

STRUCTURAL FRAMEWORK OF THE KALABAGH HILLS, NORTH PAKISTAN

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Kalabagh Hills are the Trans-Indus extension of Western Salt Range, underlain by Precambrian to Cenozoic Platform and Plio-Pleistocene fluvial sediments. Being in close proximity to the Kalabagh Fault Zone these sediments have well preserved imprints of deformation associated with it. The present account of structural data in the area suggests two suites of structures that are compressional and extensional in nature. The main compressional structures include a north-northwest trending Kalabagh Anticlinorium, cored by Paleozoic rocks. The western limb of the Kalabagh Anticlinorium is uplifted along a high angle reverse fault named as Kuch Fault and juxtaposes Jurassic rocks against the Quaternary Kalabagh Conglomerates. The extensional structure includes a couple of local and one regional scale normal fault that bound the Kalabagh Anticlinorium in the east and west. The eastern most and major fault bordering the Kalabagh Hills is the Kalabagh Fault that is a high angle, east dipping normal fault characterized by transtensional deformation. Surface outcrops of Precambrian Salt range Formation are associated with this fault. Though both of the structural suits exhibits similar north-northwest trend, however their kinematics are attributed to different mechanisms. The compressional structures are interpreted to be the result of southwestward translation of the Precambrian to Eocene platform and overlying molasses sediments along a basal decollement. Whereas the extensional structures are the result of salt flowage along the compressional structures giving rise to salt diapirs that uplifted the flanks of the Kalabagh Anticlinorium which finally collapsed along gravity faults. The extensional structures are interpreted to be the youngest as it cross cut the earlier compressional structures.