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A NOTE OF PROGRESS ON THE STUDY OF THE IOWAN-WISCONSIN BORDERS

E. J. CABLE

During the past year the writer has found some time to continue his investigations of the Iowan and Wisconsin borders.

As stated in a former article,¹ there is a strong field evidence that the Iowan margin in Hardin and Grundy counties will need to be revised, especially in the vicinity of Eldora, Hardin county. Owing to the thinness of the Iowan drift, the high state of its weathering, and its complex relations to the loess, much more detailed work will be necessary before a definite boundary can be determined upon.

There are suggestions that a terminal moraine of Wisconsin age in Cerro Gordo county continues into Worth county, to the east of the Colby moraine, as outlined by Calvin in Cerro Gordo county.

Mr. I. A. Williams in his report of the geology of Worth county,² divides the Wisconsin drift into two distinct areas. This division was made upon the field evidence of (1) the freshness of contours, and (2) drainage. The eastern terminal moraine belt is located in the northwestern part of Northwood township, the extreme eastern part of Hartland township and the southern part of Brookfield township, see map, figure 35.

About six miles to the west of this outer moraine is a second irregular belt of drift which Mr. Williams calls the inner terminal moraine. This moraine exhibits its most marked characteristics in Bristol and Fertile townships. In the last named township this inner moraine coincides with the outer moraine.

This same prominent ridge, while making a sharp turn in sections 35 and 36 of Fertile township, continues to the south and west in Cerro Gordo county.

Some work was done on the moraine in Cerro Gordo county in an attempt to determine, if possible, whether two distinct moraines were present in the county. More work will be necessary before definite conclusions can be reached.

¹ Iowa Acad. Science, vol. 26, 1919, pp. 399-404.

² Iowa Geol. Survey, vol. 10, 1900, pp. 320-321.

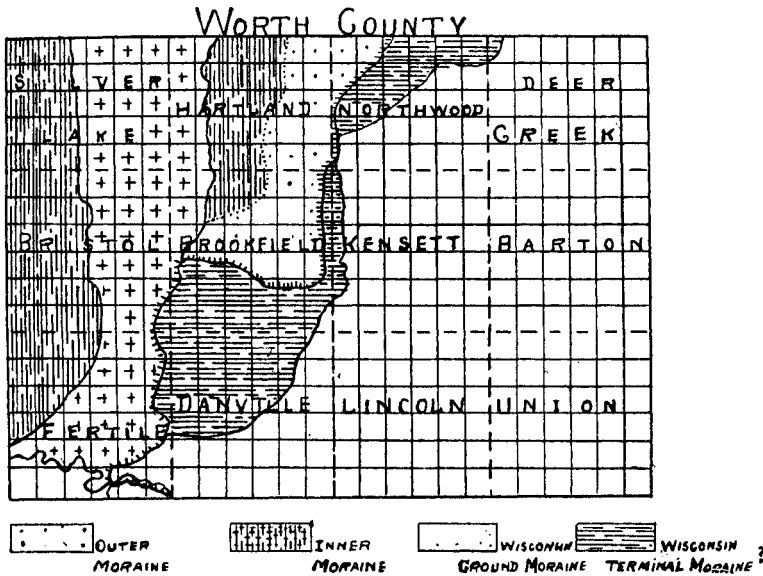


Fig. 35. Map showing the moraine in part of Worth county.

Work done in Worth county has revealed evidence which seems to warrant Mr. Williams' contention for two distinct moraines or advances of the Wisconsin ice-edge. During the summer of 1917, a large drainage ditch was in the process of construction. This ditch, where it cuts through the terminal moraine, sections 3, 10, 14, and 23, Fertile township, was carefully examined in all parts of its course through the terminal moraine and many sections noted. The following section is quite typical of many others that might be given.

	FEET	INCHES
5. Black loamy soil.....	3	6
4. Bluish gray clay, highly calcareous.....	10	
3. Sand, uniform in texture, rather fine, filled with small pelecypod shells.....		4-6
2. Vegetable zone, filled with tree trunks, 1 inch to 3 inches in diameter.....	1	
1. Clay, compact, of bluish color.....	Base	

It would seem that the animal and vegetable life, should they prove to be interglacial between the first and second advances of the Wisconsin ice, are criteria that may furnish some measure of the time interval between the two advances.

After the first advance and retreat, enough time must have elapsed to permit vegetation to take hold on the surface and life to inhabit the marsh or lake areas. The sand represents probably

It seems highly possible that the drift marked as Wisconsin, located to the east of the outer moraine (see figure 35) is Wisconsin terminal moraine drift and represents the earliest advance of the Wisconsin ice-edge. It is between this drift and the junction of the inner moraines of Williams that the above section was obtained. What is mapped as inner and outer moraine drift material by Williams may prove to be but local oscillations of the same advance, as the ice-edge was, no doubt, very lobate.

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