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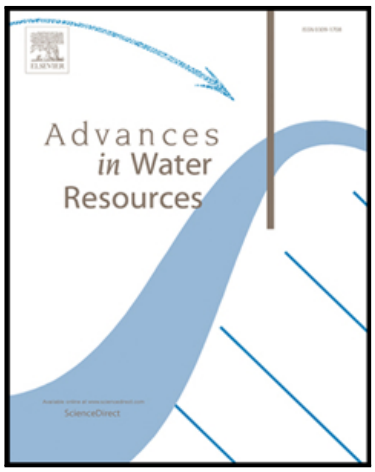

An analytical model for flow induced by a constant-head pumping in a leaky unconfined aquifer system with considering unsaturated flow

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Highlights

- A leaky unconfined aquifer model for CHT with unsaturated flow is build.
- The effects of model parameters on wellbore flowrate Q are investigated.
- The sensitivity of Q to the change in each of model parameters is also analyzed.
- The equivalence of normalized drawdown of present and CRT solutions is studied.
- The comparison for the present solution with a numerical model has been made.
- The present solution is used to analyze drawdown data and estimate aquifer parameters.

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