

## **VERTICAL ELECTRICAL SOUNDINGS OVER WESTERN DECCAN VOLCANIC PROVINCE, INDIA**

VINIT ERRAM, Gautam Gupta, B. D. Kadam

Indian Institute of Geomagnetism, Kalamboli Highway, New Panvel (W), Navi Mumbai, India  
Email: [vinit\\_erram@yahoo.co.in](mailto:vinit_erram@yahoo.co.in)

The occurrence and movement of groundwater, particularly in hard-rock areas, are governed by different factors such as topography, lithology and structures like fractures, faults etc. An attempt is made in the present study to investigate the extent of the influence of structures such as fractures/faults and thereby delineate the nature of subsurface lithology with the help of vertical electrical sounding (VES) method. For this study, the region from Guhagar to Chiplun in west coast of Maharashtra was chosen to determine groundwater potential zones. In order to understand the significance of the fracture pattern, ground magnetic studies were also carried out with a station spacing of 1 km. These studies revealed two fracture zones over the study region. Further, electrical resistivity surveys were conducted to determine the subsurface lithology and also to confirm the fractures derived from magnetic data. The iso-resistivity contour map has been prepared based on the 21 VES conducted to determine the resistivity variations in the study area. The iso-resistivity contours obtained were found to conform to the structural trends obtained by magnetic studies.

faults, resistivity, maharashtra

Vinit Erram, Indian Institute of Geomagnetism, Kalamboli Highway, New Panvel (W), Navi Mumbai, Maharashtra, India, tel.: 91-22-27484000, fax: 91-22-27480762, Email: [vinit\\_erram@yahoo.co.in](mailto:vinit_erram@yahoo.co.in)