

1926

Water-Table of the Loess

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Recommended Citation

Keyes, Charles (1926) "Water-Table of the Loess," *Proceedings of the Iowa Academy of Science*, 33(1), 219-219.

Available at: <https://scholarworks.uni.edu/pias/vol33/iss1/43>

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WATER-TABLE OF THE LÖESS

CHARLES KEYES

(*ABSTRACT*)

McGee, Calvin, Bain, Todd, and other Iowa geologists, repeatedly direct attention to the occurrence of an "iron streak" in many loess sections. No offer is made of an explanation of its possible origin. In recent, extensive, street-grading operations in Des Moines, clue is given to this phenomenon. It does not reveal itself usually in small exposures or in building excavations. But in long hill-side grades it is found to be the line of the old water-table, the level of phreatic waters, and, as shown by filled-up wells of the early settlers, to be the depth to which they had to dig in order to obtain their permanent water supplies for domestic purposes.

In a hill-side cutting passing through two till-sheets separated from each other by loess bed 20 feet thick, the iron-streak follows the contour of the sloping ground-surface, about 12 feet down, and thus cuts diagonally across all three deposits. This limonite streak appears to be due to the oxidation of the iron carbonate in the ground-waters at the surface of the latter. In places these ground-waters appear to have oscillated considerably, and in the loess to give rise to phenomenon of "stratified loess."

DES MOINES, IOWA.

TERRANAL AFFINITIES OF IOWA CHALKS

CHARLES KEYES

(*ABSTRACT*)

With the larger perspective of the Cretaceous formations recently opened out to the west of us, between the Missouri River and the Rocky Mountains, the depositional relationships of our Iowa terranes take on new aspect. Above the basal Dakota sandstone, so well represented in our state, all of the great black-shale sequence, including the Benton, Pierre, Masuk and other similar divisions, is now regarded as a single provincial deposit, com-