

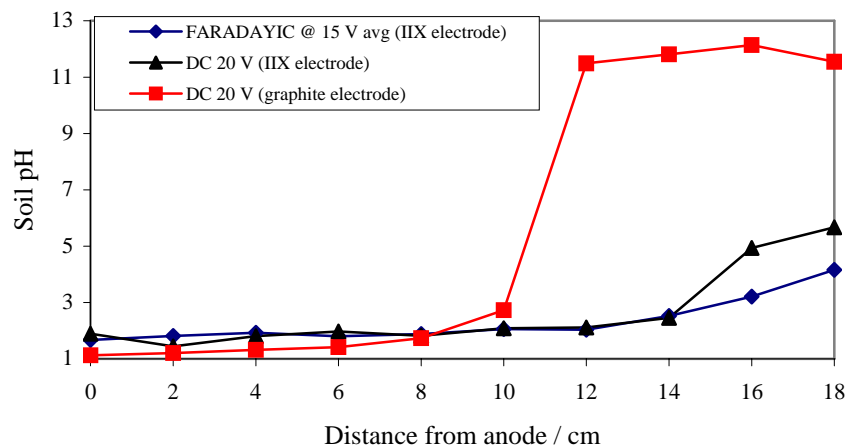
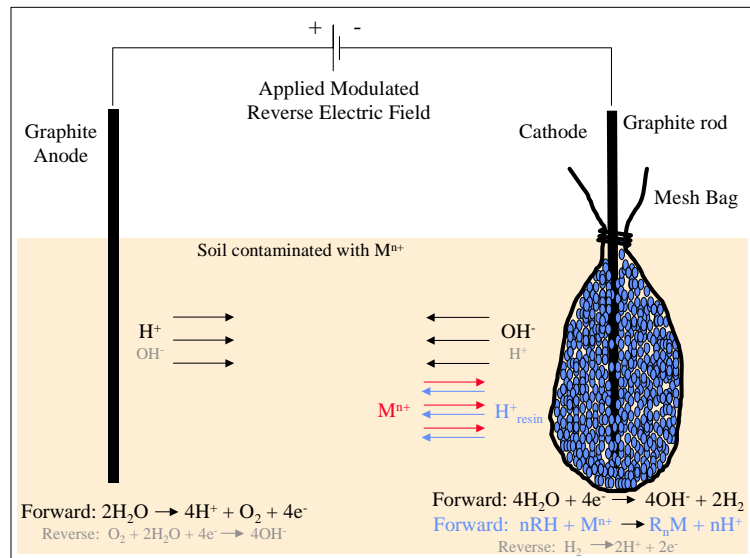
FARADAYIC Process and Soil Remediation - Electrokinetics

Objective:

This project demonstrated the feasibility of combining the patented FARADAYIC Process with a modular ion-exchange reactor to remediate soil contaminated with metal ions.

Summary:

The FARADAYIC Process is incorporated into an ion-exchange technology designed to provide cost-effective, in-situ decontamination of soil and groundwater. The FARADAYIC Process combines enhanced electrokinetics with integrated ion exchange electrodes to 1) increase the transport of contaminants by enhanced diffusion, 2) remove metals from the soil and concentrate them on the integrated ion exchange electrodes for subsequent recovery/recycle, and 3) eliminate the high pH near the cathode and consequently prevent the precipitation of metals. The technical feasibility of removing cationic and anionic contaminants from soil was demonstrated on a laboratory scale.



Background:

The patented FARADAYIC Process is an electrochemical technology that utilizes a controlled electric field to solve environmentally-challenging problems. Since the FARADAYIC Process is electrically mediated, it does not require aggressive chemicals to facilitate the process as needed in conventional chemical processes. The process rate is determined by the applied electric field, which is user-defined and computer controlled. This provides the means for precise control of the length and total output of the process.

The FARADAYIC Process technology illustrated above is protected by a substantial patent portfolio including issued, allowed, and pending patent actions.