

Large, Dilute Plumes

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Large, dilute plumes are a prevalent, problematic remediation problem set. Pump and Treat remedies are coming under increasing scrutiny due to efficacy constraints and sustainability considerations. In some cases, particularly where source(s) have been addressed, Monitored Natural Attenuation may be sufficient to allow resource restoration in a reasonable timeframe. In other cases, closed exposure pathways or threats may require some level of intervention. Given the areal extent of many solvent plumes and the large quantities of water affected, solution sets require least cost additives/reagents and least cost delivery mechanisms. The presentation will focus on collaborative efforts between EPA and DOE to address a 7000' long solvent plume at the Hopewell NPL site in New York. Despite maximum concentrations generally less than 100ppb, the plume is causing MCL exceedances in drinking water wells and vapor intrusion exceedances in residences. An additional complication is that aerobic conditions of the shallow plume appear to preclude reductive dechlorination remedies. As a result, the innovative technology aerobic co-metabolic bioremediation is the leading remedial candidate.