

# Beltsville Agricultural Research Center

## BARC 22: College Park Landfill

April 2010

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The U.S. Department of Agriculture's Agricultural Research Service has completed a comprehensive investigation of an area designated the College Park Landfill (BARC 22) at the Beltsville Agricultural Research Center (BARC) to identify if any hazardous substances are present, and what clean up may be needed.

ARS undertook a Remedial Investigation and Feasibility Study (RI/FS) at the College Park Landfill site. A Remedial Investigation is a carefully structured process of 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 that any contaminants found in those samples may pose to human health and the environment. The FS evaluates possible alternatives for cleanup to address any risks that have been identified, taking into account regulatory requirements, effectiveness, implementability, cost, community acceptance, and other factors.

### Background

The College Park Landfill site is located on the west-central portion of the Central Farm area of BARC, about 800 feet east of Edmonston Road and southeast of the intersection of Sunnyside Avenue and Edmonston Road. The site is about 30 acres and located next to wetlands associated with nearby Beaver Dam Creek.

Historically, the site was mined for sand and gravel in the mid to late 1950s and then used as a municipal landfill by the city of College Park, MD. The landfill accepted municipal and solid wastes from 1954 to 1978. Although the landfill primarily accepted residential refuse and construction debris, some chemical wastes may also have been disposed in the landfill. Landfill operations

ended in 1978, and the western and central portions of the former landfill were covered and graded to accommodate baseball fields.

Several preliminary environmental studies of the College Park Landfill have been completed, including Site Screening Process (SSP) investigations. An SSP determines if an AOC requires remedial action, needs further study through the RI/FS process, or no further action is needed.

The College Park Landfill SSP concluded that further investigation was needed and recommended the completion of an RI/FS. An RI/FS Work Plan was prepared to provide the roadmap for conducting further investigations of the site, i.e., filling in data gaps and developing recommendations for any required remediation (cleanup).

### Remedial Investigation/Feasibility Study Objectives and Scope

When the landfill was closed, there were no post closure activities performed to reduce or prevent the potential for contaminant migration from the landfill. Some waste is visible on the surface today along the perimeter faces of the landfill.

The RI/FS was planned to:

- Determine if contaminants are present in groundwater and surface water as a result of contaminants present in the landfill.
- Estimate methane gas and leachate generation rates within the landfill and its immediate vicinity.
- Evaluate subsurface geology and engineering aspects of the landfill
- Identify sensitive environments and wetlands in the vicinity of the landfill, Beaver Dam Creek, and the floodplain.

The initial phase of RI field work was completed in 2001. A variety of advanced field investigation techniques, including Geoprobe® soil probing and sampling equipment, were used to collect samples and identify potential sources of contamination. Nine monitoring wells have been installed at locations in and around the landfill to collect groundwater samples to determine whether contamination originating from the landfill may have impacted shallow groundwater. Five additional monitoring wells were installed in May 2007. Samples of landfill gas, leachate, stream, and stream sediment have also been collected and analyzed.

#### **Baseline Risk Assessment and Feasibility Study**

As part of the RI/FS process, a baseline risk assessment was prepared using data from the field sampling program. The risk assessment examined current and future risks to humans from exposure to contaminants found in soil and water at the site. The risk assessment determined that groundwater in the immediate vicinity of the site contains several chemicals of concern at concentrations that pose a significant risk if the groundwater were to be used in the future as source of potable water.

These contaminants include benzene and arsenic that were detected at concentrations exceeding drinking water standards, as well as other degraded organic compounds.

The baseline ecological risk assessment did not identify unacceptable risks to wildlife from exposure to constituents in surface soil or sediment. As a result, a decision was made that no action was needed to address potential ecological risks at the CPLF.

Discussions with EPA have determined that the landfill was a good candidate for clean up with an innovative vegetative cap process developed by a BARC scientist. A vegetative cap uses trees, plants, and compost instead of clay and plastic to minimize the infiltration of precipitation into the underlying wastes. A three-year pilot study was completed in June 2008 and a summary report was finalized in October 2009. In addition to lower initial cost, the vegetative cap may reduce maintenance costs and enhance the natural habitat.

The RI report was finalized in February 2008 and the FS report was completed in late 2009. The FS report compared the implementation and long-term maintenance costs of a vegetative cap versus a standard RCRA-D landfill cover. Construction costs and long-term maintenance were found to be about the same with both options.

#### **Ongoing and Future Activities**

Preliminary discussions with EPA have indicated an overall preference for the vegetative cap. However, acceptance by the community and the state need to be evaluated. Once input from the state is received, a Proposed Plan (PP) document will be prepared and publicly announced. The PP will outline pertinent information from the RI/FS and provide a summary of the alternatives that were evaluated. When the PP is issued, a public comment period will be opened during which oral and written comments on the PP may be submitted. After comments have been reviewed, ARS and EPA will make any changes necessary and complete a Record of Decision (ROD) that documents the selected remedial action.

#### **For More Information:**

Contact Kim Kaplan, ARS Information Staff, 301-504-1637, [Kim.Kaplan@ars.usda.gov](mailto:Kim.Kaplan@ars.usda.gov), or visit the ARS Information Repository located in Room 121, Building 003, 10300 Baltimore Avenue, Beltsville, MD. The Information Repository is open to the public Monday through Friday, 8:30 am to 4:30 pm.

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 and Tuesday, 1 pm to 9 pm; Wednesday through Friday, 10 am to 6 pm; and Saturday, 10 am to 5 pm.

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