

Unconventional Shale Gas Reservoir characterization using the HitCube approach – Mapping of Marl Rich Mudflows in the Horn River Basin

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Abstract

In unconventional reservoirs, occurrence of marls is a significant risk for production. It is a major challenge to be able to locate and quantify them. As the marl thickness is often below the seismic resolution, an advanced characterization technique is needed. The HitCube inversion is an efficient stochastic inversion to predict rock properties based on the comparison between the real seismic data and synthetic seismic data modeled with a large set of 1D Earth models (pseudo-wells) derived from real wells. The HitCube inversion resulted in a 3D prediction of the marl distribution and its relative amount.