

XL. ARKOSE OF THE NORTHERN ARBUCKLE AREA

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From the Oklahoma Geological Survey.

In the western part of Pontotoc County and extending northward into Pottawatomie County and westward into McClain County is a thick series of arkosic beds which bear an important time relation to the orogenic movements of the Arbuckle area. The writer suggests that these beds be known as the Pontotoc series.

On passing downward through the stratigraphic column it has been observed that the arkose terminates suddenly along a very sharp contact line and that below this line no megascopic feldspar is to be found through a section of more than 1,000 feet.

At a point in the southwestern part of the Allen oil field, in the eastern part of Pontotoc County there is a thin conglomerate sandstone which is also slightly arkosic. The character of this material, however, is quite different from that of the arkose to the west and it is therefore concluded that its source was not the same as that which contributed the Pontotoc series.

With the exception just noted in the Allen field no arkosic beds have been found anywhere below the Pontotoc series in the entire stratigraphic section lying along the northern flank of the Arbuckle Mountains.

Included in the Pontotoc series there are several limestone conglomerates, and in these, pebbles have been found containing fossils which clearly indicate that the conglomerate materials were derived from the limestones of the Arbuckle Mountains which are only a few miles distant. This evidence is taken to indicate that the arkosic material of this series was likewise derived from the Arbuckle Mountains.

A collection of plant fossils obtained from the central part of the series was sent to Dr. David White, who stated that the assemblage indicated an upper Pennsylvanian age for the associated strata.

It is the writer's conclusion that the basal portion of the Pontotoc series represents the time equivalent of the period at which the Arbuckle Mountains were first worn down to their igneous core.