A.K. Mohamed Emmam, Int J Petrochem Res. 2018
http://dx.doi.org/10.18689/2638-1974.a2.006

madridge CONFERENCES

2nd International
Oil and Gas Conference

December 3-5, 2018 Dubai, UAE

Integration of Seismic Interpretation and Petrophysical Studies on Hawaz Formation in J-Field NC-186 Concession, Northwest Murzuq Basin, Libya

A.K. Mohamed Emmam
Geology Department, Mansoura University, Egypt

This study has been carried out by the integration of seismic interpretations and the wellogging analysis of ten wells distributed in J-field of concession NC-186, Murzuq basin, Libya. Twenty (3D) seismic lines and ten wells have been analyzed. The results of this study indicated that,the main reservoir in this concession is Hawaz Formation. Hawaz has been split into 8 units with a sub division of Hawaz H4 into three subunits with the objective of better characterization of thethree general fine upward intervals. The lower interval of H4 zone presents the better reservoirproperties. The depth of reflector H4 ranges from 4100 ft in the northwestern part of the study areaand increases to 4600 ft in the southeastern part of the study area. In this study, the outline of the Hawaz paleo highs which is NC-186 Field ‘‘J” is generally trending in the NW-SE direction. Thewell logging analysis particularly quick look interpretation indicates that Hawaz Formation in the studied wells is mainly oil-bearing with some water-bearing sand levels at the horizons from H4 to and H6 which are potentially the main reservoirs. The water bearing zones are beyond thesehorizons starting from the sub-horizon H6c and the oil water contact is probably at depth 4495 ft. The cross plot of porosity-saturation for H5 and H6b indicates firmly that these horizons are indeedat irreducible state and will produce mainly oil as indicated in J4-NC186 well, while the cross plot of H8 shows wide scattering of points which is the main characteristic for water producing horizon.

Keywords: Murzuq basin; Hawaz Formation; Seismic; Hydrocarbon potentialities; Petrophysical parameters