GSE - November 4, 1999 Talk

TOPIC: Intrinsic Bioremediation of Chlorinated Hydrocarbons at Cold Temperature

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ABSTRACT: Several contaminated sites in the United States have been evaluated for intrinsic bioremediation, but its application in colder temperatures has not been well addressed. The feasibility of intrinsic bioremediation of chlorinated aliphatic hydrocarbons (CAH) at a former landfill site at the Canadian Forces Base Cold Lake was studied. The site was previously used for disposing of various hydrocarbon-based products such as oils, solvents and degreasers. The compounds of environmental concern that have been detected include benzene, toluene, ethylbenzene, xylenes (BTEX), 1,1,1-trichloroethane, 1,1-dichloroethane, 1,2- dichloroethane and dichlorobenzenes. Results from the geochemical and contaminant investigation, Most Probable Number studies and screening level computer modeling suggest that reductive dechlorination and BTEX mineralisation can and is proceeding at the site, despite the colder in-situ temperatures (8(C). There is no evidence of risk to receptors before contamination concentrations fall below detectable limits. Although there is considerable evidence in favour of intrinsic bioremediation as a remedial option, it is believed that continued long-term monitoring should be implemented to better understand the contaminant behaviour.

Venue : Royal Glenora Club

Time :12:00 noon

Date : Thursday, November 4, 1999

Cost :GSE Members $ 10; Non Members $ 15