



Storm Drain 5 South (SD-5S) Groundwater Plume

The Air Force Center for Environmental Excellence (AFCEE) is the agency responsible for the Installation Restoration Program (IRP) at the Massachusetts Military Reservation (MMR). The IRP is the program that cleans up soil and groundwater contamination resulting from historic use of MMR.

Where did this groundwater plume come from?

The source of the SD-5S groundwater plume is the Storm Drain 5 site on the MMR, which historically received runoff of chlorinated cleaning solvents and fuel constituents from various military and industrial activities on the base. The main contaminants of concern in the SD-5S plume are perchloroethene (PCE), and trichloroethene (TCE), both of which are volatile organic compounds (VOCs). These VOCs were formerly used as cleaning solvents.

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 and is expected to run through 2003. For more information, please see the SD-5N plume fact sheet.

What is the current status of the plume?

The SD-5S groundwater plume extends 2,800 feet south of the SD-5N extraction, treatment and reinjection (ETR) system toward the north side of Ashumet Pond and Johns Pond. Currently the SD-5S plume is being treated by a combination of a recirculating well and an extraction well. The size of the SD-5S plume has been significantly reduced by the installation of the SD-5N extraction well fence, which cut off further migration of the SD-5S plume.

Treatment System: In June 1999, AFCEE began operation of two recirculating wells in the main SD-5S plume body. Recirculating wells agitate groundwater allowing dissolved VOCs to become released to the air where they are treated with carbon filters. In January 2000, AFCEE installed an extraction well to capture additional contamination. By December 2000, one recirculating well was turned off because all of the groundwater in the vicinity was below maximum contaminant levels (see MCL's below). Through January 2003, over 450 million gallons of groundwater has been treated, achieving approximately 85% of its total mass cleanup goal (combined with SD-5N). SD-5S treats approximately 400,000 gallons a day and is expected to operate until 2007. The size of the SD-5S plume has been reduced significantly since the startup of the treatment system.

Monitoring Program: AFCEE, the United States Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) continually evaluate the results of the on-going SD-5S treatment through a monitoring program known as System Performance and Ecological Impact Monitoring (SPEIM). Studies have shown that SD-5S discharges to Johns Pond. However, no plume contaminants have been detected in Johns Pond surface water. According to the Massachusetts Department of Public Health, Johns Pond is safe for swimming, wading and boating.

The maximum contaminant level or MCL (as listed on the plume map) is a standard established by the 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 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.

For more information

Please contact Mr. Doug Karson at (508) 968-4678 ext. 2 or toll-free at (866) GO-AFCEE. You can also obtain up-to-date information about the entire AFCEE/MMR program at our website - www.mmr.org