



NEWS RELEASE

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Small quantities of chemical warfare agent and agent breakdown products detected in Spring Valley Lot 18 containers

WASHINGTON – The Spring Valley partners – the U.S. Army Corps of Engineers, the Environmental Protection Agency and the D.C. Department of Health – announced at the Spring Valley Restoration Advisory Board meeting held Feb. 14, that mustard, a chemical warfare agent, and mustard breakdown products were identified during analysis of two containers that were recovered Jan. 9 from the excavation dig at Spring Valley’s Lot 18. This is the second item containing agent and the third item containing breakdown products recovered since the Lot 18 excavation began in November 2002.

One of the glass containers recovered Jan. 9 measured 6.5 inches tall and 2.75 inches in diameter. It was sealed and contained about 55 ml – about four tablespoons - of a light yellow liquid. Analysis of the liquid by the Army’s Edgewood Chemical Biological Center revealed .28 parts per million mustard, 420 ppm dithiane, 1,600 ppm thioxane and 25,000 ppm thiodiglycol.

Another sealed container retrieved Jan. 9 measured 7.5 inches tall by 2 inches in diameter and was approximately 155 ml – about 10 ½ tablespoons - full of a dark liquid. Analysis of the liquid showed about 20 ppm thioxane.

The recovery, identification and transport of the sealed containers posed no danger to the site workers or the public. Because of the potential for finding chemical agent or agent breakdown products at the site, Lot 18 was excavated under strict engineering controls and with highly trained personnel using rigorous safety measures.

If 55 ml of pure mustard (HD) were released under ideal atmospheric conditions, a person would have to be within one meter of the spill to feel any noticeable effects. The concentration of mustard in the bottle recovered was approximately three million times less than pure mustard and did not present any significant threat to the workers or the public during the recovery process.

Mustard is a chemical warfare agent tested by the Army during World War I at the American University experiment station. Exposure to considerably higher concentrations than were recently found of the blistering agent can cause inflammation of the eyes, nose, throat, trachea, bronchi and lung tissue, and it can also lead to malaise, vomiting and fever, according to information from the U.S. Army Center for Health Promotion and Preventive Medicine.

Because of previous finds at the site, the Lot 18 excavation, completed Jan. 26, was a "high probability" investigation, meaning that there was a strong expectation that other chemical warfare materiel would be found in that area.

A 0.3 percent solution of lewisite, another chemical warfare agent, was detected in a sealed container recovered at Lot 18 in 2003. Analysis of the material at the time indicated that under worst case conditions, had the materiel been released, there would have been no effect beyond a distance of one meter. Low concentrations of dithiane and thioxane were also detected in analysis of the contents of a sealed container found in November 2004.

Dithiane and thioxane are breakdown products of mustard. These breakdown products are chemicals left in the environment as the agent degrades over time due to sunlight, moisture or other environmental factors. Both breakdown products are less toxic and do not present the same acute hazard as the agent itself.

During the World War I era, the U.S. Army developed and tested chemical weapons on a rural tract then known as the American University Experiment Station. The northwestern Washington, D.C., neighborhood was later developed and became known as Spring Valley. Lot 18, one component of the investigation and cleanup of the Spring Valley Formerly Used Defense Site, is located along the southwestern edge of the American University campus and behind the 4600 block of Rockwood Parkway.

Analyses of three other sealed containers unearthed Jan. 9, detected no agent or agent breakdown products. These three bottles and the container with just thioxane may be analyzed for additional chemicals.

The excavation of the Lot 18 debris field resulted in the recovery of numerous scrap ordnance items, broken and unbroken glassware and ceramic ware, construction rubbish and residential-type trash dating from 1900 to the 1950s. About 3,600 cubic yards of soil were also removed, tested and properly disposed of during the dig.