

changing the subdivision of the Glenn formation and giving some new suggestions in regard to correlation of its parts. After extended studies at the eastern end of the Arbuckle mountains, G. D. Morgan in Circular No. 12 of the Oklahoma Geological Survey places the Franks conglomerate below the center but not at the base of the Pennsylvanian series.

XVI. A STUDY OF SOME CONGLOMERATES NEAR THE EASTERN LIMITS OF THE RED BEDS OF OKLAHOMA

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The conglomerate described in this paper was studied in the following localities. Twelve miles east of Norman, six miles east of Moore, and over an area several miles square northeast of Jones, Oklahoma. The same conglomerate is found near Guthrie, Oklahoma, and is also known to extend for several miles northeast of Jones. It is always found associated with red sandstones and is sometimes interbedded with them. It is composed of concretions and fragments of sandstone mixed with sand. The cement is probably calcium carbonate as it effervesces freely with acid. The conglomerate occurs in lenses from a few inches to four or five feet thick. In some places the lenses are of considerable extent and give somewhat the appearance of being continuous. It is somewhat more resistant to weathering than the associated sand stone and this results in benches and butte-like forms wherever there has been considerable erosion. The lenses are found through a section of the sandstone nearly 100 feet thick and often appears to be in horizons about 20 feet apart. As many as four of these apparent horizons were found in making a survey near Jones. The tendency of the conglomerate to hold up erosion and form buttes and benches has led in some cases to attempts being made to use it in running oil structures.

It seems to be impossible to distinguish the lenses apart at different elevations and it is quite probable that they do not occur in definite horizons but are scattered here and there through the sandstone. They were undoubtedly laid down at the same time as the surrounding sandstone. They were probably deposited in a shallow sea near a shore of massive sandstone to the east. As this sandstone eroded and broke up the coarser material was gathered into lens-like masses by water currents and these lenses covered by sand that was later consolidated.

Both the irregularity with which the conglomerate was laid down, as well as the mode of its formation would prevent its being used successfully as a horizon in locating structures.

XVII. NOTES ON THE AREA LYING BETWEEN THE NORTHWESTERN EDGE OF THE ARBUCKLE MOUNTAINS AND THE WILDHORSE SANDSTONE

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Introduction

Due to some differences of several men regarding the age of the rocks in this area, the following report was made after careful study and several field trips. Valuable aid in working this out was received from Dr. C. E. Decker.

Several articles have been written concerning the Arbuckle mountains region in general but no detailed report has ever been made on this particular area.

Location

The area described herein includes all or part of the following:

Secs. 1 to 7 inclusive, T. 1S., R.2W.

Secs. 24 to 29 inclusive, T. 1N., R.2W.

Secs. 31 to 36 inclusive, T. 1N., R.2W.

Secs. 13, and 19 to 36 inclusive, T. 1N., R.1W.

Secs. 2 to 8 inclusive, T. 1S., R.1W.

Carter, Garvin, and Murray counties, Oklahoma.

Topography

The region is quite rough with elevations ranging from 800 to 1500 feet above sea. Drainage is to the east to the Washita river through Wildhorse creek and its tributaries, Eight Mile and Masse creeks.

Geology

The most common rocks in this area are red, blue, yellow, brown, and purple shales; and red, yellow, brown, salt and pepper, and black sandstones. The evidence seems to indicate that these are Permian (as Permian is now considered), either included in or equivalent to a central portion of the Enid formation. Adjacent to the mountains lies a series of nonfossiliferous limestones and conglomerates, varying in color from a lavender to white, gray and brown. These are only found close to the mountain mass and thin out away from it, running into the Permian shales and interbedding with them, showing them to be Permian also.

The limestone is massive, without cleavage, bedding planes, or