Beltsville Agricultural Research Center BARC 12: Chemical Disposal Pits Site

June 2005

The U.S. Department of Agriculture's Agricultural Research Service (ARS) is undertaking a Remedial Investigation at a site identified as BARC 12 ("Chemical Disposal Pits"), located in the far northeastern portion of BARC. 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 of any required remedial action.

Background

The Chemical Disposal Pits site was used as early as 1943 for storage, burning, and disposal of solvents and other hazardous substances. In the late 1970s it was used by ARS, the Maryland Environmental Service and the Washington Suburban Sanitary Commission (WSSC) for a pilot sludge composting operation.

Several environmental investigations, beginning in 1991, identified a number of chemicals and metals at elevated levels in soil, surface water and groundwater. A Site Screening Process (SSP) investigation in 1998 concluded there was sufficient evidence to warrant a Remedial Investigation. Remedial Investigation sampling and analysis activities began in March of 2000.

Remedial Investigation Objectives

The objectives of the Remedial Investigation are to:

- Determine the nature and extent of known solvent contamination in soils and groundwater.
- Determine groundwater flow patterns and estimate the rate of any potential contaminant migration in groundwater.
- Determine if any other contaminants are present in any environmental media.
- Locate any buried materials in the areas of the suspected former disposal pits.
- Assess any potential risks to human health and the environment from groundwater, soil, and surface water/sediment contamination.
- Determine the need for, and potential scope of, remedial action (i.e., site cleanup).

Remedial Investigation Activities to Date

ARS is using a variety of field investigation techniques. Traditional sampling methods using drill rigs and hand augers have been employed alongside more innovative methods such as the Geoprobe® direct push soil sampling unit and a series of electromagnetic imaging and sensing instruments.

A total of twelve groundwater monitoring wells have been installed to sample groundwater and determine flow characteristics at the site. Aquifer tests were performed on all new wells to better assess aquifer characteristics. The wells will be sampled periodically throughout the investigation and any required cleanup.

Surface and subsurface soil samples were collected using a Geoprobe® direct push unit to characterize site geology and to identify and quantify soil contamination. The Geoprobe® was also used to perform a study of soil electrical conductivity at the site to help create an electronic model of the subsurface that is being used to determine fate and transport mechanisms for site contaminants.

Seventeen test pits were excavated to identify contents of former disposal pits. Test pit locations were based on review of historical aerial photographs and a comprehensive surface electromagnetic survey.

Soil gas was collected from 87 points across the site to better delineate volatile organic compound (VOC) contamination. Surface water and sediments in a nearby stormwater retention pond and in nearby streams were sampled to determine if any site contaminants are discharging to these surface water bodies.

A Human Health Risk Assessment, prepared in accordance with Environmental Protection Agency (EPA) procedures, is nearing completion, using analytical data generated during the field sampling portion of the Remedial Investigation. The Human Health Risk Assessment will identify existing or potential risks to human health and the environment, and will support evaluation of potential remedial (cleanup) actions by documenting threats posed by the Chemical Disposal Pits Site with respect to current and future potential uses of the area (e.g., recreational use of surface water, future use of groundwater for drinking water).

Risk to the ecology at the Chemical Disposal Pits is being assessed as part of a facility-wide Ecological Risk Assessment.

Community Relations

A mailing list of interested individuals and organizations has been prepared, 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, 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.