

## LATE CRETACEOUS PALEOPOSITION AND POST COLLISIONAL CRUSTAL ROTATIONS OF SULAIMAN RANGE: A PALEOMAGNETIC STUDY OF SULAIMAN RANGE

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The Himalayan mountain system represents an active continent-continent collision extending westward from Burma through India and Nepal to Pakistan. The western margin of the Indian continent is oblique to direction of convergence between India and Eurasia. At this margin Sulaiman fold-and-thrust belt is formed because of the India-Eurasia collision. The magnetic mineral that serves as remanent carrier is magnetite. The ChRM directions yield mean directions of Dec/Inc=358/-35 with  $\alpha_{95} = 14.6$  and  $k = 13.5$  in stratigraphic coordinates. The positive intra-fonnational conglomerate test indicates that the acquisition age of ChRM is close to the age of rock formation. Considering the mean paleolatitude ( 19S) of the present study, it can be concluded that at the time of formation of these volcanics, the area was close to the location of Reunion hotspot. Thus Bibai volcanics are probably a trace of Reunion hotspot. The mean declination values are deviating about 27 clockwise with respect to declination values calculated from Indian Apparent Polar Wander Path for the area. This clockwise rotation may be due to supracrustal decollement over counter clockwise rotating and northward moving Indian continent. The paleomagnetic rotations are only observed in central part of the Sulaiman fold-belt showing that only central part moved over the decollement surface, which is further supported by structure trends. In the central part of the Sulaiman foldbelt the structure trends are E-W and in eastern and western parts these are N-S or NNE-SSW. Keeping in view the change of structure trend, it appears that central part of the fold-belt has moved towards southeast and these rotations occurred along different strike-slip faults in area. Although exact age of these rotations cannot be constrained by the present study, but regional tectonics indicates that these rotations are related with PlioPleistocene oblique collision of NW margin of Indian continent with Afghan plate.