

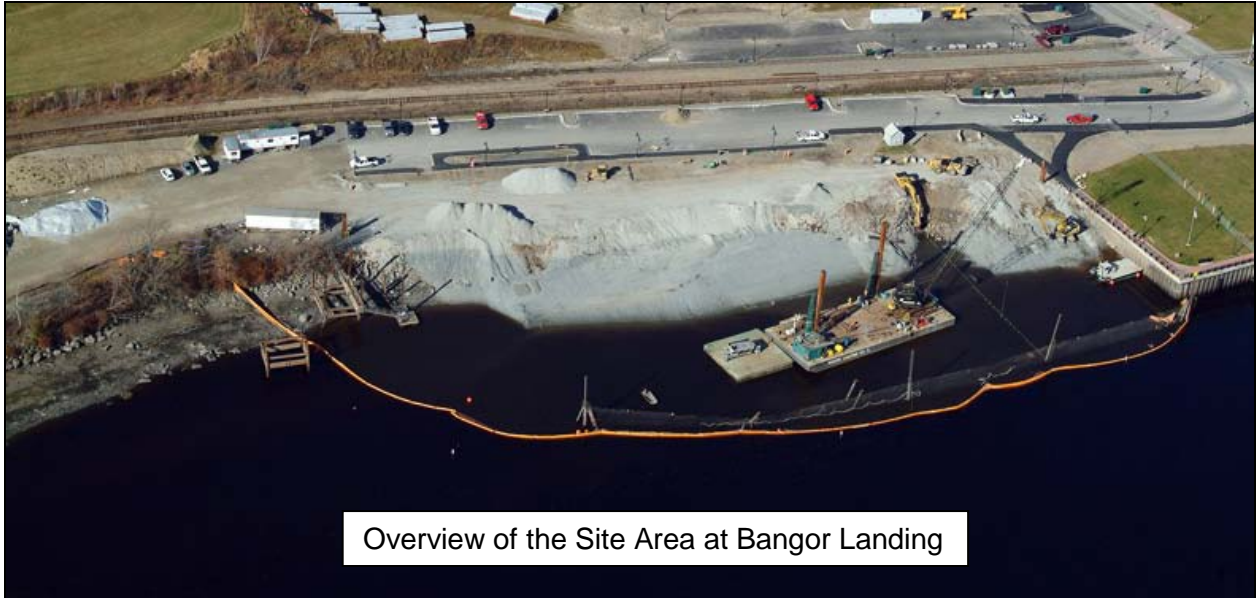
AquaBlok® Installation Profiles



Site Location: US EPA Region 1
Penobscot River, Bangor, ME

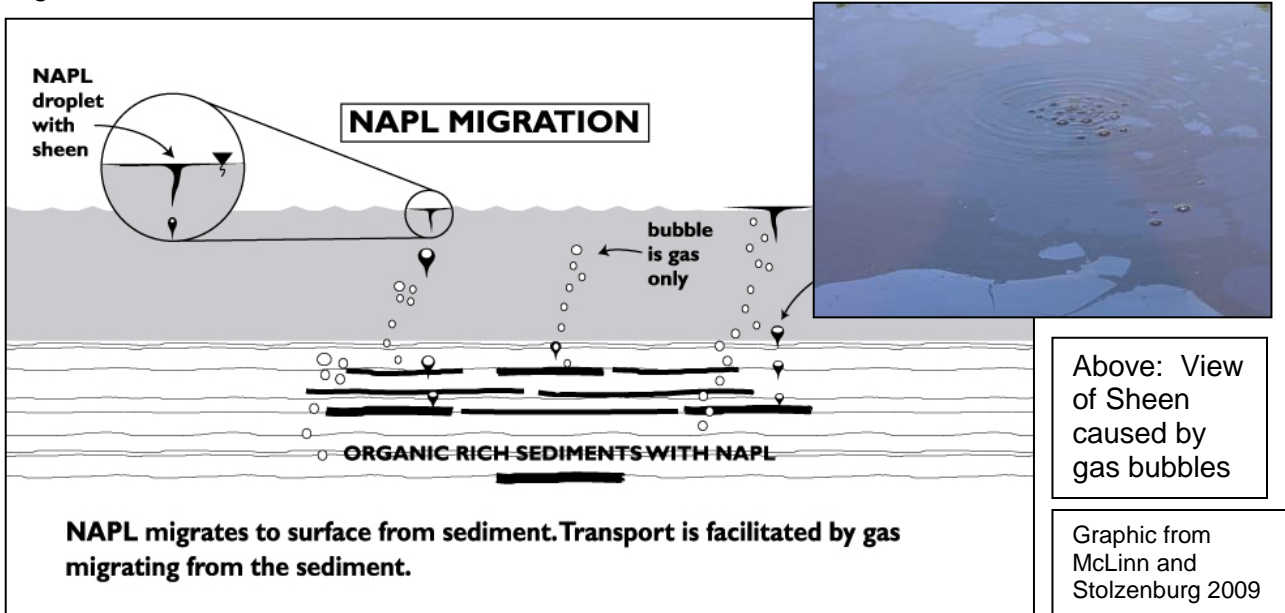
Project Status: Completed January 2010

Setting / Purpose: Tidal River (freshwater). MGP Site – Bangor Landing is depositional area on the river in the lee of a bulkhead out-cropping. AquaBlok was used as a component of a patent-pending design by RMT intended to eliminate the impact of ebullition driven non-aqueous phase liquid (NAPL) sheens at the site.

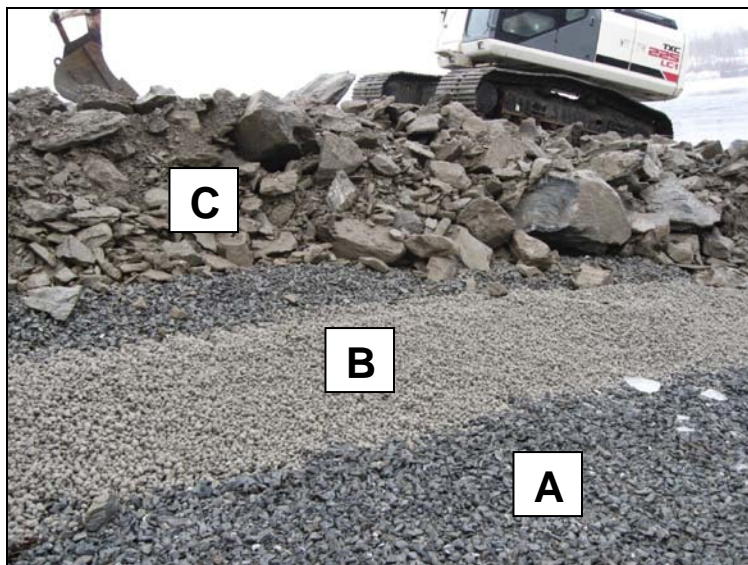
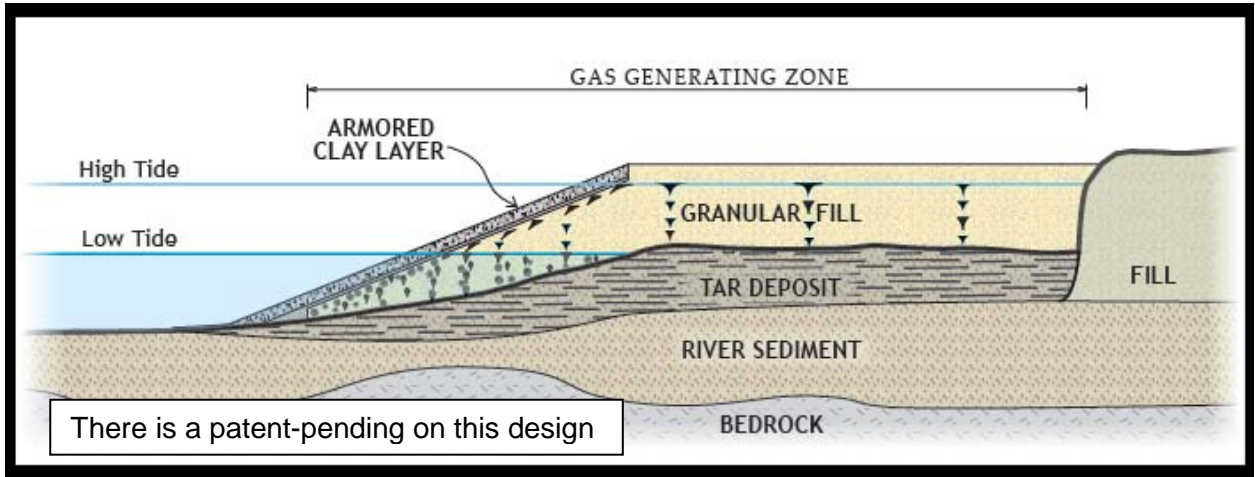


Overview of the Site Area at Bangor Landing

Contaminant(s) of Concern: Historic MGP operations are often associated with DNAPL (dense non-aqueous phase liquid) sediment issues. The challenge at this site centered on elimination of bubble-assisted transport of NAPL by gases generated from decomposition of organic rich sediments.



AquaBlok Cap Design / Site Area: The cap is a patent pending design by RMT which utilizes a low-permeability AquaBlok layer to assist in the re-direction of gas driven NAPL along an upward incline to a passive relief area. The site area itself was challenging due to a large tidal range and need to provide extensive armor to protect the cap from both river flows and potential ice scour. In addition, the cap was constructed during the fall and winter, posing further challenges to the work crew. AquaBlok 3070FW material was produced at a site near the river using a locally sourced aggregate tested and selected by RMT. The total area of cap was just over 60,000 square feet.



Above: An overview of the design of the cap area – showing the AquaBlok “clay layer”.

Left: A section view of the cap layers –

A – Gas Transmission Layer
B – AquaBlok Layer
C – Armor Layer

Photos & Graphics –
 Courtesy of RMT, Inc.

Placement: All aggregate (both gas transmission and armor layers) and AquaBlok materials below the intertidal zone were placed by clam shell (drag line) from a barge positioned within the work area. For construction control the cap was installed in sections moving from the up-stream bulkhead toward the down-stream direction. The use of all bulk placement materials assisted in successful installation around a significant outfall area within the cap footprint. In the intertidal zone (near the top edge of the cap, a shore-based long-stick excavator was also used for placement of some materials.