Preliminary geology and mineral potential of the Karezat and Barshor quadrangles toposheets 34N/6 and 5, district Pishin, Balochistan, Pakistan

Waliullah; Jamshed Ali Khan and Waheed Akhtar
Geological Survey of Pakistan, Quetta
j.akhan08@gmail.com

Abstract

The Karezat Quadrangle includes Khanozai and surrounding areas which are situated 70 kms northeast of Quetta on main Quetta-Zhob road. Barshor is a small town 80 kms north of Khanozai. The study area is covered by the rocks ranging in age from Triassic to recent/ subrecent. The geology and structure of the area is quite complex and has been visited by a number of earth scientist since independence and chromite deposits have been studied in detail.

The area can be divided structurally into three domains, Tungi-Ahmadun syncline area, Khanozai-Torkhula Ophiolite Segment and Murgha Zikriazai-Barshore Flysch Segment.

The Tungi-Ahmadun area is marked by a large local syncline, "The Tungi Syncline" which is represented by the Urak Formation of Pliocene where all the three members (Uzdapasha, Shinmati and Urak conglomerate) are exposed. The Urak Formation is thrusted by the Allozai Formation (Triassic) in the north and by the Parh/Bibai Fomation (Cretaceous) in the south. In the eastern corner it has thrusted contact with the Loralai (Jurassic), Sember, Bibai (Cretaceous) and Dungan (Paleocene) formations.

The Khanozai-Torkhula Ophiolite Segment is covered by the Allozai Formation (Limestone/ Shale of Triassic age frequently intruded by the Ultramafics), Loralai Formation (Jurassic limestone also intruded by the Volcanics) and Ultramafics (Cretaceous) having enormous potential of Chromite. In Khanozai and surroundings the ultramafic is spread on one third area of this segment and is part of the Muslim Bagh Ophiolite. The chromite is being mined for many years and needs new and modern mining techniques.

The Murgha Zikriazai-Barshor Flysch Segment (Pishin Flysch Segment) includes the Nisai Formation (Eocene), Murgha Faqirzai (Oligocene), Shaigalu Formation (Miocene). The Nisai Formation is comprised of fossiliferous limestone and shale at the base, thick sequence of multicolour shale in the middle and medium to thin bedded fine grained sandstone, shale, and brecciated cliff forming limestone at the upper part. It is followed by the various textured shale of the Murgha Faqirzai which is overlain by thick sequence of sandstone, shale and conglomerate of the Shaigalu Formation.

The central part of the Karezat Quadrangle is covered by alluvial cover which is represented by the Bostan Formation (Pleistocene) and recent to subrecent material. In the North of Khanozai, some structures exist which may be favourable sites for the hydrocarbons such as Ziba Tangi and Khudi Shaikh Nikka Ziarat areas. This part of the segment is recommended for Geophysical survey to show the subsurface sequence for interpreting the hydrocarbon potential.