

**HYDROCARBON POTENTIAL AND FRACTURE CHARACTERIZATION
OF REMINGTON OIL FIELD IN EASTERN POTWAR THROUGH
RESERVOIR MODELING**



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ABSTRACT

The Remington structure is located in the eastern part of the Potwar Basin and is approximately 75 kilometers west of Islamabad and 9 kilometers north of Chak Naurang Oil Field. Its fractured carbonate reservoir comprises of two producing formations: Chorgali and Sakesar. Chorglai is mainly composed of dolomite while Sakesar is composed of limestone. The integrated study approach induced in this dissertation, involved the geological, geophysical, sedimentological, petrophysical evaluations in addition to the reserves estimation for the Remington Oil Field. Re-evaluation of the structure and stratigraphy was accomplished in addition to this new structural and stratigraphic correlations were constructed. Integrating the factors for geological evaluation a new structural model was constructed for the Remington Oil Field. The geophysical data was re-interpreted and new depth structure maps were constructed on top of Eocene i.e. (Chorgali and Sakesar). A new time structure map was also created on top of Eocene i.e. (Chorgali). Re-interpreting the geophysical data, a new structural trap and seal was concluded for the reservoir of the Remington Oil Field. Detailed sedimentological evaluations were carried out which included the creation of a new core log and the generation of petrographic analysis sheets. In addition to this, 28 thin sections were studied. Correlating the sedimentological data with geological data greatly enhanced and refined the findings. Using the raw wireline data petrophysical parameters were studied and were utilized in the construction of reservoir property maps, which include Iso-porosity, Iso-saturation, Net pay and Gross-reservoir thickness maps. The volumetric method was used to determine the reserves. The cumulative oil in place (OIP) determined by the volumetric method is 28 MMSTB. The Sakesar Formation contains 8 MMSTB while the Chorgali Formation contains 20 MMSTB.