



A Successful HSCA Funded Cleanup: Macoby Creek Site

Upper Hanover Township, Montgomery County, PA

The Macoby Creek Site (Site) in Upper Hanover Township, Montgomery County, was contaminated by decades of improper waste handling and disposal from metal plating and manufacturing operations at the Site. The Site is located in a residential community and was a cause for concern there for decades. DEP's investigation of the Site found that soil, groundwater, drinking water, and Macoby Creek had all been contaminated with volatile organic compounds (VOCs) and metals. DEP's cleanup of the Site consisted of the removal of 18,000 tons of contaminated soil, 700 gallons of liquid hazardous waste, and an underground storage tank; demolition of the derelict facility; installation of a carbon filter on a residential drinking water well; and bioremediation of contaminated groundwater at the Site. DEP's cleanup of the Site has been facilitated by the support of Upper Hanover Township, and the YMCA, which owns property impacted by the Site. A local resident purchased the Site property through a Prospective Purchaser Agreement with DEP and plans to reuse the Site for residential purposes. The resident has contributed to DEP's administrative costs and agreed to Institutional Controls to prohibit the use of untreated groundwater while the bioremediation continues to reduce the remaining contamination.

Macoby Creek Site

From the 1950s to the mid-1980s the V. A. Savarese Plating Company conducted metal plating at the Site, utilizing VOCs, and metals, notably cadmium, in its operations. The company went bankrupt, and from the mid-1980s through the early 1990s, H.D. Mechanical Contractors manufactured conveyor belts at the Site. The property was left vacant and decaying for several years. Upper Hanover Township referred the Site to DEP after they observed some drums outside the building.

In 1999, DEP began an investigation of the nature and extent of contamination at the Site, which included sampling soil, groundwater, surface water, and nearby residential well water. That investigation found high concentrations of VOCs and metals throughout the Site which posed a threat to human health and the environment. A subsequent investigation of residential wells in 2001 found one home well contaminated with 920 ppb of TCE. DEP installed a whole-house carbon filter at this location. Additional soil and groundwater characterizations were performed in 2002 – 2004.

In 2008, DEP initiated an interim response to demolish the derelict plating facility and remove contaminated soil from the Site. From Summer 2008 to Spring 2009, DEP completely removed the building and most of its foundation, excavated and removed an underground fuel oil tank, emptied an underground cistern and contaminated soil, and restored the property. An additional groundwater

Project at a Glance

Project Size:
Approximately 3.79 acres

Principal Use:
Residential Area

Total Project cost:
\$ 4M

Consultant:
Michael Baker Jr., Inc.
Weston Solutions, Inc.
AECOM
Tetra Tech, Inc.

Project Period:
1999-2020 (21 years)

Partners:
Upper Hanover Township
YMCA



investigation that sampled both residential and monitoring wells in 2007 and 2010 indicated that, while contaminant concentrations in the shallow aquifer had been reduced by the remediation efforts, there had been little effect on VOCs in the deep aquifer. This prompted DEP to turn its attention to remediation strategies for the deeper groundwater.

In 2012, DEP began evaluating treatment options to address the remaining contaminated groundwater at the Site. DEP performed a vapor intrusion (VI) study from 2013-2015 that focused on an adjacent residential property. The study concluded that VI did not pose a risk at the property. In 2016, DEP began injecting iron and nutrients into the aquifer to stimulate the naturally occurring bacteria to consume the VOCs in the groundwater. Concentrations of VOCs have decreased significantly. Groundwater monitoring and bioremediation treatment continue to present day. Environmental covenants at the Site serve to prevent the untreated use of groundwater until the groundwater meets Safe Drinking Water Act standards.

Highlights:

- 18,000 tons of contaminated soil removed
- 700 gallons of liquid hazardous waste removed
- Derelict plating facility demolished
- Carbon filter installed on residential drinking water well
- Volatile organic compounds reduced in groundwater through In-Situ Bioremediation

The Hazardous Sites Cleanup Fund (HSCF), a special fund established under the Hazardous Sites Cleanup Act (HSCA) (35 P.S. §6020.101 et seq.), provides the funding for the Department of Environmental Protection (DEP) to carry out a number of activities to address releases and threatened releases of hazardous substances to the environment.



Project Photos



Derelict Plating Facility Before DEP Cleanup



Demolition of the Plating Facility

Project Photos



Waste Sampling



Soil Excavation



Emptying Underground Storage Tank



Insertion of Iron and Nutrients to Simulate Bacteria