



GEOLOGICAL MAP OF THE KNOBSTONE
IN THE VICINITY OF
BORDEN AND MEMPHIS,
INDIANA.

BY
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INDIANA UNIVERSITY GEOLOGICAL
SURVEY

1897

Scale 1 Mile

THE UPPER LIMIT OF THE KNOBSTONE IN THE REGION OF BORDEN. BY LEE
H. JONES.

During the last field season of the Indiana University Geological Survey the line of parting between the Lower Carboniferous limestone and the Knobstone group was traced through township 1 south, 4, 5, and 6 east, and 1 north, 4, 5, and 6 east. In this locality there was found to be an interesting distribution of the knobstone group; and it is with this feature that this paper deals.

In general, the upper limit of the knobstone has a trend of north slightly east, keeping within a short distance of the Ohio River from the point where it crosses that stream in township 6 south until a point five miles west of New Albany is reached. Here it turns to the northeast and runs to section 22, 1 south, 6 east, where it turns directly northwest.

This line is continuous, with but slight deviation to the east or west, except in 2 south, 4, 5 and 6 east, where the overlying limestone is entirely cut through by the westward-flowing streams, leaving many isolated limestone areas capping the Knobstone hills.

From the point where the line of parting between the top of the Knobstone and the overlying Harrodsburg limestone (Lower Carboniferous) turns west, in section 22, it runs northwestward in a continuous line until it passes west of the headwaters of Muddy Fork of Silver Creek, in township 1 south, 5 east, one and one-half miles south of Pekin.

From this point it runs westward and a little to the south on the south side of Blue River, until it reaches section 33, 1 north, 4 east, where it passes beneath the drainage level and crosses to the north side of that stream.

Again the line of parting turns to the northeast, and owing to the elevation of the rocks in that direction, it is gradually brought back to the tops of the hills. At the northeast corner of section 4, township 1 north, 5 east, it again turns to the west. A glance at the map will readily show that the upper limit of the knobstone in the area under discussion forms a westward indentation, with its wider part to the east.

The overlying Harrodsburg limestone in the vicinity of section 22, township 1 south, 6 east, is very thin at its eastern and northern edges, running out to a feather edge along the line of parting. In this immediate locality the line of parting is from one to two miles from the eastern and northern face to the knob escarpment; to the west, in section 18, same

township, the parting runs out nearer the bluffs along the south side of Muddy Fork of Silver Creek. From this point westward it is carried lower and lower in the hills by the general westward dip of the rocks until it passes beneath Blue River.

It will be noticed that the head waters of Muddy Fork of Silver Creek and Blue River overlap by some ten miles, and that the line of parting passes to the south of Muddy Fork of Silver Creek and to the north of Blue River.

The region between these two streams has had its limestone removed by their combined erosion. It is interesting to note that this is the only locality in the Knobstone region where there is such an overlapping of east and west flowing streams.

The knobs of this locality are formed by a high plateau sloping gently to the west, with an abrupt slope to the east, and north on the south side of Muddy Fork of Silver Creek, and a steep south slope on the north side. The hills immediately north and south of Blue River are less rugged.

In a general way the lower limit of the group runs in a direction somewhat parallel to that of the upper limit, making a slight westward bend from block 182 to block 192 of the Illinois grant, where it crosses Muddy Fork of Silver Creek and turns to the northeast.

It will be noticed that the lower limit does not make as great a bend to the west as does the upper limit. This is due to the fact that the lower limit is very near to the drainage level of the country. In this region the lower limit of the Knobstone shale is marked by the greenish Rockford Goniatite limestone, which has a thickness of from ten inches to three feet. Immediately below the Goniatite limestone is the Devonian black shale.

FOUR COMPARATIVE CROSS SECTIONS OF THE KNOBSTONE GROUP OF INDIANA.
By L. F. BENNETT.

In connection with the geological work of the State University in 1897 several cross sections of the Knobstone group were made in order that its width and the distribution of the rocks forming it might be discovered. It is with four of these comparative cross-sections that this paper deals. The elevations were obtained by means of the aneroid barometer and the locations by placing and inquiry. As the main object