STRATIGRAPHY, PETROLEUM GEOLOGY, STRUCTURE AND PETROGRAPHY OF FATEH JANG AREA DISTRICT ATTOCK

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PETROGRAPHY

ABSTRACT

Potwar Sub-basin is located at the northern margin of Indian plate and is characterized by thick infra Cambrian evaporites, relatively thin stratigraphic section from Jurrasic to Eocene and thick Miocene deposits in the project area, Fateh jang (District Attock).

The geological and structural mapping of Sadkal, Bhalsyedan, Ajjuwala, Guduwala Bahatar and Ghakar area of about 100 square kilometer was carried at the scale 1:50,000 on toposheet no. 43C/10 of Survey of Pakistan. Precambrian to Paleocene strata lies in the subsurface as shown in structural model cross section AÁ where as from Jurrasic to Miocene rock units are exposed at the surface in the project area. The rocks which are exposed in the project area are Samanasuk Formation, Hangu Formation, Lockhart Formation, Patala Formation, Margalla Hill limestone, Chorgali Formation, Kuldana Formation, Kohat Formation, Murree Formation and near Jaffar Quaternary Alluvium.

The Oil show has been observed in Chorgali Formation about 3km from the Chharat well. The Petrographical analysis is use to determine the presence of mineral content and to confirm the stratigraphic sequence. The thin section study confirms the presence of Samanasuk Formation, Murree Formation, Lockhart Formation and Kohat Formation.

The project area is structurally very complex and a number of faults which are splays of Main Boundary Thrust are marked. There are two anticlines and two major syncline are mapped in the project area. Oil and gas are being produced from structural traps in the Potwar plateau. Tectonics has played an important role in the development of the different structural styles in the region. The under thrusting of Indian plate beneath the Eurasin plate has resulted in the compressional thin skinned tectonic features in Potwar and adjacent areas. Potwar Plateau represent a large wedge of Phanerozoic rocks, thrusted southward along a basal decollment in the Eocambrian evaporates sequence of the Salt Range.