

**CORRELATION AND RESERVOIR CHARACTERIZATION
OF MEYAL-6p, UPPER INDUS BASIN PAKISTAN**



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

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ABSTRACT

The objective of the study is to evaluate the reservoir characteristics of Sakesar Limestone of Eocene age in Meyal 6p. Meyal field is located in district Attock near Tehsil Pindi Gheb, 110 km southwest of Islamabad, located at latitudes 33°11'-33°22' N and Longitude 71°59'-72°18' E and is a part of the Meyal block which lies in the central part of Potwar plateau of Upper Indus basin. Tectonically, area is located in compressional regime.

To carry out this research all the complete suite log data is required for petrophysical analysis. The methodology to perform the petrophysical analysis includes calculation of volume of shale, porosity determination and hydrocarbon estimation. Log curves behavior shows that there is one pay zone in Meyal 6p. The zone of interest ranges from 12290ft to 12420ft. The volume of shale is 16.07%, effective porosity is 7.96%, water saturation is 36.36% and hydrocarbon saturation is 63.3%. Results claim that zone marked within Sakesar Limestone in Meyal-6P, has good hydrocarbon prospect.

The well correlation shows that all the formations become deeper towards east. Deepening towards east may be due to the basin ward movement of respective Formations. Nagri is decreasing towards east, suggesting the erosion or nondeposition of top strata probably due to the regressive environment of deposition. The pinching out of Dhakpass in Meyal-7p in west direction and in Meyal-6p in east direction, and pinching out of Fatehjang in Meyal-7p in west direction may show erosion or non-deposition in respective formations.

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