

**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.