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## EQUIVALENTS OF THE WEWOKA FORMATION

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The Pennsylvania rocks that crop out north of the Arbuckle Mountains, in Oklahoma, are of two intergrading and interfingering facies; a southern facies in which sandstones are conspicuous, and a northern facies in which limestones are conspicuous. These are called by some geologists the continental and the marine facies, but even the southern facies is dominantly marine. In general, the Arkansas River alluvium and associated recent deposits several miles in width occupy the belt in which the two facies intergrade and inter-finger and render it difficult to establish correlation between mappable rock units of the two facies.

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The writer has spent the greater part of the 1950 field season on areal mapping for the new Geologic Map of Oklahoma, now in preparation, and in the course of this work he has traced the Lenapah limestone southward across the Arkansas River and into the upper part of the uppermost of the four sandstone zones of the Wewoka formation. For all practical purposes we can now say that the top of the Wewoka is stratigraphically the same as the top of the Lenapah limestone.

Unfortunately no such close correlation can be made for the base of the Wewoka. The lowermost sandstone zone of the Wewoka is lenticular northward from the latitude of Henryetta, but it has been traced with fair assurance to Conjada Mountain in the northeast part of T. 16 N., R. 15 E., where the base of the Wewoka lies roughly 100 feet above the Fort Scott limestone. The Fort Scott extends northward to the Kansas-Oklahoma line, and there are sandstone lenses in the overlying Labette shale, north of the Arkansas River. Some of these lenses are probably equivalent to the lowermost sandstone zone of the Wewoka, but the writer is reluctant to venture more definite correlations.

It follows, then, that the equivalents of the Wewoka formation, in the latitude of Broken Arrow, north of the Arkansas River are in descending order: the Lenapah limestone, the Nowata shale, the Oologah limestone and an indefinite part of the Labette shale. Farther north, from the latitude of Talala, northwestern Rogers County to the Kansas-Oklahoma line, the Oologah limestone divides into two named limestones (Altamont and Pawnee) and an intervening shale (Bandera) and in this area equivalents of the Wewoka are, in descending order: the Lenapah limestone, the Nowata shale, the Altamont limestone, the Bandera shale, the Pawnee limestone and part of the Labette shale.

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