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Application of Vertical Electrical Sounding to Decipher Groundwater Potential Zones in the Bori-Chikli Watershed of Jalgaon District, Maharashtra State

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Abstract

The electrical resistivity method is widely used for the groundwater exploration studies in all type of terrains especially well-suited for the hard-rock areas. The Bori-Chikli Watershed of the Jalgaon district is covered by the Tapi alluvium and varied flows of the Deccan Trap. The groundwater occurs mostly in the upper weathered and fractured parts of the Deccan Trap Basalt down to 20 - 25 m depth. The upper younger alluvium has been extended down to the depth of 70-80 m. The five groundwater potential zones (Excellent, Very Good to Good, Good to Moderate, Moderate to Poor and Poor) have been identified considering the aquifer thickness, the aquifer resistivity and the groundwater level fluctuations.

Keywords: Groundwater potential, Electrical resistivity, Deccan basalt, Weathered zone, Aquifer thickness.
