2D SEISMIC INTERPRETATION AND PETROPHYSICAL ANALYSIS OF SAWAN AREA, LOWER INDUS BASIN, PAKISTAN

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A thesis submitted to Bahria University, Islamabad in partial fulfillment of the requirement for the degree of BS in Geophysics

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DEDICATION

We would like to pay our deepest gratitude to our loving parents, brothers, sisters and family for their prayers, encouragement and support. We are thankful to all our friends who had provided us the confidence and courage.

ABSTRACT

Sawan gas field is located in Lower Indus Basin, Pakistan. 2D seismic interpretation & petrophysical analysis on the data provided was conducted. Seismic methods & Geophysical logging are amongst the strong tools which are used to evaluate the formation characteristic features having potential for hydrocarbon development. The well was on PSM96-114 and two horizons were marked namely as Ranikot formation & Lower goru formation. Reflectors were identified on the seismic sections by plotting the formation tops acquired from the well data on to seismic sections. Composite logs were used to determine the depth to tops of different formations, while sonic log and well velocity survey data were used to define the one-way times on these tops. The two-way time has been calculated and was then used to define the reflecting formation tops on the seismic sections. Petrophysics has been relatively younger subject in domain of geology at which study of the physical and chemical properties of the rock for the exploration. Petrophysical analysis has confirmed the presence of valuable hydrocarbon zone present in the area.

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