

## Storm Drain 5 North (SD-5N) Groundwater Plume

### Where did this groundwater plume come from?

The primary source of the SD-5N groundwater plume are historical releases and runoff of chlorinated cleaning solvents and fuel constituents from various military and industrial activities on the base.

The primary contaminant in the SD-5N plume is trichloroethene (TCE). This chemical is a volatile organic compound (VOC), that was typically used as a cleaning solvent. The maximum concentration for TCE is 14 parts per billion (ppb). The state and federal maximum contaminant level (MCL) for TCE is 5 ppb. The MCL (as listed on the plume map) is a standard established by the U.S. Environmental Protection Agency (EPA), under the Safe Drinking Water Act. It represents an acceptable level of a chemical that ensures the safety of a public drinking water supply. The Massachusetts Department of Environmental Protection (DEP) has established safe drinking water standards as well. If there are differences between federal and state levels for a given chemical, the more stringent (lower) value is applied.

### What is the current status of the source area?

Excavation of contaminated soils at the SD-5N source area began in April 2001. Almost 6,500 tons of soil were removed and taken off-site for proper disposal at a state-permitted landfill. In August 2002, a soil vapor extraction (SVE) system was installed at the site. The SVE system extracts VOCs from the soil in vapor form. By injecting air and applying an air vacuum through a system of underground wells, contaminants are pulled from the soil in vapor form. Vapors are then treated using carbon adsorption, a process similar to carbon filtration of contaminated groundwater. Almost five pounds of contaminants were removed since startup. With concurrence from the regulatory agencies, the SVE system was shutdown in March 2003.

### What is the current status of the plume?

**Treatment System:** In August 1997, AFCEE began operation of an extraction, treatment, and reinjection (ETR) system to address the groundwater contamination. It contained a series of ten extraction wells, a treatment plant and eight reinjection wells located at the base boundary. The treatment plant used granular activated carbon to remove VOCs from groundwater at a rate of approximately 55 gallons per minute.

In August 2003, AFCEE, in agreement with EPA and the DEP, agreed to shut down the SD-5N treatment system. At the time the SD-5N treatment system was shutdown, over 600 million gallons of groundwater had been treated, removing almost 40 pounds of contaminants.

A Proposed Plan will be issued for public comment in Fall 2005 to finalize plans for the SD-5N and SD-5S plume.

**Monitoring Program:** Even though the treatment system for this plume has been shutdown, AFCEE continues to monitor the SD-5N plume area by sampling numerous monitoring wells. See also SD-5S plume.