A MODEL FOR PARAMETER EVALUATION OF UNCONFINED AQUIFER

THESIS

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ABSTRACT

A model was developed to find parameter values of an unconfind aquifer. Sensitivity analysis was used to obtain aquifer parameter values by fitting numerical time-drawdown results to those obtained from pumping test data. The method is quick, inexpensive, and is always objective. No graphical matching is required. The root-mean-square (rms) error in drawdown was calculated along with the correlation coefficient between the pumping test data and the computed values. The best values of Transmissivity(T) and Specific Yield(Sy) were selected as those which gave smallest rms error and largest correlation coefficient.

Values of storage coefficient(S) and reciprocal of delayed yield index(α) were held constant during the above process which were choosen by keeping in view lithology of the test site. But these can also be incorporated in the model with some trials and observing the small values of rms error and correlation coefficient. The model can be applied to determine values of confind aquifer parameter with some minor changes.