
Achievements in Site Cleanup through the Application of Multiple Remediation Technologies: An Ongoing Success Story

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ABSTRACT

An anomaly in the 36 inch diameter gasoline pipeline at the Lookout Release Site, Saint Helena Parish, Louisiana, was discovered in 1997 through the use of an experimental "smart pig." The anomaly was investigated by excavation to a depth of approximately 10-15 feet below ground surface. No gasoline was noted; however, corrosion of the pipeline was found and a field repair made. A March 1998 field investigation with Louisiana Department of Environmental Quality (LDEQ) oversight confirmed the release and lead to the discovery of about 16 acres of Light Non-Aqueous Phase Liquid (LNAPL) on the shallow (30 feet below ground surface) groundwater. The facility initiated recovery of vapor and liquid gasoline through recovery wells. As the project progressed, additional remedial technologies were implemented addressing the LNAPL and dissolved portions of the plume. Air sparging, active and passive soil vapor extraction, nutrient enhancement, and seep mitigation pump and treat were the primary technologies employed to reduce or recover over 800,000 gallons (equivalent) of gasoline. Phase gasoline has been nearly eliminated and the dissolved plume is in a steady to declining state. LDEQ has worked closely with the facility to investigate and approve the use of these technologies. Our ongoing evaluation of the progress of this project provides the challenge to improve and test new ideas and methods for confirming the type and extent of contamination as well as innovative ways to control and mitigate the impact. Working with the facility, consultants, and academia will result in enhanced efforts towards site closure.