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FACT SHEET REGARDING OPERABLE UNIT 3 (OU 3) NTC ORLANDO FL  
3/1/2010  
NTC ORLANDO



# Naval Training Center Orlando Florida



## Operable Unit 3 (OU 3)

*This fact sheet was developed to inform interested citizens about the Naval Training Center (NTC), Orlando environmental program. Fact sheets will be distributed periodically to keep the community informed. Additional copies of these fact sheets can be obtained by contacting Art Sanford at (843) 743-2135.*

### NTC Orlando's Environmental Program

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

### Site Description

OU 3 is located on the west side of the former NTC, southeast of Lake Baldwin, and occupies 3.27 acres of land (Figure 1). OU 3 is divided into two study areas, SA 8 and SA 9. SA 8 included the former greenskeeper's storage area which was used for golf course maintenance supply storage. SA 9 was the former pesticide handling and storage area which was used as a base for pesticide storage and mixing.

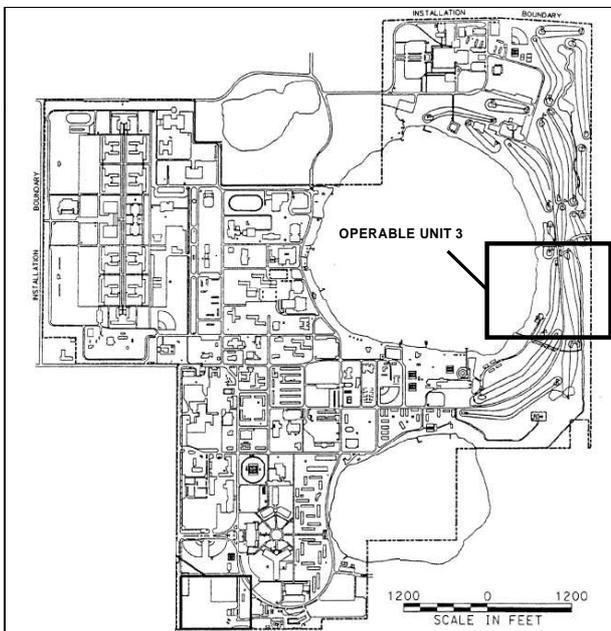


Figure 1: NTC Orlando Base Map with OU 3 highlighted.

### Site Investigation and Remediation History

In September 1997, an interim remedial action (IRA) was completed to address soil contamination at SA 8 (arsenic) and SA 9 (pesticides). Approximately 40 cubic yards of soil were removed from SA 8 and approximately 2,140 cubic yards of soil were removed from SA 9. Despite the removal of the soil, contaminant concentrations in groundwater remained at levels greater than their respective Groundwater Cleanup Target Levels and had to be addressed. Arsenic remains the primary contaminant of concern.

The Orlando Partnering Team (OPT) then began an interim action at OU 3 including the design and subsequent installation of two permeable adsorptive barriers (PABs). These barriers are designed to treat contaminated groundwater as it flows through. The barriers are 120 to 160 feet in length and 25 feet deep (Figure 2). A mix of activated alumina and sand was used to fill the trenches created by a one-pass trenching machine. Although activated alumina has been used in drinking water treatment, this is the first-ever application in a PAB to treat contaminated groundwater.

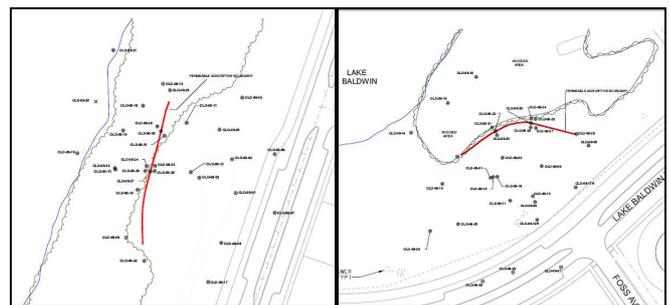


Figure 2. Current layout of Study Area 8 (left) and Study Area 9 (right) indicating PABs in red.

The OU 3 property was transferred to the City of Orlando in 2005, for use primarily as a park. A residential building has been constructed at the edge of SA 8. A paved walking trail has also been constructed along

Lake Baldwin Lane. In 2004 and 2005 site development caused damage to several monitoring wells and temporarily altered groundwater flow. Wells were replaced; however, and groundwater flow returned to pre-construction conditions.

In addition to the PABs, land use restrictions have been implemented to protect human health. These include a non-residential restriction for the western portion of SA 8. In addition, groundwater use is prohibited for all of the SA 8 property. At SA 9, groundwater use is restricted across the majority of the property (1.34 acres). Residential use is also prohibited in the northern portion of SA 9.

#### **What's Next?**

Groundwater is monitored quarterly at both SA 8 and SA 9. The data collected to date indicate that the PABs are performing as expected and this successful performance of the PABs (with alumina) is expected to continue, thus proving the method to be an effective, reliable, and relatively inexpensive solution of remediating arsenic in groundwater. At SA 8, there is one downgradient well outside the reach of the PAB where arsenic has been detected. To address this contamination, the Navy is considering a minimally invasive solar-powered pump to remove affected groundwater. The water will be released upgradient, so that it will flow back through the PAB for treatment. Based on analytical data obtained to date, the groundwater monitoring for arsenic will continue on a quarterly basis.

#### **For More Information**

The public is invited to submit any questions or comments on the remedial action described in this fact sheet. Comments should be directed to Art Sanford at (843) 743-2135. Reports on the work conducted at OU 3 can be reviewed at the Orange County Public Library, Orlando Branch (4<sup>th</sup> Floor), 101 East Central Boulevard, Orlando, Florida 32801.

#### **What is arsenic?**

**Arсенic** is a naturally occurring element widely distributed in the earth's crust. In the environment, arsenic is combined with oxygen, chlorine, and sulfur to form inorganic arsenic compounds. Arsenic in animals and plants combines with carbon and hydrogen to form organic arsenic compounds.

Inorganic arsenic compounds are mainly used to preserve wood. Copper chromated arsenic (CCA) is used to make "pressure-treated" lumber. CCA is no longer used in the U.S. for residential uses; it is still used in industrial applications. Organic arsenic compounds are used as pesticides, primarily on cotton plants.

More information about this contaminant can be found at the following website:

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