Abstract:

The Hassi Messaoud field is the largest oil field in Algeria extending over 1600 km2. It is important to emphasize that producing oil from the Hamra Quartzites unite was a first experience for Sonatrach and a question “challenge” related to the reservoir properties remain answered. The ultimate goal of such detailed reservoir description is to aid in assessment of hydrocarbon reserves, selection of well location and prediction of performance of fluid displacement. In the last twenty years, geostatistics and stochastic modeling have emerged as promising approaches to integrate different source of data to enhance reservoir description. The distributions of reservoir properties in the initial version of the geologic model were generated using deterministic technique. Further deterministic 3D field modeling of the reservoir were performed (using Petrel software) at reservoir scale to provide a quantitative expertise of the studied reservoir. Furthermore, to build such a realistic 3D model, geological knowledge of the sedimentary architecture is fundamental.