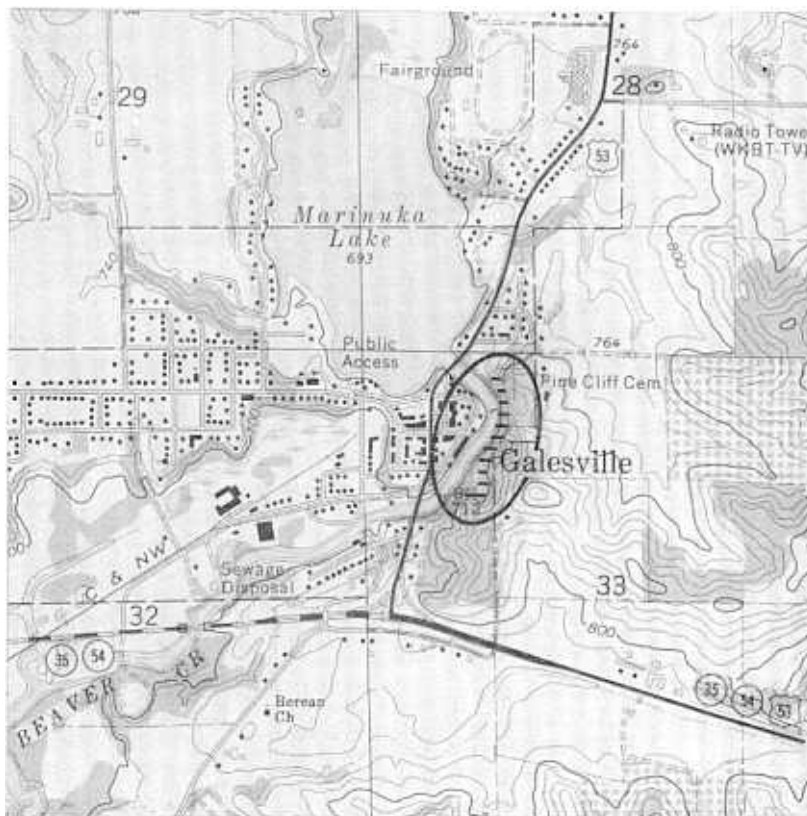


Title: Galesville

Location: Type section of the Galesville Sandstone exposed in bluff of Beaver Creek in City of Galesville in the NE $\frac{1}{4}$, NW $\frac{1}{4}$, Sec. 33, T.19N., R.8W., Trempealeau County (Galesville 7.5-minute topographic quadrangle, 1973).



Author: M. E. Ostrom (modified from Ostrom, 1966 and 1970)

Description: Outcrop is reached by walking north across highway bridge and thence east along north side of Beaver Creek. Assemble at path gate.

Discussions presented for stops at Rest Haven Gardens Town Road, Strum North, and Whitehall apply equally to this exposure. Of special interest here is the Eau Claire-Galesville contact surface which is sharp along the outcrop face and is markedly uneven. At this exposure erosion of the Eau Claire is obvious on the basis of cut-out and the presence of clasts in the base of the Galesville.

Early descriptions of this outcrop (Trowbridge and Atwater, 1934; Twenhofel et al, 1935) did not recognize the unconformable relationship between the Galesville and Eau Claire. Twenhofel et al (1935) stated that "There does not seem to be any definite evidence of physical change at this boundary." Critical examination here reveals marked physical change and in fact an unconformable relationship produced by pre-Galesville erosion of the Eau Claire. The relationship revealed here, namely that of quartzarenite resting with erosional unconformity on older rocks, is common in the Cambrian and Ordovician strata of Wisconsin and is one factor which led to a cyclic interpretation to explain the history of sedimentation of Upper Cambrian and Lower and Middle Ordovician rocks in the Upper Mississippi

GALESVILLE OUTCROP
 NE $\frac{1}{4}$, NW $\frac{1}{4}$, Sec. 33, T. 19N., R. 8W.

LONE ROCK FM.
 Birkmose Mbr.

WONEWOC FM.
 Ironton Mbr.

Galesville Mbr.

Fine-grained. Thin-bedded. Some brachiopod shell fragments.

Fine and very fine-grained, trace of medium and coarse.
 Few brachiopod shell fragments.

Medium and coarse-grained, little fine. Few brachiopod shell fragments. Thick-bedded.
 Medium and fine-grained, trace of coarse. Medium-bedded.
 Fine and very fine-grained, trace medium. Thin-bedded.
 Fine and medium-grained, trace coarse. Thick-bedded.
 Medium-grained, trace coarse and fine.

Medium-grained, little coarse and fine. Thin to medium-bedded.

Coarse to medium-grained, trace fine. Thick-bedded with some thin beds.

Fine to medium-grained, little coarse.
 Thick-bedded with few thin beds.

Fine to very fine-grained, trace medium. Thin-bedded.
 Coarse to medium-grained, little fine. Thick-bedded.

Fine to medium-grained, little coarse. Thick-bedded.
 Medium-grained, little fine and coarse. Thick-bedded.

Fine to very fine-grained, trace medium. Thick-bedded.

Medium to fine-grained. Thick-bedded.
 Medium-grained, little fine and coarse. Thick-bedded.
 Fine-grained, little medium and coarse. Thick-bedded.
 Medium-grained, little fine & coarse. Thick-bedded.

Fine-grained, little very fine. Thick-bedded.

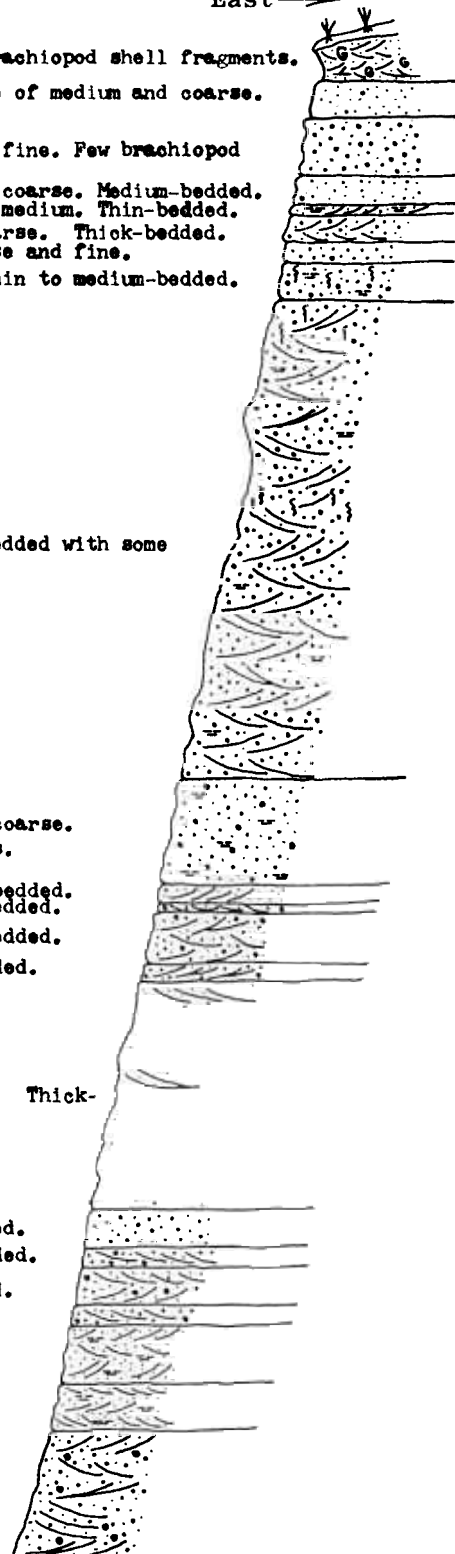
Fine-grained, little very fine. Thick-bedded.

Medium and fine-grained, little very coarse and very fine. Thick-bedded.

East →

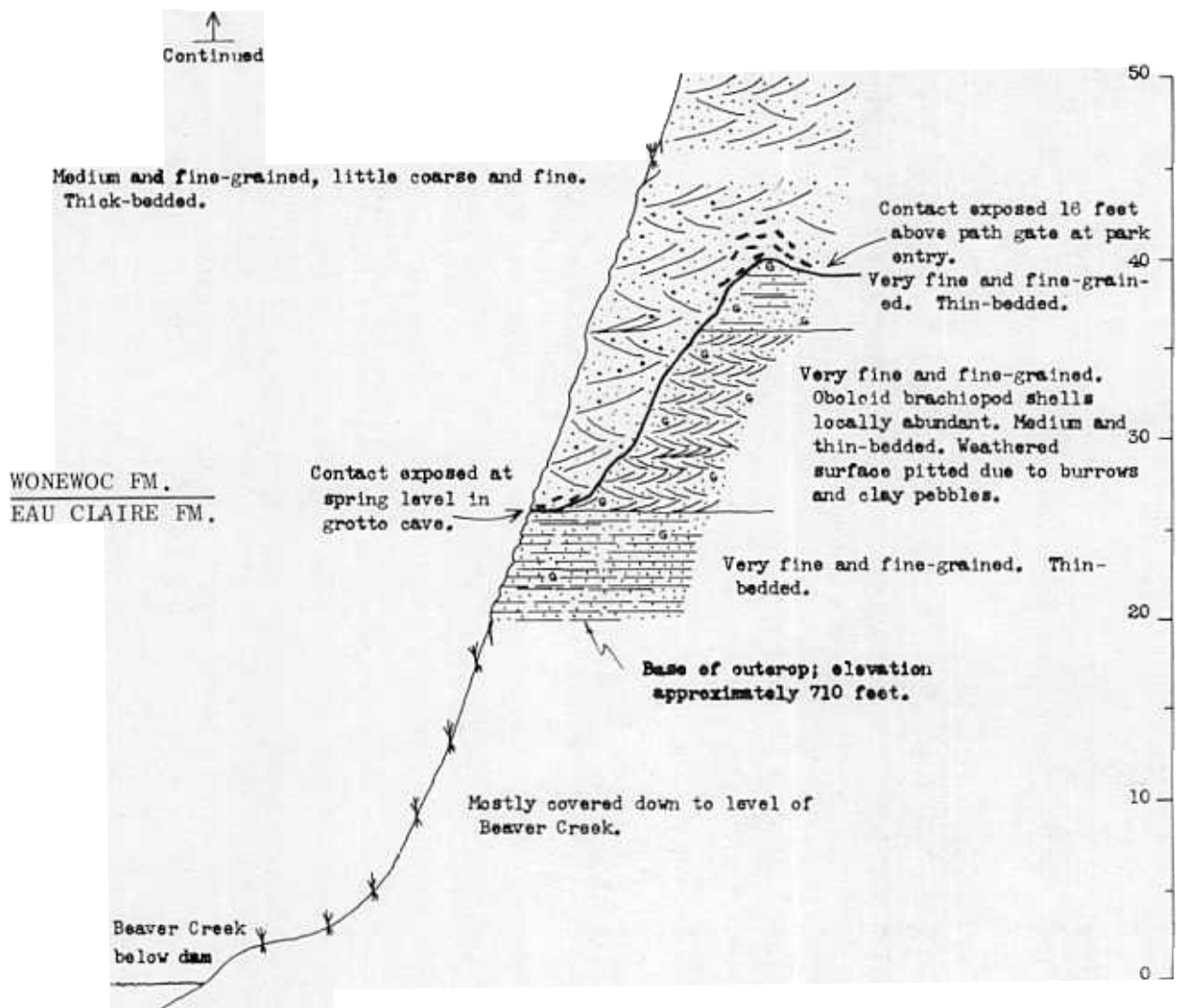
Scale
 In Feet

130
 120
 110
 100
 90
 80
 70
 60
 50



Continued
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CONTINUED



Valley area (Ostrom, 1964).

Because the contact of the Eau Claire with the Galesville is one of erosional unconformity one must re-examine the position of the Galesville with respect to its assignment to the Dresbachian Stage rather than to the younger Franconian Stage. The Galesville is separated from older rocks by an unconformity, it contains no diagnostic fossils, and it is transitional with the overlying Ironton Member which contains Franconian fossils. Furthermore, the *Aphelaspis* trilobite zone which closes the Dresbachian and which should occur in the top of the Eau Claire is missing in Wisconsin. Absence of this zone tends to support the contention of post-Eau Claire erosion.

The Birkmose Member in the base of the Lone Rock Formation thins toward the Wisconsin Arch from 15 feet just east of Galesville to less than 6 inches at Ferry Bluff north of Mazomanie (Berg, 1954). The Birkmose is one of several units in the Upper Cambrian and Lower and Middle Ordovician which thin eastward toward the Wisconsin Dome. Some of the others are the Ironton, St. Lawrence, Sunset Point, and Glenwood units.

Log of Village Well #2, located in the NW $\frac{1}{4}$, Sec. 33, T.19N., R.8W., Galesville (description by F. T. Thwaites). Elevation = approximately 720'. Base of outcrop 10' below top of well.

Alluvium

0' - 5'	5.0'	No sample.
5' - 20'	15.0'	Sand, brown yellow, grain size ranges from medium sand down to silt.

Eau Claire Formation

20' - 25'	5.0'	Shale, green gray, silty.
25' - 35'	10.0'	Siltstone, yellow gray.
35' - 45'	10.0'	Siltstone, gray.
45' - 50'	5.0'	Siltstone, yellow gray.
50' - 60'	10.0'	Shale, gray, silty.
60' - 80'	20.0'	Siltstone, yellow gray.
80' - 95'	15.0'	Siltstone, gray.
95' - 100'	5.0'	No sample.
100' - 130'	30.0'	Shale, gray, silty.
130' - 135'	5.0'	Siltstone, light gray.
135' - 145'	10.0'	Sandstone, light gray, grain size range from medium sand down to silt.

Mt. Simon Formation

-150'	5.0'	Sandstone, light gray, grain size ranges from coarse sand down to silt.
150' - 160'	10.0'	Sandstone, light gray, medium and coarse grained.
-210'	50.0'	Sandstone, light gray, coarse and medium grained.
-215'	5.0'	Sandstone, light gray, grain size ranges from coarse sand down to fine.

-225'	10.0'	Sandstone, light gray, coarse and medium grained.
-230'	5.0'	Sandstone, light gray, grain size ranges from medium sand down to silt.
230' -235'	5.0'	Siltstone, light gray.
235' -240'	5.0'	Sandstone, light gray, grain size ranges from medium sand down to silt.
-245'	5.0'	Sandstone, light gray, grain size ranges from coarse sand down to silt.
-252'	7.0'	Sandstone, light gray, grain size ranges from fine sand down to silt.

BOTTOM OF HOLE

Significance: This outcrop reveals the contact relationship of the Eau Claire Formation with the Wonewoc Formation. The initial description indicated this contact to be transitional.

Examine the textural, mineralogical, bedding, and fossil characteristics of the two formations. Based on your observations, is the contact of the two formations transitional or sharp? What is the evidence? What is the significance of the contact, texture, mineralogy, bedding, and fossil characteristics in terms of geologic history? of depositional environment?

References: Trowbridge and Atwater, 1934; Twenhofel et al., 1935; Berg, 1954 Ostrom, 1964, 1966 and 1970.