DIAGNOSING ABIOTIC DEGRADATION

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The abiotic degradation of chlorinated solvents in ground water can be difficult to diagnose. Under current practice, most of the “evidence” is negative; specifically the apparent disappearance of chlorinated solvents without any accumulation of vinyl chloride, ethane, ethylene, or acetylene. A better approach is to associate abiotic degradation with adequate quantities of an active iron mineral such as iron(II) sulfide or magnetite. Iron(II) sulfide can be estimated in sediment as acid volatile sulfide and magnetite can be recognized from the magnetic susceptibility of the sediment.