

Estimation of Aquifer Properties Using Pumping Tests: Case Study of Pydibhimavaram Industrial Area, Srikakulam, India

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Abstract : Adequate and reliable estimates of aquifer parameters are of utmost importance for proper management of vital groundwater resources. At present scenario the ground water is polluted because of industrial waste disposed over the land and the contaminants are transported in the aquifer from one area to another area which is depending on the characteristics of the aquifer and contaminants. To know the contaminant transport, the accurate estimation of aquifer properties is highly needed. Conventionally, these properties are estimated through pumping tests carried out on water wells. The occurrence and movement of ground water in the aquifer are characteristically defined by the aquifer parameters. The pumping (aquifer) test is the standard technique for estimating various hydraulic properties of aquifer systems, viz, transmissivity (T), hydraulic conductivity (K), storage coefficient (S) etc., for which the graphical method is widely used. The study area for conducting pumping test is Pydibhemavaram Industrial area near the coastal belt of Srikulam, AP, India. The main objective of the present work is to estimate the aquifer properties for developing contaminant transport model for the study area.

Keywords : aquifer, contaminant transport, hydraulic conductivity, industrial waste, pumping test

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