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Methods for effective delivery of remediation amendments for in situ remediation of contaminated clay till sites are sought. The capabilities of direct-push delivery are promising but not yet scientifically documented. Therefore, a field study of direct-push delivery was carried out at an uncontaminated, naturally fractured, basal clay till site ($K\sim10^{-7}-10^{-10} \text{ m/s}$) in 2008-2009. A mixture of tracers (brilliant blue, fluorescein, and Rhodamine WT), the characteristics of which are comparable to several current remediation amendments, was delivered in aqueous solution at pressures of ∼5-10 bar at several locations and depth intervals [2.5-9.5 m below surface (b.s.)], representing both the vadose and saturated zones. Extensive coring to 12 m b.s. and excavation to 5 m b.s. were carried out to identify the lateral and vertical extent of tracer distribution. A tracer distribution radius of minimum 1 m was achieved at all depths. Close vertical spacing of delivery points (10-25 cm) provided good vertical distribution without significant merging of individual delivery propagation paths. The results are promising with regard to achieving adequate distribution of remediation amendments in clay till. © 2012 American Society of Civil Engineers.