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

David Hull¹ and Robert Loucks²

¹Jackson School of Geosciences, The University of Texas at Austin,
1 University Station C1160, Austin, Texas 78712-0254

²Bureau of Economic Geology, The University of Texas at Austin,
University Station, Box X, Austin, Texas 78713-8924

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](#).