

STRATIGRAPHY OF THE FREDERICKSBURG DIVISION IN SOUTH-CENTRAL TEXAS¹

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ABSTRACT

Sediments of the Fredericksburg Division in south-central Texas were deposited on the slowly subsiding west flank of the Tyler Basin. The region under consideration extends from Comal to Coryell County. In this region there are three stratigraphically unique sub-areas. The Southern Area lies in Comal, Blanco, Hays, Travis and southern Burnet counties. It is characterized by a thick Edwards limestone unit overlying a thin Walnut sequence. The Intermediate Area consists of Williamson and eastern Burnet counties. This area has a thinner Edwards sequence, and the Comanche Peak Limestone intervening between the Edwards and an expanded Walnut Formation. The Northern Area, consisting of Bell, Coryell and southern Lampasas counties, has the Paluxy sand at the base of the Fredericksburg, further expansion of the Walnut formation, accompanied by an attenuated Edwards biohermal limestone, so characteristic of this formation in north-central Texas.

The Walnut formation consists of four units, from bottom to top, the Bull Creek limestone, Bee Cave marl, Cedar Park limestone and a sequence of marls below the Comanche Peak. The Cedar Park is emended to include only the nodular fossiliferous limestone below the oolite and pellet limestone occurring at the Cedar Park quarries in Williamson County. This oolitic unit, lenticular in shape, is considered to be a lentil of the Edwards limestone. The oolitic-pelletal lentil is a carbonate bar-type deposit some 30 to 40 miles long, 5 miles wide with a general northwest trend. The upper marls of the Walnut formation and the Comanche Peak limestone thin toward the crest of the bar-type deposit and are soon lost to the south by intercalation with the Edwards limestone. A similar oolitic rock body, also lenticular, is present in the Edwards in the vicinity of Moffat, Bell County.

The Edwards, Comanche Peak and Walnut are intergradational one into the other. The Walnut-Paluxy contact in southern Coryell County is unconformable, but the two units are probably time equivalents regionally. The Fredericksburg-Trinity and Fredericksburg-Washita contacts are interpreted to be unconformable.

¹ Based on Ph. D. dissertation, University of Texas, June, 1961.