



HUMUS STRATIGRAPHY AS A CLUE TO PAST VEGETATION IN OKLAHOMA*

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Harper in his study of soils points out the significance of buried soils as a clue to past climates. Buried strata of humus-containing material have been found throughout the state. A study of such strata by the authors for the past several years leads them to believe, in many respects, these are as valuable in climate studies as mature soils. Deposits of this nature have been found in the following places in the state as shown in Fig. 1: (1) along the South Canadian from south of Norman

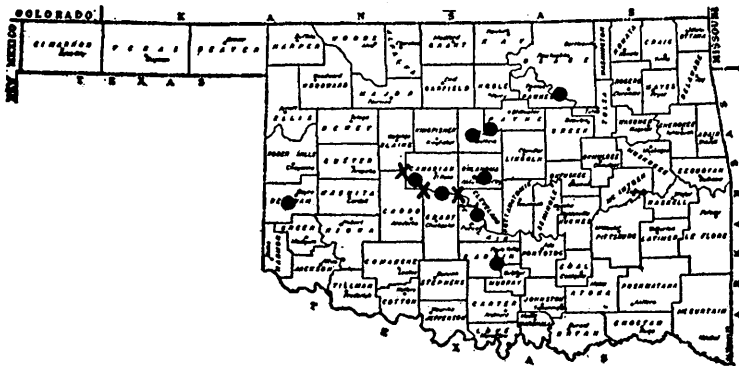


Figure 1. This map shows the approximate location of the deposits in the state. The dots indicate that all four strata were found while the x's indicate that only the upper layers were exposed.

intermittently to the Canadian-Blaine County line; (2) twelve miles northeast of Oklahoma City along the North Canadian River; (3) near Guthrie on the Cimarron River; (4) near Erick in Beckham County on the North Fork of the Red River; (5) and finally near Wynnewood on the Washita

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River. The strata found in the above places have all been strikingly similar in appearance, varying only in thickness, and always consisting of four dark layers alternating with four light layers. The lighter layer is always thicker than the dark layer above it. The strata were built up in the old river terraces. Several rivers in the state are now cutting down and exposing these formations. For the sake of convenience and simplicity these strata have been labelled in the following manner: the uppermost dark or black layer, i. e., the present surface, has been labelled A-1, the dark layers below A-2, A-3, A-4a and A-4b respectively. The light or sandy layers just below the surface and alternating with the dark layers and have been labelled C-1, C-2, C-3 and C-4 respectively (Fig. 2). Along young streams more recently acquired by the older streams only the upper strata are found, the number probably varying with the age of the stream.

A study is now under way to correlate these strata with past climatic changes. The authors also hope to be able to correlate the time of acquisition of the younger streams by the older ones throughout the state. Since the study is largely a survey the authors would appreciate knowing the exposure of such strata as found by other workers in the state.

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Figure 2. This photograph is a close up of the strata showing the four alternating dark and light colored deposits.