



# Beltsville Agricultural Research Center

## BARC 6: Biodegradable Site



June 2005

The U.S. Department of Agriculture's Agricultural Research Service (ARS) has completed a Remedial Investigation at a site known as the "Biodegradable Site" (BARC 6), a portion of which is now part of the Metro Green Line storage yard. A Remedial Investigation is a carefully structured process of collecting environmental samples, analyzing them for hazardous substances, and evaluating the potential risks that any contaminants may pose to human health and the environment. In addition, a Remedial Investigation determines whether or not a long-term cleanup effort (i.e., remedial action) is necessary and assesses the potential scope.

### Background

The Biodegradable Site is located within, and adjacent to, non-tidal wetlands along Indian Creek. Analysis of historical aerial photography and interviews with ARS personnel revealed that this site was used as a landfill as early as 1943. Regular disposal of used chemical containers, construction and household debris, and "vegetative" waste occurred at the site until 1975.

A Remedial Investigation has been completed. Prior interpretations of site conditions were based on information about soil, surface water, and sediment, as well as two rounds of data from a small number of groundwater monitoring wells. The primary source of contamination, the landfill, has already undergone a major removal in which more than 70,000 cubic yards of soil and debris were excavated and taken to approved disposal facilities.

EPA suggested that it should be determined whether contaminants are also present that came from sources outside Beltsville Agricultural Research Center (BARC) property, including the general extent of any residual groundwater contamination in the underlying Patuxent Aquifer. This has been done.

### Remedial Investigation Accomplishments

The Remedial Investigation:

- Determined the extent of chlorinated solvent contamination in groundwater, both upgradient (off BARC property) and downgradient of the site.
- Determined groundwater flow patterns and estimated rates of contaminant migration in the vicinity of the Biodegradable Site, based on information from groundwater monitoring.
- Determined that contaminants have been released to soil in the wetlands along Indian Creek.
- Identified low concentration contaminant releases to surface water and sediment in Indian Creek, both upstream and downstream of the site.
- Determined if there are potential risks to human health and the environment from groundwater, soil, and surface water/sediment contamination.

### Completed Remedial Investigation Activities

Advanced field screening tools such as Geoprobe® soil probing and sampling equipment were used to identify potential upgradient sources of contamination, and assess the possible distribution of contaminants in groundwater. Soil, surface water, and sediment samples were collected around the Biodegradable/Metro Site to determine the extent of contamination attributable to the site and to offsite sources.

In particular, sampling was done to characterize a plume of chlorinated solvents that originates up-gradient from BARC property. Shallow and deep monitoring wells were installed to quantify

both the vertical and horizontal extent of chlorinated solvent contamination.

Computer modeling of the movement and environmental fate of the chlorinated solvents plume both up-gradient and down-gradient of the Biodegradable/Metro Site was used to quantify potential risks to the surface and groundwater ecology.

A Baseline Risk Assessment was completed, in accordance with EPA procedures, using analytical data generated during the field sampling portion of the Remedial Investigation. The Baseline Risk Assessment identified any potential risks to human health and the environment, and will support evaluation of potential remedial (cleanup) actions by documenting threats posed by the Biodegradable Site with respect to current and future potential uses of the area such as recreational use of surface water and future use of groundwater for drinking water.

### **Ongoing Site Activities**

A Focused Feasibility Study (FFS) is currently being performed, and will likely include installation of additional "detection" wells, long-term monitoring of groundwater in the vicinity of the site, and land-use and groundwater use restrictions to prevent future population exposures.

### **Community Relations**

There is a mailing list for interested individuals and organizations, and an "Information Repository" for public access to information about the Remedial Investigation is available.

### **For More Information...**

Contact Kim Kaplan, ARS Information Staff, at 301/ 504-1637, by e-mail at [kaplan@ars.usda.gov](mailto:kaplan@ars.usda.gov), or visit the ARS information repository located in Room 014, Building 003, 10300 Baltimore Avenue, Beltsville, MD. The information repository is open to the public Monday through Friday, 8:30am to 4:30pm. The information repository is also available at the Prince George's County Memorial Library at 4319 Sellman Road. The library's hours of operation are Monday through Wednesday, 10 am to 9 pm; Thursday and Friday, 10 am to 6 pm; and Saturday, 10 am to 5 pm.