

## Electrokinetic Removal of Heavy Metals from Contaminated Soil near A Refinery Facility

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The contaminated soil near a refinery facility was treated to remove heavy metals by using electrokinetic process. Electrokinetic process is one of soil remediation technologies in which contaminants are transported by electromigration, electroosmosis and electrophoresis under electric field. Target soil was contaminated with heavy metals due to smelting works, especially with arsenic, for a long time. In the case of arsenic that was a main pollutant, its initial concentration was 50.65 mg/kg. Electrokinetic process was operated with 2V/cm and 4V/cm of voltage gradient. As a result, removal efficiencies of arsenic in 2V/cm, 4V/cm was 28.91% and 31.17%, respectively. In this system, main removal mechanism of arsenic was not electroosmosis but electromigration. After the experiment, the amounts of remained arsenic were as high as ever. Therefore, further experiments will be required to increase the removal efficiency of arsenic such as addition of chelating agents or control of electrolyte pH and so on.