

## Groundwater Remediation

### CLIENT PROFILE

An engineering and project delivery company with more than 850 scientists, engineers, construction, and operation personnel located in 28 offices across the U.S. The company has a 60-year history of providing facilities, energy, environmental and water solutions.

### OPERATIONAL CHALLENGE

A typical pump-and-treat ground water recovery program is expensive from an operations and management point of view and can introduce new environmental challenges to a remediation site. The client needed a less expensive system for remediating groundwater while remaining compliant with U.S. Environmental Protection Agency regulations.

### CHEMICAL SOLUTION

Kroff Chemical Company, Inc. developed a process to maintain less than 0.5 mg/l of dissolved oxygen in groundwater. The custom blend of chemical solution acts as an oxygen scavenger in the subsurface.

Ongoing monitoring of the process is achieved by measuring the organic acids in groundwater that result in reduction of chlorinated solvents. The process requires communication from the entire system to assure progress toward the goal of reductive de-chlorination in a completely underground environment.

### BOTTOM-LINE RESULTS

Kroff Chemical Company, Inc. developed a cost-effective approach to groundwater remediation, which was approved by the EPA. The approach took more than four years to prove in the laboratory and in the field during a pilot study. Once the unit was implemented, Kroff's understanding of the exact reductive de-chlorination process led to a partnership with the client to produce the digestive process chemistry that creates the proper acid formations to reduce the chlorinated solvents in groundwater.



*Kroff Chemical Company, Inc. provides custom-blended chemicals and specialty services that improve clients' critical water and process system performance, which helps maximize efficiency of operations and lower costs of operation.*

*Kroff Chemical's services focus on energy efficiency, regulatory compliance, waste minimization and water reuse, fully automated and integrated chemical applications, and a safety-conscious approach.*

*With the support of Kroff Chemical Company, Inc., facilities operate with less staff, but they operate safely, efficiently and profitably. Clients focus more on their core competencies and look to Kroff Chemical Company, Inc. to treat, operate and maintain their critical water and process systems.*