

1937

## New Mapping of Geological Boundaries of Northwest Iowa

A. C. Tester

*Iowa Geological Survey*

*Let us know how access to this document benefits you*

Copyright ©1937 Iowa Academy of Science, Inc.

Follow this and additional works at: <https://scholarworks.uni.edu/pias>

---

### Recommended Citation

Tester, A. C. (1937) "New Mapping of Geological Boundaries of Northwest Iowa," *Proceedings of the Iowa Academy of Science*, 44(1), 133-134.

Available at: <https://scholarworks.uni.edu/pias/vol44/iss1/35>

This Research is brought to you for free and open access by the Iowa Academy of Science at UNI ScholarWorks. It has been accepted for inclusion in Proceedings of the Iowa Academy of Science by an authorized editor of UNI ScholarWorks. For more information, please contact [scholarworks@uni.edu](mailto:scholarworks@uni.edu).

the enormous thickness such as might be little suspected from inspection of the present day Iowa field alone; there is a like notable metamorphism of the sediments while in the depths, with an accompaniment of extensive batholithic intrusions of granite; there is then a marked epirogenic uplifting, and beltic folding, out in the middle of the geosyncline, in present Nebraska, Kansas, and Oklahoma, which orogenics is commonly designated as the buried Nemaha mountains; there is further, a complete razing of the old elevations that rose in their day as majestically perhaps above the general plains-surface as do the Rocky Mountains in our day above the Colorado plain.

Great as our Coal Measures seem to us today, they were, in the beginning, a hundred-fold greater.

DES MOINES, IOWA.

---

## NEW MAPPING OF GEOLOGICAL BOUNDARIES OF NORTHWEST IOWA

A. C. TESTER

The existing geological maps of Iowa show a continuous blanket of Cretaceous rocks underlying the glacial drift of northwest Iowa. Previous workers have recognized that the Cretaceous was not continuous under the drift and might have a very irregular distribution along the borders as mapped. As a result of over two years of extensive sub-surface studies, assisted during the last nine months by H. G. Hershey, considerable revision of the boundaries of the Cretaceous has been made.

In the preparation of the new geological map of Iowa now in press a review was made of the literature and well records, and the available samples were studied and every effort was made to differentiate the formations and map them according to these data. Three major areas of the Cretaceous are recognized, namely, the southwestern, the west-central, and northwestern. In the first the Cretaceous is composed entirely of lower Dakota sandstone and some of the middle shale member; the west-central area is nearly the same but includes in some parts the upper sandstone; the northwestern area is mapped as "Cretaceous undifferentiated" as it is known to include in some parts beds of the Carlile shale and

intervening formations. The northwestern area is definitely separated from the other areas by various Paleozoic formations.

IOWA GEOLOGICAL SURVEY,  
IOWA CITY, IOWA.

---

### NEW SUB-SURFACE DATA FROM LYON COUNTY, NORTHWEST IOWA

A. C. TESTER

During the summer of 1936 a well was drilled for a municipal water supply at Larchwood, Lyon County. The location is in the extreme northwestern corner of the state, being three miles south of Minnesota and eight miles east of South Dakota. Sioux quartzite is exposed less than seven miles to the northwest. The total depth of the well is 560 feet, which includes 324 feet of glacial material and a complete section of the known upper Cretaceous of western Iowa. The Cretaceous beds are classified as Carlile, Greenhorn, Graneros and Upper Dakota sandstone, the latter being the water producing zone.

The water in the basal Pleistocene sand is highly mineralized and has a hardness of 70 grains, but that of the Dakota sandstone is of good quality, the hardness being 410 parts per million or approximately 24 grains per U. S. gallon.

This well record so near the Sioux quartzite land mass is of major importance in the interpretation of the stratigraphy and structure of northwest Iowa.

IOWA GEOLOGICAL SURVEY,  
IOWA CITY, IOWA.

---

### EARTHQUAKE HISTORY IN IOWA

MRS. M. M. SEEBURGER

A summary of shocks felt in Iowa during the last 125 years with brief notes concerning each. Seismic regions surrounding Iowa were reviewed briefly.

DES MOINES SEISMOLOGICAL STATION,  
DES MOINES, IOWA.