

GEOLOGICAL INFORMATION FROM THE MONROE AND LAWRENCE COUNTY SOIL MAPS.

T. M. BUSHNELL, Purdue University.

Soil survey maps and reports of Monroe and Lawrence counties, Indiana were published in 1928. The Bloomington quadrangle topographic sheet was used in part of Monroe County, but the rest of this county and all of Lawrence County were made by plane table traverse. The land was covered closely enough to see practically every 10 acres of land in the counties. The maps show all public roads, many private roads, houses, streams, churches, schoolhouses, towns, railroads, etc.

The soil survey reports tell of many correlations between the soil types and geology, topography and physiography.

From the soil types the reader may trace the outlines of uplands, terraces and first bottoms. Certain types are always on smooth level land, others on steep hillsides and still others in intermediate positions so it is easy to read certain topographic information from the soil map.

In the more rolling land there is frequently a very close correlation between the underlying geological formations and the soil types. This is so consistent that in many places, on the Bloomington quadrangle geological map, the soil boundaries could be traced directly from the geological boundary. In smoother topography the effects of weathering have so overbalanced the effects of parent materials that certain soil types cross several formations without changing appreciably.

By means of the correlations mentioned above it is possible to trace out quite accurately in these two counties the location and area of the Chester, Mitchell, Salem and Harrodsburg, and Knobstone formations. The Heltonville fault may be traced across the two counties.

The glacial boundary and old glacial lake Flatwoods are revealed on the map. There are a number of old glacial terraces or lacustrine deposits in the Salt Creek and Bean Blossom valleys.

The McGary silt loam shows the location of a peculiar backwater deposit very high in lime, which has a wide distribution along the Ohio River and its tributaries.

The soil map also reveals the location of numerous peculiarities in the drainage systems and such minor matters of interest as the geode beds along the contact of Harrodsburg and Knobstone formations; a Tertiary gravel ridge near Buddha, etc.

In lieu of geological maps and surveys in Monroe and Lawrence counties, geologists may find that the soil maps and reports record considerable geological information which may aid in solving some of their problems.

