Cascade **Chemistries**
CASE STUDY

LOCATION
Livingston, Louisiana

TECHNOLOGY
In situ chemical reduction (ISCR)

CHEMISTRY
SourceKill℠ eZVI

PROJECT OVERVIEW

In 1982, an Illinois Central Gulf Railroad Company (ICG) train derailed along U.S. Highway 190 in Livingston, LA resulting in damage to several railcars and the release of hazardous materials at the site, including tetrachloroethene (also known as perchloroethylene or PCE). Following emergency response operations, a slurry wall and a pump and treat system were installed to contain and remediate the remaining PCE at the site over a 10-acre area. This system has been operated for close to 30 years. Concern developed that site surveillance funds made available by ICG would be depleted before the remedial goals were reached. In 2009, they decided to take another approach and develop a more effective remedial plan. Additional site evaluation was performed and SourceKill℠ emulsified zero valent iron (eZVI) was selected to destroy the residual PCE in the subsurface. SourceKill degrades DNAPL with its primary contaminant, PCE, abiotically, and daughter products of the degradation are further biodegraded by the bacteria to innocuous byproducts, such as carbon dioxide and water.

RESULTS

SourceKill was injected (as well as food grade vegetable oil and bacterial cultures designed to biodegrade PCE and associated breakdown products including vinyl chloride) at designated locations using direct push technologies. Remedial goals developed for both soil and groundwater were established to be protective to human health and the environment and were met within two years of project implementation. All wells, sumps and infrastructure have been either plugged and abandoned or have been removed from the site.

For more information, visit
www.cascade-env.com/cascade-chemistries

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