



Chemical Spill 10 (CS-10) 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 primary source of the CS-10 groundwater plume is the former Boeing Michigan Aerospace Research Center Missile Site and Unit Training Equipment Site located along the northeast edge of MMR. Other sources at MMR have contributed to the CS-10 plume. The main contaminants of concern in the CS-10 plume are perchloroethene (PCE) and trichloroethene (TCE), both of which are volatile organic compounds (VOCs) used in cleaning solvents.

What is the current status of the source area?

In 1996, 15 drainage structures were removed as part of the basewide Drainage Structure Removal Program. By November 1998, a Record of Decision was signed, which specified cleanup actions using both soil vapor extraction (SVE) and excavation and offsite disposal of contaminated soils. In 2001, over 1,500 tons of contaminated soil were excavated and taken off-site for disposal. The SVE system was started in February 2002, and over 2 pounds of VOCs have been removed from the soils through December 2002. Many of the original buildings at the CS-10 site were demolished in 2001.

What is the current status of the plume?

The groundwater treatment of the CS-10 plume is divided into 2 segments - [1] In-plume; and [2] Sandwich Road Fence. The treatment plants use granular activated carbon to remove VOCs from the groundwater. Since January 2003, approximately 5.6 billion gallons of groundwater from the CS-10 plume have been treated, achieving approximately 31% of its total mass cleanup goal. These two systems are expected to operate for the next 25-35 years.

In-Plume- Uses eight extraction wells and four infiltration galleries, that are currently operating at 2760 gallons per minute (gpm). The system started on June 24, 1999, and was later modified in April 2000.

Sandwich Road Fence- Uses eight extraction wells and six reinjection wells, that are currently operating at 874 gpm. The system started on May 18, 1999. An extraction well to capture the northern lobe was installed in January 2000. It operates at 200 gpm. **Leading Edge-** A feasibility study containing alternatives for the leading edge lobes will be submitted in 2003. A proposed plan for a decision on the CS-10 plume (including the leading edge) is currently scheduled for public comment in late 2003.

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 groundwater treatment through a monitoring program known as System Performance and Ecological Impact Monitoring (SPEIM). The latest annual SPEIM report indicates that the CS-10 groundwater treatment plants are operating successfully and capturing the CS-10 plume as designed, except for an area around the southern infiltration gallery of the in-plume system.

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

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