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Remedial Technology Selection and Implementation at a Remote Gasoline Pipeline Release Site: A Study of Proactive Impact Management under RECAP

The Louisiana Department of Environmental Quality was notified of the release of an unknown quantity of gasoline in early 2000. Immediate recovery was begun by the responsible party even before a formal remedial plan was proposed. Liquid and vapor phase recovery was implemented while a rigorous direct push (DP) and monitor well investigation program was prepared. Over 200 DP locations were investigated, 35 monitor wells and 57 recovery wells were installed, 4 interceptor trenches were constructed and three years of bi-monthly surface water samples were collected.

A variety of technologies were evaluated and field tested for use in the remediation efforts. These included Pump and Treat, Dual Phase P&T, Vapor Extraction, Air Sparging, Chemical Oxidation, Natural Attenuation (NA) and Augmented NA. Some of the investigation technologies included Direct Push, Cone Penetrometer, Rapid Optical Scanning Technology, Biological Field Assays, Human Health Risk Assessment and others. This paper will discuss the geological setting, focus on those technological evaluations and discuss the implementation efforts, performance evaluations, system enhancements and interim results.

To date over 800,000 gallons (equivalent) of gasoline have been recovered and recycled or destroyed. The release is in a declining state; however, phase gasoline is still present. Further recovery will need enhancements to minimize the phase gasoline until the shift to dissolved phase recovery/treatment is accomplished. Future containment/recovery efforts will focus on containing some minor excursions from the main plume, reducing dissolved contaminant migration into the surface water body and eventual return of the site to its natural state.