

Reservoir evaluation by methods of seismic interpretation, fault/seal analysis and petrophysics of Balkassar oil field, Upper Indus Basin, Pakistan

Asad Taimur; Muhammad Fahad Mahmood and Zeeshan UI Hassan Abbasi

Bahria University Islamabad

asad07.t@live.com

Abstract

Balkassar is one of the oldest and tectonically complex onshore oilfields in the world. Geologically, the subsurface impression is a flat topped, salt cored, pop – up anticline and the area has a well developed petroleum system. The major part of oil/gas has been produced from fractured carbonates of Eocene Chorgali and Sakessar formations. This study aims to interpret the limited available seismic and well data to evaluate the structural trap and the sealing affect to check the cross fault leakage through Allan Diagram. To achieve this goal, 2D seismic data and wireline logs from Oxy 1 are interpreted, zones of interest marked and formation fluids characterized. The petroleum system and hydrocarbon potential of the area are also analyzed in this study. Seismic interpretation highlights the area as highly conducive to hydrocarbon accumulation, the area has all elements of petroleum system, fault/seal analysis reveals optimum sealing affect and petrophysical interpretation yields excellent hydrocarbon potential.