

Mathematical modeling of faith and transport of underground water pollution

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Abstract:

Petroleum product, such as benzene, toluene, ethylene and xylene (BTEX) represent a dangerous potential source of groundwater pollution. These can reach the water table through various pathways, including wave-washing of oil spilled in coastal waters, and the improper disposal of hydrocarbon products through urban sewer systems.

It is very important to understand the outreach of oil components and their motion in the sediment and the behavior of the redistributed oil and how the oil components reach the water table. In this article, we will present a mathematical model used to simulate the ground water pollution. The model equation is the transport equation and it is governed by several parameters including the water velocity, permeability and diffusion rate. The mathematical model will be totally analyzed, programmed and tested using various values for the parameters that simulate the actual data.