

**Preliminary Geology of the (Khanozai) Karezat Quadrangle,  
District Pishin, Balochistan, Pakistan**

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The (Khanozai) Karezat Quadrangle (KQ), situated 70 km northeast of Quetta, covers Khanozai and its surrounding areas. The region comprises distinct zones, the Urak Basin (south), the ultramafic, gypsum, and Jurassic basins (middle), and the Kakar-Khorasan Back Arc basin (northwestern) portion. The terrain is dominated by rocks of Jurassic to recent/subrecent, structurally divided into three domains of Tungi-Ahmadun Syncline, Khanozai-Torkhula Ophiolite Segment and Murgha Zikriazai Flysch Segment. The Tungi-Ahmadun area predominantly characterized by the Urak Group, ranging from Miocene to Early Pleistocene. Notably, the Urak Group comprises Uzdapasha, Shinmati and Urak formations. The Urak Group is thrust by the Jurassic Alozai Group to the north and the Cretaceous Parh and Bibai formations to the south. In the southeastern corner, it contacts the Jurassic Loralai, Cretaceous Sembar and Eocene Shaheed Ghat formations. The Khanozai-Torkhula Ophiolite Complex is predominantly occupied by the Jurassic Singwar and Loralai formations of the Alozai Group. The ultramafic intrusion holds significant potential for chromite, forming part of the Muslim Bagh Ophiolite Complex. The Murgha Zikriazai Flysch Segment comprises Eocene Nisai Formation, Oligocene Murgha Faqirazi Shale Member and Oligocene-Miocene Shaigalu Sandstone Member of the Kajok Formation. The Nisai Formation consists of fossiliferous limestone and shale at the base, multicolored shale in the middle, and medium to thin-bedded fine-grained sandstone, shale, and brecciated cliff-forming limestone in the upper part. The central part is covered by alluvial deposits of the Pleistocene Bostan Formation and recent to sub-recent material. In the northern Khanozai region, potential hydrocarbon structures exist near the Karez Haji Dadullah and Murgha Zikriazai areas. Geophysical surveys are recommended in this region to delineate subsurface sequences for assessing hydrocarbon potential.