

TG15

The Role of Geomechanical Engineering in enhancing production in Integrated Tight Gas Developments

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SUMMARY

The challenges associated with tight gas developments include, the low initial production rates and the rapid production fall-off within the first years of production for any well. Tight gas developments require a multidisciplinary approach in which each element of a field development is addressed in order to develop the gas resources optimally.

Each project will need to optimize the technologies and approaches used in order to successfully develop the tight gas resources. Experience from around the world may be relevant to some of these developments, but direct technology transfer from one field to another may not be relevant when the tight gas resources are on different continents with different geology and geological histories.

This paper and presentation will address some of the experience gained in the Middle East and relevant North America experience during the appraisal phases of tight gas developments, focusing on how aspects of Geomechanical Engineering applied to stimulation design can be used to optimize initial production rates. In addition, it will address, as projects move from appraisal to the development stages, how Geomechanical engineering considerations may help in maintaining the production (reducing the production decline curve), through phased and structured development drilling campaigns.