

The regional extents of local thrust systems in Jabbari and Rupper Town, SE of Hazara

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Abstract

This study reveals a geological traverse between the town of Jabbari and Rupper, SE Hazara. The study delineates the stratigraphic and structural element of the area by preparing high resolution geological map and cross section of the area. Oldest rocks in this section are Hazara Formation which is disconformably overlain by a Jurassic to Eocene sequence including Samana Suk, Chichali, Lumshiwal, Kawagarh, Hangu, Lockhart, Patala, Margalla-Hill-Limestone, Chorgali and Kuldana Formations. The study area is in the lesser Himalayas and comprised of several thrust systems north to south including Hazara Thrust which is characterized by the presence of Hazara Formation of the Pre-Cambrian age thrusts over the Samana Suk Formation of Jurassic age. This Thrust is oriented east-west with bends and undulation and its dip is ranging upto 58°. Haro Thrust is comprising Samana-Suk Formation of Jurassic age thrusts over the Chorgali Formation of Eocene age. The Haro Thrust is also roughly oriented east-west with a dip ranges from 58° to 64°. Sangoda Thrust is dominated by the presence of Samana Suk Formation of Jurassic age which thrusts over the younger Chorgalli Formation of Eocene age. This thrust is east-west oriented with bends and undulations and its dip is ranging from 52° to 60°. In Rupper Thrust the Samana-Suk Formation of Jurassic age thrusts over the Chorgali Formation of Eocene age. This thrust is also east-west oriented with undulations and its dip is ranging upto 82°. These thrusts trends in NE-SW direction indicate NW-SE compressional regime. Drag folds present in the hanging walls shows southward vergence. Stereographic indicate that mesoscopic folds are plunging between the range of 240° and 290°. There are scattered fold axes which are plunging towards south or towards north. Most of the folds are plunging towards west and this is yet another indicator of east-west compressional forces. The folds orientations suggest transpressional deformation rather than pure compression.