

at points where they would have disappeared if the dip presented at other points had not been reversed. I have noticed the same thing in Marion county.

A straight line from Ashley to the Jefferson and Franklin county line, south of Spring Garden, approximately marks the south-western limit of this coal. Some traces of coal have been discovered farther south-west, especially on Hurricane creek, in the north-east quarter of section 24, township 4, range 1; but I am not positive whether this is the same bed, or a lower seam in the sandstone formation. North-east of this line the coal has been observed at numerous points, except in the low and flat district on both sides of the Big Muddy and Casey's Fork, south of Mount Vernon, where no rocks have been discovered.

In the north-west corner of the county sandstone is sparingly exposed in the ravines north of the prairie, in section 6, township 1, range 1. It has been struck in digging wells at several points farther south in this prairie, along the county line. The coal has been found in wells near Irvington, about a foot thick. Some miles to the eastward, on the east side of this part of Grand prairie, on Big Muddy river and its branches, the coal and rocks are largely exposed, of which more will be said below. Near the county line, on the upper course of Ray's creek, only occasional outcrops of shales and sandstones were observed—one at the bridge on the Richview and Jefferson City road. Half a mile below that bridge, in the north part of section 8, township 2, range 1, I found in the bank of the creek some heavy ledges of sandstone, and below them slabs of the impure limestone, over a foot in thickness, partly slaty, partly compact and silicious. The coal might easily be discovered here, if search were made by digging. The same strata crops out on Cooley branch, in the south-west quarter of section 9, and tumbling pieces of the limestone are found at various points nearer Richview. Sandstones form the banks of Ray's creek at many points farther down, especially in sections 21 and 28 of this township; but still farther down the creek there are no more rocks exposed for several miles; although they may be found by digging to a small depth nearly all over the barren hills.

At the eastern edge of the prairie, some miles south-east of Ashley, the sandstones and shales, and also the limestone and coal, were observed at various points. Close to the Mount Vernon and Ashley road, at the meeting-house in the north-east quarter of section 6, township 3, range 1, sandstone crops out at the head of the ravine. A little lower down are seen blocks of the limestone; then, pieces of black slate, and in the bank, in place, shales with calcareous seams. This is evidently the horizon of the coal-bed. One mile farther south, in the north-east quarter of section 7, at Mr. HUNTER'S, the coal has actually been exposed and dug to some extent, in a ravine at the edge of the prairie, whence it is taken to Ashley and used by blacksmiths in the vicinity. The bed