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## Depositional Systems and Stratal Architecture of the Lower Cretaceous (Aptian) Pearsall Formation in South Texas

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### ABSTRACT\*

The Lower Cretaceous (Aptian) Pearsall Formation is a widespread Gulf of Mexico unit, comprising limestone, sandstone, and siliceous mudstones that were deposited during a second-order flooding over the older Sligo shelf. In the Maverick County area of southwest Texas, siliceous mudstones and possibly argillaceous wackestones within the sequence are being explored and developed as a shale-gas play. The offshore Pearsall fine-grain facies were deposited in dysareobic to anaerobic environments that preserved organic carbon. The Pearsall shale-gas trend will probably extend to the east along the outer shelf, where the high-TOC (total organic content) facies are well developed. The limiting exploration factor will be economics related to depth temperature.

\*Due to various circumstances, the full peer-reviewed manuscript was not available for inclusion within the Technical Papers section, but is available in the [Addendum](#).