

pinus, and others. The exposures of both this limestone and the underlying shales, are not such as to allow any very exact estimate of their respective thicknesses. The limestone, however, will probably not exceed twenty or thirty feet, and the shale fifteen or twenty feet in total thickness.

On the Sangamon river above the Salem mills, there are no very good exposures above high water mark, though beds of rock are said to form the bottom of the stream at one or two points. A coal shaft, however, which was sunk on the land of Mr. Sampson, in the southeast quarter of section 32, township 18, range 6, affords a section of all the beds, from the top of the upper seam of coal to the under clay of the lower and largest bed. The total depth of the shaft is a little over ninety feet, and the strata were passed through in the following order, as reported to me:

	FEET.	IN.
1. Surface soil and blue clay.....	14	
2. Black slate or shale.....	1	
3. Coal.....	1	3
4. Fire clay and shale.....	17	3
5. Hard limestone.....	4	
6. Coal.....	2	6
7. Fire clay and shale (very hard).....	39	
8. Black slate.....	1	
9. Coal.....	6	4
10. Fire clay, penetrated in sump.....	5	

It will be observed that, in this section the limestone, which generally is found just above the roof slate of the lower coal, is missing. This, however, is probably only a local peculiarity.

Another point along the bluffs of the Sangamon, where rock is said to occur, is in the northwestern part of section 15, township 17, range 6, on the land of Mr. A. Hale, where it is stated that limestone was quarried out in former times. I visited the excavation, but the rock was not visible above the rubbish, and judging from the chips, I made out the rock to be the same in appearance and fossils as that in Arnold's quarry, near Salem. The only doubt is, whether this may not have been merely a large detached mass, imbedded in Drift, like many in this vicinity.

In the northeast quarter of section 19, township 18, range 5, on the headwaters of Indian creek, there appears in the banks and beds of the stream, for about two hundred yards, a bed of light colored, nearly white, limestone, which seems to be almost entirely made up of crinoidal stems, no other fossils being observed. Half a mile or more below this, on the land of Mr. T. Kincaid, in the northeast quarter of section 24, township 18, range 6, the limestone again appears, and has been quarried to the depth of about seven feet. It is here