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The Pleistocene Geology of Audubon Country, Iowa

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county. The sections are small and difficult to place in the stratigraphic column, due to the absence of key horizons. Access to strip pits and test hole records has aided in an interpretation of Cherokee sedimentation. The absence of limestones and marine shales indicates that conditions were continental; typical cyclothems are absent. Difficulty in tracing individual units points toward a basin or lagoon type of deposition.

The eastern half of the county has been mapped as Cretaceous, and 20- to 40-foot exposures of Dakota sandstone may be found in the northeastern part, especially along the upper part of the Raccoon River.

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THE PLEISTOCENE GEOLOGY OF AUDUBON COUNTY, IOWA

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The entire surface of Audubon County is covered with a thick deposit of glacial drift, loess, etc. Erosion has not been great enough in any part of the county to expose indurated rock.

Two glacial stages are represented in the drift deposits — the Nebraskan and Kansan. Loveland and Peorian loesses overlie the drift. The Nebraskan is the thicker of the drift deposits. Several wells have been drilled to or through basal Nebraskan sand, and thicknesses of Nebraskan drift of 250 to 350 feet are not uncommon. The top of the Nebraskan can be easily determined where the Nebraskan gumbotil outcrops. The outcrops of Nebraskan gumbotil are numerous in nearly all parts of Audubon County. The average thickness of Kansan drift is 55 to 60 feet. A thin deposit of Loveland loess overlies the Kansan gumbotil in places. Nearly the whole land surface is mantled with a deposit of Peorian loess ranging in thickness from a few inches to 30 or more feet.

In preparing the detailed Pleistocene map of the county, the contact between Nebraskan and Kansan deposits was drawn on the basis of the Nebraskan gumbotil outcrops and the relationship of the Nebraskan gumbotil level to the present topography.

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