

Abstract

The present study pertains to the modeling of the productive zones from seismic and well log data. This was carried out by using seismic lines, 805-SK-20, 805-SK-18 and 795-SK-05R, and well log data of Dhodak-05 provided by the Directorate General of Petroleum Concession. The area is important for its hydrocarbon (gas & oil) structural traps. The Dhodak Gas Oil Condensate field was acquired by OGDCL. The area lies in the Middle Indus basin and the reservoir encountered during the study of well Dhodak-05 is Pab Sandstone Formation.

During the study of seismic sections, first of all I pick the prominent horizons on the seismic sections on the basis of Synthetic Seismogram. In the interpretation, four reflectors were marked and named as Dungan Formation, Pab Sandstone Formation, Mughal Kot Formation and Chiltan Formation respectively. Then time of each reflector was noted against each shotpoint. Moreover I have prepared time, depth and velocity contour maps of Pab Sandstone on the base map. Formula used for the conversion of time into depth is given below:

$$S = V \cdot T / 2$$

In Petrophysical studies, first of all I determine the Reservoir parameters that are Volume of Shale, Porosity (Density* NPHI or Sonic), Resistivity of Water, Water Saturation and Hydrocarbon Saturation. During petrophysical interpretation different cross plots were constructed like porosity, volume of shale, Hydrocarbon saturation, Water Saturation against depth interval which shows the behavior of the reservoir.

Acknowledgement

All praises for almighty ALLAH who is the ultimate source of knowledge. I am grateful to Him, the most beneficent and the benevolent Whose protection is sorted by all and Who bestowed us all the mental abilities and wisdom from His unfathomed treasure to complete this;

“THESIS WORK”

I pay a slack of gratitude towards my respected Parents and erudite teachers, Mr. Muyassar Hussain and Madam Urooj Shakir who gave us a chance to get exposed to practicality. Their initiative became a stimulus, which really actuated us to conduct the search and forge all this in a presentable manner.

Dedication

I humbly dedicate this work to my parents to whom I owe my existence, their unconditional love, impeccable struggle, overwhelming generosity and perseverance had been a constant support throughout the flamboyant and distress moments of life, and without whom I would not have been able to counter the blues of life and tackle them optimistically. Therefore I dedicate this work to them as an attempt to pay them homage.

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