

RESEARCH PAPER

Mathematical modeling of two-dimensional unconfined flow in aquifers

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ABSTRACT

Derivation of general equation for two-dimensional aquifer flow is given. In this derivation we perform a volume balance instead of a mass balance and obtained analytical solutions of two-dimensional saturated flow under various condition. We also constructed transient unconfined groundwater flow equation by combining continuity equation with the Darcy law and provide an analytical solution.

Key Words : Aquifer, Analytical solution, Unconfined, Two-dimensional, Transmissivity, Isotropic

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