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Application of a New Relationship between Effective Porosity and Specific Capacity on a Hypothetical Aquifer System
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Previous researches lead to the establishment of a relationship between effective porosity and specific capacity. This paper shows how this relationship can simplify the volumetric evaluation of a hypothetical aquifer system based solely on specific capacity data. Preliminary results of this type of application showed excellent results and that it can be used with confidence on aquifer systems without regard to well construction or the lithology of the aquifer. This relationship is useful for distributing effective porosity within 2 or 3 dimensional groundwater and particle tracking models on a cell-by-cell basis. More importantly, this relationship can be used for parameter estimation to determine effective porosity for contaminant transport models. The importance of this breakthrough is that can it be used based only on specific capacity data and can be used with different units of measure. This is important for the widespread application of this relationship among the international scientific community. In this presentation the solutions for the relationship in other measurement systems will be revealed to enable the widespread application of this new relationship in all conditions.

キーワード: effective porosity, specific capacity, groundwater, parameter estimation, hydraulic properties, modeling
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