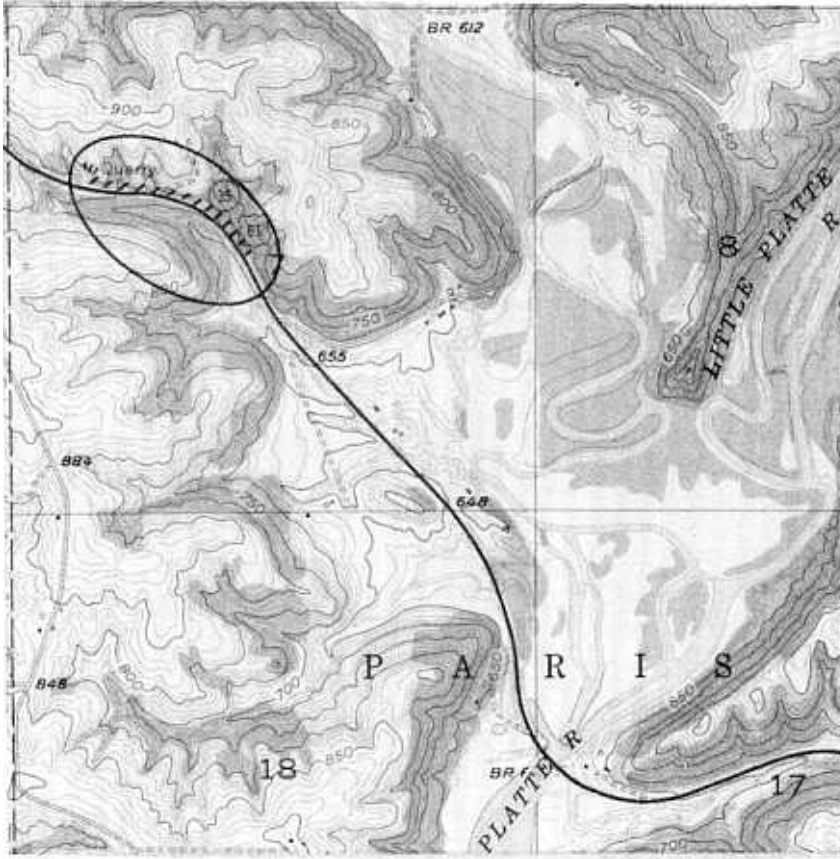


Title: Potosi Hill

Location: Roadcut at east side of U. S. Highway 61 in the SW $\frac{1}{4}$, NW $\frac{1}{4}$, Sec. 7, T.2N., R.2W., Grant County. (Potosi 7.5-minute topographic quadrangle, 1972).



Author: M. E. Ostrom (modified from Cline et al, 1956, Kruse, 1970).

Description: The lower part of the section exposed here can be examined in closer detail at the Hoadley Hill Stop. The major emphasis here is focused on the upper part which includes the Spechts Ferry, Guttenberg, and Ion Members of the Decorah Shale Formation and the lower part of the Galena Dolomite Formation. The Quimbys Mill Member consists of purplish gray-brown, sublithographic, thick-bedded, conchoidally fractured limestone with uneven upper surface and shale at its base. It is called the "Glass Rock" locally because when broken, and when broken pieces are shaken together, it sounds like broken glass.

The Quimbys Mill is overlain by the Spechts Ferry Member which consists of fossiliferous, gray-brown limestone with green shale interbeds. At this exposure two thin beds of "metabentonite" occur near its base. Metabentonite is believed to be the product of alteration of volcanic ash dust. The metabentonites are orange to light reddish brown and about 2 inches thick.

The Spechts Ferry is overlain by the Guttenberg Limestone Member which

consists of hard, finely crystalline, thin-bedded, fossiliferous, light brown, limestone with brown carbonaceous shale interbeds. The presence of these interbeds has led to the member being referred to as the "Oil Rock" in the southwest Wisconsin zinc-lead mineral district.

The Ion Dolomite Member overlies the Guttenberg. It is a gray to blue dolomite, medium-crystalline, and medium-to thick-bedded with green shale interbeds. It is locally called the "Blue".

The Galena Dolomite Formation overlies the Ion. It is a light buff to drab, cherty, thick-bedded, vuggy dolomite with medium to coarse sugary grains. The basal contact is gradational. A zone of Prasopora insularis Ulrich marks the top of the Ion Member in some areas. It is absent here.

Good fossil hunting in the Spechts Ferry and Guttenberg Members.

Near the north end of the roadcut there is a quarry in which can be seen an example of "pitch-and-flat" structure which is the main site of zinc and lead mineralization in the district. Here there is no mineralization.

Description of outcrop follows:

ORDOVICIAN SYSTEM

Galena Dolomite Formation Cherty Unit

45.8' - 65.8'	20.0'	Dolomite, yellowish-buff, medium-to coarse-grained, vuggy, abundant white chert in upper 10'.
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Decorah Formation (43.8 feet)

Ion Dolomite Member (19.5 feet) (Gray unit)

38.3' - 45.8'	7.0'	Dolomite, buff, thick-to massive-bedded, vuggy, green shale partings throughout, sparry calcite present.
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33.8' - 38.3'	5.0'	Covered interval.
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32.8' - 33.8'	1.5'	Dolomite, buff, medium-grained, medium-bedded, with green shale partings.
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(Blue unit)

27.2' - 32.3'	5.1'	Dolomite, purplish gray, medium-grained, slightly fossiliferous. Green shale present as partings, and as a 0.5' bed 0.8' below the top of the interval, calcite present.
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26.3' - 27.2'	0.9'	Shale, green. 0.3 green dolomitic shale in middle of interval.
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Guttenberg Limestone Member (15.3' feet)

- 26.3'	4.6'	Limestone, purplish brown, fine-grained to sublithographic, fossiliferous, upper 1' fine-to medium-grained, brown shale present as partings, calcite and limonite after iron sulfide present in small amounts.
21.6' - 21.7'	0.1'	Metabentonite, brownish orange, crumbly, sticky when wet.
12.0' - 21.6'	9.6'	Limestone, purplish brown, sublithographic, thin-wavy-bedded, fossiliferous, brown carbonaceous shale present as thin beds and partings, calcite and limonite present.
11.0' - 12.0'	1.0'	Limestone, brown-gray, fine-grained, thick-bedded

Spechts Ferry Shale Member (9.0 feet)

10.2' - 11.0'	0.8'	Shale, orange-gray, calcareous, and limestone, tan-gray, fine-grained, limestone 0.4' to 0.7' from base of unit.
10.2'	0.6'	Limestone, gray, fine-grained, thin-bedded.
9.6'	3.2'	Shale, gray, green, brown, fissle, some beds fossiliferous, limestone present as thin lenses near middle of the interval.
6.4'	0.8'	Limestone, tan, with iron oxide mottlings, fine-grained, thin-bedded.
3.9' - 5.6'	1.7'	Shale, gray-green-brown. Fissle, with thin lenses of gray fine-grained limestone.
3.2' - 3.9'	0.7'	Limestone, dark to light gray, thin-bedded, fossiliferous.
- 3.2'	0.5'	Shale, brown-green-orange-gray, brown carbonaceous shale parting at top, metabentonite near middle.
2.7'	0.5'	Limestone, purplish-brown, fine-grained, thin-bedded, very fossiliferous, fucoids at base.
2.2'	0.2'	Metabentonite, orange, sticky when wet, with brown shale partings.

Platteville Formation

Quimbys Mill Member (1.2 feet)

- 2.0'	1.2'	Limestone, purplish gray-brown, sublithographic, thick-bedded, conchoidal fracture, irregular upper surface, shale at base.
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McGregor Limestone Member (0.8 feet)

0.' - 0.8' 0.8' Limestone, purplish gray-brown, fine-to medium-grained, thick-bedded.

Significance: The Spechts Ferry and Metabentonite beds are not present everywhere. In addition, in the district mineralization it quite often occurs where the Spechts Ferry is thickest.

How could one account for the local absence of the Spechts Ferry Member? The metabentonite beds? How could one account for the thickening of the Spechts Ferry Shale coincident with mineralization? for the location and mineralization of "pitch-and-flat" structures?

References: Cline et al., 1956; Templeton and Willman, 1963; Kruse, 1970.