2D STRUCTURAL INTERPRETATION OF KHIPRO AREA, SOUTHERN INDUS BASIN, PAKISTAN

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2011

ABSTRACT

This thesis is based on 2D seismic reflection data and well logs. The data is acquired from the area of Khipro, Southern Indus Basin (Sindh) of Pakistan, provided by the Landmark Resources (LMKR) with the permission of Directorate General of Petroleum Concession (DGPC). Six seismic sections having line numbers along with Base Map are 2000-KH-04, 2000-KH-08, 2000-KH-30, 2000-KH-35, 2000-KH-36 and 2000-KH-42. Out of these six seismic lines, five seismic lines; 2000-KH-04, 2000-KH-08, 2000-KH-30, 2000-KH-36 and 2000-KH-42 are dip lines. The remaining line, 2000-KH-35 is a strike line. Root mean square and interval velocities which were computed during processing are also provided with the seismic section at selected Common Depth Points (CDPS) and are used for the calculation of average velocities to convert the given time into depth.

Four reflectors were marked due to their prominent reflection on the seismic sections. The two way travel time structural map for each reflector has been drawn and depth contour map of probable reservoir has also been drawn by using velocity and one way travel time. Moreover, Cross Sections in time and depth domains have also been drawn. Normal faults exist in the area and the associated Horst and Graben structures are observed along with Negative Flower structure and step faults.

By using well log data, petrophysical evaluation of Siraj South-1 shows the characteristics of hydrocarbon bearing zone which confirms the results of the 2D seismic interpretation.

ACKNOWLEDGEMENTS

I am deeply indebted to my supervisor Mr. Azhar Hussain Malik, Deputy Chief Geophysicist (OGDCL) and my co-supervisor Mr. Aamir Malik, Geophysicist (LMKR) whose help, stimulating suggestions, knowledge, experience and encouragement helped us in all the times of study and analysis of the project. I would also like to thank Mr. Ameer Nawaz Malik, Geophysicist (OGDCL) for his guidance and help.

I offer my heartfelt and cordial gratitude to the members of Thesis Evaluation Committee Prof. Dr. Tahseenullah Khan Bangash, E & ES, Bahria University for the critical review of the thesis and Mr. Anwar Qadir, Assistant Professor of Department of E & ES, Bahria University, for the review of the initial draft of the thesis.

Last but not the least, I am indebted to Dr. Muhammad Zafar, HOD, Department of Earth and Environmental Sciences for his moral support and guidance and to my parents for their prayers and encouragement during my whole studies.

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