
Differentiation of Pleistocene Deposits in Northeastern Kansas by Clay Minerals

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Abstract: Seventy-four samples from eight stratigraphic sections of lower Pleistocene glacial and glaciofluvial deposits in Doniphan County, extreme northeastern Kansas, were analyzed using X-ray diffraction techniques. Clay-mineral assemblages of the $<2 \mu$ fraction of these deposits are nearly identical, consisting of a mixed-layer clay mineral associated with minor amounts of kaolinite and illite.

An attempt was made to differentiate units of till and nontill deposits by using the relative intensities of 001 reflections of "mixed-layer mineral," kaolinite, and illite. At least two tills were recognizable. Associated nontill deposits, could not be differentiated from one another, although the nontills are easily distinguished from tills.

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