INTEGRATED GEOLOGICAL AND RESERVOIR PROPERTIES TO STUDY THE PETROLEUM SYSTEM, STRUCTURAL AND FACIES MODELING OF KADANWARI AREA, CENTRAL INDUS BASIN, PAKISTAN

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2013

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A thesis submitted to Bahria University, Islamabad in partial fulfillment of the requirement for the degree of M.S in Geology

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ABSTRACT

The main objective of the study is to know about the geological setting and perform the petrophysical analysis to evaluate the hydrocarbon potential of wells Kadanwari-1, 4 and 10. The project was initiated by taking into account the exploration history of the area followed by comprehension of stratigraphy and tectonic settings. Established the petroleum system, evaluated the depositional environment, structural and stratigraphic correlation and performed the petrophysical analysis. The purpose has been achieved by utilizing complete suite of wireline logs and the available well data. This complete set of data was issued by Land Mark Resources, Pakistan with prior permission of Directorate General of Petroleum Concessions, Pakistan. Software used include GeoGraphix Discovery (PRISM). Petrophysical interpretation of Kadanwari-1, 4 and 10 include measurement of Volume of shale using gamma ray log, estimation of porosity using density and neutron log, estimation of effective porosity, calculation of resistivity of water utilizing spontaneous potential log, evaluation of saturation of water and hydrocarbon saturation using Archie equation. The depositional environments were determined by observing the gamma ray trends of the reservoir zones of Kadanwari-1, 4 and 10.

ACKNOWLEDGEMENTS

I am very grateful to Mr. Fahad Mahmood and Mr. Saqib Mehmood who supervised this study. Their ideas, discussions and encouragement paved way for the successful completion of this work. I am also thankful to Dr. Tahseenullah Khan, who provided us his great attention and guidance all the time. My gratitude to Dr. Muhammad Zafar (Head of Department, Earth and Environmental Sciences) for providing me with opportunity to work on this particular project.

I also acknowledge the help, encouragement, endless love, support and prayers of my family, which have always been a source of inspiration and guidance for me all the way.

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