

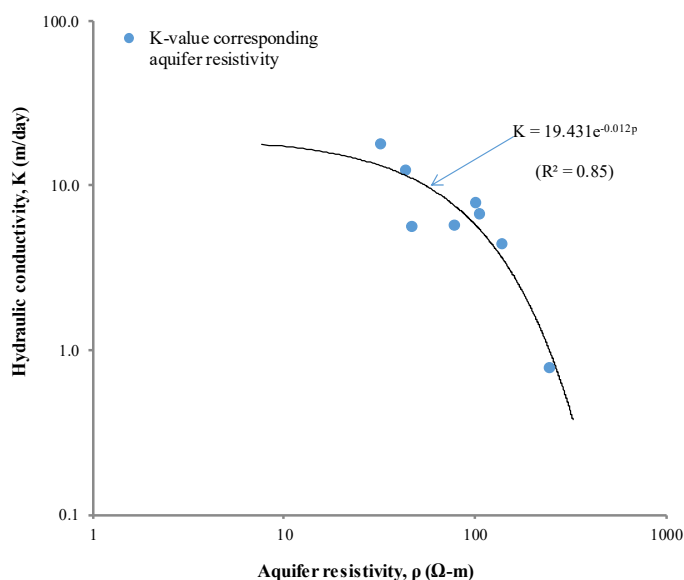
# Estimation of aquifer parameters from surfacial resistivity measurement in a granitic terrene

## Research Highlights:

- Establishment of an empirical relationship among geoelectrical properties ( $\rho$ ) obtained from surfacial resistivity measurement and hydrogeological parameters ( $K$ ) of aquifer for estimating hydraulic properties in order to reduce the processes of pumping test which is usually costly and time consuming.
- Hydraulic conductivity is best defined as an exponential function of aquifer resistivity (**Fig. 1**).
- Field parameters (i.e.,  $A=20.235$  &  $B=0.012$ ) of the function are also optimized at the well sites using 'Solver' with the least SSQ ( $=7.82$ ) and MARE ( $=0.816$ ).
- It helps to estimate hydraulic parameter along with an empirical equation where well information is not available.

**For further details:** Mondal, N.C., Bhuvaneswari Devi, A., Anand Raj, P., Ahmed, S. and Jayakumar, K.V. (2016). Current Science, doi: 10.18520/cs/v111/i3/524-534

**Reference:** <http://www.currentscience.ac.in/Volumes/111/03/0524.pdf>



**Fig. 1:** An exponential relation between hydraulic conductivity, ( $K$ , in m/day) and electrical resistivity ( $\rho$ , in  $\Omega$ -m)