

Petroleum System Attributes of the Bossier Shale of East Texas and Barnett Shale of North-Central Texas: Evolving Ideas and their Impact on Shale and Tight Sand Gas Resource Assessment

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ABSTRACT

Conventional versus unconventional gas resources: What's the difference? The obvious response lies more likely in the trapping mechanisms and the unusually low permeability and microporosity of sand and shale holding significant resources at a basin scale in unconventional traps when compared to the finite and discontinuous high porosity-permeability reservoirs in conventional ones. Insights from the Bossier Shale compared with the Barnett Shale reveal some fundamental aspects of the petroleum system that lead us to revisit the recently challenged idea of "basin-center gas accumulation" and shed some light on the specifics that induce such accumulations. Far beyond any other considerations, the geological history of the basin together with the source rock quality and richness have been found determinant in the occurrence and distribution of the fluid in the unroofed versus sealed system offered by these two examples from east Texas.