

Burgos Basin: Undiscovered Resources

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The Burgos Basin is located in the Northern part of Mexico, within the Rio Grande Embayment that extends through southern Texas. Around 4,000 wells have been drilled in this basin. Marine and non-marine Tertiary Formations deposited in the basin produce dry to wet gas from very tight sandstone reservoirs ($K < 1\text{mD}$). The Basin also exhibits an over-pressured regime approximately below 9,000 ft. The Five Texas counties across the Rio Grande, next to the Burgos Basin, show comparable characteristics related to areas, geological settings, and hydrocarbon generation history and trapping mechanisms. Despite these similarities, there is a significant difference in the gas production history between these two areas. Texas fields have produced around 26 TCF while the Burgos fields have produced between 6 to 7 TCF as of 2001. The larger production and development maturity of the Texas fields are mainly due to a much higher competition (over 100 operators versus a single operator in Mexico), and a bigger gas demand. The possibility of discovering additional gas reserves in the Burgos Basin seems to be vast and not difficult to estimate. However, it is important to predict the possible field sizes that remain undiscovered in the basin. This task is difficult to assess; therefore, in order to approach this goal, the "US Geological Survey estimation procedure" was applied to assess the sizes of undiscovered gas fields. This evaluation indicates a considerable number of small, undiscovered fields, with the additional possibility of larger fields yet to be found.
