Protective properties of fractured-porous aeration zone in the case of groundwater pollution by liquid hydrocarbons

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Abstract

The problem of migration of a hydrocarbon liquid through aeration zone to groundwater table is formulated and solved analytically. The aeration zone is represented by fractured-porous rocks, and the pollution source is a shallow pool that has formed due to a spill. Two schemes of liquid infiltration from fractures into rock blocks - piston-like and kinetic - are considered. The trajectory of pollution front in fractures and its distribution in the rock blocks are found. © 2004 MAIK "Nauka/Interperiodica".