherty dolomite and interbedded sandstone. These rocks vary from 0 (where eroded) to about 280 ft. (0 to 85 m) thick. Exposure and subsequent erosion after Prairie du Chien deposition created an irregular surface with several hundred feet of local relief upon which the Ancell Group was deposited. Rocks of the Prairie du Chien Group were not differentiated for this study.

CAMBRIAN SYSTEM: Thick sandstone and carbonate units were deposited on the underlying granite basement during the Cambrian and Early Ordovician. The strata of the Cambrian System are chiefly composed of dolomite, sandstone, siltstone and shale. Cambrian rocks exposed in Ogle County are the oldest rocks mapped in Illinois. Cambrian rocks were not differentiated for this study.