



Facts About...

**FORT DETRICK (MD-066), Frederick, Frederick County
(Federal Facility)**

Site Description

Fort Detrick is located in Frederick, Maryland, approximately 45 miles north of Washington, D.C. and 47 miles west of Baltimore, Maryland. It consists of three non-contiguous tracts of land, Areas A, B and C, with an area totaling 1,230 acres.

Area A covers 799 acres and contains most of the buildings and facilities for base operations. The surrounding land use is commercial and residential.

Area B consists of 399 acres located 0.5 miles west of Area A. The surrounding land use also is residential and commercial. Area B contains permitted and unpermitted landfills, test areas, communication devices, a research animal farm, a former skeet range, and a few buildings.

Area C is located along the Monocacy River approximately three miles east of Area A. Area C contains the water treatment plant and the wastewater treatment plant that services Fort Detrick.

Site History

From 1943 through 1969, Fort Detrick was the nation's center for offensive and defensive biological warfare research. On November 25, 1969, President Nixon signed an executive order that outlawed offensive biological warfare research. However, defensive biological warfare research continues at Fort Detrick to this day.

In 1987, the Army discovered trichloroethene (TCE) in a production well that currently supplies Building 568 in Area A with water used to conduct fish studies. From approximately 1953 to 1970, Building 568 was the site of a brine refrigerating facility that utilized TCE as the circulating brine. TCE levels in the production well ranged from 300 parts per billion (ppb) to over 2000 ppb. Investigatory information suggested that low levels of TCE were migrating off base, leading the Army to conduct additional work to better define the potential for an off-site release. Wells were installed and sampled along the facility boundary hydrologically downgradient of Building 568. TCE at or just above the maximum contaminant level of 5 ppb was identified in samples from two of these wells. There are no residential wells in the off-post area downgradient of this plume.

Area B was originally purchased for use as an outdoor testing area for biological simulants. It was also a disposal site for construction and demolition debris, incinerated biological wastes, autoclaved animal carcasses, excess chemicals and herbicides, and accumulated sludge from the decontamination systems associated with the biological warfare research. The common disposal practice was digging a trench and disposing of wastes directly into the unlined trenches.

Documentation shows that waste laboratory chemicals and waste solvents were poured directly into the trenches, which allowed the wastes to contaminate the underlying soils and to percolate into the groundwater. It has also been confirmed that containers of liquid waste chemicals were disposed of in some of the disposal trenches in Area B. In the northern portion of Area B, a permitted sanitary landfill was constructed over a portion of an older, unlined unpermitted landfill. Monitoring wells present in Area B currently indicate the presence of various solvents in the groundwater.

In the Summer and Fall of 1992, the Maryland Department of the Environment (MDE) conducted a residential well survey around Area B followed by sampling of all identified residential wells. TCE and a suite of other volatile organic compounds were detected in residential wells located to the southeast of Area B.

Samples from four of the residential wells were found to contain TCE above regulatory levels. Groundwater contamination was initially addressed by placing affected residents on bottled water. The Army connected three of the four residences to the public water supply. The fourth residence was torn down and the well abandoned when the resident relocated. Due to the relatively low levels of contamination encountered historically and the nature of the karst aquifer beneath the facility, there was no major effort by the Army to address groundwater remediation at that time.

As a result of field investigations performed in 1997-1999, Fort Detrick identified potential “source areas” in the vicinity of the B-11 Trench area. Sampling of both ground and surface water in 1998 indicated that there was a significant elevation of the concentrations of both TCE and perchloroethene (PCE) in the ground and surface waters on and immediately adjacent to the southeast corner of Area B. This was the first measurement of high levels of PCE in the groundwater at the facility. Monitoring of both ground and surface water during 1999 indicated that contaminant levels dropped significantly from the high levels initially found in the 1997-1998 field phase of the Remedial Investigation. Contaminant “spikes” of this nature are not unusual in karst aquifer systems. Consequently, Fort Detrick continued an extensive monitoring program while remedial alternatives were further evaluated.

Since 2000, the Army conducted a removal action at the B-11 Disposal Pits to remove potential continuing source material. The removal of waste and contaminated soil from four pits in this area was completed in the winter of 2004. During 2007-2008 the Army signed decision documents for seven disposal areas relying on the US Environmental Protection Agency’s presumptive remedy guidance for landfill closure. The landfill covers, which are currently being completed, meet the requirements of Maryland Solid Waste closure regulations for landfills.

In the winter of 2007 the Army’s contractor submitted a ‘path forward’ document addressing Area B’s groundwater. The Department did not agree with the adequacy of the contractor’s proposal. Because of nature and the complexities of the karst aquifer which underlies Area B, the MDE supported the U.S. Environmental Protection Agency’s (EPA) reevaluation of the site for potential inclusion on the National Priorities List (NPL). The Army,

EPA and the Department explored an alternative, an enforceable agreement between the Army and the Department, to listing the site on the National Priorities List (NPL). The negotiation of this alternative continued into the fall of 2007, but ultimately failed. Since the negotiations on an enforceable agreement were not successful, EPA submitted a listing package to EPA Headquarters, supported by the Governor. In June 2008, MDE wrote EPA requesting that it takes prompt action on the listing package. The U.S. EPA placed the Fort Detrick Area B Ground Water on the National Priorities List on April 9, 2009.

Environmental Investigations

Document reviews and environmental investigations of varying scopes have been conducted at Fort Detrick. In 1993, a basewide Remedial Investigation/Feasibility Study (RI/FS) was initiated by the Army to identify and characterize fifteen potential areas of concern that were not investigated thoroughly in the previous investigations. The RI/FS for Area A included geologic studies, soil gas surveys, and groundwater assessments. The results of this study showed TCE contaminated groundwater posed the greatest risk to human health and the environment. In order to monitor the effectiveness of the existing groundwater treatment system in Building 568, a long-term sampling program has been implemented at Area A.

Current Status

Technical meetings between the U.S. Army, the EPA and the MDE are being held to discuss the appropriate path forward regarding the investigation of groundwater contamination at Area B. Recent meetings have discussed future dye trace studies, additional monitoring wells, karst aquifer characterization and appropriate sampling parameters. A final work plan for the next phase of investigation at the site is in the final stages of development.

Landfill designs, including sediment and erosion control plans, have been both reviewed and accepted by MDE. Cover construction for all the landfills is underway. It is anticipated that the project will be completed in the summer of 2010.

Facility Contacts

John Fairbank	Chief, Federal Facilities Division, HWP	(410) 537-3440
Robert Craig	Fort Detrick	(301) 619-8345

