Hydrocarbon Potential of Sulaiman Ranges around Mughal Kot Village; Overview of the Potential Source, Reservoir Rocks, Traps and the Hydrocarbon Seepages

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Fold and thrust belt are potential areas for the hydrocarbon exploration and exploitation. With advancements in seismic technology the petroleum companies are concentrating their activities in the relatively underexplored but highly potential fold and thrust belts of Pakistan. The area surrounding Mughal Kot village in the Sulaiman fold and thrust belt is a potential area for hydrocarbon exploration as it has a suitable collection of source/reservoir rocks and structures (traps). The proposed hydrocarbon potential of the area is further supported by the numerous extinct and active seepages in the area.

The present work is a detailed study of the different potential reservoir and source rocks, potential trapping structures and seepages, all based on the surface geology exposed in the vicinity of the Mughal Kot village.

Reservoir rocks in the area include Mughal Kot Formation, Pab Sandstone, Kirthar Formation, and the Siwalik Group. Source rocks include Sember Formation, Ghazij Shales, Baska Shale and Kirthar Formation. The suggested traps are East-Domanda anticline and West-Domanda anticline, hanging and footwalls of the West-Domanda fault and East-Domanda Fault. One of the most prolific petroleum seepages of Pakistan occurs to the immediate west of Mughal Kot Fort, at 31˚27′ N and 70˚06′ E, at the contact of Mughal Kot Formation and Pab Sandstone in Toi Nallah.