Effective Use of Horizontal and Vertical Wells Coupled with Dual Phase Extraction Pumping to Remediate a UST Site in Church Point, Louisiana

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ABSTRACT

Timely remediation of releases from underground storage tanks has been a serious problem for the Louisiana Department of Environmental Quality (LDEQ) for many years. Many sites have been in remediation for over 10 years.

In 1998, tanks at Wimberly Texaco in Church Point, Louisiana were removed. April and October 2000 site assessments defined the extent of releases from operations. Acadian Engineers Incorporated proposed the use of vertical and horizontal wells coupled with Dual Phase Vacuum Extraction for the recovery of phase and dissolved gasoline and diesel for this site.

Horizontal/directional drilling technologies are widely used throughout the United States and worldwide in the pipeline, utility, and communications arena. It is a proven methodology for subsurface infrastructure installations providing access to otherwise inaccessible locations. A primary benefit offered by horizontal technologies is in addressing specific environmental concerns when remediating soils and groundwater beneath enclosed structures.

Horizontal wells were specifically used to address the indoor air issue arising from the contamination beneath a building at the site. Upon LDEQ approval, the system was designed and installed in 2001-2002. In May 2002 the system was turned on and by August 2004 monitor well sampling indicated that the site met the regulatory cleanup requirements under RECAP (Risk Evaluation and Corrective Action Program).

This paper highlights the installation of the horizontal wells, the step by step actions that augmented the system and the RECAP evaluation that enabled us to clean up the site and achieve compliance in less than three years and within budget.