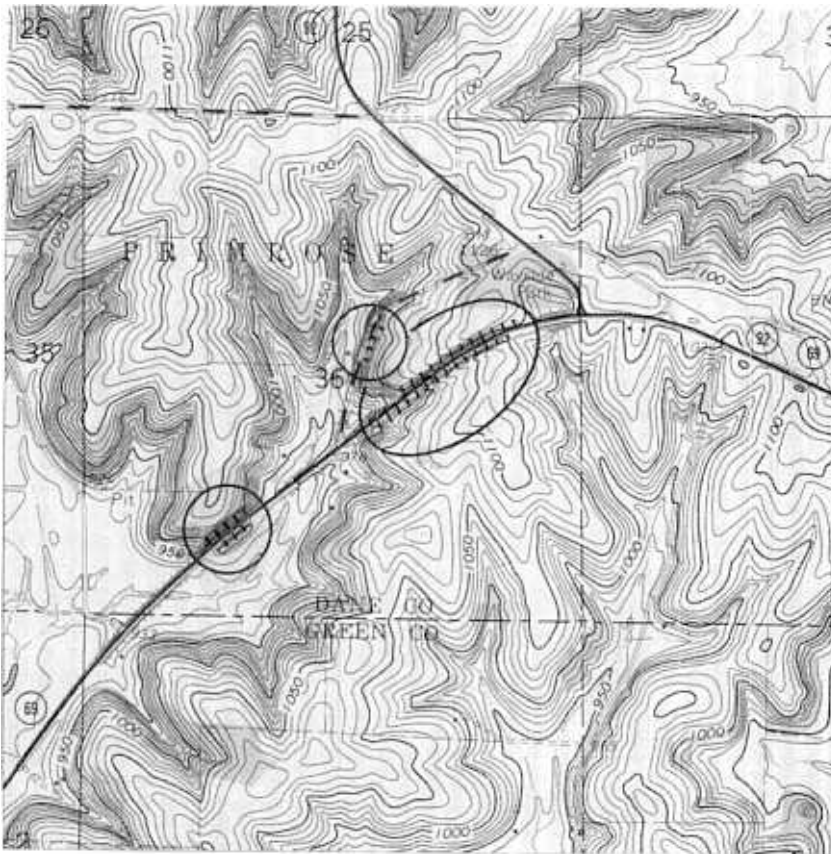


Title: New Glarus North

Location: Road cut on State Highway 69, 3.5 miles north of New Glarus and 4.5 miles west of Belleville in the SW $\frac{1}{4}$, SW $\frac{1}{4}$, Sec. 36, T.5N., R.8E., ~~Green~~ Dane County (Belleville 7.5-minute topographic quadrangle, 1962).



Author: M. E. Ostrom (modified from Ostrom, 1965 and 1970)

Description: This exposure shows the effect of the Wisconsin arch on the Glenwood Member and is an excellent place at which to observe the Platteville Formation. Note especially the character of the Spechts Ferry Member as compared to exposures at Potosi Hill and Hoadley Hill.

The Glenwood Member has been traced from near Beetown in southwestern Wisconsin to New Glarus. It has an apparent truncation at the top from west to east. Throughout the area it is overlain by a sandy dolomite bed which is from 6" to 22" thick and which contains phosphate pellets in its base (The Chana Member of the Illinois Geological Survey) and which marks the base of the Pecatonica Member. This contact is even and there is no sign of reworking such as a conglomerate. The angular relationship is believed to be depositional in origin and the contact to represent a subaqueous diastem or cessation of deposition.

The contact of the Glenwood Member with the Pecatonica Member is easily recognized because of the basal phosphatic and sandy dolomite bed in the

Pecatonica whereas that at the base of the Glenwood is very difficult to determine especially in the subsurface. Above the Glenwood Member individual thin stratigraphic units can be traced over broad areas (Templeton & Willman, 1963) whereas below it the units are limited in extent. Furthermore, the contact marks the change from rocks composed predominantly of non-calcareous clastic material to rocks composed of carbonate.

For this reason the Wisconsin Geological and Natural History Survey is considering removing the Glenwood Member from the Platteville Formation and assigning it instead to the St. Peter Formation. This would separate the predominantly non-calcareous clastic rocks from the carbonate rocks, it would provide for an easily recognizable and mapable contact on the outcrop as well as in the subsurface, and it would be a practical division for economic mapping purposes.

An additional proposal under consideration by the Survey is the grouping of all the rocks now referred to as the Galena-Platteville, or as rocks of Mohawkian age, etc., under a single name. Although the name Ottawa Megagroup has been proposed (Swann & Willman, 1963) for these rocks this name has certain unacceptable qualities. First, the name as originally applied referred to those rocks above the St. Peter, Simpson, Glenwood, or Aylmer clastics and below the Maquoketa Shale Formation. However, it has since been used to include the Glenwood Member (Templeton and Willman, 1963). Second, the name Ottawa in the upper Mississippi Valley area connotes silica sandstone mined at Ottawa, Illinois (the St. Peter Sandstone of Ordovician age), and at Ottawa, Minnesota (the Jordan Sandstone of Cambrian age). Third, its designation as a megagroup rather than as a super group or group does not conform to recommendations of the Code on Stratigraphic Nomenclature so is unlikely to meet with broad acceptance. And fourth, the name Ottawa was taken from Ottawa, Canada, which is far removed from the Upper Mississippi Valley area wherein all other names applied to subdivisions of these rocks have their derivation and is, therefore, of scant reference use to geologists working in the area.

The name under consideration is Sinnipee Group taken from Sinnipee Cemetery which is located at the top of the bluff north of the mouth of Sinnipee Creek in Grant County, Wisconsin. In this bluff nearly all of the rocks from the top of the Glenwood Member into the Stewartville Member of the Galena Formation are exposed. The missing part of the Stewartville Member, the overlying Dubuque Member, and the contact of the Dubuque Member with the overlying Maquoketa Formation are exposed less than 6 miles away near Dubuque, Iowa.

ORDOVICIAN SYSTEM

Sinnipee Group (tentative name)

Decorah Formation

Ion Member (+15 feet)

0'	15'	+15'	Dolomite, light gray mottled and streaked very light yellowish brown, medium-crystalline, medium-to thin-bedded, with green shale in partings and disseminated throughout rock. Abundant fossils, many large, especially on bedding planes. Porous zone of brachiopod molds 12" above base.
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Guttenberg Member (8.7 feet)

15' - 23.7' 8.7' Dolomite, gray mottled and streaked light yellowish brown, fine- and medium-crystalline, dense, thin- and regularly-bedded, with brown shale and argillaceous dolomite partings. Very fossiliferous; not especially the large brachiopods. Upper few feet becomes thick-bedded with persistent $\frac{1}{2}$ " green shale parting at top: upper few feet have rougher texture than lower part.

Spechts Ferry Member (1.0 feet)

23.7' - 24.4' 0.7' Dolomite, light yellowish brown and gray, medium-crystalline, appears massive but is thin-bedded. Upper 3" gray mottled light yellowish brown with abundant phosphate pellets and fragments.

24.4' - 24.6' 0.2' + 0.1' Dolomite, light yellowish brown, fine- and medium-grained, thin- and irregularly-bedded, argillaceous.

Platteville Formation

Quimby's Mill Member (15.2 feet)

24.6' - 39.3' 14.7' Dolomite, light gray, very finely-crystalline, dense, medium- and thick-bedded, regularly-bedded moderately fossiliferous (well exposed contact in NW but 15 yards NE of warning sign at S. side of road). Few chert nodules.

39.3' - 39.8' 0.5' Dolomite, light yellowish brown, fine- and medium-crystalline, dense, thin- and irregularly-bedded, trace of green clay.

McGregor Member (46.0 feet)

39.8' - 51.3' 11.5' Dolomite, light gray, fine- and medium-crystalline, dense, medium-bedded, laterally persistent beds, fossiliferous, upper few feet appear to be burrowed. Locally quite vuggy.

51.3' - 85.8' 34.5' Dolomite, very light yellowish gray, fine- and medium-crystalline, dense, very irregular and thin beds which appear nodular due to nonpersistence of beds. Locally reddish brown, thin and irregularly-bedded dolomite in basal 6" to 1'. Fossils locally abundant, especially well-preserved on bedding planes.

Pecatonica Member (20.0 feet)

85.8' - 105' 19.2' Dolomite, very light yellowish brown mottled yellowish brown, medium- and fine-crystalline, medium- and thick-bedded, weathers to thin beds, dense with

few fossil molds. Weathered surface appears to be shaly.

105.0'-105.7' 0.7'+ 0.5' Dolomite, light yellowish gray mottled very light yellowish brown, fine- and medium-crystalline, massive-appearing but weathers to thin and irregular beds. Sandy in base with rare phosphate pellets. Few fossils. Uneven base may be due to solution.

St. Peter Formation

Glenwood Member (1.7 feet)

105.7'-106.4' 0.7'+ 0.2' Argillaceous bed: basal 3" is sandstone, poorly-sorted, grains from coarse to fine size, very argillaceous; overlain by 3" to 9" of reddish brown clay; overlain by less than 3" of very light yellowish brown dolomitic clay and argillaceous dolomite. Upper contact shows marked relief which appears to be due to chemical alteration and solution of the overlying dolomite.

106.4'-107.4' 1.0'+ 0.2' Sandstone, reddish brown, coarse- and medium-grained, massive-bedded, locally cross-bedded, poorly-sorted, locally cemented with iron oxide. Contains abundant pebbles and cobbles that appear to have been derived from the underlying Tonti Member (ripclasts). Base slightly uneven.

Tonti Member (+80.0 feet)

107.4'-184.4' +80.0' Sandstone, very light yellowish brown to white, medium- and fine-grained, massive-bedded, cross-bedded, well-sorted, grains rounded and subrounded.

BASE OF EXPOSURE AT ROAD LEVEL

Significance: This exposure shows the effect of the Wisconsin arch on the Glenwood Member and is an excellent place at which to observe the Platteville Formation. Note especially the character of the Glenwood and overlying Platteville, the Quimbys Mill, Spechts Ferry, and Guttenberg.

What was the sources of the St. Peter Sandstone? From which direction? How does the Glenwood exposed here differ from that seen at Bridgeport, Lancaster, Dickeyville, and Hoadley Hill? Has the Quimbys Mill changed? If so, how? The Spechts Ferry? The Guttenberg? What is the significance of the changes, if any? Note the variety of fossils, their condition and orientation? What significance do they have? Note bedding characteristics? What is the significance in terms of depositional history?

References: Templeton and Willman, 1963; Swann and Willman, 1963; Ostrom, 1965 & 1970.