

**2D SEISMIC INTERPRETATION AND PETROPHYSICAL
ANALYSIS USING AMIRPUR WELL-01 OF CHAKWAL
AREA, UPPER INDUS BASIN, PAKISTAN**



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ABSTRACT

The basic objective of the study is to get preliminary understanding and knowledge of the subsurface structures trend and stratigraphy of the cited area. Seismic interpretation eventually resulted in outcomes as time and depth contour maps, which assisted to understand the subsurface structures for further exploration.

Migrated seismic lines and Well logs of well AMIRPUR-01 of CHAKWAL area were obtained from Bahria University, Islamabad. This dissertation contains the study of 2D seismic reflection data interpretation of selected seismic lines of Chakwal, Northern Indus Basin, Pakistan, for delineation of subsurface structures favorable for hydrocarbon accumulation. Amirpur is situated in the Chakwal district of Punjab province. The data comprised eight seismic lines, base map, and well tops of well Amirpur-01.

Four prominent reflectors (Blue, Red, Green and Purple) were marked on the basis of their reflection, which represent Sakesar/Chorgali Formation and Khewra Formation respectively. Reflectors were identified with the help of well top data, after conversion of time to depth with the help of average velocity. Two-way time (TWT) from the seismic sections and average velocities were used to create TWT and Depth Contour maps of Sakesar and Khewra. In the end, by the examination of the maps, more study of the area is suggested especially on the down thrown side, and for Khewra Formation.

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