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## Ft. Detrick Unearths Hazardous Surprises

### *Cleanup Finds Debris Of Biological Warfare*

By Elizabeth Williamson, Washington Post Staff Writer

Two years of digging at the U.S. Army's Fort Detrick in Frederick has unearthed more than 2,000 tons of hazardous waste -- including vials of live bacteria and nonvirulent anthrax that the military did not know was buried there, Detrick officials said.

Discovery of the pathogens at the former biological weapons research center turned what the Army thought would be industrial waste removal into the biggest cleanup in its history. So far, cleanup crews have discovered more than 100 glass vials, many containing live bacteria, and in a few, a nonvirulent strain of anthrax. The \$25 million excavation is due to end this year.

While the Army searches for evidence of biological and chemical weapons in Iraq, Fort Detrick's cleanup saga shows how, nearly 40 years after the United States ended such programs at home, it still struggles with their lingering dangers. As in the Middle East, poor documentation, the passage of time and the programs' secrecy have slowed the effort.

"You find it, contain it and try to figure out what it is," said Col. John Ball, Fort Detrick garrison commander. "We're learning, but it's expensive."

In the tall grass off Kemp Lane in Frederick, deer leap, white tails flashing, and cows graze nearby. When the animals die, they are autopsied as a precaution. This is Area B, a 400-acre site that hosted Fort Detrick's target range, cropland and, in its southwest corner, a network of waste pits. Inside a specially pressurized and filtered vinyl tent, workers in biohazard suits empty the dump of its Cold War trash and secrets.

"There's a certain time capsule effect," Ball said.

Inside the tent, bulldozers operate under blast shields, as pit contents periodically ignite. The crew breathes through air hoses. The site is quarantined for two hours at the end of each working day, while the tent's air is tested for pathogens.

When digging began in April 2001, the Army expected to find mostly lab chemicals, debris and incinerator ash. But little more than one foot down, the bulldozers hit upon corroded drums of herbicides and unidentified chemicals, syringes, lab instruments and strange substances mixed with the dirt. They plucked out 50 pressurized cylinders of gases and liquids that still await analysis. Four dissected laboratory rats appeared, still floating in jars of formaldehyde at least 30 years old.

But what the Army least expected to find were tiny vials of live bacteria like *Brucella melitensis*, *Klebsiella pneumoniae* and *Bacillus anthracis* -- a nonvirulent form of the anthrax bacterium, the potent form of which was brewed by the gallon at Fort Detrick until 1969.

"The documentation for where this came from doesn't exist," said Lt. Col. Donald Archibald, Fort Detrick's director of safety, environment and integrated planning. After larger objects are removed, the soil and waste are pulverized, and throughout the process, they are doused with bleach to kill all bacteria. After testing for pathogens, it is sent in sealed containers to a disposal facility in Texas.

The few documents that exist say Fort Detrick used the dump from 1955 through the 1960s, while the post served on the front lines of the U.S. biological and chemical warfare program. During those years,

technicians brewed a pastelike anthrax "slurry." Scientists sprayed germs into a giant sphere called "the Eightball," testing them on livestock and, occasionally, people. The Crops Division tested a key ingredient in the dangerous Vietnam War-era defoliant known as Agent Orange: Traces of it have shown up in the dump.

Hubert Kaempf, 83, supervised Detrick's waste haulers during those years. "We had one of the finest safety departments in the world," he said. "But what was in keeping with safety and sanitary laws then would now be very much forbidden."

Some waste -- laboratory materials, animal carcasses -- was supposed to be sanitized, incinerated or both, and the ashes buried. Chemicals were dumped directly into the pits. From time to time, other government institutions sent trash to Detrick's landfill. They included, Kaempf said, the Central Intelligence Agency, which, a declassified government report shows, tested biological agents at Fort Detrick.

The pits had no linings, as Fort Detrick's landfill does now. There was no inventory done. Such precautions weren't required.

Then, in 1969, President Richard M. Nixon halted the weapons programs. Fort Detrick underwent a massive decontamination and became a conventional medical research center. Today, it houses the National Cancer Institute and the U.S. Army Medical Research Institute of Infectious Diseases.

"When Nixon shut us down," Kaempf said, "There was a lot of lab apparatus that was just dumped. Whatever records . . . I have no way of knowing where they went."

In 1991, toxins turned up in Army monitoring wells near the dump. Tests showed trichloroethylene, or TCE, a metal-cleaning solvent linked to liver and kidney damage, and tetrachloroethylene, or PCE, a degreasing compound believed to cause liver cancer.

The Maryland Department of the Environment and the Frederick County Health Department tested 33 wells at homes near Area B. Half were contaminated with the two agents, six so badly that the water was unfit to drink. In a few wells, concentrations of the two chemicals exceeded Environmental Protection Agency limits many times over. In an Army monitoring well nearest the dump, the chemicals were so concentrated, "you could smell it," said Joseph Gortva, an engineer who is managing the cleanup.

The post paid to put homes with tainted wells on the city water system. It briefed politicians and posted detailed information on its Web site. It convened an advisory board of neighbors, former workers and businesspeople for public meetings every two months.

"They've been very open and honest," said Michael Kurtianyk, a real estate agent on the advisory board. "I was looking for something really secretive, but no."

Others aren't so sure. Said Helen Alexander, another member from Frederick: "We probably don't know all the ins and outs of what they actually found."

At one meeting in November 2000, the advisory board asked a representative from the Maryland Department of Health and Mental Hygiene whether the department could study cancer rates in the population living downhill from the dump from the 1960s through the 1980s. He replied, according to the minutes, "that it would be difficult because data from the Maryland Cancer Registry only goes back to 1992."

To secure Pentagon money for a cleanup, Detrick needed to estimate the size and scope of the project. Archivists located an old map of Area B, noting a series of four waste pits in a corner known as B-11. A

soil test boring released a gas that sent several workers to the hospital for observation.

By the late 1990s, the restoration team had compiled thick binders with everything it knew.

"We couldn't rule out that we might find biological material, though we didn't expect to," Archibald said. The Pentagon authorized a \$5 million project. Digging began on the largest of the four main waste pits.

Frederick Mayor Jennifer Dougherty, who had previously taken Fort Detrick to task about sharing information on the cleanup, remembered a phone call from Ball a year ago, the day the anthrax turned up. "He said, 'We found a vial . . .'" she recalled. "At that point, your mind just races."

Ball remembered thinking, "This could be bad, but let's wait for the testing." It showed that the vial contained "a vaccine strain of anthrax," which could not cause the disease. The Fort Detrick team found identifying biological materials a costly, uncertain process.

In a Restoration Advisory Board meeting Oct. 9, Ball "expressed his surprise at learning that the United States, being one of the most advanced technological nations in the world . . . does not have the ability to rapidly and accurately identify biological culture samples," meeting minutes noted.

Whether in Iraq or Frederick, "there's a body of science we rely on, but there's a lot of gray area," said Archibald, the safety director. "The more money you put into testing, the better the results."

As retrieving, identifying and destroying biological agents tripled the cleanup budget, the Pentagon balked, pressing to delay the digging. Ball and Maryland officials pushed for the funds needed to finish. Digging in the final three pits started this month and is expected to end by December.

"I think today's Fort Detrick is a good neighbor," Dougherty said.

Though a spokesman for the EPA said the groundwater contamination has reached acceptable levels, the Army estimates it will take four more years, and more money, to clean it completely.

Meanwhile, Fort Detrick is searching for other uncharted dumps.

"You never know what's there until you start digging," Ball said. "We've generally ruled out finding a nuclear weapon."

Staff researcher Bobbye Pratt contributed to this report.