

2-D Seismic Interpretation & Structural Analysis of Toba Tak Singh, Central Indus Basin, Pakistan



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DEDICATION

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

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ABSTRACT

The present study pertains to the modeling of the productive zones from seismic data. This was carried out by using seismic lines, 875-TTS-215, 875-TTS-216, and 875-TTS-218 of Toba Tek Singh provided by the Directorate General of Petroleum Concession. The area is important for its hydrocarbon Oil structural traps. The Toba Tek Singh field was acquired by OGDCL. The area lies in the Middle Indus basin and the reservoir encountered during the study of this field is Samana Suk Formations.

Toba Tek Singh is spread over an area of 3252 square kilometres comprising of three tehsils Toba Tak Singh, Gojra and Kamalia .Toba Tek Singh field is located between 30°33"20' to 31°2"0' North latitudes and 72°08"20' to 72°48"0' longitudes. The field was discovered by OGDCL as the first (and so far only) of Punjab platform.

The basic objective of the study is to get preliminary understanding and now how 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.

During the study of Seismic sections first of all I pick two prominent reflectors from the seismic sections. The interpretation of present study two reflectors are marked at different time R1 (Samana Suk Formation) and where as R2 (Salt Range Formation) was marked then note the time of each reflector against the shotpoints. Moreover I have done the preparation of time and depth contour map of Samana Suk formation on the base map. Formula used for the conversion of time into depth is given below:

$$S = V * T / 2$$

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