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FACT SHEET REGARDING ENVIRONMENTAL ACTION TAKEN AT STUDY AREA 2  
HERNDON ANNEX NTC ORLANDO FL  
7/1/2004  
NAVFAC SOUTHERN



# Update on Environmental Actions at Study Area 2, Herndon Annex

Naval Training Center  
Orlando, Florida



*This fact sheet was prepared to inform interested citizens about the former Naval Training Center (NTC) Orlando environmental program. Fact sheets will be distributed as needed to keep the community updated on program developments. Additional copies of these fact sheets can be obtained by calling Barbara Nwokike at (843) 820-5566.*

## NTC Orlando's Environmental Program

Environmental studies and cleanup actions are currently underway at the former Naval Training Center (NTC) Orlando as part of the Department of Defense's Installation Restoration Program. Through this program, areas of known or suspected contamination from past practices and operations are being identified, evaluated, and, if necessary, cleaned up.

## Study Area 2 Location and History

One area where work is being performed is NTC's Herndon Annex (Figure 1), which has been designated Study Area (SA) 2. The Herndon Annex is approximately 1.5 miles south of the former NTC Main Base and is adjacent to the city-owned Orlando Executive Airport. Private housing and Lake Barton are located east of the site.

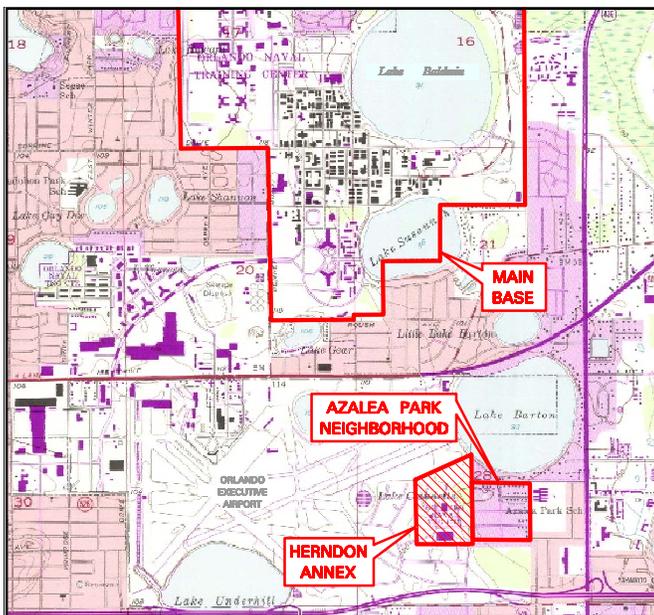


Figure 1. Location Map

The annex property was used for civilian and military aviation activities at various times from 1940 to 1968, when the Navy acquired the site. Herndon Annex provided support activities to the Main Base and included a supply warehouse. NTC Orlando was closed in April 1999 as part of the Defense Base Realignment and Closure Act of 1990.

**Base Closure and Property Transfer.** The multi-phase closure of NTC began in 1995 and was completed in April 1999. The Navy transferred property to the City of Orlando for redevelopment in accordance with Base Realignment and Closure practices. All property is required to be approved as suitable for transfer in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) prior to the transfer. The Navy transferred approximately 6.8 acres of Herndon Annex to the City of Orlando in August 2000 for use as a communications center and transferred approximately 38 acres to the City of Orlando in September 2000 for use by the Greater Orlando Aviation Authority (GOAA). The Navy plans to transfer the remaining property, consisting of two former landfill areas and an area of restricted groundwater use, to the City of Orlando for use by GOAA in the near future. The three areas cover a total of 11.36 acres.

## Site Screening Results

The site screening investigation of SA 2 was performed from July 1994 through December 1998. The results of the investigation are described in the *Base Realignment and Closure, Environmental Site Screening Report, Study Area 2, Herndon Annex* (Harding Lawson Associates, July 1999).

The investigation included geophysical surveys to define the limits of two landfill areas, soil sampling, and groundwater sampling. The investigation identified the presence of benzene in groundwater at concentrations greater than the State of Florida Groundwater Cleanup Target Level (GCTL) of 1 microgram per liter primarily confined to the southeastern corner of Herndon Annex at depths ranging from 40 to 62 feet. The shallow groundwater (less than 40 feet below ground surface) does not contain benzene or other known contaminants.

## Groundwater Investigation

Groundwater sampling was performed quarterly from July 1999 through March 2003. During this time, groundwater sampling results were continuously evaluated to determine if naturally occurring processes were reducing contaminant concentrations in a timely manner.

In January 2001, the Navy initiated a treatability study in an effort to speed up cleanup. Oxygen Release Compound (ORC), a trade name for magnesium peroxide, was injected into the ground at a depth of approximately 55 feet. There are microorganisms present in soil and groundwater that will break down benzene, but those microorganisms need oxygen to grow and consume the benzene. The injection of ORC was intended to stimulate microbial growth. Unfortunately, the injection of ORC was not effective in reducing the benzene concentrations.

**Additional Investigation.** The Navy performed additional investigation activities during the past year (June 2003 through June 2004) using direct push technology (DPT) groundwater sampling and monitoring well installation. The additional sampling identified a larger area of groundwater contamination than was previously known to exist at the site and also identified the contaminants tetrachloroethene (PCE) and trichloroethene (TCE) on Navy property and on the property to the south of Herndon Annex (Figure 2). Benzene concentrations of up to 39 micrograms per liter have been measured 50 feet below Nancy Lee Avenue in Azalea Park.

### What's Next

The groundwater plume is more than 40 feet below ground and does not pose a threat to human health or the environment. Restrictions are in place to prevent extraction of groundwater (other than for environmental sampling) to protect human health.

The Navy continued to review and evaluate possible technologies that could be useful at cleaning up the groundwater contamination at SA 2. A new technology called PHOSter<sup>®</sup> was installed in May 2004 in a small area on Navy property. PHOSter<sup>®</sup> is a patented system designed to increase microbial growth by injecting compressed air (oxygen), nitrogen, and phosphorous into the ground. Cleanup using the PHOSter<sup>®</sup> system is accomplished through natural biological processes. No harmful products or side effects are produced. Should the initial results of the study prove successful, additional zones (injection points) will be added to the system to promote groundwater cleanup.

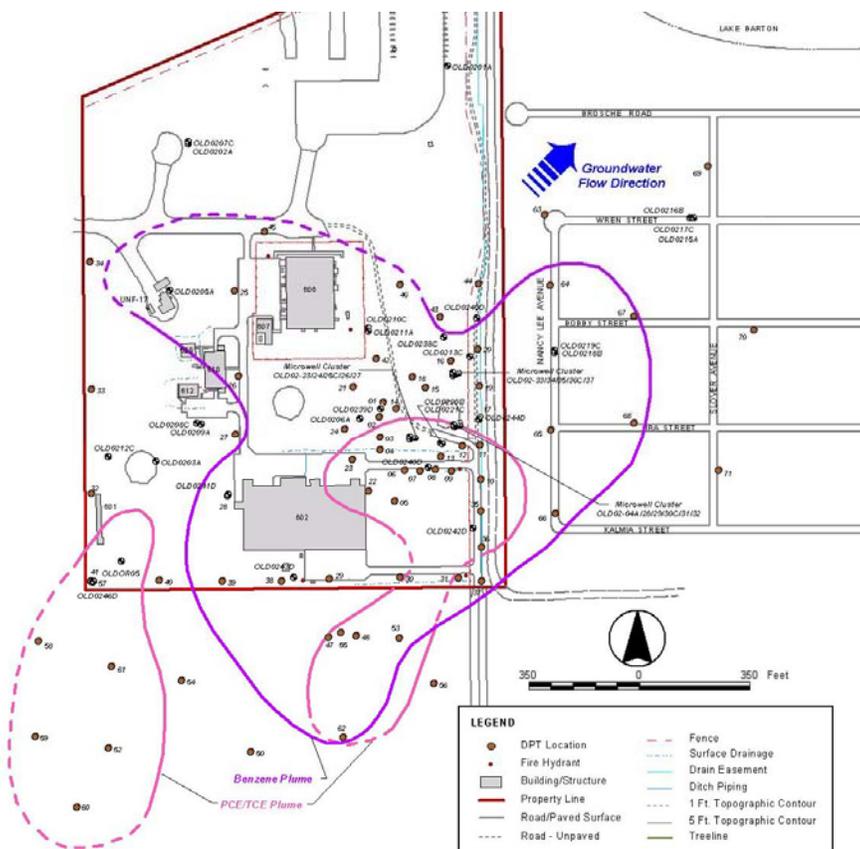


Figure 2. Groundwater Plumes

### What are Benzene, PCE, and TCE?

**Benzene** is a colorless liquid that evaporates at room temperature and burns easily. Benzene is a natural part of crude oil, gasoline, and cigarette smoke. It is also found in commonly used products like paints, inks, detergents, and pesticides.

**Tetrachloroethene (PCE)** is a manufactured chemical used for dry cleaning and metal degreasing.

**Trichloroethene (TCE)** is a nonflammable, colorless liquid used mainly as a solvent to remove grease from metal parts, but it is also an ingredient in adhesives, paint removers, and spot removers.

More information about these contaminants can be found at the following website.

<http://www.atsdr.cdc.gov/>

### For More Information...

If you have questions about the Navy's action at SA 2 or on the environmental program at the former NTC Orlando in general, please contact Barbara Nwokike at (843) 820-5566. Reports on the work at the NTC can be reviewed at the Orange County Public Library, **Orlando Branch** (2<sup>nd</sup> floor), 101 East Central Boulevard, Orlando, Florida 32801 (407) 425-4694.