

History

The Charlie Burch site history dates back to the 1950s. In the 1960s an independent hauler used the site to bury wastes collected from several manufacturers including Rohm and Haas Texas, Inc. (Rohm and Haas). The site was closed according to regulations in 1983. In 1996 after several years of study, Rohm and Haas enrolled the site in the Texas Voluntary Cleanup Program. Since then the Rohm and Haas has worked closely with the State to move toward final groundwater cleanup.

What's the problem?

Investigations have revealed ground-water moving southeast from the site (Figure 1) contained a compound called 1,2-dichloroethane (DCA). DCA is found in a narrow band between approximately 25 feet and 65 feet beneath the surface (Figure 1).

DCA does not pose any risk to people in the area. Extensive testing shows that there is no DCA, either at the surface or within about 25 feet of the surface. Drinking water is either provided by public utilities from outside the area or extensively tested, or it comes from domestic wells several hundred feet deeper than where the DCA is located.

What's been done?

In 1999, approximately 91,000 cubic yards of material were excavated and hauled away to licensed secure disposal sites. The excavated area was backfilled with clean clay-rich fill, graded, and capped with low permeability soils. This, combined with the active pump and treat (P&T) systems, has reduced the levels of DCA in groundwater.

Thus far, Rohm and Haas has constructed two pump and treat (P&T) systems to remove the DCA from the groundwater. One was installed in 2001 at the Former Disposal Site and the other was installed in 2006 on a 13-Acre Tract south of Forestburg Drive (Figure 1). The Former Disposal Site system was redesigned and replaced with a new system to improve performance and to enhance capture of the on-site DCA groundwater plume. This upgraded system became operational

in February 2012. Since start-up, the two P&T systems have removed and cleaned over 230 million gallons of water.

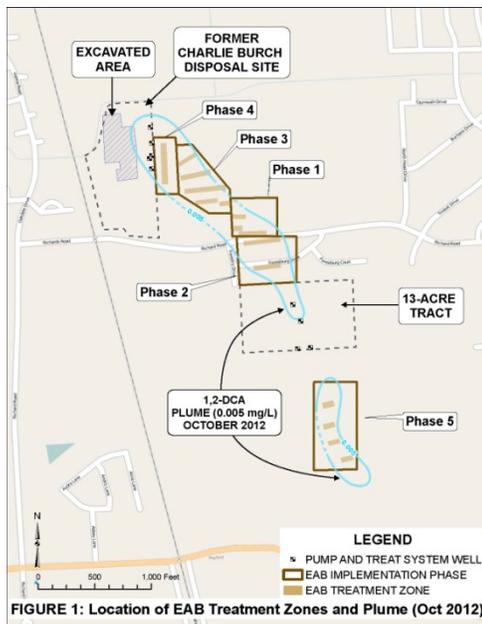
To address portions of the groundwater plume not remediated by the P&T systems, a process called enhanced anaerobic bioremediation (EAB) has been tested and approved for use at the Burch site by the Texas Commission on Environmental Quality (TCEQ). EAB application involves the injection of harmless organic materials, including vegetable and soybean oils, into the underlying groundwater to provide a long-term source of food that enables the microbial populations to more effectively decompose DCA. As groundwater flows through the treatment zones, microorganisms break them down converting them to harmless end products.

The EAB application is being implemented in a phased approach to facilitate optimization and incorporation of process improvements into subsequent phases (Figure 1). This phased approach allows for flexibility in treating areas predicted to take longest to clean up. The EAB application is designed to inject sufficient organic materials and amendments to persist in the groundwater for up to 4 years, requiring replenishment of those materials (re-injection) on an on-going basis until the groundwater is determined to be clean by the TCEQ. Injection activities associated with the implementation of Phases 1 and 2 of the EAB application were conducted between March and June 2012 (Phase 2 Injection Photo below). Performance monitoring is conducted periodically to measure application effectiveness.

What's next?

Obtaining necessary access agreements, development of TCEQ-approved work plans, and implementation of Phases 3, 4, and 5 will continue over the next few years. Several treatments may be necessary to replenish the treatment materials before the EAB process is complete.

More information on the Charlie Burch site can be obtained online at <http://www.charlieburchproject.com/>.



Photograph of Phase 2 Injection Activities along Forestburg Drive.