

**DISSOLVED PHASE PETROLEUM REMEDIATION
AT A REMOTE PIPELINE SITE USING ISOC TECHNOLOGY**

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Ground water was contaminated by condensate released due to a pipeline failure at a remote southwest US site. The condensate migrated vertically through the shallow silty/clayey fine sand layer to a similar low permeability but caliche-cemented zone. Once the condensate reached the ground water, dissolved phase petroleum migrated to offsite areas.

Given the heterogeneous nature of caliche cementation, accurate subsurface stratigraphy was not available. The in-situ Submerged Oxygen Curtain (iSOCTM) technology was selected as a boundary bioremediation technology because of its proven success in low permeability sites. Four iSOC injection wells were distributed evenly along a linear curtain. The iSOCs were spaced approximately 40 feet apart, with 3 monitor wells spaced halfway between each iSOC well. A fourth monitor well was located approximately 80 feet down gradient of the iSOC curtain.

Site data indicate that DO and ORP are elevated, TIC concentrations are significantly increased and benzene concentrations are significantly decreased in all monitor wells.

Off-site migration of petroleum at the leading edge of the plume has been halted. Based on the initial success, the iSOC system has been doubled in size to further control offsite migration of the dissolved phase plume in another part of the site.

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