

Beltsville Agricultural Research Center

BARC 32 Soil and Groundwater Cleanup

September 2018

The U.S. Department of Agriculture's (USDA) Agricultural Research Service (ARS) is conducting a Remedial Investigation and Feasibility Study (RI/FS) at the BARC 32 Area of Concern (AOC) at the Beltsville Agricultural Research Center (BARC). ARS completed a cleanup of soil contaminated with polychlorinated biphenyl (PCB) at BARC 32 and an adjacent AOC (BARC 31), and is now proceeding to assess groundwater contamination associated with this site.

An RI is a carefully structured process for collecting samples from potentially contaminated media (including soil, surface water, sediment, groundwater, and/or air), analyzing them for environmental contamination, and evaluating the potential risks discovered contaminants may pose to human health and the environment. An FS evaluates possible alternatives for cleaning up hazardous contaminants to address any risks that have been identified, taking into account regulatory requirements, effectiveness, ease of implementation, cost, community acceptance, and other factors.

Background

BARC 31 and 32 are adjacent sites used in the past to store transformers containing PCB oils. Some of these transformers leaked into the surrounding soil. The soil at these sites was also found to contain other environmental pollutants, including, some pesticides, metals, and other contaminants.

To determine the extent of contamination, samples from materials stored at both sites as well as samples from surface and subsurface soil and shallow groundwater were collected and analyzed.

In consultation with EPA, ARS decided to complete a removal action at these sites to address the presence of PCBs and other contaminants in soil. The removal action was completed in the spring and summer of 2004.

Wastes excavated from the both the BARC 31 and BARC 32 sites went to a permitted landfill in Michigan, an approved thermal treatment (recycling) facility in Virginia, or to a non-hazardous waste landfill in Virginia.

On-site soil analyses were performed using sensitive soil test kits to guide excavation activities. When excavations were complete, additional laboratory samples were collected based on field screening results to confirm that restored areas met established cleanup goals.

Approximately 15,000 tons of soil with PCBs and other contaminants were excavated from both sites. At the conclusion of the cleanups, excavations were backfilled with clean soil. Both sites were successfully restored and were returned to productive use.

Groundwater Investigations

As part of the investigations at these sites, ARS also completed a thorough investigation of groundwater contamination. Although a plume of trichloroethylene (TCE) was identified, it was not initially believed to be an extensive problem, and succeeding studies focused on treating groundwater at the site.

A Treatability Study was completed in 2015 to evaluate the efficacy of a proprietary remedial technology in removing groundwater contaminants at the site. As part of the Treatability Study, additional activities, including ongoing groundwater sampling, were conducted to determine if the contaminant plume has migrated offsite.

These further investigations determined that the extent of groundwater contamination was larger than initially believed, and extended beyond the BARC property boundary. Due to the evolving contaminant conditions, ARS and EPA agreed in 2017 to conduct a full Remedial Investigation and Feasibility Study (RI/FS) at BARC 32 AOC,

in accordance with CERCLA requirements, to pursue resolution of groundwater contamination.

Remedial Investigation/Feasibility Study Objectives and Scope

Current plans for the RI include completing a conceptual site model (CSM), sampling monitoring wells, and completing human and ecological risk assessments. RI activities are currently scheduled for 2019. Following the completion of the RI field work, an RI Report will be prepared, followed by the development of an FS to evaluate options for remedial action.

For More Information:

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