



Livingston Train Derailment Site Issued No Further Action by the Louisiana Department of Environmental Quality

PROJECT DETAILS

Location:

Livingston, LA

Project Type:

EZVI (DNAPL) and
In-Situ Bioremediation

On October 21, 2016, the Louisiana Department of Environmental Quality (LDEQ) Office of Environmental Compliance issued a No Further Action Notification (NFA) letter to Mayor Derral Jones of the City of Livingston, LA and President of the Livingston Intergovernmental Commission (LIC). The NFA letter also included a Basis of Decision for the notification. The NFA letter marks the final chapter in the long remediation process of this historical site.

On September 28, 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 was operated for close to 30 years.

After running the current pump and treat technology, the Mayor and LIC became concerned that site surveillance funds made available by ICG would be depleted before the remedial goals were reached. On March 10, 2009 they decided to take another approach and develop a more effective remedial plan. LIC selected TEA to perform additional site evaluation under RECAP, and to design a remediation program to close the site. TEA performed these technical functions and selected emulsified zero-valent iron (EZVI) to destroy the residual PCE in the subsurface at the site. TEA is an EZVI licensed manufacturer of this NASA patented remediation product which also carries a Certified Space Technology designation.

TEA injected EZVI (as well as food grade vegetable oil and bacterial cultures designed to biodegrade PCE and associated breakdown products including vinyl chloride) into designated locations across the site using direct push technologies. The EZVI degrades PCE abiotically, and daughter products of the degradation are further biodegraded by the bacteria to innocuous byproducts, such as carbon dioxide and water. Remedial goals developed under RECAP for both soil and groundwater were established to be protective to human



health and the environment. These goals were met within 2 years of project implementation. All wells, sumps and infrastructure have been either plugged and abandoned or have been removed from the site. There are no institutional controls on this property.

Dr. Brad Droy, TEA's Senior Project Advisor for the project, states, "We are very pleased and honored to have been given the opportunity by LIC, the mayor and the LDEQ, to demonstrate and apply innovative science and engineering to achieve site closure at such a high profile and historical contaminated site in Louisiana. It took courage and faith to change directions from standard forms of remediation to embrace a new strategy. We are proud to be part of the team with LIC and the LDEQ to have achieved this success."

TIMELINE

