



# Spring Valley arsenic soil remediation

by Maya Courtney  
*Community Outreach Representative*

## Where did the arsenic contamination come from?

Arsenic contamination in the soil could come have from a couple of sources. One source of contamination could be arsenic remaining in the soil as a break-down product of chemicals like Adamsite and Lewisite. These arsenic-based chemicals were experimented with at the American University Experiment Station during World War I and historical records indicate that they were field-tested in the Spring Valley area. Other sources of arsenic contamination in Spring Valley could be arsenic-containing pesticides and herbicides, flea-dip, or pre-1996 pressure-treated wooden decks. Regardless of the source, the U.S. Army Corps of Engineers is committed to removing arsenic contaminated soil in the Spring Valley project area. Arsenic is a contaminant of concern in Spring Valley because long-term exposure through ingestion of soil containing elevated levels of arsenic may cause cancer.

## How many properties have been sampled for arsenic and how many needed remediation?

In 2001, approximately 95 percent of the 1,632 properties in Spring Valley were sampled for arsenic. The project-wide sampling effort indicated that less than 10 percent (156) of the properties in Spring Valley were found to have elevated levels of arsenic in the soil. To date, the only properties that have not been sampled for arsenic are those where access for sampling has not been granted by the property owners.

Removal of the arsenic contaminated soil found in the Spring Valley project area began in 2002. Since then, 81 residential properties have had arsenic contaminated soil removed. In addition, 15 residences chose to remove arsenic from the soil using an innovative technology called phytoremediation, a process using unique ferns that absorb arsenic from the soil into their plant tissue, lowering arsenic concentrations to within safe levels.

Following arsenic soil removal, property owners will be provided an official letter; local realtors often refer to this as the 'comfort letter,' jointly signed by the U.S. Environmental Protection Agency and the D.C. Department of the Environment, certifying that the soil was remediated to below 20 parts per million. In a few cases, by request of the property owner, a safe clean-up level of below 43 ppm is permitted by the agencies for small areas of a property to preserve a mature tree, vegetation that is difficult or impossible to replace, or an expensive hardscape feature like a patio.

There are 40 residences and 20 other properties that are still awaiting remediation. In 2002, all of the properties listed for remediation were prioritized and ordered by their arsenic concentrations and other risk factors. The residential properties with the highest arsenic levels were completed first; the average concentration of the properties awaiting remediation is 48 ppm.

## How do you know that the soil sampling is done well and the results are accurate?

Since 2001, the USACE has worked in partnership with the EPA, Region III and the DDOE. These regulatory agencies continue to provide careful review and oversight of the sampling techniques and analysis procedures for the arsenic sampling in the Spring Valley project area. Locations for sampling are pre-approved; computer programs were used to generate random, un-biased sample locations for all the properties in the Spring Valley project area. The sample results come from government certified laboratories where all results must be validated by a third party. Also, any property identified for soil removal will get additional samples taken prior to excavation, to accurately determine the full extent of the elevated arsenic on each property. These samples are also taken to a certified laboratory where the results are validated by a third party. In addition to the government oversight on USACE's Spring Valley project activities, there is direct oversight by neighborhood residents who volunteer to serve on the Spring Valley Restoration Advisory Board. The RAB receives funding to have an independent technical advisor assist them with reviews of procedures, sampling data and other documents.

## What does the process look like when soil removal is taking place at a residence? Do residents need to relocate during the soil removal?

Residents do not need to leave their homes during soil removal. Dust is closely monitored and every protection is taken to address each resident's concerns. The USACE works with each resident very carefully to coordinate excavation schedules and to address any questions or concerns that may arise in advance of and during the soil removal process. Turn to page 4 for photos of soil removal and restoration activities.

# Updates: Glenbrook Road's Pit 3 & siren

by Joyce Conant  
Public Affairs Specialist

The U.S. Army Corps of Engineers, Baltimore District, continues its work at Pit 3, carefully excavating soil and removing munitions and munitions-related items from the property located on the 4800 block of Glenbrook Road. Initial excavation and clearance of Pit 3 was successfully accomplished Mar. 10, but data gathered during the excavation revealed the need to dig further in an eastward and in a southward direction.

The Pit 3 field team spent most of March and April reconfiguring the Engineering Control Structure, or ECS, to allow for continued digging in the eastward direction. The structure was completed on Apr. 25. Excavation is expected to be complete by the end of June.

The team will then enter another phase of rebuilding where the ECS will be extended to the south to allow for further investigation. This rebuild is expected to last until about late July. By early August, the investigation in the southerly direction should be complete.

"While the USACE certainly hopes this will be the end of munition recovery efforts in the Glenbrook Road area, it is important to remember that this effort and others are still actively investigating and gathering new information about American University Experiment Station activities during World War I; it is possible that new facts could surface that would require additional work," said Dan Noble, project manager for munitions recovery.

The USACE is sensitive to the fact that the longer than originally anticipated effort at Pit 3 does have a disrupting affect on the neighborhood. But at the same time, it is important to ensure safety and to remove all items that may pose a risk to the community. The types of items that are being recovered are exactly the types of items the USACE has planned for, specifically, old munitions.

These items could present a future risk to the community if not removed – safely recovering these items and getting them out of the neighborhood during this operation is a top priority.

"The day we dig an empty hole at Pit 3 will be a good day," said Noble.

"We will continue digging until we reach clean soil."

## Siren Update

The night of May 8 brought an unwelcome sound to many Spring Valley residents – the sound of an emergency warning siren at Pit 3, which was set off by thunderstorm activity in the area.

This malfunction, which over-rode preset conditions, caused the siren to wail at an extremely high intensity for approximately 30 minutes, from 11:30 p.m. until 12 a.m. Several residents waited to receive a notification message from the U.S. Army Corps of Engineers and when none was received, concerned residents began turning to the city of D.C. in an attempt to find out information, mostly by calling 911.

The siren and the emergency call-down system set up by the USACE in advance of the Pit 3 dig is primarily intended to alert residents to potential risks that might arise during active work hours, Monday through Friday, 8 a.m. to 4 p.m. The USACE's planning did not take into consideration how to respond to a non-emergency event that could be perceived by the community as an actual emergency.

"This is a mistake for which the project team takes full responsibility," said Dan Noble, project manager for the munitions recovery in Spring Valley. "We simply must do a better job in communicating to the residents during unexpected events."

As a result of the incident, the team has taken several steps to minimize the likelihood of this event from happening again. One important step was to establish an after-hours community helpline that will be answered seven-days-a-week, 24-hours-a-day by a live operator. The operator will take the caller's name, contact information, and nature of the call, and relay it to a knowledgeable project member who will return the resident's call in a timely manner. This number is **1-888-393-0059**.

"The USACE sincerely apologizes for causing the disturbance and for failing to communicate quickly the nature and cause of the siren activation," said Noble.

## **The Corps'pondent**

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Baltimore Commander & District Engineer ..... Col. Peter W. Mueller  
Program Manager ..... Ed Hughes  
Project Managers ..... Dan Noble, Ed Hughes  
Public Affairs Specialist ..... Joyce M. Conant



Department of the Army  
U.S. Army Corps of Engineers  
Baltimore District  
P.O. Box 1715  
Baltimore, MD 21203-1715



*The photo above depicts the soil removal activities.*



*Site workers install the clean backfill soil.*



*Shown above is the home of Dr. David Feary after the completion of the arsenic soil remediation and restoration at his property.*

Shown are three U.S. Army Corps of Engineers photographs of arsenic removal work performed at the home of one of the Spring Valley Restoration Advisory Board members, Dr. David Feary.

If you:

1. Had soil sampling done and are not certain of the results;
2. Are awaiting soil removal and have questions about the process;
3. Or previously did not have your property sampled for arsenic and would like to have samples taken; contact Carrie Johnston or Maya Courtney with the community outreach team at 410-962-0157 or 410-962-2210.