2D SEISMIC INTERPRETATION AND PETROPHYSICAL ANALYSIS OF MEYAL AREA, UPPER INDUS BASIN, PAKISTAN

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ABSTRACT

In the present study the subsurface structure analysis and hydrocarbon potential of the Meyal area was determined by the seismic interpretation and petrophysical analysis, respectively. The utilized data in the study consists of four dip lines and one strike line. The well log data was also obtained for the petrophysical analysis. In the seismic data interpretation the horizons were marked on the Formation tops named as Chorgali Formation, Sakesar Limestone and Lockhart Formation and faults were identified. The time, velocity and depth contour maps were constructed to delineate the subsurface structures of the study area. The hydrocarbon potential of the study area was examined based on petrophysical analysis of Meyal 10 well concluded. In Meyal 10 well, zone of interest was marked to find the hydrocarbon bearing zone, the average hydrocarbon and water saturation in this zone. By the aid of seismic interpretation the reflector were identified as Chorgali Formation, Sakesar Limestone and Lockhart Formation, it was then cross checked with the petrophysical analysis and the same result was concluded.

In Meyal 10 well, the zone of interest have been marked within Sakesar Limestone for petrophysical analysis. The average water and hydrocarbon saturation in zone were 65% and 35% whereas the average porosity and effective porosity were 5.39% and 3.36%, respectively. However, the well went abandoned due to the high water saturation and lower effective porosities in this zone.

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CHAPTER 3

SEISMIC DATA INTERPRETATION

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