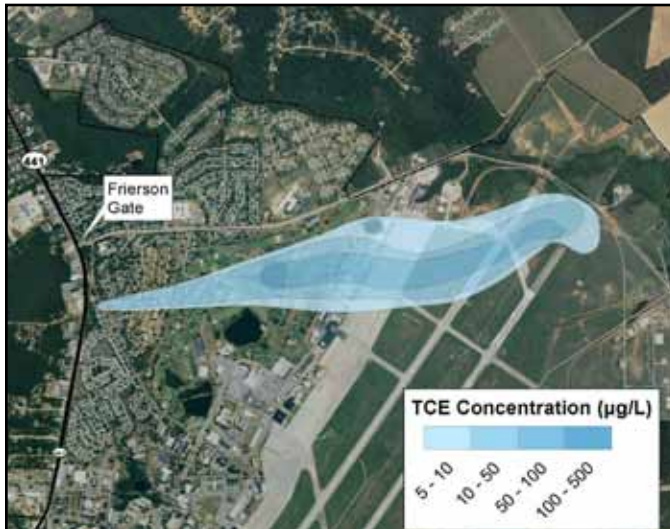




## SITE SS-36

### Shaw Air Force Base, S.C.



Map depicting the TCE plume at site SS-36 at Shaw A.F.B., S.C.

One of the four, off-base, active cleanup sites here is SS-36, located on the north side of the base. Approximately 150 feet below ground in the Upper Black Creek Aquifer, it was discovered in 2000 and is a trichloroethylene plume.

#### BACKGROUND

Military bases are large, complex places that must use and dispose of hazardous materials to do their missions. At Shaw, liquids such as jet and other fuels, and other petroleum products including paints, thinners, adhesives, cleaners, pesticides, hydraulic fluids and solvents are necessary for the use and care of aircraft and vehicles. Many thousands of people live and work on the base.

Before the 1970s, which was when the government began to realize the importance of regulating environmental practices, hazardous wastes were handled or discarded in numerous ways: some were stored in drums or in underground storage tanks; some were reused, recycled, or discarded in approved off-base sites; some were buried in on-base landfills; and many were burned in fire training exercises on base.

These were acceptable at the time, but are now known to cause environmental contamination and are no longer done. At Shaw, old methods resulted in some soil and groundwater contamination on and around the base.

Today, your Air Force carefully follows established hazardous waste management practices and regulations that protect the health and environment. The Air Force is committed to cleaning up the soil and groundwater contaminated from its past activities, in close partnership with the South Carolina Department of Health and Environmental Control.

Trichloroethylene is a colorless or bluish liquid most commonly used to remove grease from metal parts and to clean textiles.

In 1989, the Environmental Protection Agency set a limit for the maximum, safe amount of trichloroethylene allowed to be released in the air, ground, and water. For trichloroethylene, that level is five parts per billion, which is like 1 tablespoon (about 250 drops) of water in an Olympic-size swimming pool.

The Air Force suspects the source of contamination is disposal of solvents for aircraft maintenance degreasing or other airfield operations along the north end of the runway.

#### CLEANUP

From November 2006 to May 2009, the Air Force studied the site to determine the nature and extent of contamination and the best cleanup solution. Cleanup has begun.

Cleanup at SS-36 consists of three main activities:

- Hydraulic containment of the plume by installing wells around the perimeter that will keep the plume from spreading off base.
- This contamination is being destroyed where it is through the use of a method called, "in-place chemical oxidation," which involves injecting another compound, potassium permanganate, into the plume. Known in the swimming pool business as "Pot-Perm," this compound has historically been used in water purification. It oxidizes the trichloroethylene, breaks it down into harmless components, then gradually disappears.
- Long-term monitoring of the site and land-use controls.

Also, the Air Force has installed "air strippers" on two base drinking water wells over the plume to ensure a safe drinking water supply for people on base.

At SS-36, since the process is still underway, the impact for off-base landowners isn't yet known. To eliminate any risk of exposure to trichloroethylene, most people off base who live over the plume get their water from High Hills Rural Water Company. Some use other drinking water sources. DHEC monitors conditions to ensure clean drinking water for public health.

The Air Force hopes to install additional monitoring wells off base on private land to keep track of the plume off base and ensure successful cleanup.

These cleanup efforts require the cooperation and effort of many people and groups. The Air Force, DHEC, environmental contractors and the base's neighbors all work together to successfully protective human health and the environment.

## SITE SS-36 AT A GLANCE:

- Discovered: 2000
- Contaminant: Trichloroethylene
- Possible source: Aircraft maintenance
- Location: Upper Black Creek Aquifer
- Initial cleanup effort: "Air strippers" installed on on-base wells
- Status: In process of recommending final remedies



*The Air Force is contacting some local landowners to seek rights of entry so the Air Force can install and sample monitoring wells as part of an effort to thoroughly determine the potential off-base impact of the Site SS-36 trichloroethylene plume.*

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### POINTS OF CONTACT

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### FOR MORE INFORMATION

U.S. Environmental Protection Agency: [www.epa.gov](http://www.epa.gov)  
South Carolina Department of Health & Environmental Control: [www.scdhec.gov](http://www.scdhec.gov)

