

Sequoia reservoir evaluation through conventional petrophysical analysis in Eastern Mediterranean, Nile Delta, Egypt

Abstract

The Sequoia Field, in West Delta Deep Marine concession, represents deep marine slope channels in Nile Delta of Egypt. The main hydrocarbon bearing formation is the Late Pliocene El Wastani Formation. Sequoia Channel of the El Wastani Formation are considered as the main reservoirs of Sequoia Field. Well log data analysis, of five wells were accomplished using computer software programs (e.g. Interactive petrophysics (I.P.) Software was used in petrophysical evaluation for Petrophysical analysis, in terms of determining the effective porosity, shale volume, and reservoir fluid saturation of Sequoia Channel of El Wastani Formation, is the primary aim of this study in order to achieve better determination of the reservoir quality in Sequoia Field. We found that Sequoia Channel of El Wastani Formation is having high storage capacity properties permit them of bearing a good amount of hydrocarbon fluids in the Sequoia Field. It was found that effective porosity ranges between 19% and 29%, shale content ranges between 10% and 28%, the water saturation ranges between 15% and 40%. It is clear that the facies effect is the main factor that is controlling the distribution of the petrophysical properties.