TG16

High stress anisotropy : a common feature of Tight Gas Reservoirs ?

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SUMMARY

Experiences from three fields involving appraisal and development of Tight Gas Reservoirs (TGR) located in completely different regions share common geomechanical features, especially high in situ stress anisotropy that has a strong impact on drilling and stimulation operations. The presentation will start by introducing stress anisotropy impact in the context of TGR. Geomechanical models of stresses and other mechanical properties for the three fields and the methodology used to determine them will then be shown. Finally, an analysis of the impact of geomechanical conditions on drilling and stimulation operations will be investigated. Among the major issues identified is the optimization of the well trajectory, i.e. azimuth and inclination, according to several criteria that are wellbore stability, especially feasibility of under balanced drilling, interception of natural conductive fracture, success of hydraulic fracturing.