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## Petrographic and SEM Analyses of the Fort Terrett Formation of the Lower Edwards Group, near Junction, Texas

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GCAGS Explore & Discover Article #00397\*

[http://www.gcags.org/exploreanddiscover/2018/00397\\_urwin\\_and\\_nielson.pdf](http://www.gcags.org/exploreanddiscover/2018/00397_urwin_and_nielson.pdf)

Posted September 29, 2018.

\* Article based on an abstract published in the *GCAGS Transactions* (see footnote reference below) and delivered as an oral presentation at the 68th Annual GCAGS Convention and 65th Annual GCSSEPM Meeting in Shreveport, Louisiana, September 30–October 2, 2018.

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### ABSTRACT

The Fort Terrett Formation was deposited on the western edge of the Comanche Shelf in Central Texas. The predominate lithology of the Fort Terrett Formation is a micritic limestone that caps the hills that surround Junction, Texas. Deposition of the Fort Terrett Formation occurred within shallow, quiet waters during the Early Cretaceous. Rose (1972) developed a general stratigraphic correlation and lithostratigraphic framework for the Cretaceous shelf and established a regional correlation. Four stratigraphic divisions have been recognized in the Fort Terrett Formation. These are a basal nodular unit, a burrowed unit, a dolomitic unit, and the Kirschberg evaporites. In the Junction area, measured sections by Rose (1972) of the Fort Terrett Formation contain the lower two units which are the burrowed unit, distinguishable by bioturbation, and the basal nodular unit. Nine sections of the Fort Terrett Formation were measured along road cuts on I–10 near Junction, Texas and hand samples were collected. This study has divided the Fort Terrett Formation into six micro-facies by petrographic and SEM analyses in the Junction area to determine smaller order sequences. These data were then used to divide the Fort Terrett Formation into three lithostratigraphic units. The lower unit contained thick-bedded micritic limestone with sparse macrofossils representing an open marine carbonate platform. The middle unit contains thinly bedded limestone with extensive chert nodules and fossils that indicate intertidal to subtidal facies. The upper unit contained thick-bedded limestone with dolomite indicating supratidal facies and fresh water diagenesis. These units along with the six facies trends are indicative of climatic changes as the western interior seaway regresses.