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DRAFT



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by
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COMMENTS TO MAP USERS

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<http://geoinfo.nmt.edu/publications/maps/geologic/ofgm/home.html>

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Ptd—Tansill Formation---Dolomite facies (Guadalupean)
Ledge to cliffy dolomite at the base of the Tansill formation. Sugary dolomite to dolomitic limestone, tan to gray to light tan fresh, light gray to tan to creamy white weathered. Local pisoids and ooids. Planar to crinkly-laminated to massive. Possible mudcracks. Thin to medium tabular beds with undulose to planar bedding contacts. Bedding tabular and blocky. Evaporolitic porosity and "vesicular" weathering. Local solution breccia. Contact with overlying Ptm facies is gradational. Thickness: 0-40 feet (0-12 m).

Water well location (used in this study)

The Gatuna Formation likely represents the earliest Pecos River deposits and may be older than middle Pleistocene, but is likely post Ogallala Fm. The Gatuna Fm. represents a north- to south-directed river system that underwent a significant valley-filling episode. This unit is not fully within the present landscape position in that it is not confined to the modern Pecos Valley, but parallels it in a broader region between uplands to the west and east.

Two hypotheses address the landscape position of the Quaternary deposits in this quadrangle. The preferred hypothesis is that the deposits underlying the hills in the quadrangle (Qamg2) are the same deposit as that in the topographically lower surrounding landscape (Qaes/Qagp2). Another hypothesis is that these deposits at higher elevations are an older deposit and that the hills represent eroded terraces preserved in the landscape. This latter hypothesis is not favored due to: insignificant differences in carbonate development; same composition of clasts (provenance); calcareous surfaces follow land surface; and no terrace risers observed. In keeping with the first hypothesis, Qamg2 and related deposits are the oldest known Quaternary deposits in the field area. They are post-Ogallala Flm (and post Gathusa Flm—TQg) and pre-modern Pecos River, and likely represents the ancestral (Pleistocene) Pecos River in a setting analogous to the modern Pecos River. Although most of the alluvial gravels in the quadrangle may be approximately the same age, they may be polygenetic.

Aeolian deposits (Qaes) in the area are dominantly confined to the eastern side of the Pecos River (downwind side), within a mile-wide belt east of the Pecos River. The main sand source for these dunes is from the paleo- and modern Pecos River deposits.

DeFord, R.K., and Riggs, G.D., 1941. The Tansill Formation, West Texas and southeastern New Mexico: *Am. Assoc. Petroleum Geol., Bull.*, v. 25, no. 9, pp. 1713-1728.