

**STRUCTURAL INTERPRETION AND PETROPHYSICAL
ANALYSIS OF EAST BADIN AREA, LOWER INDUS
BASIN, PAKISTAN**



By

MUHAMMAD HASNAIN

FRAZ RASHID

BILAL ARSHAD

**Department of Earth and Environmental Sciences
Bahria University, Islamabad**

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ABSTRACT

Seismic final stack sections comprising of East Extension Badin block of Badin area were provided for this research by the department of Earth and Environmental Sciences, Bahria University Islamabad through Directorate General of Petroleum Concession (DGPC). The main purpose of the dissertation is to evaluate the structure and hydrocarbon potential using seismic and well log data of East Badin area, Lower Indus Basin, Pakistan. Badin District is located in Sindh Province of Pakistan. Normal faults are generated in Lower Indus Basin as a result of entire Southern Basin exhibiting the extensional tectonics showing the horst and graben structures with former being of great exploratory importance. The targeted Formations were of Cretaceous age. For structural enhancement, four migrated seismic lines i.e. 864-RP-14, 864-RP-16 and 874-RP-22 (dip lines) 874-RP-27 (strike line) were used. Time and depth contour maps of three horizons, Pab Sandstone formation, Parh Limestone and Lower Goru Sandstone were generated which confirmed the Horst and Graben structures in the subsurface. In this research study the well data of Palari Sarki-01 was obtained from DGPC in the form of well logs. This was an exploratory well located in the Lower Indus Basin. Neutron log, Density log, Gamma log, SP log and Resistivity logs were analyzed for petrophysical analysis. The logs were used to determine lithology, volume of shale, petrophysical and seismic parameters for reservoir estimation.

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