

**2D SEISMIC INTERPRETATION AND
PETROPHYSICAL ANALYSIS OF SANGHAR AREA,
LOWER INDUS BASIN, PAKISTAN**



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Thesis submitted to Bahria University, Islamabad in partial fulfillment of the requirement for the degree of BS in Geophysics

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Dedication:

Dedicated to our Parents for their support and fulfilling all our wishes, also dedicated to our teachers who have devoted all their efforts to guide us through the rocky course of life, especially to our supervisors for their continuous support and help.

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ABSTRACT

The basic objective of this study is to get preliminary understanding of the subsurface structural trend and stratigraphy of the Sanghar area in lower Indus basin, which is located in the south western territory of the Indian plate. Careful seismic data interpretation has resulted in outcomes such as time and depth contour maps. Average velocities are used to find the depths of the formations for seismic section. The main objective of this project is to describe precisely the subsurface geometry with the help of different seismic techniques in order to understand the petroleum system of the study area. Our main concern is on the interpretation methodology adopted in order to highlight the horizons, and time and depth contour maps are generated along with petrophysical analysis of the concerned area. The study area is tectonically present in extensional regime, dominated by horst and graben structures. Grabens are of huge exploratory importance as they act as a kitchen area of hydrocarbon generation. Study area holds all the major elements of the petroleum system verified by a number of oil and gas discoveries. However some seismic reflectors were not distinctive. It was realized that to interpret these horizons and to improve seismic resolution, a denser seismic grid most likely 3D seismic is required. Thus, interpretation of these horizons should be left for the future study.

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