
Accelerated Environmental Management through High-Resolution Data Acquisition

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ABSTRACT

Trendy buzzwords abound in environmental management. Their adoption by scientists and engineers often reflects important new insights and in some cases heralds paradigm shifts in understanding of core processes. The inception of Triad investigations is an instructive example of paradigm shift in site characterization. A Triad investigation completed by the Louisiana Department of Environmental Quality illustrates the value of both the original concept of Triad investigations as defined by the U.S. Environmental Protection Agency, and of the recent shift in focus on high-resolution site characterization technologies, a shift that has replaced “Triad Investigation” with “High-Resolution Investigation” in environmental management parlance. Planning the investigation of two orphaned waste storage pits, located within an active industrial property and potentially affecting neighboring properties, relied on understanding site history and hydrostratigraphy, as well as managing a multifaceted configuration of conflicting and allying interests of a plethora of parties comprising the Triad: site owners, neighbors, regulators, and consultants. While the Triad exercises of bringing stakeholders on board, developing a dynamic work plan and assembling the core technical and decision teams tested the limits of government-industry collaboration, nobody could foresee the strength of the broad technical arsenal of equipment and experience held collectively by the team in overcoming stumbling blocks that would have suspended any traditional investigation, costing unnecessary time and resources. Triad planning and decision-making, coupled with high-resolution, real-time data acquisition produced a successful, cost-effective investigation that met the objectives set by the stakeholders.