



www.ggsnagpur.org

JGSR
Journal of Geosciences Research
Vol. 3, No.2, July, 2018
pp. 171 - 176

Evidence of Microscale Deformation in Deccan Basalts along Godavari River, Nashik, Maharashtra

Mugdha A. Chimote^{1*}, Sudha N. Vaddadi¹, Sushama G. Deo², Shyam N. Mude¹ and S. N. Rajaguru²

¹*Department of Geology, Fergusson College, Pune-411004, India*

²*Department of Archaeology, Deccan College of Post Graduate and Research Institute, Pune-411006, India*

**E-mail: mugdha.ac@gmail.com*

Abstract

The discovery of first Acheulian sites in Deccan Volcanic Province by Sankalia in 1952 at Nashik paved the way for research work in geo-archaeology in the upstream of Godavari river. These studies primarily focused on geomorphology and geo-archaeology of the region. An interdisciplinary study of the area was undertaken to understand the influence of geology and structure in the development of various geomorphic features. Structural control on the drainage morphology is evident with N-S, NW-SE and NE-SW trending fractures. Mesoscopic scale features documented in the field are complimented by microscale structures. Microscale faults, kinks, micro joints and cracks in grains are observed in the fracture fill material near the knick point. Mesoscopic to microscopic scale deformation is suggestive of ductile and brittle shear. Structural control in the development of the micro-relief feature like knick point with waterfall at Gangapur was deciphered based on the present study.

Keywords: Godavari, Acheulian site, Geomorphology, Deformation, Micro-structures, Petrographic studies.