Maryland Department of the Environment

FACTS ABOUT:

BRANDYWINE DRMO SITE

Site Description

The Brandywine Defense Reutilization and Marketing Office (DRMO) site is an inactive U.S. Department of Defense (DOD) facility that occupies approximately eight acres of land. The U.S. Navy operated the site as a storage yard and marketing office from an unknown date until 1955, when it was transferred to the U.S. Air Force. In 1973, the Defense Supply Agency (DSA) assumed control of the site, and the Defense Property Disposal Organization (DPDO) received a permit from Andrews Air Force Base (AAFB) to use the property. The Brandywine DRMO site is located in southern Prince George's County, Maryland, about 8 miles south-southeast of AAFB. The site lies within the Potomac River Basin.

Site History

From approximately 1953 until 1988, the DRMO site was used principally as a storage area for surplus electrical equipment, other materials, and for storage of hazardous wastes. The site accepted materials, including hazardous wastes, from several installations, including AAFB, Bolling Air Force Base, the Washington Naval Yard, the Navy Research Laboratory, the Naval Surface Warfare Center (NSWC)-Indian Head Ordnance Station, and White Oak Laboratory (now known as NSWC-White Oak). Drums of waste solvents, capacitors and transformers containing polychlorinated biphenyls (PCBs) were stored at the DRMO. Records indicate there were two burn pits used for disposal and burn of waste and several above and below ground tanks. The AF removed the burn pits and tanks in 1989.

A federal facility agreement (FFA) was negotiated for the subsequent work to be conducted at the Brandywine DRMO NPL site. The FFA was signed in December 2009.

Environmental Investigation and Action

This site was proposed to the National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites requiring long-term cleanup action on July 28, 1999. The site was formally added to the list May 10, 1999, making it eligible for federal cleanup funds.

Two sources located at the DRMO site were evaluated in the documentation record: (1) soil contaminated with PCBs, and (2) a groundwater plume contaminated with semi-

volatile organic compounds (SVOCs). Contamination resulted from the management and disposal of wastes, particularly volatile organic compounds (VOCs), stored in on-site tanks, drums, warehouses, aboveground storage tanks, underground storage tanks, and burn pits. A transformer storage area was located in the eastern portion of the site. Hazardous wastes were stored directly on the ground.

Observed releases of VOCs to ground water and PCBs to surface water (wetlands) are documented. The surface water migration pathway for the DRMO site includes wetlands located immediately downgradient (to the north and west) from the DRMO property. The surface water flows through a wooded area and eventually joins to form a tributary of Timothy Branch. The Timothy Branch flows south from the Brandywine Area and joins the Mattawoman Creek about three miles south of the site. Wetlands are located along Timothy Branch and Mattawoman Creek for their entire lengths within the 15-mile target distance limit. The State of Maryland (Maryland) has designated Mattawoman Creek and its 100-year flood plain and area of critical concern under the Coastal Zone Management Act; the area is a migratory corridor for anadromous species of fish. Maryland has designated all stretches of Timothy Branch Creek and Mattawoman Creek Class I waters -- that is, waters allowing contact recreation and the propagation of fish and other aquatic life and wildlife. Mattawoman Creek downstream of the site is a fishery.

In 1989, the AF initiated and removed PCB contaminated soil on site. In September 1996, the AF issued a Decision Document for the installation of horizontal extraction wells and a treatment system to treat the contaminated groundwater. According to the information provided by AAFB and MDE, at the last minute AAFB changed the design from horizontal wells to an on-site interceptor trench with a treatment system. AAFB explained that the design change was because they did not receive access to off site areas and that private parties wanted compensation. Following the construction of the interceptor trench, AAFB and MDE disputed the issue of permit requirements for the treatment system for almost four years. The treatment system was subsequently turned on. Because the majority of the contamination is off site, the treatment is unable to capture and treat the entire groundwater contaminant plume.

The remedial investigation and feasibility study (RI/FS) began in October 2001 for operable unit 2 for groundwater. The RI and FS were completed and the interim ROD was signed on September 29, 2006. The remedy was implemented in accordance with the interim ROD and the remedial design. The interim ROD selected bioaugmentation with gradient control, institutional controls and groundwater monitoring as the remedy.

An Engineering Evaluation/Cost Analysis (EE/CA) was finalized in September 2006 for PCB-contaminated soil and sediment removal in the adjacent wetland. The Action Memorandum to fund the EE/CA was signed in 2007. Removal of the PCB-contaminated soil and sediment began in July 2007. The removal was complete as of November 2007. The team received the final report documenting that the PCB removal was complete in

January 2009.

In addition, a pre-design investigation to further characterize the extent of the DNAPL was completed in 2007. An additional work plan for the DNAPL characterization was received in September 2012. The subsequent draft remedial investigation (RI) report was submitted in October/November 2012. Additional investigation of the DNAPL source area will be completed under the performance based contract issued in October 2012.

Current Status

The EPA and Joint Base Andrews (formerly AAFB) signed the FFA in December 2009. The FFA outlines the role and responsibility of the participants as well as the work to be performed.

EPA, MDE, and Prince George's County Health Department completed the review of the RI and FS for operable unit 2 for groundwater. The ROD was signed September 29, 2006. The remedy has been implemented in accordance with the ROD and remedial design. Additional groundwater in-situ injections were conducted in 2010-2011. An investigation began in late 2012 for additional characterization of the dense non-aqueous phase liquid (DNAPL) in groundwater. Before groundwater treatment, the concentration of total VOCs in groundwater was 240 parts per million while trichloroethylene (TCE) was detected at 224 ppm or 224,000 parts per billion (ppb) in groundwater. The maximum contaminant level (MCL) for drinking water is 5 ppb. However, interim remedy for groundwater has significantly reduced the groundwater contamination to around the MCL in the residential area next to the site.