Geostatistical Prestack Inversion for Sand Thickness Prediction and Porosity Estimation in Sabriyah Field, North Kuwait

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Abstract

The Ratawi formation is an unconventional clastic play in Kuwait that has been extensively studied. In the Sabriyah field, only a few wells have produced oil from the sands within the Ratawi Shale. These sands are discrete but have a good porosity. Additional efforts to understand the nature of deposition, entrapment, play, etc., are required for further exploration and development. Inversion technology was used to enable us to integrate various data types to achieve a reasonable geological interpretation. The estimation of reservoir properties in the Ratawi Shale formation, based on geostatistical partial stack inversion, produced reliable results that can be used for successful exploration well planning and future field development drilling.