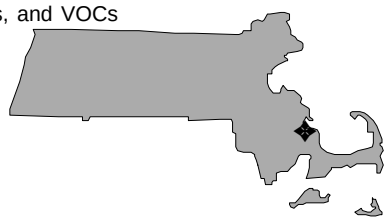
Size: 22,000 acres
Mission: Provide Army and Air National Guard training and support the East Coast Air Defense and Coast Guard Air and Sea Rescue Units
HRS Score: 45.93; placed on NPL in November 1989
IAG Status: Federal Facility Agreement signed in April 1992 and amended in June 1995
Contaminants: Waste solvents, emulsifiers, penetrants, photographic chemicals, and VOCs
Media Affected: Groundwater, surface water, sediment, and soil
Funding to Date: $237.5 million
Estimated Cost to Completion (Completion Year): $673.8 million (FY2030)
Final Remedy in Place or Response Complete Date for All Sites: FY2001



Falmouth, Massachusetts

Restoration Background

Environmental studies have identified 79 sites at this installation. Site types include chemical and fuel spill sites, storm drains, landfills, former fire-fighter training areas, coal yards, and underground drainage structures. Private and municipal wells near the installation were closed after off-base migration of groundwater contamination was detected.

Removal Actions for six sumps associated with the underground drainage structures were conducted in FY91. Contaminated liquids and sediment from these structures were removed and disposed of properly. In FY93, a groundwater extraction and treatment system was installed to contain a contaminant plume migrating from a former motor pool and storage yard. Remedial Investigation and Feasibility Study work also began. In FY94, in an Interim Remedial Action (IRA), the largest of four landfills was capped. The Installation Restoration Program began use of thermal desorption to treat more than 22,000 cubic yards of contaminated soil from several sites.

In 1995, an air-sparging system was implemented to remove subsurface soil contamination at Fuel Spill Site 12 (FS-12). Innovative technologies demonstrated at the installation include reactive wall treatment technology. In 1996, the environmental regulatory agencies and other stakeholders accepted the strategic plan delineating the cleanup strategy for the reservation. Ongoing restoration activities included the identification of remedial sites and the cleanup of 20,000 tons of contaminated soil. More than 180 underground drainage structures were removed. A private-well sampling program was initiated to monitor drinking water safety. As an extra precaution, replacement drinking water supplies have been provided.

In 1997, the Federal Facility Agreement was amended. The installation continued to remove underground drainage structures and conducted thermal treatment of contaminated soil, which led to final remediation and closure of Fire Training Area No. 1. A computer model for the groundwater extraction and treatment system was developed, and pilot testing of recirculation wells began at three locations. Fieldwork techniques, such as on-site laboratories and sampling techniques, sonic geophysical analysis, and microwells for ecological studies, were implemented. The reactive wall pilot program continued.

FY98 Restoration Progress

A treatment system using extraction, treatment, and reinjection (ETR) was selected for Chemical Spill 10 (CS-10) and the Ashumet Valley groundwater plumes. Recirculation wells were selected for the Storm Drain 5 (SD-5) South plume, and a dual-track ETR system and monitored natural attenuation demonstration was selected for the Landfill 1 Plume.

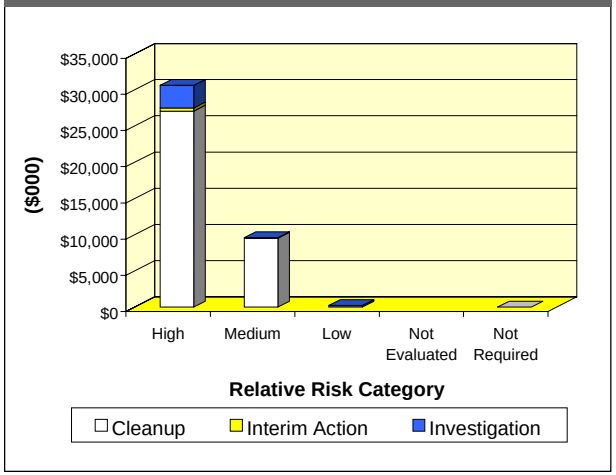
Geologic borings and monitoring well installations were conducted to define the extent of the SD-5, CS-10, and Ashumet Valley plumes. Monitoring wells were installed to define the Chemical Spill 19 source area. Over 40 monitoring wells were installed as part of the FS-1 plume investigation.

The FS-12 source area remediation project was completed. The Air Force Center for Environmental Excellence (AFCEE) continued to operate groundwater plume ETR systems for the FS-12 and SD-5 North plumes. Ecological studies were conducted for baseline information gathering on the FS-12, SD-5, and CS-10 plumes. AFCEE continued to operate two pairs of recirculation wells on the CS-10 plume to remove contamination from a high concentration zone.

The reactive wall of iron filings was installed at the CS-10 source area. Two variations of recirculating well technologies were tested.

Seven citizen advisory teams met on a regular basis. Over 100 public meetings were conducted.

Plan of Action

- Design and construct ETR systems for the CS-10 and Ashumet Valley plumes
- Evaluate feasibility of ETR systems for the western portion of the CS-10 plume, the FS-1 plume, and the Southwest Operable Unit area groundwater contamination
- Continue to issue Proposed Plans, Engineering Evaluation and Cost Analysis reports, decision documents, and Records of Decision
- Continue analysis of monitored natural attenuation for the Landfill 1 groundwater plume
- Continue private well testing for area residents and evaluate the need for further conversions to municipal water supplies
- Continue evaluating the reactive wall project
- Have all treatment systems in place by FY01

FY99 Funding by Phase and Relative Risk