Journal of Environmental Hydrology
ISSN 1058-3912
Electronic Journal of the International Association for Environmental Hydrology

JEH Volume 13 (2005), Paper 12 Posted June 16, 2005

ESTIMATION OF HYDRAULIC PARAMETERS FROM SURFACE GEOPHYSICAL METHODS, KALIAPANI ULTRAMAFIC COMPLEX, ORISSA, INDIA

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ABSTRACT
A knowledge of aquifer parameters is essential for the assessment and management of groundwater resources. Conventionally, these parameters are estimated through pumping tests carried out on bore wells. Few bore wells may be available and carrying out pumping tests at a number of sites may be costly and time consuming. The application of surface geophysical methods in combination with pumping tests at a few sites provides a cost-effective and efficient alternative to estimate aquifer parameters. A surface geophysical method is used to obtain geophysical characteristics of aquifer parameters that are estimated through the pumping tests. A correlation is established between these parameters, which is subsequently used to estimate aquifer parameters from surface geophysical measurements at other sites where pumping has not been carried out. In this way, the entire investigation area can be covered to characterize an aquifer system. This study has been carried out in the Sukhinda valley, where the aquifer characteristics are required for the management of groundwater in the region.

Reference: *Dhakate, R. and V.S. Singh. 2005. Estimation of hydraulic parameters from surface geophysical methods, Kaliapani Ultramafic Complex, Orissa, India, Journal of Environmental Hydrology, Vol. 13, Paper 12.*

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