EXPERIENCES WITH IMPLEMENTATION OF THE ANION ACTIVE SURFACTANT FOR REMEDIATION OF PAH CONTAMINATED SOIL

ZKUŠENOSTI Z APLIKACE ANIONAKTIVNÍHO SURFAKTANTU PŘI SANACI ZEMIN KONTAMINOVANÝCH PAU

Ladislav Sýkora

AECOM CZ s.r.o., 171 00 Trojska 92, Prague 7, Czech Republic, e-mail: Ladislav.Sykora@aecom.com

Abstract:

The contribution summarizes results of the case study - the premiere anion active surfactant application during remediation of PAH contaminated soil and groundwater in CR, specifically at JDZ Soběslav site. Application was done at local site E1-west using pulse regime of pump and injection on the pumping, injection and monitoring wells system. Both a mobile treatment unit and a factory wastewater treatment plant were used for pumped water treatment. Up to two-order PAH's concentration increase occurred regularly during surfactant application. Provable and speeding up PAH's concentrations decrease tendency was identified at both maximum and minimum anion active surfactant concentration during full-scale implementation. Using anion active surfactant application complete DNAPL removal from groundwater was reached at E1-west local site. In addition, the target limits issued by Local Environmental Inspectorate was reached. The collector permeability at done site has proved to be sufficient for method application. It was proved, that up to ten tons of contaminant – mostly DNAPL with PAH - could be removed under auspicious hydraulic conditions.

Keywords:

Anion active surfactant, PAH, naphthalene, benzo[a]pyrene, DNAPL, soil washing, pulsate regime of pumping and infiltration