

## THE GLACIOLOGY OF THE DECATUR REGION

BY

M. M. LEIGHTON and G. E. EKBLAW

*Illinois State Geological Survey, Urbana, Illinois*

### ABSTRACT

The drift deposits of the Decatur region have a maximum known thickness of 222 feet and are probably to be referred to three of the ages of the Pleistocene period—the Kansan, the Illinoian, and the Wisconsin. The bed-rock surface beneath the drift probably represents a maturely eroded topography developed in “Coal Measures” strata in late Tertiary time. The maximum known relief of this surface, based on well records, is 117 feet. There are no rock outcrops in the Decatur region.

The Kansan drift is not exposed in the Decatur area, but its presence is inferred from numerous exposures south of the Wisconsin terminal moraine. An old coal shaft record from Decatur reports a black soil at a depth of 73 feet. This probably corresponds to the black soil (Yarmouth) exhibited at the top of the Kansan till in exposures further south.

Illinoian drift, covered by 2 or 3 feet of gumbotil and a black soil is exposed in a recent low, wave-cut cliff on the east side of Lake Decatur, at a point just south of State Highway No. 10. There may also be other outcrops further south along the east shore of Lake Decatur. That the Sangamon River valley below Decatur dates back to the Sangamon interglacial age is shown by its greater development west of the Shelbyville moraine and by the old slope of the valley wall with its Sangamon soil on the north side of the river at the site of the dam.

Iowan loess, about 2 feet thick and yellowish in color, is present above the old Sangamon soil in the exposure described above. Its occurrence here so far from the Illinois valley is somewhat surprising, but it may be related to the old Sangamon River valley.

The Wisconsin drift terminates about 7 or 8 miles west of Decatur which is situated on the inner edge of the Shelbyville moraine. In general, the moraine has a gently undulatory topography with a relief of 75 to 100 feet above the Illinois plain. Deposits of coarse, poorly sorted, poorly rounded gravel with foreset bedding suggesting torrential deposition, are exposed along the valley wall of Sangamon River. In sharp contrast to this is an exposure of a low valley-train terrace of finer, better rounded gravel. This valley train probably belongs either to the Cerro Gordo or to the Champaign moraine to the northeast.

Loess, generally 3 or 4 feet thick and locally fossiliferous where thicker, covers the drift in the Decatur area and is commonly leached down a few inches into the till.

The Wisconsin materials have been altered to a youthful profile of weathering, the Sangamon River has cleared away most of its terrace gravels, and short stubby tributaries of third or fourth order have begun their invasion of the adjacent uplands.

Situated as it is on the terminal moraine of the last ice sheet, and marked by good exposures of different types of glacial deposits and by deposits of older drift sheets and interglacial soils, Decatur affords a splendid opportunity to science teachers for the development of education along sound lines in natural science.