

## Monitoring microbial activities during bioremediation of diesel contaminated soil

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Surfactant-Enhanced Aquifer Remediation is a technology for efficient remediation of soil and groundwater contaminated with hydrophobic organic compounds (HOCs) like NAPL (nonaqueous phase liquid). For remediation of diesel contaminated soil, Tergitol 15-S-7 (Dow chemical, USA) was used as a surfactant in SEAR process. After 300 hrs of process, diesel concentration in the soil was about 1721.1 mg/kg. Bioaugmentation with microorganisms was used as a post-treatment of SEAR process and the microbial activities including cell number, population dynamics of inoculants and changes of microbial communities were monitored during bioaugmentation. 3 strains of Rhodococcus and Gordonia were used as inoculants. The results showed increase of microbial activities during enhanced diesel degradation by the inoculants. But 10 weeks later, population density of inoculants decreased and diesel degradation rate also decreased. This result means that periodical addition of inoculants is necessary for effective bioaugmentation.