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PUSHING BACK THE FRONTIER ... Geologic Characterization of a Tight Sand near the Economic Limit of Production, West Flank Moxa Arch , Wyoming, USA

The Frontier sandstone along the west flank of the Moxa Arch provides a timely example of the challenges involved in development drilling along the fluid edge of a tight gas reservoir. Regional geologic mapping, based on extensive well log control and limited core data, defines depositional facies trends within a structural context. Borehole imagery is being used to augment the facies identification in a sequence-stratigraphic framework, and to delineate sandstone-body geometries and paleo-transport directions. Borehole image observations and engineering data are also being used to identify fracture/in-situ stress interrelationships in order to optimize well stimulation practices. Understanding the geometry of structural/sedimentologic attributes helps to provide an explanation for well productivity and a basis for understanding economic limits to field development.