

**PETROPHYSICAL ANALYSIS, LITHOLOGY
DETERMINATION AND STRATIGRAPHIC
CORRELATION OF MEYAL WELL 08, 09 AND 14,
UPPER INDUS BASIN, PAKISTAN**



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A thesis submitted to Bahria University, Islamabad in partial fulfillment
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ABSTRACT

The present research is carried out to evaluate hydrocarbon potential of Meyal field, Upper Indus Basin, Pakistan. To determine the hydrocarbon potential, all logs were studied to mark the zones of interest i.e. reservoir zone. In this research the reservoirs identified are Chorgali Formation and Sakesar Limestone of Eocene and Murree Formation of Miocene age. In Meyal-08 the zone of interest in Chorgali Formation is clean having very good effective porosity i.e. 21 % with 56 % hydrocarbon saturation, while the zone of interest in Sakesar Limestone has 7% effective porosity with higher hydrocarbon saturation i.e. 67%. In Meyal-09 Chorgali Formation and Sakesar Limestone have been studied having qualitative permeability with 9 % & 4 % effective porosities and 96% & 76% hydrocarbon saturations respectively. In Meyal-14, the two zones (A&B) within Murree Formation have been interpreted petrophysically, the zone A has 14 % effective porosity & 64 % hydrocarbon saturation, while zone B has 12 % effective porosity and 64 % hydrocarbon saturation. Density and neutron logs cross plots are used to determine the lithology of the Chorgali Formation and Sakesar Limestone which is dominantly limestone in both. The stratigraphic correlation of the studied reservoirs indicate almost same thicknesses.

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