

NOTES ON OUTCROPS OF SILURIAN NEAR SUNMAN,  
RIPLEY COUNTY, INDIANA

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**Introduction.** According to Dr. Cumings (1922, 445) the Brassfield of Indiana was first recognized as a distinct formation by Dr. Foerste when he received a collection of fossils from Hanover, Indiana, sent to him by Prof. A. H. Young, who suggested that they were of Clinton age. In the older reports the Brassfield is called Clinton. Lithologically the Brassfield is a coarse grained, salmon to brown colored limestone with druses of calcite. Stratigraphically it forms the base of the Silurian of Indiana and is of upper Median age. It is disconformable with the Richmond below, and the Osgood above. The formation is easily recognized because of its unusual color, texture, and the two disconformities.

The eastern boundary of the Silurian as mapped by Foerste (1903) and checked by Cumings (1908) is about ten miles west of Sunman. (See Fig. 1). So

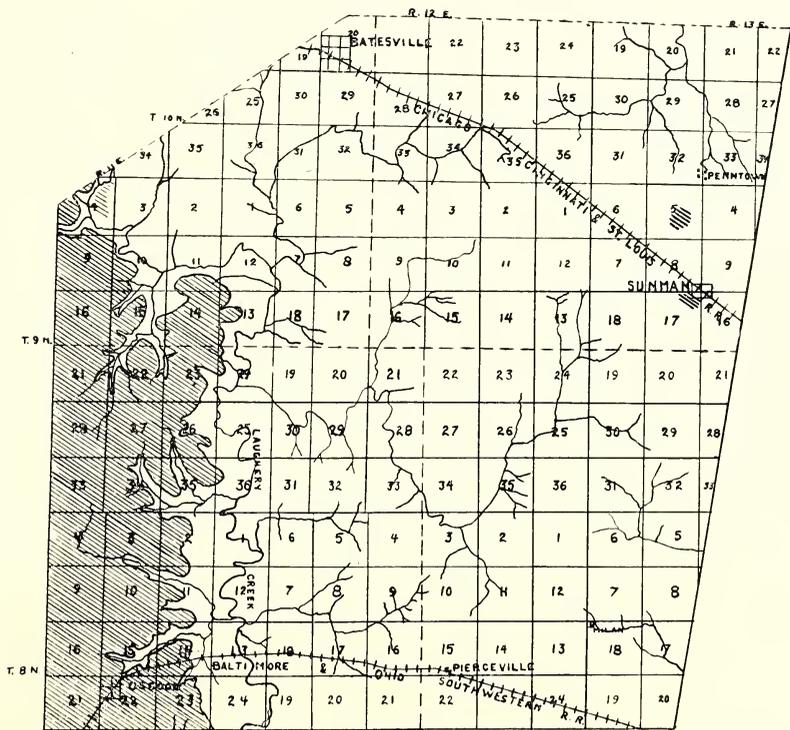


Fig. 1.

Fig. 1—Map of the Northeastern part of Ripley County, Indiana, showing the Silurian Boundary after Foerste and Cumings, and the new outcrops. The shaded areas represent Silurian.

far as the writer has been able to ascertain there has been no mention of undisputed Silurian in the region of Sunman. Borden (1875, 191) reported Niagrian in the region of Sunman. Foerste (1899, 46) says that Borden was misled by the white color of the limestone. In 1895, however, Foerste mapped the Silurian as including the area around Sunman, but does not mention any outcrops in the area. Later on the Geological map (1904) Foerste seems to have revised his boundary of the Silurian, for here it is ten miles west of Sunman as mentioned above. Dr. Cumings suggests that it is probable that the 1895 boundary was drawn on the basis of topography. An outlier of Silurian is mapped in the northwest part of Switzerland County.

Ripley County is one of the southeastern counties of Indiana. Sunman lies in the northeastern part of the county at the southwest corner of Sec. 9 N., R. 13 E.

The presence of Brassfield in the region of Sunman was first called to the attention of Dr. Cumings and the writer by the quarry superintendent at Newpoint early this fall. We visited the quarry that he mentioned at that time and identified Brassfield. Mr. G. I. Witlatch and the writer revisited the area Nov. 24th and 25th, 1930; and located one other outcrop. Adverse weather conditions made the use of an Aneroid barometer difficult, and field work unpleasant so that not as much work has been done in the field as the writer expects to do.

**Localities.** A quarter of a mile west of Sunman on the south side of the road is an abandoned quarry full of water. No Brassfield can be seen in the quarry itself but it is exposed about twenty feet south of the quarry in the stream bed. Here it forms a falls about a foot high. The formation is from one to two feet thick and has the typical characteristics of the Brassfield. Ordovician rocks underlie the Brassfield disconformably. Overlying, also disconformably, is about 6 feet of a thin bedded light colored limestone, probably Osgood. The upper 3 feet of this white limestone is exposed in the quarry above water level.

Penntown is about two miles north of Sunman. One mile south of Penntown and a half mile west are two old quarries in the woods south of the road. The Brassfield outcrops in both quarries and in the hillside south of them. It has the typical texture and brown color; a thickness of about two feet; and the two disconformities. Fossils are present in it. Below the Brassfield is a thin shaly limestone of Ordovician age. Above it, a foot or two or a thin bedded Silurian limestone is exposed. The base of the Brassfield has an elevation of about 1,005 feet. The hill south of the quarry rises some 50 feet higher. This indicates that there may be as much as 30 or 40 feet of Silurian present. The top of the hill is drift covered and no outcrop was located.

North of Penntown there is a quarry in section 28, T. 10 N., R. 13 E. No Brassfield was found in this quarry and the elevation seems to be too low to expect it. The metal on the road reported to be from this quarry contains pieces of a brown limestone that looks like the Brassfield.

**Conclusion.** Not enough field work has been done at present to completely outline the area of Silurian outcrop. It seems to be an outlier similar to the one mentioned in Switzerland County. One quarry between Morris and Batesville shows all Ordovician. The region around Pierceville has an elevation of over a thousand feet. This elevation should be high enough to catch the Brassfield. No outcrops have been located near Pierceville as yet, but further field work may reveal them.

The economic value of this work lies in the fact that there is little good road metal found in the Ordovician. After most Ordovician rocks are placed on roads they slack and form muddy roads, due to the high content of shale in the limestones. The Silurian limestones on the other hand make good road material. As there is little good road metal in this part of the county outcrops of Silurian are valuable.

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