عنوان مقاله:

Finite Difference Modeling of Electro-kinetic Process to Remove Pb(II) from Kaolinite

محل انتشار:

اولین کنفرانس ملی مکانیک خاک و مهندسی پی (سال: 1393)

تعداد صفحات اصل مقاله: 7

نویسندگان:

.Gh. Asadollahfardi - *Department of Civil Engineering, Faculty of Engineering, Kharazmi University, Tehran, Iran*

.Gh. Tavakoli Mehrjardi - *Department of Civil Engineering, Faculty of Engineering, Kharazmi University, Tehran, Iran*

.M. Rezaee - *Department of Civil Engineering, Faculty of Engineering, Kharazmi University, Tehran, Iran*

خلاصه مقاله:

A numerical analysis on unenhanced Electrokinetic (EK) soil remediation process on lead (Pb) was studied. The equation that describes the (EK) is advection-diffusion form of Partial Differential Equation that was solved numerically by Finite Difference Method. The prediction of mathematical model had a good agreement by experimental test for Pb(II) concentration and soil pH along the soil specimen expect near the cathode compartment this phenomena caused by chemical reactions. The adsorbed and precipitated Pb(II) was increased when the pH of soil increased and this phenomena occurred near the cathode compartment when acid and base front meet each other and exactly in this area the rate of water auto-ionization increased and the pH prediction had difference by experimental work. In this study, the effects of precipitation and adsorption reaction had a significant effect on removal of contamination were .shown and for improve the process for removal cationic contamination the pH of soil specimen soil should keep low

کلمات کلیدی:

Pb (II), Electrokinetic, Numerical Analysis, Kaolinite