

## **ACKNOWLEDGEMENTS**

We would like to dedicate this research project to our parents, our teachers, family members and all those friends who have kept us motivated and supported us throughout our BS Program. We thank them for being the source of constant encouragement which has given us the strength to undertake this very task in the first place. This thesis would not have been possible without the encouragement and generosity of number of people including our teachers, supervisors, colleagues and family members.

Our special thanks to Dr. Muhammad Zafar (Head of Department, Earth and Environmental Sciences, Bahria University, Islamabad) and Dr. Tehseenullah Khan for their unending support and perpetual guidance which provided us inspiration needed throughout our study at this department. He really provided us all the opportunities throughout all the semesters.

First of all, we would like to pay our special gratitude to our supervisor Mr. Fahad Mehmood (Lecturer), for his encouragement, guidance, criticism and intellectual advice throughout our research work.

We would like to acknowledge, Mr. Syed Mamoon (Assistant Geologist, Saif Energy) as this work would have not been completed without their thoughts provoking ideas, and guidance throughout the whole thesis.

We would also like to pay our special gratitude to Mrs.Urooj Shakir (Lecturer) for his encouragement, guidance, and intellectual advice throughout our research work.

## **ABSTRACT**

The objectives of the study are to reconstruct sequence stratigraphic framework and petrophysical analysis of the reservoir marked by using sequence stratigraphy of Sawan gas Field. The study area lies in Central Indus Basin, District Khairpur, Sindh province, Pakistan. The study area lies tectonically in extensional regime. Lower Goru Formation and Sembar Formation act as a reservoir and source respectively. To achieve objectives, well logs of Sawan-01, Sawan-07 has been used. First of all petrophysical interpretation is carried out. The petrophysical interpretation includes Shale volume, effective porosity, permeability, saturation of water and hydrocarbon. Sequence stratigraphic reconstruction has been done by integrating wireline log data. Total of two sequence boundaries and one sequence have been interpreted between Lower Goru Formation. A Low Stand Systems tract (LST) within Lower Goru C sands has been marked as a zone of interest. On the basis of good effective porosity and hydrocarbon saturation petrophysical analysis confirms that the LST in Sawan-01 and Sawan-07 has good hydrocarbon potential.

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