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GEOPHYSICAL STUDIES TO DETERMINE HYDRAULIC CHARACTERISTICS OF AN ALLUVIAL AQUIFER

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ABSTRACT

The vertical electrical sounding (VES) data obtained from 70 locations in the unconsolidated sandy formation south of Chennai was interpreted, and layer parameters such as true resistivity and thickness were determined. Formation factor was calculated from the resistivity data. Three empirical relationships were established: they are (i) the relationship between hydraulic conductivity and formation factor, (ii) hydraulic conductivity and modified aquifer resistivity, and (iii) transmissivity and transverse resistance. The aquifer parameters of this alluvial aquifer have been estimated with a reasonable accuracy using the relations between hydraulic properties and electrical resistivity parameters. This study implies that geoelectrical techniques offer an alternate approach for estimating the hydraulic characteristics of alluvial aquifers.

*Reference: Kumar, M. S., D. Gnanasundar and L. Elango; **Geophysical studies to determine hydraulic characteristics of an alluvial aquifer**, Journal of Environmental Hydrology, Vol. 9, Paper 15, August 2001.*

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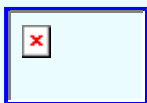
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