

EMENDATION OF THE PECAN GAP CHALK (CAMPANIAN) OF NORTHEASTERN TEXAS

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ABSTRACT

The outcrop of the Pecan Gap in northeastern Texas can be divided into two parts at the change in strike from west-southwest to south. The eastern part of about 100 kilometers extent is composed of chalk with marly partings and thin interbeds which are separated from the underlying Wolfe City Sand by a pronounced disconformity. The upper contact with the overlying Marlbrook marl varies, being conformable in some exposures and obscurely disconformable in others. The southern part is composed of a silty marl unit, hitherto unnamed, and an overlying chalk that contains considerable quartz silt and fine sand. These two units appear to be conformable with one another and with the Wolfe City and Marlbrook. At the junction of the two parts where the change in strike occurs, there is a small area of about 2 square kilometers with good exposures of an impure chalk that is distinguished by an abundance of glauconite and phosphorite, quartz silt and fine sand, and abundant pelecypod prisms, as well as flaggy bedding and spectacular bioturbate structures. The geometric relations of this unit, or facies, to the others could not be established.

The base of the two chalks and the calcarenite appear to be correlative because of the coincidence with the appearance of *Globotruncana ventricosa* White, a planktonic foraminiferal marker for the Campanian. The appearance of *Globotruncana calcarata* Cushman indicates that the uppermost chalk is younger in the central portion of the outcrop than at either end.

The silty marl and quartzose chalk of the southern part are proposed to be new members of the Pecan Gap Formation. The strange impure chalk of the limited central area is also defined as a new member despite the uncertainty of its geometric relations to other units.

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