Highlights

- Designed a cover system for a former impoundment that allows economical on-site management of other potentially impacted media.
- Designed a DNAPL recovery system that utilizes groundwater pumping and re-infiltration with no active treatment.

Project History

Former Wood-Treating Site
New Hampshire

Regulatory Agency/Programs
New Hampshire Department of Environmental Services (NHDES)/Administrative Consent Decree, Groundwater Management Permit

Constituents of Interest
Metals, VOAs, SVOCs

Project Description
The project site is a 90-acre former wood-treating site located along a river in New Hampshire. The site was operated for roughly 60 years but has been inactive since 1983. DNAPL was reportedly seeping into the river since 1981. A prior contractor installed a subsurface containment wall along the river however the wall has been ineffective in stopping the further migration of DNAPL to the river. This issue is being addressed via an Administrative Consent Decree (Decree) between the NHDES and the former site owner. The Decree also addresses installation of a surface cap, removal of sediments, and long-term performance monitoring for the site. Groundwater contamination is being addressed by monitoring under a Groundwater Management Permit (GMP). Portions of the site are proposed for residential redevelopment.

KEY prepared the GMP and obtained approval from the NHDES. The GMP delineates a groundwater management zone that encompasses the site plume, where groundwater standards...
do not apply. KEY subsequently designed a DNAPL recovery system that utilizes in-well separation by gravity of DNAPL and groundwater. Co-generated groundwater is re-infiltrated into the ground surface, to preclude the need for active groundwater recovery and treatment. KEY also designed a cover system for the four-acre former lagoon area. The design accommodates the addition of stabilized sediments and other media that may be consolidated on-site, allowing for economically advantageous on-site management of these materials.

**Activities Performed**

- Site investigation, including the use of laser-induced fluorescence techniques for DNAPL delineation
- DNAPL mobility and collectability assessments
- Installation of DNAPL recovery wells
- Preparation of construction drawings and technical specifications
- Site conceptual model
- Remedy selection and regulatory negotiations
- Detailed design
- Permit applications
- Operations, maintenance and monitoring

*Installation of NAPL in-well recovery system.*  
*NAPL in-well recovery system.*