



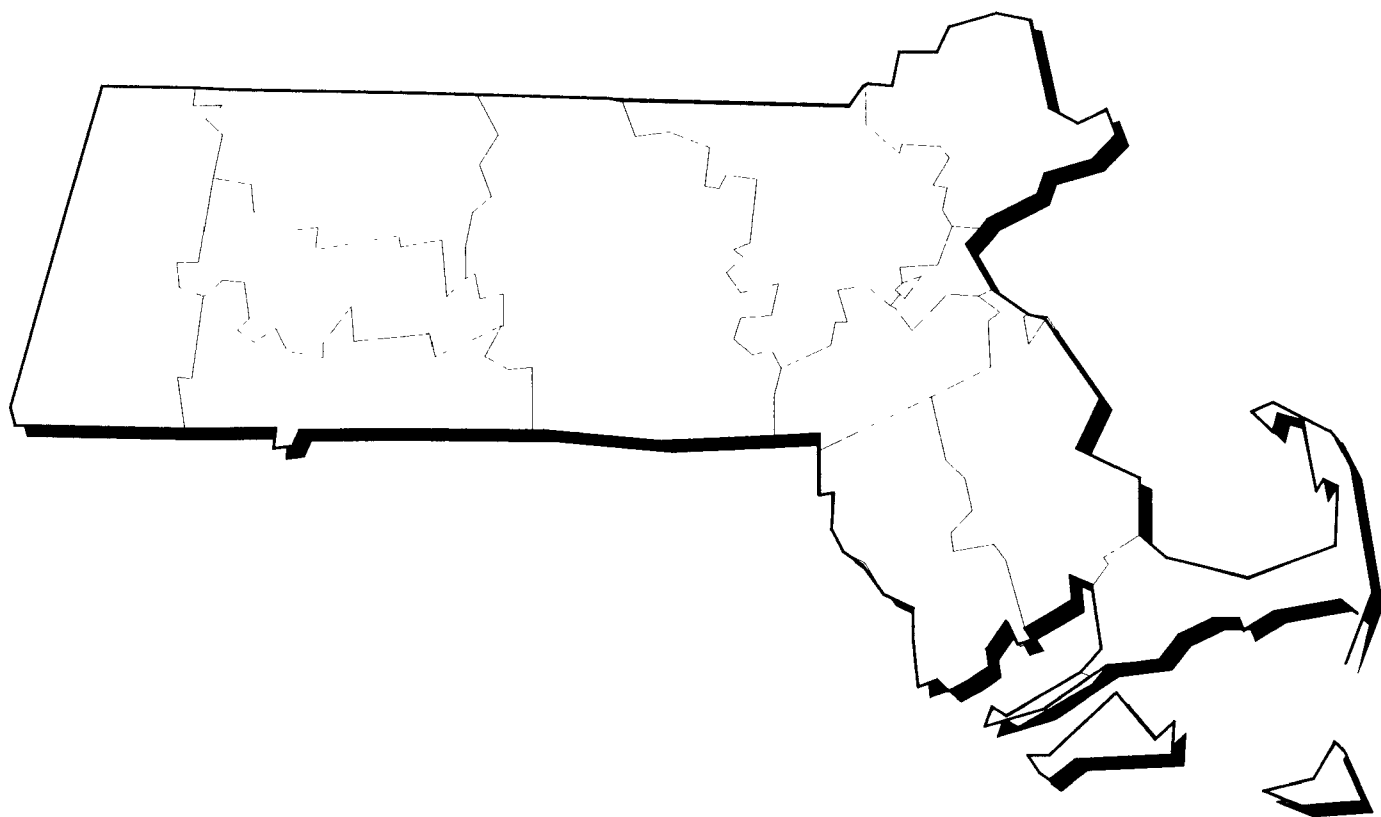
United States  
Environmental Protection  
Agency

Solid Waste And  
Emergency Response  
(5201 G)

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PB95-962924  
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May 1995

# **SUPERFUND:**

**Progress at  
National  
Priority  
List Sites**



# **MASSACHUSETTS 1995 UPDATE**



Printed on Recycled Paper

# How to Use the NPL Book

The site fact sheets presented in this book are comprehensive summaries that cover a broad range of information. The fact sheets describe hazardous waste sites on the NPL and their locations, as well as the conditions leading to their listing ("Site Description"). The summaries list the types of contaminants that have been discovered and related threats to public and ecological health ("Threats and Contaminants"). "Cleanup Approach" presents an overview of the cleanup activities completed, underway, or planned. The fact sheets conclude with a brief synopsis of how much progress has been made in protecting public health and the environment. The

summaries also pinpoint other actions, such as legal efforts to involve polluters responsible for site contamination and community concerns.

The fact sheets are arranged in alphabetical order by site name. Because site cleanup is a dynamic and gradual process, all site information is accurate as of the date shown on the bottom of each page. Progress is always being made at NPL sites, and the EPA periodically will update the site fact sheets to reflect recent actions. The following two pages show a generic fact sheet and briefly describe the information under each section.

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## How Can You Use This State Book?

You can use this book to keep informed about the sites that concern you, particularly ones close to home. The EPA is committed to involving the public in the decision making process associated with hazardous waste cleanup. The Agency solicits input from area residents in communities affected by Superfund sites. Citizens are likely to be affected not only by hazardous site conditions, but also by the remedies that combat them. Site cleanups take many forms and can affect communities in different ways. Local traffic may be rerouted, residents may be relocated, temporary water supplies may be necessary.

Definitive information on a site can help citizens sift through alternatives and make decisions. To make good choices, you must know what the threats are and how the EPA

intends to clean up the site. You must understand the cleanup alternatives being proposed for site cleanup and how residents may be affected by each one. You also need to have some idea of how your community intends to use the site in the future, and you need to know what the community can realistically expect once the cleanup is complete.

The EPA wants to develop cleanup methods that meet community needs, but the Agency only can take local concerns into account if it understands what they are. Information must travel both ways in order for cleanups to be effective and satisfactory. Please take this opportunity to learn more, become involved, and assure that hazardous waste cleanup at "your" site considers your community's concerns.

Provides the dates when the site was Proposed, made Final, and Deleted from the NPL.

Identifies the Federal, State, and/or potentially responsible parties taking responsibility for cleanup actions at the site.

Summarizes the actions to reduce the threats to nearby residents and the surrounding environment and the progress towards cleaning up the site.

# A

# B

## C

## D

# E

**Lists the location of the primary site repository. The site repository may include community relations plans, public meeting announcements and minutes, fact sheets, press releases, and other site-related documents.**

**A**

#### **SITE DESCRIPTION**

This section describes the location and history of the site. It includes descriptions of the most recent activities and past actions at the site that have contributed to the contamination. Population estimates, land usages, and nearby resources give readers background on the local setting surrounding the site.

**B**

#### **THREATS AND CONTAMINANTS**

The major chemical categories of site contamination are noted, as well as which environmental resources are affected. Icons representing each of the affected resources (may include air, groundwater, surface water, soil, and contamination to environmentally sensitive areas) are included in the margins of this section. Potential threats to residents and the surrounding environments arising from the site contamination also are described.

**C**

#### **CLEANUP APPROACH**

This section contains a brief overview of how the site is being cleaned up.

**D**

#### **RESPONSE ACTION STATUS**

Specific actions that have been accomplished or will be undertaken to clean up the site are described here. Cleanup activities at NPL sites are divided into separate phases, depending on the complexity and required actions at the site. Two major types of cleanup activities often are described: initial, immediate, or emergency actions to quickly remove or reduce imminent threats to the community and surrounding areas; and long-term remedial phases directed at final cleanup at the site. Each stage of the cleanup strategy is presented in this section of the summary. Icons representing the stage of the cleanup process (initial actions, site investigations, EPA selection of the cleanup remedy, engineering design phase, cleanup activities underway, and completed cleanup) are located in the margin next to each activity description.

**E**

#### **SITE FACTS**

Additional information on activities and events at the site are included in this section. Often details on legal or administrative actions taken by the EPA to achieve site cleanup or other facts pertaining to community involvement with the site cleanup process are reported here.

# Guide to the NPL Book Icons

The “icons,” or symbols, accompanying the text allow the reader to see at a glance which environmental resources are affected and the status of cleanup activities at the site.

## Icons in the Threats and Contaminants Section



Contaminated *Groundwater* resources in the vicinity or underlying the site. (Groundwater is often used as a drinking water source.)



Contaminated *Surface Water and Sediments* on or near the site. (These include lakes, ponds, streams, and rivers.)



Contaminated *Air* in the vicinity of the site. (Air pollution usually is periodic and involves contaminated dust particles or hazardous gas emissions.)



Contaminated *Soil and Sludges* on or near the site. (This contamination category may include bulk or other surface hazardous wastes found on the site.)



Threatened or contaminated *Environmentally Sensitive Areas* in the vicinity of the site. (Examples include wetlands and coastal areas or critical habitats.)



*Initial, Immediate, or Emergency Actions* have been taken or are underway to eliminate immediate threats at the site.



*Site Studies* at the site to determine the nature and extent of contamination are planned or underway.



*Remedy Selected* indicates that site investigations have been concluded, and the EPA has selected a final cleanup remedy for the site or part of the site.



*Remedy Design* means that engineers are preparing specifications and drawings for the selected cleanup technologies.



*Cleanup Ongoing* indicates that the selected cleanup remedies for the contaminated site, or part of the site, currently are underway.



*Cleanup Complete* shows that all cleanup goals have been achieved for the contaminated site or part of the site.

<b>EPA ID Number</b>	<b>Site Name</b>
MAD001026319	ATLAS TACK CORP.
MAD001041987	BAIRD & MCGUIRE
MAD982191363	BLACKBURN & UNION PRIVILEGES
MAD079510780	CANNON ENGINEERING CORP. (CEC)
MAD003809266	CHARLES-GEORGE RECLAMATION LANDFILL
MA7210025154	FORT DEVENS
MAD980520670	FORT DEVENS - SUDBURY TRAINING ANNEX
MAD980732317	GROVELAND WELLS
MA8570024424	HANSCOM FIELD/HANSCOM AIR FORCE BASE
MAD980523336	HAVERHILL MUNICIPAL LANDFILL
MAD980732341	HOCOMONCO POND
MAD076580950	INDUSTRI-PLEX
MAD051787323	IRON HORSE PARK
MA0213820939	MATERIALS TECHNOLOGY LABORATORY (USARMY)
MA1210020631	NATICK LABORATORY ARMY RESEARCH, DEVELOPMENT AND ENGINEERING CENTER
MA6170023570	NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
MAD980731335	NEW BEDFORD SITE
MAD980670566	NORWOOD PCBS
MAD990685422	NYANZA CHEMICAL WASTE DUMP
MA2570024487	OTIS AIR NATIONAL GUARD/CAMP EDWARDS
MAD980525232	PLYMOUTH HARBOR/CANNON ENGINEERING CORP.
MAD980731483	PSC RESOURCES
MAD980520621	RE-SOLVE, INC.
MAD980524169	ROSE DISPOSAL PIT
MAD980525240	SALEM ACRES
MAD980503973	SHPACK LANDFILL
MAD000192393	SILRESIM CHEMICAL CORP.
MA2170022022	SOUTH WEYMOUTH NAVAL AIR STATION
MAD980731343	SULLIVAN'S LEDGE
MAD001002252	W. R. GRACE & CO INC (ACTON PLANT)
MAD980732168	WELLS G&H

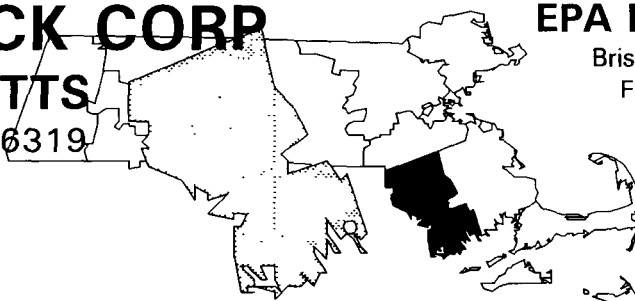
# ATLAS TACK CORP

## MASSACHUSETTS

EPA ID# MAD001026319

## EPA REGION 1

Bristol County  
Fairhaven



### Site Description

The Atlas Tack Corporation formerly manufactured cut and wire tacks, steel nails, and similar items on a 12-acre site in Fairhaven. From the 1940s until the late 1970s, wastes containing cyanide and heavy metals, including high levels of arsenic, were discharged into an unlined acid neutralizing lagoon located approximately 200 feet east of the manufacturing building and adjacent to a saltwater tidal marsh in Buzzards Bay Estuary. Other contaminated areas at the site include a filled wetland, former dump, and other chemical spills. The area is residential and commercial. Approximately 7,200 people live within a 1 mile radius, and 15,150 live within 3 miles of the site.

**Site Responsibility:** The site is being addressed through Federal and potentially responsible parties' actions.

#### NPL LISTING HISTORY

Proposed Date: 06/24/88

Final Date: 02/21/90

### Threats and Contaminants



The groundwater is contaminated with cyanide and toluene that leached from the site lagoons. The on-site soil is contaminated with volatile organic compounds (VOCs), including toluene and ethyl benzene, as well as heavy metals, including beryllium, mercury, nickel; pesticides; and polychlorinated biphenyls (PCBs). Nearby residents are at risk through direct contact with contaminated soil or ingestion of water from contaminated wells. The marsh south of the lagoon and estuarine areas in Buzzards Bay are contaminated.

### Cleanup Approach

The site is being addressed in two phases: initial actions and a long-term remedial phase focusing on cleanup of the entire site.

## Response Action Status

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**Initial Actions:** In late 1992, the potentially responsible party installed a fence around the site to control access.



**Entire Site:** The EPA is currently conducting an investigation into the nature and extent of site contamination. The investigation will identify contaminants of concern, and alternatives for cleaning up the site. A final cleanup remedy is scheduled to be selected in mid-1996.

## Environmental Progress



The EPA has determined that the public and the environment are not at immediate risk while investigations at the Atlas Tack Corp site continue and final cleanup alternatives are being determined.

## Site Repository



Fairhaven Public Library, Center Street, Fairhaven, MA 02719



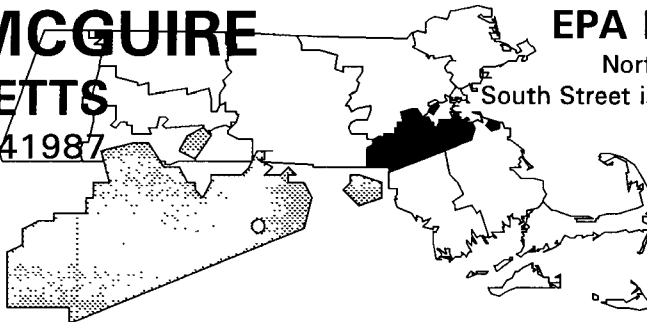
# BAIRD & MCGUIRE MASSACHUSETTS

EPA ID# MAD001041987

## EPA REGION 1

Norfolk County

South Street in northwest Holbrook



## Site Description

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The Baird & McGuire facility is located on a 20-acre site in Holbrook and operated as a chemical mixing and batching company from 1912 to 1983. Later activities included mixing, packaging, storing, and distributing various products, including pesticides, disinfectants, soaps, floor waxes, and solvents. Some of the raw materials used at the site were stored in a tank farm and piped to the laboratory or mixing buildings. Other raw materials were stored in drums on site. Waste disposal methods at the site included direct discharge into the soil, a nearby brook, wetlands, and a former gravel pit. Hazardous wastes historically were disposed of in an on-site lagoon and cesspool. Also included on site were two lagoons open to rain and large areas of buried wastes such as cans, debris, and lab bottles and hundreds of bottles of chemicals. The lagoon area has been capped with clay. The on-site buildings were in various states of disrepair and unsecured; the EPA has since demolished all but one of the buildings and the tank farms. The tank farm area has been temporarily capped. The site is completely fenced and has an operating groundwater recirculation system to contain the groundwater plume. The site is 500 feet west of the Cochato River, which was diverted into the Richardi Reservoir, a water system serving nearly 90,000 people in the Towns of Holbrook, Randolph, and Braintree. Currently, the Cochato River is not being used as a supply source for the Richardi Reservoir. The South Street well field, part of the municipal water supply for Holbrook, is located within 1,500 feet of the site and was shut down in 1982.

**Site Responsibility:** The site is being addressed through Federal and State actions.

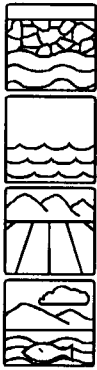
### NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

## Threats and Contaminants

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The groundwater is contaminated with pesticides and organic and inorganic chemicals. Studies found significant levels of volatile organic compounds (VOCs), other organic compounds, arsenic, and pesticides including DDT and chlordane in the Cochato River sediments. The contamination is highest on site or within approximately 500 feet downgradient of the current site fence. Site soils were found to be contaminated with VOCs, polycyclic aromatic hydrocarbons (PAHs), other organic compounds, pesticides, dioxin, and heavy metals such as lead and arsenic. Dioxin also has been detected in area wetland soils. The last operating well in the South Street well field was shut down in 1982 because of unacceptably high levels of organic contamination. The area of the site is fenced; however, high levels of pesticides in site soils and sporadic dioxin contamination pose an imminent threat to public health through accidental ingestion of or direct contact with the contaminated soils or groundwater. The groundwater plume continues to contaminate the Cochato River sediments; however, no significant health risk was found, based on human contact with contaminated sediments. Contaminated sediments were found to be acutely toxic to aquatic life.

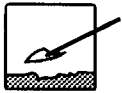
## Cleanup Approach

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The site is being addressed in five stages: immediate actions and four long-term remedial phases addressing the cleanup of the groundwater, soil, and sediments and the provision of an alternate water supply.

## Response Action Status

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**Immediate Actions:** The EPA completed a hydrological study in connection with this site. The initial response action taken included the removal of 1,020 cubic yards of hazardous waste, 1 ton of waste creosote, 25 gallons of waste coal tar, 155 pounds of solid hazardous waste, 47 drums of flammable liquids and solids, and 2 drums of corrosives. Additional activity included construction of a clay cap, installation of a groundwater interception/recirculation system, installation of 5,700 feet of fencing, and extensive soil, groundwater, surface water, and air sampling. The site was graded, capped, and seeded. The site is secured by a fence to limit contact with contaminants.



**Groundwater:** The final cleanup remedy chosen to address groundwater contamination involves pumping groundwater and treating it at an on-site treatment plant. Treated groundwater will be discharged to the aquifer located on site. On- and off-site groundwater will be monitored. A new 300,000 gallon-per-day groundwater pump and discharge treatment plant was constructed and began operations in 1993. Approximately 40 million gallons of groundwater were treated during the plant's first year of operation. Operation of the treatment plant is expected to last into the next decade.



**Soil:** In 1990, the EPA completed the engineering designs for the final cleanup remedies. Approximately 142,000 cubic yards of contaminated soils are expected to be excavated and removed. The remedy also calls for destruction of contaminants in the soil by incineration. Wetlands will be restored where contaminated soils are excavated. The unnamed brook will be relocated. Air quality will be monitored during construction and implementation of the incineration system. Construction of the incinerator was completed in 1994 and trial burn began in early 1995. Incineration will last approximately two years.



**Sediments:** The groundwater discharge is believed to be partially responsible for contamination of Cochato River sediments and adjoining wetlands. Field investigations in 1987 and 1988 determined that contaminated groundwater and surface runoff from the site continue to be the principal sources of contamination of the wetlands adjacent to the site. The investigations defined the contaminants of concern and recommended alternatives for final surface water and sediment cleanup. The investigations also determined that site contaminants were being effectively trapped in river sediments and were not migrating down-river. In late 1989, a remedy was selected that entails excavating and incinerating approximately 1,500 cubic yards of sediments on site. Design of cleanup actions was completed in 1991. Construction activities began in 1994 and are scheduled to be completed in 1995.



**Water Supply:** In 1990, the EPA selected a final cleanup remedy that will reactivate the Donna Road Aquifer, thereby replacing the loss caused by contamination. Design of this remedy began in 1991 and was completed in late 1994. Construction of the well-head treatment system is scheduled to begin in 1995.

**Site Facts:** Between 1954 and 1977, the company was fined at least 35 times by various State and Federal agencies for numerous violations. A citizen complaint of an oily substance on the Cochato River initiated a site inspection, which reported surface water, groundwater, and wetlands contamination. In 1983, the City of Holbrook revoked Baird & McGuire's permit to store chemicals and ordered it to dismantle the existing storage facilities. The EPA issued Notice Letters to parties potentially responsible for site contamination. A cost recovery case against the four potentially responsible parties was filed in 1983. The case was settled on an "ability-to-pay" basis in 1987. A final Consent Decree was issued by the EPA and was signed by the potentially responsible parties.

## Environmental Progress



The initial cleanup, including the construction of a fence, and continuing actions described above have greatly reduced the potential of exposure to contamination and continue to reduce contamination levels at the Baird & McGuire site, making the area safer while it awaits final cleanup activities. Millions of gallons of groundwater have been treated during the first year of groundwater treatment plant operation.

## Site Repository



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Holbrook Public Library, 2 Plymouth Street, Holbrook, MA 02343

# BLACKBURN AND UNION PRIVILEGES MASSACHUSETTS

EPA ID# MAD982191363

## EPA REGION 1

Norfolk County  
Walpole

Other Names:  
South Street Site  
Shaffer Realty Trust

### Site Description

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The Blackburn and Union Privileges site, approximately 30 acres in size, is located in a primarily residential area. Once known as The Blackburn Privilege and The Union Factory Privilege, these two areas were originally part of 10 distinct water privileges established along the Neponset River in the 17th century. Snuff, iron, nails, cotton, and wool were produced at the Union Privilege site; a tannery also was located in this area. Power was generated by a dam on the Blackburn Privilege for the production of machinery, cotton, yarn, batting, and lamp wicking. Since the 17th century, industrial and commercial facilities have been active on 6 of 24 lots in this area, with the remainder being used as residential and commercial properties. Industrial and commercial processes conducted during the 17th and 18th centuries involved various hazardous substances, including chromium, arsenic, and mercury. Beginning in 1915, Standard Woven Fabric Co. manufactured asbestos brake linings that involved the crushing of raw asbestos. In 1920, the company changed its name to Multibestos. A pile of raw asbestos still remains on site. In 1937, the plant was closed and the properties were sold to Kendall Co., which used the site for various cotton and fabric production processes. The wastewater resulting from these operations was brought within sewer permit requirements and disposed of in two lagoons. It was then discharged to a sanitary sewer after cotton fibers had settled out. Kendall stopped using the first lagoon as a disposal area in 1982; the second lagoon received non-contact cooling waste until 1985. The current owners of these properties are Shaffer Realty Nominee Trust and BIM Investment Trust. Municipal wells located within 4 miles of the site draw water from the School Meadow Brook/Mine Brook aquifer and supply drinking water to approximately 19,500 people of the Town of Walpole. The nearest well is located within 1 mile of the site. The site lies within the boundaries of the Neponset River drainage basin which bounds the southern portion of the site.

**Site Responsibility:** The site is being addressed through Federal and potentially responsible parties' actions.

#### NPL LISTING HISTORY

Proposed Date: 02/07/92

Final Date: 05/31/94

## Threats and Contaminants

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On-site soils, sediments, and groundwater are contaminated with inorganic chemicals, including asbestos, lead, arsenic, and nickel, volatile organic compounds (VOCs), and non-volatile organic compounds. Ingesting or coming into direct contact with contaminated soils, sediments, or groundwater poses a health risk.

## Cleanup Approach

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The site is being addressed in two stages: immediate actions and a long-term remedial phase focusing on cleanup of the entire site.

### Response Action Status

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**Immediate Actions:** In 1988, Shaffer Realty Nominee Trust and BIM Investment Trust removed buried tanks and disposed of them off site. An investigation into the nature and extent of asbestos contamination in the soil was also conducted. As a result of an Administrative Order, an asbestos pile and asbestos-contaminated soils on site have been contained. In addition, a 30 inch soil cover has been installed and a 400 foot long aluminum plate arch culvert was built in 1993 to isolate a portion of the Neponset River running through the area of contamination.



**Entire Site:** An investigation into the nature and extent of contamination is scheduled to begin in 1996. Once the investigation is completed, proposed cleanup alternatives will be recommended.

**Site Facts:** The EPA issued an Unilateral Administrative Order to Shaffer Realty Nominee Trust and BIM Investment Trust on December 15, 1988, that required the potentially responsible parties to perform the immediate actions described above and conduct an investigation to determine the extent of asbestos contamination in soils. A second Unilateral Administrative Order was issued to Shaffer Realty Trust and W.R. Grace in 1992, that required additional actions to eliminate the actual or threatened release of asbestos into the air or water.

## Environmental Progress

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The removal of site contaminants in 1988 and 1993 has reduced the potential safety and health risks to the nearby population while investigations are underway and activities are being planned for final cleanup of the Blackburn and Union Privileges site.

## Site Repository

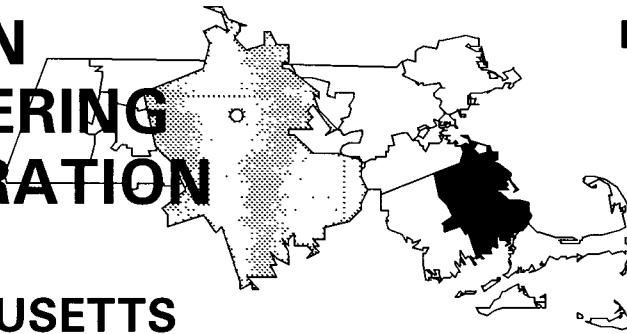


Not yet established.

# **CANNON ENGINEERING CORPORATION (CEC)**

**MASSACHUSETTS**

EPA ID# MAD079510780



## **EPA REGION 1**

Plymouth County  
Bridgewater

**Other Names:**  
Cannons Bridgewater  
Superfund Site

## **Site Description**

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The Cannon Engineering Corporation (CEC) site is situated on 6 acres between Route 24 and First Street in Bridgewater. In 1974, Cannon developed the site to transport, store, and incinerate hazardous wastes, but the facility currently is inactive. On-site structures included 21 storage tanks, three buildings, an office/warehouse, and an incinerator. The operation was licensed in 1979 to store motor oils, oils and emulsions, solvents, lacquers, organic and inorganic chemicals, plating waste, clay and filter media containing chemicals, plating sludge solids, and pesticides. The facility had a license to operate from 1974 until 1980, when alleged waste mishandling and reporting violations prompted the Massachusetts Executive Office of Environmental Affairs to revoke it. The facility was placed in receivership when its owners were found to be guilty of illegal storage and disposal. Operations ceased in 1980, leaving behind approximately 700 drums and 155,000 gallons of liquid waste and sludge in bulk storage. The on-site soils, sediments, buildings, groundwater, and surface waters are contaminated with volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), pesticides, and metals to varying degrees. The Cannon site is associated with three other NPL sites: Tinkham Garage, Sylvester, and Plymouth Harbor. The Tinkham Garage and Sylvester sites are located in New Hampshire. Approximately 1,000 people live within 1 mile of the Cannon Engineering Corporation site in this residential and light industrial area. The nearest residence is 1/8 mile from the site. There are 13 homes within a 1-mile radius that depend on well water. The closest municipal well is in Raynham, 1 mile from the site. Bridgewater's municipal wells are located 3 miles east of the site.

**Site Responsibility:** The site is being addressed through Federal, State, and potentially responsible parties' actions.

### **NPL LISTING HISTORY**

Proposed Date: 12/30/82

Final Date: 09/08/83



## Threats and Contaminants

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The on-site air contained trace amounts of VOCs, including benzene and methylene chloride. Groundwater was also found to contain VOCs including toluene, as well as heavy metals. Soil and sediments contained PAHs, PCBs, dioxin, and pesticides in addition to VOCs and heavy metals. The surface water was polluted with heavy metals including high levels of iron, selenium, lead, manganese, and silver. Direct contact with and accidental ingestion of contaminated material posed a potential public health threat. Inhaling VOCs and contaminated fugitive dust were potential health threats. The site is fully fenced to reduce the potential for contact with contaminants. Sensitive areas that could have been subject to contamination associated with the site include wetland areas to the south and Lake Nippenicket to the west of the site.

## Cleanup Approach

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### Response Action Status

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**Initial Actions:** In 1982, the State removed 155,000 gallons of sludge and liquid wastes and approximately 700 drums and incinerated the materials off site. In 1988, the EPA and the parties potentially responsible for site contamination provided for the removal and disposal of numerous hazardous materials abandoned at the site. A fence surrounding the site was erected in 1989.



**Entire Site:** The final remedy for the site was selected in 1988 and entails two cleanup phases, source control and restricting the migration of contaminants. Source control elements included: fencing the area to restrict unauthorized access to contaminated soils; treating certain contaminated soil on site by heating it to remove contaminants and burning PCB-contaminated soils off site; installing a groundwater monitoring system; decontaminating and removing buildings and associated structures; sampling and treating other soils as necessary; and restoring wetlands disturbed during site cleanup. Key features of the migration control remedy included restricting the use of groundwater at the site and installing additional groundwater monitoring wells to keep apprised of the movement of contaminants. In 1990, under EPA and state oversight, cleanup activities were undertaken by the parties potentially responsible for site contamination. Four hundred tons of PCB-contaminated soil were incinerated off site, 11,330 tons of soils containing VOCs were treated on site, 1,200 tons of steel and 1,300 tons of concrete were shipped for recycling, 360 cubic yards of hazardous debris were sent to a federally approved disposal facility, and 480 cubic yards of non-hazardous debris were shipped to a demolition materials landfill. Cleanup activities were completed in 1991. The testing of debris from the demolished incinerator for dioxin and subsequent removal was completed in 1991. The incinerator was shipped off site to an EPA-regulated disposal facility. Once contaminated soils were removed, the groundwater began to cleanse itself naturally. Long-term groundwater monitoring began in 1991 and continued quarterly until 1993, at which time an evaluation of the wells was performed. A five year review is expected to be conducted in 1995. Long-term monitoring of the site will continue until cleanup goals have been met.

**Site Facts:** A Consent Decree was entered in 1989 for the potentially responsible parties to conduct engineering designs and cleanup actions at the site.

## Environmental Progress



Construction of all cleanup remedies has been completed. Cleanup activities have resulted in the removal of contaminated materials from the site, thereby reducing the risk of exposure to hazardous substances at the Cannon Engineering Corp. site. Cleanup activities have also reduced movement of contaminants off site. Long-term monitoring of the groundwater will continue until cleanup goals have been met.

## Site Repository



Bridgewater Public Library, 15 South Street, Bridgewater, MA 02324

# CHARLES-GEORGE RECLAMATION TRUST LANDFILL

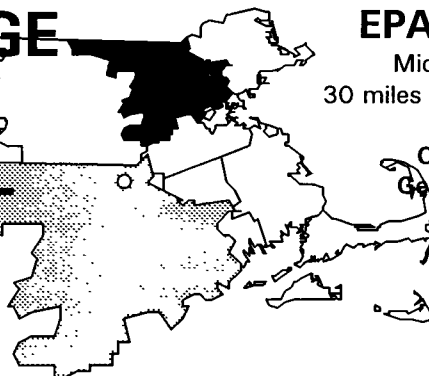
MASSACHUSETTS

EPA ID# MAD003809266

## EPA REGION 1

Middlesex County  
30 miles northwest of Boston

Other Names:  
George C Landfill



## Site Description

From the late 1950s until 1967, the Charles-George Reclamation Trust Landfill, located 1 mile southwest of Tyngsborough and 4 miles south of Nashua, New Hampshire was a small municipal dump. A new owner expanded it to its present size of approximately 55 acres and accepted both household and industrial wastes from 1967 to 1976. The facility had a license to accept hazardous waste from 1973 to 1976 and primarily accepted drummed and bulk chemicals containing volatile organic compounds (VOCs) and toxic metal sludges. Records show that over 1,000 pounds of mercury were disposed of and approximately 2,500 cubic yards of chemical wastes were landfilled. The State ordered closure of the site in 1983. That same year, the EPA listed the site on the NPL and the owner filed for bankruptcy. Samples from wells serving nearby Cannongate Condominiums and some nearby private homes revealed VOCs and heavy metals in the groundwater. Approximately 500 people live within a mile of the site in this residential/rural area; 2,100 people live within 3 miles of the site. The nearest residents are 100 yards away. The site is bordered by Flint Pond Marsh and Flint Pond to the east, Dunstable Brook to the west, and a condominium complex to the southeast. Seasonal livestock grazing occurs in the area.

**Site Responsibility:** This site is being addressed through Federal actions.

### NPL LISTING HISTORY

Proposed Date: 10/23/81

Final Date: 09/08/83

## Threats and Contaminants



The air on the site is contaminated with VOCs including benzene and vinyl chloride. Benzene, tetrahydrofuran, arsenic, and 2-butanone, among others, have been detected in the groundwater. Domestic wells contained benzene. Sediments have been shown to contain low levels of benzo(a)pyrene. People face a potential health threat by ingesting contaminated groundwater or inhaling landfill gas on the site. Flint Pond Marsh, Flint Pond, and the Dunstable Brook, nearby wetlands, were threatened by contamination migrating from the site.

## Cleanup Approach

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The site is being addressed in five stages: initial actions and four long-term remedial phases focusing on providing a permanent water supply, capping the site, controlling the migration of contaminants, and treating leachate in the groundwater.

## Response Action Status

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**Initial Actions:** In response to the discovery of contaminated well water in the adjacent condominium complex in 1983, the EPA installed an insulated, above-ground pipeline to supply residents with an alternate water supply. In 1983 and 1984, the EPA installed a security fence and 12 gas vents, and the site was regraded to cover exposed refuse.



**Permanent Water Supply:** In 1983, the EPA selected a final cleanup remedy that would provide a permanent water supply to affected residents. With EPA funds, the U.S. Army Corps of Engineers installed 4 miles of ductile iron water pipe, constructed a pump station and water storage tank, and arranged for chlorination services. The waterline extension was completed in 1988.



**Capping:** In 1985, the EPA completed a study on capping the landfill and selected the following remedies: installation of a full synthetic membrane cover and a surface water diversion and collection system, which keeps rainwater from spreading contamination; construction of a gas collection system venting to the atmosphere; and creation of a leachate collection system around the entire site. Periodic mowing, landscaping, and inspection/maintenance services will also be provided. The Corps of Engineers completed construction of the full synthetic landfill cap in 1990.



**Migration of Contaminants:** In 1988, the EPA selected a final cleanup remedy to restrict the movement of contaminants off site. Features of the remedy include: pumping contaminated shallow groundwater and treating it biologically, along with the leachate collected from the landfill cap system; collecting and incinerating gas vented from the landfill; excavating and solidifying 500 cubic yards of contaminated sediments from Dunstable Brook and placing them under the landfill cap; and monitoring groundwater. The U.S. Army Corps of Engineers completed the design of the remedy in 1990 and awarded a construction contract in early 1992. Construction of a gas treatment flare and one of two groundwater extraction remedies was completed in 1995. Additional design work is being performed to upgrade the landfill gas flare. Additional design work is being performed for the second groundwater extraction system on the eastern side of the site. A four-well extraction system was installed in late 1993 and was tied into one of two new leachate and groundwater pump stations. This second system is scheduled to go on line in 1995. Site cleanup is expected to be completed in 1996.



**Leachate:** Leachate is currently pumped to a 3 1/2 million gallon lagoon and is periodically treated. These interim leachate treatment rounds have been completed and the fourth is expected to begin in 1995. Ultimately, leachate will be combined with groundwater and will be treated jointly in a permanent treatment plant. Design activities for the plant are underway and are scheduled to be completed in late 1997.

**Site Facts:** In May 1983, the EPA issued a Notice Letter to the Charles George Reclamation Trust, requesting its cooperation in the cleanup. An Administrative Order was signed with the potentially responsible parties to perform treatability studies and groundwater/leachate monitoring with assistance from the EPA. Two out-of-court settlements have since been reached for approximately \$40 million for recovery of cleanup costs.

## Environmental Progress



Providing a water supply system, installing a fence, capping the landfill area, controlling the spread of leachate, burning off landfill gas and extracting contaminated groundwater have provided a safe drinking water source and reduced the potential for exposure to hazardous materials at the Charles-George Reclamation Trust Landfill site, making the site safer while further cleanup activities are being planned.

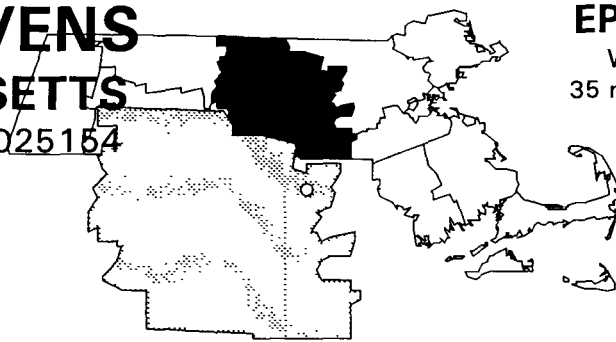
## Site Repository



Littlefield Public Library, 25 Middlesex Road, Tyngsborough, MA 01879

# FORT DEVENS MASSACHUSETTS

EPA ID# MA7210025154



**EPA REGION 1**  
Worcester County  
35 miles west of Boston

**Other Names:**  
South Post  
Main Post  
North Post

## Site Description

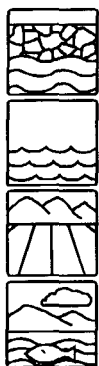
Fort Devens is 35 miles west of Boston. It covers 9,416 acres at the intersection of four towns: Ayer and Shirley in Middlesex County, and Lancaster and Harvard in Worcester County. Founded in 1917, the Fort trains active duty personnel to support various Army units. It also has custody of Fort Devens-Sudbury Training Annex, 12 miles to the southwest, which was listed on the NPL in 1990. Fort Devens can be divided into three areas: the 2,300-acre Central Post, which is flanked by the 1,500-acre North Post and the 5,616-acre South Post. Studies have revealed 76 potential hazardous waste sites on Fort land. Among them are the 15-acre explosive ordnance disposal range (South Post), where explosives and unusable munitions have been detonated or burned in open unlined pits since 1979 and where soil sampling has led to the discovery of heavy metals, volatile organic compounds (VOCs), and explosives residues; the 84-acre sanitary landfill (Central Post), where household wastes, military refuse, asbestos, construction debris, waste oil, and incinerator ash have been dumped since the 1930s; and a firefighting training area (North Post), where the possibility for petroleum, oil, and lubricant contamination exists, as evidenced by stained asphalt, concrete, and soil. The area is largely rural/residential. Approximately 21,700 Fort employees and Ayer residents obtain drinking water from wells located within 3 miles of the landfill; a Fort Devens well is 1,670 feet from the landfill. An 8-mile section of the Nashua River lies within the Fort's boundaries. The 660-acre Oxbow National Wildlife Refuge is in the east-central portion of Fort Devens on land the Army deeded to the Department of the Interior in 1973. An 83-acre wetland is in the refuge northeast of the ordnance range. In July 1991, Fort Devens was slated for closure under the Defense Base Realignment and Closure Act. The closure of Fort Devens has accelerated the investigations and cleanup to protect human health and the environment in a more timely fashion and facilitate economic redevelopment by disposing of property to interested public and private parties. In April 1993, the first parcel (18 acres) of the installation was leased to Boston and Maine Railroad/Canadian Pacific Railroad for the operation of an Internodal Rail Transport Facility.

**Site Responsibility:** The site is being addressed through Federal actions.

**NPL LISTING HISTORY**  
Proposed Date: 07/14/89  
Final Date: 11/15/89

## Threats and Contaminants

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Monitoring wells near Shepley's Hill Landfill (Main Post) indicate inorganic groundwater contamination from arsenic, cadmium, chromium, lead, iron, and magnesium. Sediments in Plow Shop Pond, which is adjacent to the landfill, indicate heavy inorganic contamination with the following metals: arsenic, cadmium, chromium, lead, and mercury. Surface soils in several areas on the Main Post exhibit heavy polycyclic aromatic hydrocarbon (PAH) and petroleum contamination. There is also petroleum-related groundwater contamination from several leaking underground storage tanks/fuel depots. A portion of the Nashua River and its surrounding wetlands on Main Post are threatened by a demolition debris landfill. On the North Post, a perchloroethylene (PCE) spill threatens the groundwater. On the South Post, there is inorganic and explosives contamination in the surface soils and inorganic, VOC, and explosives contamination in the groundwater. Sampling of the fish population has indicated that mercury is present in fish tissue, thus posing a threat to the recreational fishery. In addition, off-post sources are currently being investigated as contributors to the sediment contamination.

## Cleanup Approach

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The site is being addressed in nine long-term remedial phases focussing on the cleanup of the Shepley's Hill Landfill; Cold Spring Brook Landfill; EOD and Zulu Ranges; DRMO Yard and the POL Storage Area; TDA Maintenance Yard; Hotel Range; South Post Impact Area Groundwater; and other contaminated areas.

## Response Action Status

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**Shepley's Hill Landfill:** In 1991, the U.S. Army began an investigation to determine the nature and extent of contamination. The groundwater and the adjacent pond were found to be impacted. A final cleanup remedy is expected to be chosen in the fall of 1995.



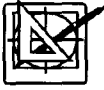
**Cold Spring Brook Landfill:** In 1991, the U.S. Army began an investigation to determine the nature and extent of contamination. The sediments in the pond adjacent to the landfill were found to be effected. A final cleanup remedy is scheduled to be chosen in the fall of 1995.



**EOD and Zulu Ranges:** In 1992, the U.S. Army began an investigation to determine the nature and extent of contamination. Initial results have indicated explosives and inorganic metals contamination in the soils. The investigation is scheduled to be completed in 1996.



**DRMO Yard and the POL Storage Area:** In 1991, the U.S. Army began an investigation to determine the nature and extent of contamination. Results indicate that soils are contaminated with inorganic chemicals such as arsenic, cadmium, chromium, lead, and mercury; PCBs; VOCs; and petroleum products. The groundwater is primarily contaminated with VOCs and petroleum products. In 1993, an interim removal action was initiated at the DRMO Yard to remove leaking capacitors and PCB-contaminated scrap, and to sample the adjacent offices. The capacitors and scrap were disposed of off site and the offices were found to be unclean. Final cleanup remedies are scheduled to be selected in 1996.



**TDA Maintenance Yard:** In 1992, the U.S. Army began an investigation to determine the nature and extent of contamination. Initial results indicated that heavy contamination exists in the surface soils from carcinogenic PAHs and petroleum products. A final cleanup remedy has been selected and design of the remedy is underway.



**Hotel Range:** In 1993, the U.S. Army began investigating this area to determine the nature and extent of contamination. Initial results indicated that surface soils have been impacted by explosives residues. A final cleanup remedy is scheduled to be selected in 1996.



**South Post Impact Area Groundwater:** In 1993, the U.S. Army began investigating the groundwater for effects associated with firing range and training activities. To date, low levels of explosives have been found. At the conclusion of the investigation, scheduled for 1996, a final cleanup remedy will be selected.



**Other Contaminated Areas:** In 1993, the U.S. Army began investigations of several other areas located on North, Main, and South Posts. These investigations will determine whether possible contamination warrants a detailed investigation or removal or long-term cleanup of these areas.

**Site Facts:** Until the Base Realignment And Closure (BRAC) listing in 1991, Fort Devens was participating in the Installation Restoration Program (IRP), a specially funded program established in 1978 by the Department of Defense (DOD) to identify, investigate, and control the migration of hazardous contaminants at military and other DOD facilities. Since 1991, Fort Devens has been operating under the BRAC cleanup plan, which is the separately funded counterpart to the IRP for installations undergoing realignment and closure. The Army and EPA signed a Federal Facilities Agreement (FFA) in May of 1991. The FFA outlines the legal framework for the cleanup.

## Environmental Progress



To date, four removal actions have been completed that have focused on the cleanup of VOC- and petroleum-contaminated soils. One removal action is ongoing that is addressing PCE contamination in the soil and groundwater. Several more soil removals focusing on pesticides, VOCs, inorganics, and petroleum contaminants are scheduled.



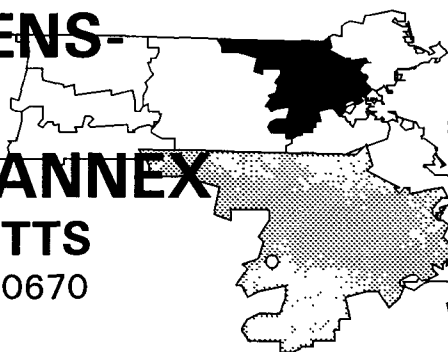
## **Site Repositories:**



The Fort Devens Installation Library and Public Libraries of Ayer, Harvard, Lancaster, and Shirley.

# **FORT DEVENS- SUDBURY TRAINING ANNEX MASSACHUSETTS**

EPA ID# MAD980520670



## **EPA REGION 1**

Middlesex County  
Portions of the Towns of  
Sudbury, Maynard, Hudson, and Stow

### **Other Names:**

**PCB Spill**

**U.S. Army Natick R&D Labs**

**Sudbury Annex**

**Waste Area A7, Old Gravel Pit Landfill**

**Waste Area A9, Former Fire Training  
and Flame Retardant Clothing Testing  
Area**

**Waste A12, PCB Removal Area**

## **Site Description**

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The 4-square-mile (2,750-acre) Fort Devens-Sudbury Training Annex is a U.S. Army military installation occupying portions of the Towns of Sudbury, Maynard, Hudson, and Stow. Hudson Road divides the site into two sections. Established in 1942, the Annex has served as an ammunition depot, an ordnance test station, and a troop training and laboratory disposal center. It is now under the custody of Fort Devens, located 12 miles northeast of the site. Fort Devens is also listed on the NPL. In an Installation Assessment Study conducted in 1980, the Army identified 11 potentially contaminated areas on the site that contained explosive residues, chemical laboratory wastes, oil lubricants, and other toxic materials. In 1985, 100 to 200 gallons of oil containing polychlorinated biphenyls (PCBs) spilled from an out-of-service transformer in a remote abandoned area of the Annex. Four other electrical transformer units in a remote section of the Annex were found with bullet holes and dents that permitted PCB-containing fluids to escape. In 1986, monitoring wells downgradient from Waste Areas A7 and A9 were reported to be contaminated with the volatile organic compounds (VOCs) trichloroethane and benzene. Area A7 is a 20-acre gravel pit that was used from the 1940s to the 1980s as a laboratory dump and an all-purpose dump. Area A9 is a 7-acre parcel used by the Commonwealth of Massachusetts since the 1950s for fire training. The two areas are separated by an unnamed tributary of the Assabet River. White Pond, which provides water to 12,000 residents of Maynard, is located approximately 3 miles downstream of Waste Area A5, a 70-square-foot pit where laboratory solvents were buried from 1973 to 1979. Approximately 35,700 people obtain drinking water from public and private wells located within 3 miles of the waste areas; however, no private or municipal wells are contaminated. Located along the northern boundary of the site, Puffer Pond is being considered for recreational development. A private well lies 1,600 feet from one of the waste areas. The area surrounding the Annex is mainly agricultural, with interspersed residential areas. Aside from Army structures and clearings, the majority of the Annex is undeveloped with a patchwork of forest, marsh, grassland and open water. Topographically, the Annex is mostly lowlands, with some hills and surface water. A freshwater wetland is located within 600 feet of Puffer Pond.

**Site Responsibility:** The site is being addressed through Federal actions.

**NPL LISTING HISTORY**

Proposed Date: 07/14/89

Final Date: 02/21/90

## Threats and Contaminants



VOCs, xylene, pesticides, and inorganics have been detected in groundwater. Soils at the Annex are contaminated with PCBs. People trespassing in certain portions of the Annex are at risk from direct contact with contaminated soil. The freshwater wetland is potentially at risk from contaminant migration. No private or municipal water sources are contaminated.

## Cleanup Approach

The site is being addressed in five stages: initial actions and four long-term remedial phases focusing on cleanup of the groundwater (Waste Areas A7 and A9), the PCB spill area (Waste Area A4), and additional contaminated areas.

## Response Action Status



**Initial Actions:** The Army responded to the 1985 PCB spill by removing 300 gallons of Aroclor and approximately 75 tons of PCB-contaminated soil to an EPA-approved facility. Workers discovered and removed four transformers and the contaminated soil surrounding them. An additional 86 tons of contaminated soil was removed from September through November 1985 at the Former Fire Training Area. The Army removed 1,110 cubic yards of contaminated soil from September 1987 through July 1988. To prevent trespassers from physical harm and from coming into contact with contaminated areas, the Army fenced off several sub-sites and buildings. The Army also completed removal of underground storage tanks at the Annex.



**Old Gravel Pit Landfill (Waste Area A7):** A7 is a 10-acre site and was reportedly used from the 1940s to the early 1980s for the disposal of laboratory chemicals from the Natick Laboratory and miscellaneous solid waste. In 1991, the Army began an investigation into the nature and extent of the landfill contents and the groundwater contamination in Waste Area A7. Cleanup remedies are expected to be selected in 1995.



**Former Fire Training and Flame Retardant Clothing Testing Area (Waste Area A9):** In 1991, the Army began an investigation into the nature and extent of groundwater contamination in Waste Area A9. Final cleanup remedies are expected to be selected in 1995.



**Waste Dump (Waste Area A4):** In 1991, the Army began an investigation into the nature and extent of groundwater and soil contamination in Waste Area A4. Final cleanup remedies are expected to be selected in 1995.



**Additional Contaminated Areas:** In 1993, the Army began an investigation into the nature and extent of contamination at 65 additional contaminated areas of the site. In-depth investigations will be performed at several areas of the site to determine if further evaluations of remedies are necessary. Final cleanup remedies for these areas are expected to be selected in 1996 and 1997.

**Site Facts:** A two-party Interagency Agreement between the EPA and the Army was signed on May 13, 1991 outlining the legal framework for the site cleanup. The Sudbury Training Annex is participating in the Installation Restoration Program, a specially funded program established by the Department of Defense (DOD) in 1978 to identify, investigate, and control the migration of hazardous contaminants at military and other DOD facilities. An EPA Technical Assistance Grant was awarded to a local community group called Four Town FOCUS (Families Organized to Clean Up Sites) in October 1991.

## Environmental Progress



Initial activities have removed sources of contamination, reducing the potential for migration of or exposure to hazardous materials at the Fort Devens-Sudbury Training Annex site. The EPA has assessed the actions taken by the Army and determined that there are no immediate threats to public health or the environment while final cleanup remedies are being planned.

## Site Repository



Goodnow Library, 21 Concord Street, Sudbury, MA 01776

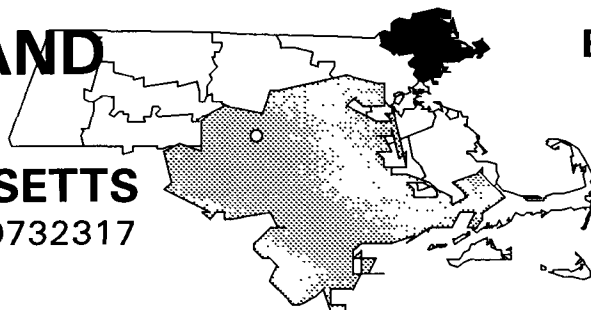
Randall Library, PO Box 263, Common Road, Stow, MA 01775

Hudson Public Library, Wood Square, Hudson, MA

Maynard Library, Town Building, Main Street, Maynard, MA 01754

# GROVELAND WELLS MASSACHUSETTS

EPA ID# MAD980732317



## EPA REGION 1

Essex County  
Groveland

### Site Description

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The Groveland Wells site includes the watershed and aquifer supplying two contaminated municipal water wells, as well as three properties known to be polluting groundwater and soil in the area. The entire site area covers 850 acres. Groveland's production wells #1 and #2 were the sole source of drinking water for the town. Both were shut down in 1979, when the State detected trichloroethylene (TCE) contamination. The Town instituted emergency conservation measures and temporarily obtained water hookups from neighboring communities. Groveland developed well #3 along the Merrimack River in the early 1980s, but the water supply still falls short of the town's needs and growth trends. The EPA is currently trying to initiate cleanup of hazardous waste materials from the highly contaminated Valley Manufacturing Co. site, where metals and plastic parts have been made since 1963. Operators used subsurface disposal systems and underground tanks that dispersed liquids into buried leachfields. They routinely dumped hazardous materials on the ground. From 1964 until 1972, as much as 20 gallons per month of these materials were released. Chemicals released included cutting oils, volatile organic compounds (VOCs), and acid bath wastes. An estimated 5,000 people live within 3 miles of the site in this residential area. The EPA has built a groundwater treatment facility plant at well #1, which has continuously provided a treated public water supply to the Town since 1989.

**Site Responsibility:** This site is being addressed by Federal, local, and potentially responsible parties' actions.

#### NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

### Threats and Contaminants

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The groundwater is contaminated with VOCs. Soil is contaminated with trichloroethylene (TCE). The greatest threat is posed by drinking water from contaminated wells, a danger that has been reduced by treating the public water supply. Highly contaminated soil found on the Valley Manufacturing Co. property could pose a risk to the workers involved in site cleanup activities.

## Cleanup Approach

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The site is being addressed in three stages: immediate actions and two long-term remedial phases focusing on groundwater migration and source control.

### Response Action Status

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**Immediate Actions:** The EPA installed a groundwater treatment facility for Groveland's municipal well station #1. In 1985, Valley Manufacturing Co., under a State Order, installed a groundwater treatment system just north of the Old Mill Pond. The treatment system intercepts and treats a defined area of groundwater contamination. The EPA has been treating water from municipal supply well #1 with carbon adsorption to remove VOCs since 1989. The treatment plant operated as a public water supply from August through November 1987 and again from the spring through the fall of 1988. It went on line again in early 1989 and is expected to operate on a continual basis throughout the life of the facility.



**Groundwater Migration:** The EPA began its initial study of site contamination and cleanup options in 1983. The initial study was completed in 1985. In 1990, the EPA began conducting a supplemental management of migration study to evaluate the movement of groundwater contaminants, and to determine what further cleanup activities were needed. This supplemental study was used to develop a permanent remedy to address contamination throughout the Johnson Creek aquifer. In 1991, this investigation was completed and the remedy for cleanup was selected. The remedy called for extraction and treatment of contaminated groundwater. Organic contaminants in the groundwater will be treated by ultraviolet light/oxidation. Design of the final cleanup remedies began in 1992, and is scheduled to be completed in 1995.



**Source Control:** A supplemental study based on initial studies narrowed the focus on contamination to one location, and remedies for the Valley area were selected. They include in-place vacuum extraction of VOCs from 20,000 cubic yards of site soils and capture of those contaminants by activated carbon treatment, pumping on-site groundwater and treating it by air stripping, monitoring groundwater, and sealing or disconnecting all lines to the acid bath finishing process disposal system. Incidental treatment of inorganic compounds and other contaminants will be provided as necessary to operate the VOC contaminant treatment system efficiently and meet federally-approved limits. Design of the remedies was completed in 1993; however, the potentially responsible parties have failed to implement the approved design and the EPA has taken over the project. Re-design of the cleanup remedy began in 1993 and is expected to be completed in 1995. The EPA's redesign of the project included tests to evaluate optimum groundwater recovery rates. The results of these tests indicated that there was insufficient amount of groundwater to justify building a groundwater treatment facility at the site. However, the EPA plans to extract as much contaminated groundwater as possible from the site, and transport this contaminated groundwater to the ultraviolet light/oxidation treatment facility that is presently under design for groundwater migration.

**Site Facts:** The Town of Groveland sued the potentially responsible parties and settled with one of them to undertake a study of the nature and extent of contamination. The nearby Haverhill site has been determined to be contributing to the groundwater contamination and has been separately added to the NPL. In May 1992, a Unilateral Administrative Order was issued that required the potentially responsible parties to initiate technical designs for cleanup of the groundwater migration and to initiate the actual cleanup activities. Although the design was completed, the potentially responsible parties have not complied with the order to perform the actual cleanup activities and the EPA is in the process of designing the remedy.

## Environmental Progress



Initial construction of water treatment facilities has provided a safe drinking water source, and the various cleanup actions taking place at the Groveland Wells site have reduced the possibility of exposure to hazardous materials and continue to reduce contamination in groundwater. Final cleanup remedies to address groundwater migration have been selected and are being designed. Cleanup activities are expected to begin in 1995.

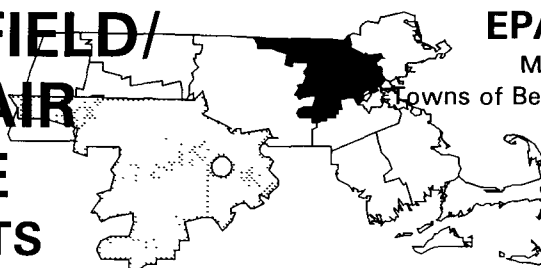
## Site Repository



Langley-Adams Library, Main Street, Groveland, MA 01834

# **HANSCOM FIELD/ HANSCOM AIR FORCE BASE MASSACHUSETTS**

EPA ID# MA8570024424



## **EPA REGION 1**

Middlesex County  
Towns of Bedford, Concord, Lexington,  
and Lincoln

## **Site Description**

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The Hanscom Field/Hanscom Air Force Base site covers approximately 1,120 acres in a light industrial area of eastern Massachusetts. The site spans the Towns of Bedford, Concord, Lexington, and Lincoln. The Naval Weapons Industrial Reserve Plant site, also included on the NPL, is located due south of the Hanscom Field/Hanscom Air Force Base site. In 1942, the military began using a public airfield at the site that had been built the previous year. In 1952, the Commonwealth of Massachusetts transferred 396 acres and leased 641 acres of land to the Air Force. The Commonwealth retained the remaining 83 acres for its own use. Military flying activities ceased in 1973, and the Commonwealth regained control of the leased acreage. The airfield and surrounding land were given to the Massachusetts Port Authority (Massport), which began operating a civilian airport, called the L.G. Hanscom Field. Hanscom Field remains active today. The Air Force continues to occupy the 396 transferred acres and operates the Electronic Systems Division of the Air Force Systems Command as Hanscom Air Force Base. Throughout the 32 years of Air Force occupation, numerous hazardous substances were used, generated, and disposed of on the airbase and what is now the Massport property. These substances included chlorinated solvents; gasoline and jet fuel; aromatic solvents; tetraethyl lead, a gasoline additive; and polychlorinated biphenyls (PCBs). In 1980, two wells belonging to the Veterans Administration Hospital in Bedford were closed down after volatile organic compounds (VOCs) were detected in the well water supply. In 1984, VOCs were discovered in three of the Town of Bedford's wells. The wells were subsequently shut down. Bedford draws its drinking water from groundwater beneath the base, and therefore conducted an investigation of the base to determine if it was the source of the contaminated groundwater. The investigation, conducted in 1991, revealed that groundwater and surface water were contaminated with VOCs, and were the likely source of the contamination of the Town's water supply. A total of 22 possible sources of contamination were identified, including two former fire training areas, a paint waste disposal area, a jet fuel residue/tank sludge area, two landfills, a former industrial wastewater treatment system, a former filter bed area, an elemental mercury spill, and a PCB transformer storage area, and various underground storage tank spill areas.

**Site Responsibility:** The site is being addressed through Federal and local actions.

### **NPL LISTING HISTORY**

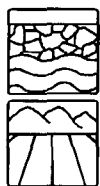
Proposed Date: 05/10/93

Final Date: 05/31/94



## Threats and Contaminants

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Groundwater and soils are contaminated with VOCs, solvents, gasoline and jet fuel, PCBs, and tetraethyl lead. People who come into direct contact with or ingest contaminated groundwater or soil may be at risk.

## Cleanup Approach

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This site is being addressed in two stages: initial actions and a long-term remedial phase focusing on cleanup of the entire site.

### Response Action Status

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**Initial Actions:** Drums of waste from the Paint Waste Disposal Area and the Jet Fuel Residue/Tank Sludge Area were removed. Underground storage tanks and contaminated soils have also been removed and placed in a secured landfill. A groundwater treatment system has been built to remove VOC and petroleum contamination from groundwater beneath the base.



**Entire Site:** In 1991, the Town of Bedford began an investigation into the nature and extent of groundwater and soil contamination. The EPA is currently reviewing the results of the investigation to determine the best approach for cleaning up the site.

## Environmental Progress



The operation of the groundwater treatment system and the removal of drums of waste and contaminated soils have reduced the immediate threats to the public and the environment at the Hanscom Field/Hanscom Air Force Base site while investigations continue and further cleanup actions are being planned.

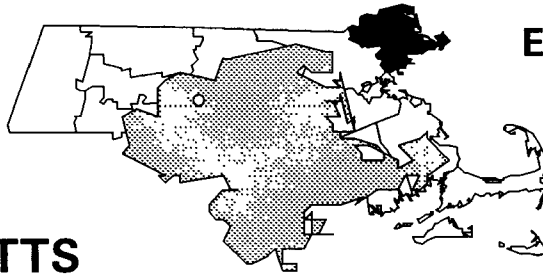
## Site Repository



Hanscom AFB, Base Library, Bldg. 1530, Table of Contents only  
Hanscom AFB, Environmental Flight Office, Bldg. 1810, Documents

# HAVERHILL MUNICIPAL LANDFILL MASSACHUSETTS

EPA ID# MAD980523336



## EPA REGION 1

Essex County  
2 miles southeast of  
downtown Haverhill

### Site Description

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Haverhill Municipal Landfill is a 71-acre industrial and municipal facility, which lies adjacent to the Merrimack River. Trimount Bituminous Products operated the site as an industrial landfill beginning in the late 1930s, and started to accept municipal wastes in the 1960s. Two of the landfill's three tracts were used for the disposal of municipal and commercial refuse, while the third received liquid wastes and sludges. Wastes included steel drums, tires, and flammables, including lacquers, paints, oils, and glues. These materials were either dumped on the surface of the site or deposited into shallow pits. Sludges and liquids were dumped near the river, which borders the site on the north. Resulting land erosion carried liquid wastes into the river. Monitoring wells located a short distance upgradient from the river showed signs of contamination. Until 1975, the landfill was operated in an unsanitary manner with little compaction of refuse. The facility closed in 1981. Since 1981, the landfill has accepted sludges generated by the Haverhill Wastewater Treatment Plant. The sludge is mixed with sand or loam and then spread over the surface of the landfill. Numerous reports have cited lax security on the property; dirt bikers have been observed riding on the site. The area is residential. The two nearby towns, Haverhill and Groveland, have a combined population of approximately 51,400.

**Site Responsibility:** This site is being addressed through Federal and potentially responsible parties' actions.

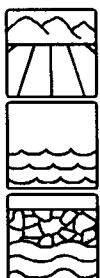
#### NPL LISTING HISTORY

Proposed Date: 10/15/84

Final Date: 06/10/86

### Threats and Contaminants

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The soil is contaminated with benzoanthracene and dibenzofuran, and volatile organic compounds (VOCs). Chromium and arsenic have been found in liquids on site. A nearby creek is contaminated with VOCs and manganese. Drums found on site contained material contaminated with VOCs including toluene and xylene. The groundwater is contaminated with VOCs and heavy metals including arsenic, lead, mercury, manganese, and chromium. People who accidentally ingest contaminated groundwater or come into contact with contaminated surface waters may be at risk.

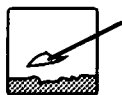
## Cleanup Approach

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The site is being addressed in two stages: initial actions and a long-term remedial phase focusing on cleanup alternatives for the entire site.

## Response Action Status

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**Initial Actions:** In 1990, the EPA discovered two drums of unknown material on the site. Tests revealed the contents of the drums to be contaminated with VOCs. The contaminated drums were stabilized and removed from the site by the site owner.



**Entire Site:** An investigation into the nature and extent of the site contamination is scheduled to begin in 1996. The results of the study, scheduled for completion in 1999, will identify appropriate cleanup strategies.

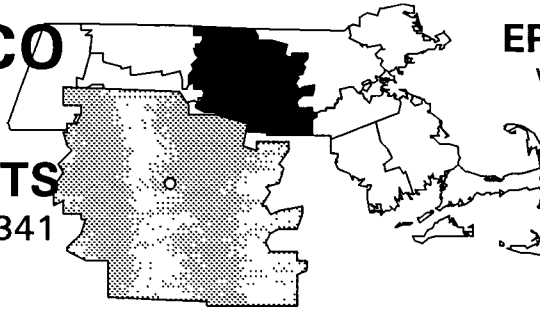
## Environmental Progress



After removing contaminated drums, the EPA has determined that the public is not at immediate risk while the Haverhill site awaits further investigations.

# HOCOMONCO POND MASSACHUSETTS

EPA ID# MAD980732341



**EPA REGION 1**  
Worcester County  
Westborough

## Site Description

The 23-acre Hocomonco Pond site included a recreational pond that was closed by the State in 1980. From 1928 to 1946, the site was used as a wood-treating operation. The business consisted of saturating wood products with creosote for preservation. During the operations, wastewater was discharged into a pit lagoon. The lagoon was excavated on the property to store spillage and waste from the wood-treating operation. As this lagoon became filled with waste creosotes, sludges, and water, its contents were pumped into a low depression, also known as Kettle Pond. The wood-treatment facility operated until the mid-1940s, when it was converted into an asphalt mining plant. Discarded aggregate and asphalt are common throughout the site. The last use of the site was as a cement plant where dry cement was distributed in bulk. The surface water and groundwater have shown creosote contamination. Approximately 2,500 people depend on groundwater as a drinking water supply, and 14,000 people use the surface water for other purposes. All live within 3 miles of the site. The nearest residences lie 2,000 feet from the site.

**Site Responsibility:** The site is being addressed through Federal and potentially responsible parties' actions.

### NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

## Threats and Contaminants



The groundwater, soil, and sediments from the pond and its shore are contaminated with creosotes, carcinogenic compounds, and heavy metals including arsenic and chromium. People who come into direct contact with or accidentally ingest contaminated soil, sediment, and groundwater may be at risk.

## Cleanup Approach

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The site is being addressed in two long-term remedial phases focusing on interim source control and landfill and groundwater treatment.

### Response Action Status

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**Interim Source Control:** In 1989, the EPA selected the following cleanup remedies: site grading, capping, and relocation of the storm drain pipe currently located adjacent to the east side of the former lagoon. The parties potentially responsible for site contamination completed relocation of the storm drain pipe in 1990. The site has been graded and capped.



**Landfill and Groundwater Treatment:** In 1985, final cleanup remedies were selected for the Kettle Pond area. Since that time, a significant amount of contamination was discovered in deeper soil at the Kettle Pond area which caused the original remedy to be reevaluated. The selected remedy now consists of excavating the top 4 to 5 feet of contaminated sediments and soils within the Kettle Pond area followed by in-place bioremediation of the remaining contaminated soils. Hocomonco Pond and a discharge stream also will be dredged and contaminated sediments will be disposed of in an on-site lined landfill. The removal and on-site disposal of contaminated materials at isolated areas of contamination, air and water quality monitoring, and post-closure activities are consistent with federal regulations. The cleanup design was completed in 1993. The parties potentially responsible for site contamination began construction of the remedies in the fall of 1993, beginning with the groundwater treatment plant. The groundwater treatment plant, completed in 1994, will operate until the groundwater meets required safe cleanup levels. Construction of a landfill on the site for the containment of contaminated soil and sediments and dredging of sediments in Hocomonco Pond also were completed in 1994. Remaining cleanup activities include: dredging of sediments from Hocomonco Brook; excavating soils in a former tank farm area; constructing liners to cover the surface of the landfill and the surface of a former lagoon; and sealing/lining of a storm drain. Remaining cleanup activities are scheduled for completion in the fall of 1995. In-place bioremediation of the Kettle Pond soil area will begin in the fall of 1995 and will continue for several years.

**Site Facts:** A Consent Decree was filed in the U.S. District Court in 1987, allowing the potentially responsible parties to design and construct the selected remedy.

## Environmental Progress



Site grading, capping, relocating a storm drain pipe, constructing a landfill, and dredging sediments, have made the Hocomonco Pond site safe while further cleanup activities are ongoing.

## Site Repository



Westborough Public Library, West Main Street, Westborough, MA 01581

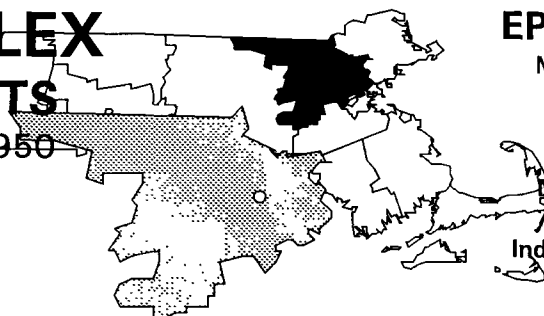
# INDUSTRI-PLEX MASSACHUSETTS

EPA ID# MAD076580950

## EPA REGION 1

Middlesex County  
North Woburn

Other Names:  
Mark Phillip Trust  
Woburn Site  
Industri-Plex 128 Site



## Site Description

The Industri-Plex site is a 250-acre industrial park. From 1853 to 1931, the site was used for manufacturing chemicals such as arsenic insecticides, acetic acid, and sulfuric acid for local textile, leather, and paper manufacturing industries. Chemicals manufactured by other industries at the site include phenol, benzene, and toluene. From 1934 to 1969, the site was used to manufacture glue from raw animal hides and chrome-tanned hides. From 1969 until the present, the site has been developed for industrial use. Excavation in the 1970s uncovered and mixed industrial by-products and wastes accumulated over 130 years. Residues from animal hides used in the manufacture of glue were buried in pits on the site property. Process wastewater was settled on site and was discharged to the municipal sewer. Many of the pits, piles, and lagoons are continuously leaching toxic metals into the environment. Many of the wastes in the soil were relocated and mixed into piles near swampy areas on the property. The site currently consists of streams and ponds, a warehouse and office buildings, and waste deposits buried on the site. Animal hide residues are found on approximately 20 acres of the site in four different piles. Portions of stockpiled wastes sloughed off, releasing hydrogen sulfide gases to the atmosphere and toxic metals and soils to the pond and wetlands. Residences are located within 1,000 feet of the site, and more than 34,000 people live within 3 miles of the site.

**Site Responsibility:** The site is being addressed through Federal and potentially responsible parties' actions.

### NPL LISTING HISTORY

Proposed Date: 10/23/81  
Final Date: 09/08/83

## Threats and Contaminants



The groundwater is contaminated with volatile organic compounds (VOCs) including benzene and toluene, and with arsenic. The soil is contaminated with heavy metals including arsenic, chromium, and lead. Also, a pervasive "rotten egg" odor has been caused by hydrogen sulfide gas generated by the decay of the buried animal hides from glue manufacturing wastes. People who accidentally ingest or come into contact with contaminants may be at risk. However, since the site is mostly vacant now, with plans for industrial and commercial use, the potential exposure most likely is limited to workers on the site during future construction. The contaminated groundwater has the potential to migrate to two Woburn municipal drinking wells, which are currently closed. Wetlands near the site are threatened by site runoff.

## Cleanup Approach

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The site is being addressed in three stages: initial actions and two long-term remedial phases focusing on site stabilization and cleanup of groundwater contamination.

### Response Action Status

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**Initial Actions:** In 1986, the EPA installed 10,000 feet of fence to restrict site access in 1986. Extensive damage to the main areas of the fence occurred, and drums were dumped illegally on the site. Areas of the fence requiring repairs were identified by the EPA, and work to re-secure the site was completed in 1988. Warning signs also were posted.



**Site Stabilization:** In 1986, the EPA selected a final cleanup remedy that is being implemented by the parties potentially responsible for site contamination. To address the problem of approximately 90 acres of contaminated soils and sludges, the site will be graded, a permeable soil cap will be installed over certain areas, institutional controls will be implemented, water quality will be monitored, and post-closure activities will be maintained, consistent with hazardous waste regulations. To address groundwater contamination at the site, an interim remedy was selected that includes the extraction and treatment of the groundwater to remove VOCs. Ultimately, treated water will be discharged to the surface water and the aquifer. This will help disperse remaining contaminants. Treatment will be followed by groundwater monitoring. Remedies selected in connection with odors and air contamination at the East Hide Pile include stabilization of the side slopes of the various piles, installation of a gas collection layer, installation of a synthetic and impermeable membrane cap to prevent rainwater from entering the piles and gases from escaping without treatment, treatment of gases with either activated carbon or thermal oxidation (the final treatment selection will be decided after the impermeable cover has been installed), implementation of an air quality monitoring program, and routine maintenance. The potentially responsible parties began designing the cleanup remedies in 1989. Design of the site cap was finalized in 1992. Construction of the cap began in 1993 and is expected to be completed in 1995. Design of the interim groundwater treatment system was completed in the fall of 1992 and the system is undergoing construction. The treatment system was operational for a short period in the summer of 1994, when the EPA discovered that design modifications were necessary. Construction activities are expected to be completed in 1996.



**Groundwater Contamination:** In 1990, the EPA and the potentially responsible parties began an investigation into the extent and nature of site-wide groundwater contamination. The investigation is expected to be completed in 1998 after completion of the site stabilization activities. The investigation will identify the level of metals and organics in the contaminated plume and also will determine what additional remedies may be required to cleanup site groundwater.



**Site Facts:** In 1979, in response to illegal filling of wetlands, the EPA obtained a court order to stop further development activities. The EPA and the State entered into a Consent Order with Stauffer Chemical in 1982, whereby Stauffer was to conduct an investigation and recommend cleanup action. In 1988, the EPA and the potentially responsible parties signed a Consent Decree to implement the remedy for stabilizing the site and to reimburse the EPA for past and future oversight costs.

## Environmental Progress



Initial actions of fencing and posting warning signs around the site have restricted access to the Industri-Plex site and made it safer while final cleanup activities continue. Upon completion of the final cleanup remedies, the soil and groundwater contamination levels at the Industri-Plex site will be reduced to meet established health and ecological standards.

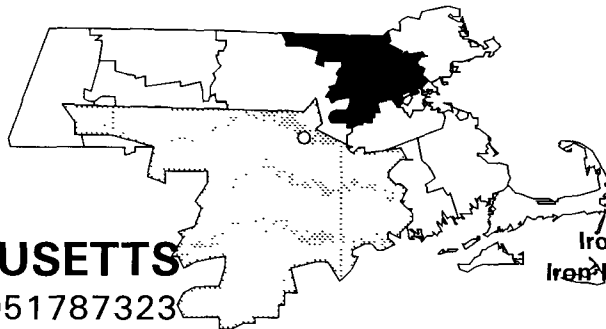
## Site Repository



Reading Public Library, 45 Pleasant Street, Woburn, MA 01801 (617) 937-0148

# IRON HORSE PARK MASSACHUSETTS

EPA ID# MAD051787323



## EPA REGION 1

Middlesex County  
North Billerica

### Other Names:

Boston and Maine RR

Iron Horse Park/RSI, Inc. Dump

Iron Horse Park/John Manville Dump

Shaffer Landfill

Billerica Landfill

Pond St. Landfill

## Site Description

The Iron Horse Park site, a 533-acre industrial complex, includes manufacturing and railyard maintenance facilities, open storage areas, landfills, and wastewater lagoons. A long history of activities at the site, beginning in 1913, has resulted in the contamination of soil, groundwater, and surface water. An asbestos landfill is located to the northwest and adjacent to the lagoons area. Middlesex Canal runs along the length of the northern boundary. It is drained by Content Brook, which runs through residential areas into the Shawseen River east of the site. Richardson Pond lies north of the site and is also drained by the Content Brook. An unnamed brook, which runs northerly through the site near wastewater lagoons, drains into a marshland near the asbestos landfill. Approximately 61,000 people live within a 3-mile radius of the site. There are four day care centers or nursery schools, two housing units for the elderly, and a walk-in clinic in the area. A trailer park and condominium complex are located within a mile of the site.

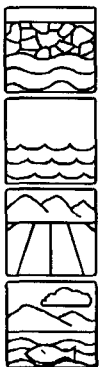
**Site Responsibility:** This site is being addressed through Federal and potentially responsible parties' actions.

### NPL LISTING HISTORY

Proposed Date: 09/08/83

Final Date: 09/21/84

## Threats and Contaminants



On-site groundwater and surface water are sporadically contaminated with organic and inorganic chemicals, asbestos, and heavy metals including arsenic, cadmium, lead, and selenium. The soil at the site is contaminated with polychlorinated biphenyls (PCBs), petrochemicals, and the same heavy metals as those found in the groundwater. The majority of surface water contamination is located in the vicinity of the now-closed Shaffer Landfill. People may be at risk by coming into direct contact with or accidentally ingesting contaminated water, soil, or sediments. Environmentally sensitive marshland and wetlands are located near the site and could be subject to contamination.

## Cleanup Approach

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The site is being addressed in four stages: initial actions and three long-term remedial phases focusing on cleanup of the lagoon areas; Shaffer Landfill; and the groundwater, surface water, sediments, and soil throughout the rest of the site.

### Response Action Status

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**Initial Actions:** In 1984, the EPA removed asbestos deposits from various areas on the site and covered an asbestos landfill with gravel, stone, and topsoil. The EPA then seeded and fenced the area. By covering the asbestos landfill, the EPA eliminated the potential of inhaling fugitive asbestos dust particles.



**Lagoon Areas:** The remedy selected by the EPA to be performed by the site owners involves excavation and on-site treatment of contaminated lagoon soil and sludge by bioremediation, with the residue disposed of in the lagoon area. This action will be followed by covering the area with clean soil and establishing a vegetative cover. The owner will then decontaminate the lagoon system piping and pumps. Development of the design and specifications for these remedies was completed in 1991 and site cleanup activities began shortly thereafter. Construction is scheduled for completion in 1996.



**Shaffer Landfill:** In accordance with a State Consent Agreement, the Shaffer Landfill has been closed. The site owners installed a two-layer cover over the landfill, the bottom layer consisting of low-permeability clay material and the top layer of soil capable of supporting vegetation. In addition, a gas collection and a gas vent/flare system were installed to reduce odors from the landfill. In 1991, the EPA completed an investigation of the Shaffer Landfill area that evaluated the current cover and considered other capping options. Cleanup methods selected included reconstruction of the landfill cap and collection and off-site treatment and disposal of leachate. The potentially responsible parties have assumed responsibility for the development of the design and specifications, which are expected to be complete in late 1995.



**Groundwater, Surface Water, Sediments, and Soil:** Extensive sampling was conducted during 1993 to evaluate the levels, extent, potential sources, and possible means of migration of contamination in these media. Additional investigations began in 1994, and final cleanup technologies are expected to be selected in late 1996.

**Site Facts:** A Consent Agreement was reached in 1984 between the State and the site owners for closure of the Shaffer Landfill. The agreement established a series of cleanup activities and a schedule for their implementation at the landfill. In 1990, the potentially responsible parties assumed responsibility for designing the cleanup approach for the lagoon areas under a Consent Decree with the EPA. In 1993, potentially responsible parties assumed responsibility for designing the remedy chosen by the EPA to address the Shaffer Landfill.

## Environmental Progress



The removal of asbestos materials and the construction of a fence surrounding the landfill have reduced the potential for exposure at the Iron Horse Park site while further cleanup activities are being planned. The installation of a cap also will control odors and eliminate the migration of contaminants into the surface water and groundwater on and off site. Further planned activities will reduce contamination levels at the site, making it safe to area residents and the environment.

## Site Repository

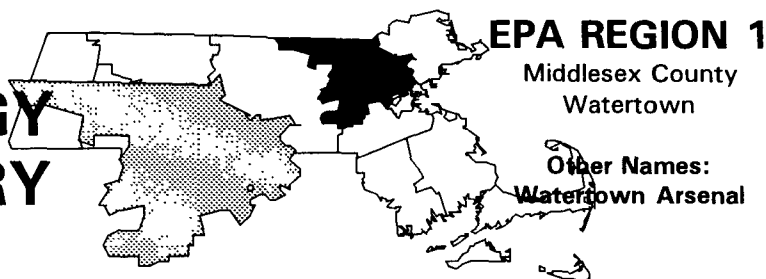


Billerica Public Library, 25 Concord Road, Billerica, MA 01821

# MATERIALS TECHNOLOGY LABORATORY (USARMY)

MASSACHUSETTS

EPA ID# MA0213820939



## Site Description

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The Materials Technology Laboratory (USARMY) (MTL) site occupies a total of 47½ acres, with 36½ acres located on the north bank of the Charles River, approximately 5 miles west of Boston. The facility was established in 1816 by President James Madison, and was originally used for the storage, cleaning, repair, and issuance of small arms. During the mid-1800's, the mission was expanded to include ammunition and pyrotechnics production; materials testing and experimentation with paints, lubricants, and cartridges; and the manufacture of breech loading steel guns and cartridges for field and siege guns. The mission, staff, and facilities continued to expand until after World War II, at which time the facility encompassed 131 acres, including 53 buildings and structures, and employed 10,000 people. Arms manufacturing continued until an operational phasedown was initiated in 1967. In 1968, GSA sold approximately 55 acres to the Town of Watertown. This property was subsequently used for the construction of apartment buildings, the Arsenal Mall, and a public park and playground. MTL currently employs approximately 300 people and contains 15 major buildings and 15 associated structures. In 1960, the Army's first material research nuclear reactor was completed at MTL. The reactor was used actively in molecular and atomic structure research activities until 1970, when it was deactivated. The research reactor was decommissioned under the jurisdiction of the Nuclear Regulatory Commission in 1992 and the structure was demolished in 1994. At the time of the operational phasedown, much of the MTL property was transferred to General Services Administration (GSA). The current mission of MTL is materials testing, structural integrity testing, solid mechanics, lightweight armor research and development, and manufacturing testing technology. In 1987, the U.S. Army Toxic and Hazardous Material Agency (THAMA) initiated preliminary site studies, the first stage of the facility's closure plan. In late 1988, Congress officially recommended the closure of the facility. There is a private drinking water well located 2½ miles northwest of the property. The municipal drinking water within 4 miles of the site is supplied by surface water sources located to the west of MTL and is unaffected by the site. The Charles River is used for recreational boating, swimming, and fishing. The active portion of MTL is completely fenced and public access is restricted. MTL is scheduled for closure by the fall of 1995.

**Site Responsibility:** The site is being addressed through Federal actions.

**NPL LISTING HISTORY**

Proposed Date: 06/23/93

Final Date: 05/31/94

**Threats and Contaminants**

Polyaromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and the pesticide dieldrin have been detected in the soil. The chlorinated solvents, tetrachloroethylene and trichloroethylene, as well as other organic compounds such as xylene, 1,3 dimethylbenzene, and oil have been detected in the groundwater. Various chemical and radiological contamination has been detected in the storm and sanitary sewers, posing a threat to utility workers and possibly threatening the surface water and sediments of the Charles River. Radiological contamination was discovered in a number of the containers at the site and poses an additional risk.

**Cleanup Approach**

The site is being addressed in two stages: initial actions and a long-term remedial phase focusing on cleanup of the entire site.

**Response Action Status**

**Initial Actions:** Leaking underground storage tanks and drums containing mixed waste have been removed from the site. The nuclear reactor and associated buildings and structures were demolished in 1994.



**Entire Site:** The U.S. Army initiated site studies in 1991 and 1992. Once these studies are complete, the EPA will recommend alternatives for cleanup of the site.

**Environmental Progress**

The removal of leaking underground storage tanks, the decommissioning of the nuclear reactor and associated buildings and structures, and the removal of drums containing mixed waste have reduced the risk posed to the public and the environment while site studies leading to the selection of final cleanup remedies continue.

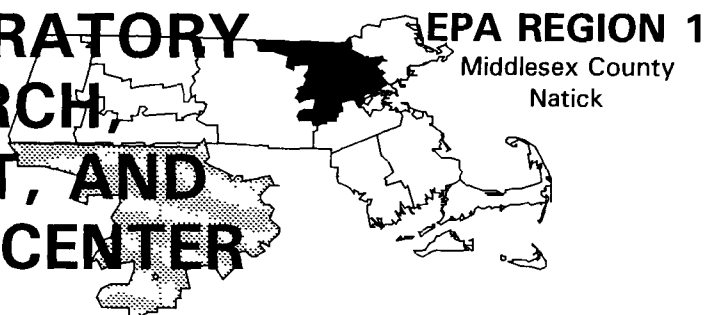
**Site Repository**

MTL Risk Reduction Office, Arsenal Street, Watertown, MA 02172-0001

Watertown Public Library, 123 Main Street, Watertown, MA 02172

# **NATICK LABORATORY ARMY RESEARCH, DEVELOPMENT, AND ENGINEERING CENTER MASSACHUSETTS**

EPA ID# MA1210020631



## **Site Description**

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The Natick Laboratory Army Research, Development, and Engineering Center (Natick Laboratory) is a 74-acre facility located in Natick, Massachusetts. The Natick Laboratory occupies a peninsula on the eastern shore of Lake Cochituate and is bordered on the north by a residential area. The site was purchased by the Army in 1949 and primarily used as a forested recreational area, but it also included a gravel pit in a section of the site known as the Building T-25 Area. The Army built the Natick Laboratory in 1954 and has since used the area for industrial, laboratory, and storage activities for research and development in the areas of food science, aero-mechanical, clothing, material, and equipment engineering. During its operation, the Army used a variety of substances including the volatile organic compounds (VOCs) tetrachloroethene, trichloroethene, carbon disulfide, benzene, chloroform, and acetone; "standard laboratory chemicals"; mineral spirits/turpentine; paints; inks; lubricants; gasoline; tetraethyl lead, a gasoline additive; pesticides; and metal dusts. In 1989, personnel at the facility noticed a sheen on the site runoff water generated during rainstorms. Construction workers also noticed a benzene-like odor in soil near a boring that was drilled for the construction of a gymnasium on site. The Army conducted soil gas surveys in the Building T-25 and Gymnasium Areas and detected several types of VOCs. In addition, soil, groundwater, and surface water samples revealed elevated levels of VOCs and a variety of heavy metals, such as barium, arsenic, copper, chromium, lead, and zinc. Other potential sources of contamination have been identified near the laboratory. Petroleum, organic compounds, and chlorinated solvents have been discovered in soil and groundwater on a property previously used as a laundromat, which is located approximately 3,600 feet from the laboratory well field. Several other potential sources of groundwater contamination, including automotive garages and other laundromats, have been identified. The Evergreen and Springfield municipal well fields are located in the area and may be threatened by the contaminated groundwater. About 37,000 people obtain their drinking water from wells within 4 miles of the site.

**Site Responsibility:** The site is being addressed through Federal actions.

### **NPL LISTING HISTORY**

Proposed Date: 05/10/93

Final Date: 05/31/94



## Threats and Contaminants

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Soil, groundwater, and surface water are contaminated with various VOCs, naphthalene, and Freon 113 and a variety of heavy metals such as barium, arsenic, copper, chromium, lead, and zinc. Contamination threatens several municipal well fields. Contamination also may threaten Lake Cochituate, which borders the site on the east. People who ingest or come into contact with contaminated soil, surface water, or groundwater may be at risk.

## Cleanup Approach

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This site is being addressed in three long-term remedial phases focusing on the cleanup of the T-25 Area, the Former Gym Site, and the remaining areas of the site.

### Response Action Status

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**T-25 Area:** The Army began an in-depth study of soil and groundwater contamination at the T-25 Area in 1993. Further studies are expected in 1995 that will determine cleanup strategies for containing contaminant migration. The Army is currently monitoring the groundwater in the T-25 Area.



**Former Gym Site:** The Army is scheduled to begin an extensive investigation of groundwater and soil contamination at the Former Gym Site in the fall of 1995. This investigation will lead to the selection of cleanup remedies for the area.



**Remaining Areas:** The Army has identified several other areas of possible contamination at the site. In 1996, detailed investigations are scheduled to be performed at some of these areas to determine the full extent of contamination.

## Environmental Progress



The EPA has determined that the Natick Laboratory Army Research, Development, and Engineering Center site poses no immediate threat to human health or the environment while studies leading to site cleanup are being planned and conducted.

## Site Repository



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Natick Library, Natick, MA 01760

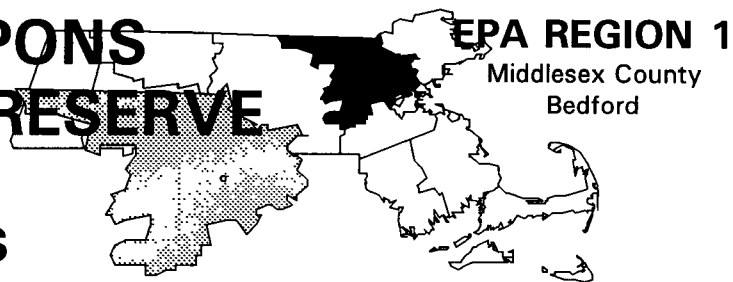
Natick Board of Health, Town Hall, Natick, MA 01760

Massachusetts Department of Environmental Protection, Northeast Regional Office,  
10 Commerce Way, Woburn, MA 01801

# NAVAL WEAPONS INDUSTRIAL RESERVE PLANT

MASSACHUSETTS

EPA ID# MA6170023570



## Site Description

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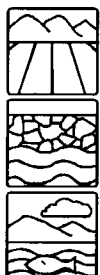
The Naval Weapons Industrial Reserve Plant (NWIRP) is a 46-acre facility that is part of a larger industrial complex located immediately north of Hanscom Air Force Base, which is also on the NPL. NWIRP and the Raytheon Missile Systems Division (RMSD), also located within the industrial complex, are operated by Raytheon Co. Operations continue today at NWIRP, which was established in 1952 when a missile and radar development laboratory was built. Then known as the Naval Industrial Research Aircraft Plant (NIRAP), the laboratory's mission was to provide facilities for research and development of radar, missile guidance systems, and related equipment. Flight test facilities were added on the southern portion of the site in 1959. Between 1959 and 1977, the Navy obtained about 43 additional acres from the Air Force. Buildings constructed during the past 25 years include large facility storage and government buildings near the northern property boundary, an Antenna Range Building, air conditioning and incineration facilities, and the Advanced Medium Range Air to Air Missile Development (AMRAD) Building. NWIRP currently is used for advanced technology research in weapons systems development. These activities include the design, fabrication, and testing of prototype equipment such as missile guidance and control systems. There are two primary operating areas at NWIRP: the Components Laboratory and the Flight Test Facility. Approximately 21 other buildings house various support activities related to the work at these two centers. Throughout its operational history, NWIRP has generated or stored wastes at numerous locations. Hazardous waste was disposed of either through direct discharge to the septic system or through barrel storage and off-site disposal. The septic system consisted of on-site leaching fields until municipal sewer lines were constructed. Wastes generated at NWIRP include various volatile organic compounds (VOCs), photographic fixer, waste oil and coolants, lacquer thinner, unspecified solvents and thinners, Stoddard solvent, waste paint, and chromic, sulfuric, nitric, hydrochloric, and phosphoric acids. The Hartwell Road Well Field, part of the municipal water supply for the Town of Bedford, is located less than 1/2 mile from NWIRP. The three wells in this field were closed in 1984 after VOC contamination was discovered. The Town of Bedford conducted an investigation that determined that NWIRP was a likely source of the well field contamination. Hanscom Air Base is also a potential contributor to the groundwater contamination in this area. Approximately 11,000 people rely on drinking water wells within 4 miles of the site. The Shawsheen River, 7 miles downstream of NWIRP, is a source of drinking water for approximately 12,800 people. Nine residential areas and wetlands are located to the east and northeast of the site. There are extensive wetlands and several species of rare plants and wildlife along the Shawsheen River and the Elm Brook, both located downstream of NWIRP.

**Site Responsibility:** The site is being addressed through Federal actions.

**NPL LISTING HISTORY**  
Proposed Date: 06/23/93  
Final Date: 05/31/94

## Threats and Contaminants

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Hazardous wastes generated at NWIRP include VOCs, photographic fixer, waste oil and coolants, lacquer thinner, unspecified solvents and thinners, Stoddard solvent, waste paint, and chromic, sulfuric, nitric, hydrochloric and phosphoric acids. Iron and VOC contamination including benzene, trichlorethene, and tetrachlorethene have been detected in three water supply wells operated by the Town of Bedford; these wells have since been closed. There are extensive wetlands and several species of rare plants and wildlife along this river and the Elm Brook, which is also located downstream from NWIRP. Ingesting or coming into contact with contaminated groundwater or wastes could be a health risk.

## Cleanup Approach

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The site is being addressed in a long-term remedial phase focusing on cleanup of the entire site.

## Response Action Status

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**Entire Site:** In 1986, the Navy initiated a study to determine potential contaminant sources at NHIRP. The study focused on past hazardous substance storage, use and disposal practices at the site. As a result, two disposal and spill sites were identified: the Old Incinerator Ash Disposal Area and the Components Laboratory Fuel Tank Area. Potential contaminants of concern were metals in soils and groundwater near the Ash Disposal Area, total petroleum hydrocarbons (TPH) in soils and metals, and TPH in surface water near the Laboratory Fuel Tank Area. The study concluded that neither of the two areas posed a threat to human health or the environment, and that the contaminant migration from them was unlikely. Additional investigations were conducted at NWIRP in 1989 and 1990. These investigations provided further data on soil and groundwater contamination associated with past storage and disposal practices at NWIRP. The investigation initially focused on the Ash Disposal Area and the Laboratory Fuel Tank Area, but also identified additional locations where potential contaminant sources might exist, including underground storage tanks (UST) for fuel and waste, leach fields, dry wells, and waste storage areas. The investigations concluded that additional studies are needed to completely characterize the nature and extent of contamination of the NWIRP. More investigations began in late 1994 which are scheduled for completion in 1998.

## Environmental Progress



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Initial studies indicate that no immediate threats to human health and safety exist while studies leading to the selection of final cleanup remedies are being planned at the National Weapons Industrial Reserve Plant site.

## Site Repository

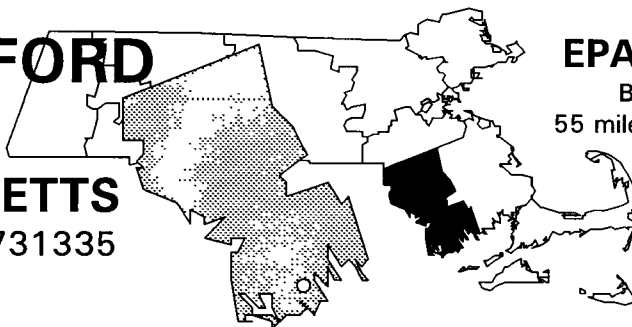


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Not yet established.

# NEW BEDFORD SITE MASSACHUSETTS

EPA ID# MAD980731335



**EPA REGION 1**  
Bristol County  
55 miles south of Boston

## Site Description

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The 18,000-acre New Bedford site is an urban tidal estuary consisting of a harbor and bay that are highly contaminated with polychlorinated biphenyls (PCBs) and heavy metals. Manufacturers in the area used PCBs while producing electric capacitors from 1940 to 1978. Until the late 1970s, when the use of PCBs was banned by the EPA, factories discharged industrial process wastes containing PCBs into the harbor. As a result, PCB contamination in the New Bedford Harbor area is widespread. The harbor is contaminated for at least 6 miles, from the upper Acushnet River into Buzzards Bay. Approximately 98,500 people are living within 3 miles of the site. A 5-acre northern portion of the Acushnet River Estuary is contaminated with high levels of PCBs and has been identified as the "hot spot" area of the site. Measurements taken at the site indicate tidal action transports PCBs from the hot spot to the harbor and ultimately, into the larger bay. The contamination of the harbor and bay sediments by high concentrations of PCBs and heavy metals has resulted in closing the area to lobstering and fishing, and has limited recreational activities and harbor development.

**Site Responsibility:** This site is being addressed through Federal and Commonwealth actions.

<b>NPL LISTING HISTORY</b> Proposed Date: 07/23/82 Final Date: 09/08/83
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## Threats and Contaminants

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PCBs and heavy metals, notably cadmium, lead, copper, and chromium, were identified in sediments, soil, and marine life. The major public health risks involve coming into direct contact with contaminated sediments and ingesting contaminated fish and shellfish from the area. Levels of PCBs in some fish and lobsters at the site exceed the Food and Drug Administration's (FDA) limit for PCBs in food. There is an increased risk of cancer for people who repeatedly eat PCB-contaminated seafood from the harbor and estuary. Currently, fishing is restricted to minimize this risk. The risk to plant or animal life is greatest for bottom-dwelling organisms that have direct contact with contaminated sediments.

## Cleanup Approach

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This site is being addressed in four stages: initial actions and three long-term remedial phases focusing on the hot spot area, the Acushnet River and New Bedford harbor, and the Buzzards Bay Area.

### Response Action Status

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**Initial Actions:** In 1982, the Coast Guard erected signs warning the public of the presence of PCBs in the harbor and industrial areas. The Commonwealth intensified efforts to restrict access to the harbor. Bilingual warning signs in English and Portuguese were posted along the New Bedford and Fairhaven shoreline. When the signs were destroyed by winter weather, the EPA replaced them. In 1985, 2,000 feet of chain-link fence at two recreational facilities were erected to keep people out of the contaminated areas. In 1992, additional signs with warnings in English, Portuguese, and Spanish were installed along the shoreline.



**Hot Spot Area:** In 1985, the Army Corps of Engineers (Corps) and the EPA began to evaluate alternatives for addressing harbor contamination. In 1988, the investigation was expanded, allowing the Corps to conduct demonstrations of dredging equipment and construction and testing of disposal facilities in the estuary, while continuing to carry out site sampling, analysis, and research. Hydraulic dredges were tested, sediment disposal facilities were built, and extensive environmental monitoring was conducted to determine whether removal and construction activities could occur without spreading contaminants. The engineering study conducted by the Corps was used by the EPA to design the cleanup approach for the site. The EPA's selected remedy for the hot spot area includes removal and incineration of contaminated sediments to permanently reduce the migration of contaminants throughout the harbor area. Specifically, this remedy calls for the removal of 10,000 cubic yards of contaminated sediments from the hot spot area, followed by dewatering of the sediments. Wastewater produced during dewatering will be treated prior to discharge into the harbor. Contaminated sediments will be treated at a transportable incinerator. The treated sediments, in the form of incinerator ash, will be tested for leaching of toxic metals. If the testing indicates that treatment is required to immobilize the metals, the incinerator ash will be solidified before it is placed into a lined shoreline landfill and covered with an impermeable membrane and vegetated cover. While work progressed in preparation for dredging and incineration of the hot spot sediments, local opposition to the incineration component of the project increased. In September 1993, the EPA asked the U.S. District Court to overturn a local ordinance restricting the transport of wastewater treatment equipment and incinerator components. In a settlement approved by the court, the EPA was granted unimpeded access to the site and agreed to participate in mediated discussions with local representatives opposed to incineration. The wastewater treatment plant is complete, dredging of hot spot sediments began in 1994 and is scheduled for completion by 1995. A water quality monitoring system was implemented to ensure that the dredging was done in a safe and protective manner. Due to local concerns about incineration, however, the EPA has elected to postpone the incineration component of the hot spot remedy, and explore alternative treatment technologies. The dredged sediment is being held in a lined and covered holding pond until treatment takes place; decanted seawater from the sediments is treated on site. Pilot studies of alternative technologies are planned for the fall of 1995.



**Acushnet River & New Bedford Harbor:** The EPA is currently evaluating different alternatives for cleaning up this portion of the site. Many comments on the study were submitted, primarily by the potentially responsible parties. The EPA plans to issue a proposed cleanup plan for this area in 1995, after which design and construction of the cleanup activities will begin.



**Buzzards Bay Area:** The EPA plans to initiate additional investigations of this area of the site (south of the hurricane barrier) to determine if additional cleanup is necessary.

**Site Facts:** In 1982, the EPA entered into Consent Agreements with two companies to address the PCB contamination on their properties. The EPA, the Commonwealth of Massachusetts, and five companies that used PCBs have reached settlement regarding the EPA's claims.

## Environmental Progress



Posting warning signs, fencing contaminated areas, dredging the hot spot area sediments, and investigating alternatives to incineration are reducing the threat posed by the site while further investigations leading to the selection of final cleanup remedies are being conducted.

## Site Repository

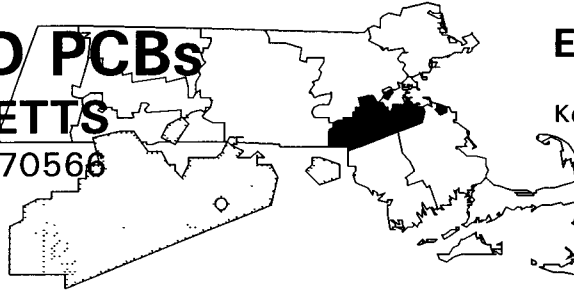


New Bedford Free Library, 613 Pleasant Street, Bedford, MA 02740



# NORWOOD PCBs MASSACHUSETTS

EPA ID# MAD980670566



## EPA REGION 1

Norfolk County  
Kerry Place in Norwood

Other Names:  
Grant Gear, Inc.  
Dean Street Site

### Site Description

The Norwood PCBs site is located on 26 acres of mainly commercial and industrial properties. The site is bordered by Route 1, the Dean Street access road, Meadow Brook, Pellana Road, and Dean Street. The site consists of several parcels of land, including the Grant Gear facility, which currently produces gears for industry; properties in Kerry Place; an automobile dealership; and associated parking areas and adjacent fields. In 1979, the site was subdivided. The northeastern portion of the site, approximately 9 acres in size, was purchased by Grant Gear Realty Trust and leased to Grant Gear Works, Inc. The southern and western portions of the site were further subdivided, a major portion of which was named Kerry Place. Most of the lots now are occupied by commercial and light industrial buildings. Beginning in the 1940s, previous owners or operators of the Grant Gear building used polychlorinated biphenyls (PCBs) in the production of electrical transformers and other electrical components. In 1983, the State detected high levels of PCBs in the soil on the site, and the EPA conducted an emergency removal of contaminated soil. Approximately 8,000 people live within 1 mile of the site.

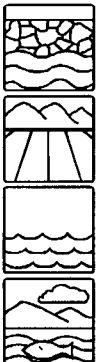
**Site Responsibility:** The site is being addressed through Federal and Commonwealth actions.

#### NPL LISTING HISTORY

Proposed Date: 10/15/84

Final Date: 06/10/86

### Threats and Contaminants



Groundwater is contaminated with PCBs and volatile organic compounds (VOCs) such as trichloroethylene (TCE) and vinyl chloride. Soil and sediments are contaminated with PCBs, polycyclic aromatic hydrocarbons (PAHs), and heavy metals. People are at risk when coming into direct contact with or accidentally ingesting contaminated groundwater, soil, and sediments. Increased risk may be posed if on-site groundwater, left untreated, were used as a drinking water source. The concentrations of PCBs in the sediments in Meadow Brook may pose an increased risk to aquatic organisms. Exposure to PCB-contaminated soils also may pose a threat to animal life inhabiting the site area.

## Cleanup Approach

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The site is being addressed in two stages: initial actions and a long-term remedial phase focusing on cleanup of the entire site.

## Response Action Status

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**Initial Actions:** In 1983, the EPA conducted an emergency removal of over 500 tons of highly contaminated soil from the site and transported it to an approved disposal facility. In 1986, the Commonwealth installed a 4-foot-high wire mesh fence around a 1½-acre portion of the northwestern and southwestern corners of the Grant Gear property and covered contaminated soils within the fenced areas. The cover consisted of a filter-fabric liner and 6 inches of crushed stone.



**Entire Site:** The remedies selected by the EPA to clean up the site include excavating soils, dredge material, and sediments; treating them by solvent extraction of PCBs and disposing of them on site; flushing or replacing the site drainage system; cleaning equipment surfaces; collecting groundwater and removing the contaminants using air filtering to convert volatile chemicals to a gas (activated carbon will be used before or after the air filtration step to remove PCBs); and restoring the wetlands after minimizing the effects on the wetlands during the cleanup of Meadow Brook sediments. Cleanup of groundwater contamination began in 1994 and is scheduled to continue until 1996. The EPA is preparing the technical specifications and design for the remainder of the cleanup, which is expected to begin in 1995.

**Site Facts:** The Commonwealth originally investigated the site in response to a telephone call from an area resident.

## Environmental Progress



The initial cleanup actions described above have removed contaminated sources and restricted access to the site, thereby reducing the potential of exposure to hazardous substances at the Norwood PCBs site while final cleanup activities are being planned and conducted.

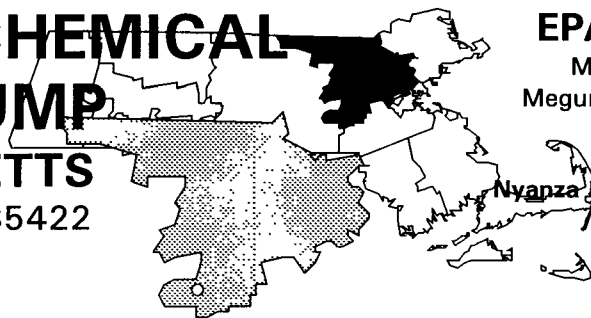
## Site Repository



Morrill Memorial Library, Walpole Street, Norwood, MA 02062

# NYANZA CHEMICAL WASTE DUMP MASSACHUSETTS

EPA ID# MAD990685422



**EPA REGION 1**  
Middlesex County  
Megunco Road in Ashland

Other Names:  
Nyanza Chemical Waste Dump

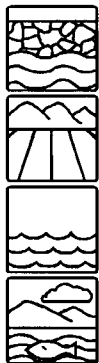
## Site Description

The Nyanza Chemical Waste Dump site is a 35-acre parcel of land located adjacent to an active industrial complex. From 1917 to 1978, the site was used to produce textile dyes, intermediates, and other products. Nyanza, Inc., operated on this site from 1965 until 1978, when it ceased operations. Large volumes of industrial wastewater containing high levels of acids and numerous organic and inorganic chemicals, including mercury, were generated by these companies. Some of the wastes were partially treated and discharged into the Sudbury River through a small stream, referred to as Chemical Brook. Over 45,000 tons of chemical sludges generated by Nyanza's wastewater treatment processes, along with spent solvents and other chemical wastes, were buried on site. The area that contains the largest amount of buried waste and exposed sludge is referred to as the Hill section. The current owner leases the old plant grounds to various businesses. Approximately 10,000 people live within 3 miles of the site.

**Site Responsibility:** This site is being addressed through Federal actions.

**NPL LISTING HISTORY**  
Proposed Date: 10/23/81  
Final Date: 09/08/83

## Threats and Contaminants



The groundwater, soil, sediments, and surface water are contaminated with heavy metals and chlorinated organics. The groundwater and soil are also contaminated with spent solvents and chemical wastes. Health threats include direct contact with and accidental ingestion of contaminated surface water, groundwater, or soil. Wetlands nearby and fish in the Sudbury River are contaminated with mercury. Two downstream reservoirs, designated as backup water supplies, also contain sediment with high mercury contamination levels.

## Cleanup Approach

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This site is being addressed in five stages: initial actions and four long-term remedial phases focusing on source control and cleanup of the soil, off-site groundwater, wetlands and drainageways, and the Sudbury River.

### Response Action Status

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**Initial Actions:** In 1987 and 1988, the EPA excavated an underground storage vault containing 12,025 tons of material; 300 tons of contaminated soils were incinerated, and an additional 356 tons of soils were excavated and disposed of off site.



**Source Control and Soil:** The remedy selected by the EPA to control the source of the contamination and to clean up the soil includes excavating all outlying sludge deposits and contaminated soils and sediments associated with these deposits, consolidating this material with the Hill sludge deposits, capping the Hill section to prevent water from entering it and spreading contaminants, constructing a groundwater and surface water diversion system on the upgradient side of the Hill area, backfilling the excavated areas to original grade, establishing a vegetative cover in the wetland areas, and constructing a more extensive groundwater monitoring system to allow for future evaluation of the cap. Approximately 60 percent of the 13-acre cap in an area of existing lagoons, sludge pits, and buried building debris was covered with earth from on-site excavations in clean areas. The remaining portion of the area to be capped was excavated to bedrock to create a cell for the disposal of contaminated soils and solidified sludges from the on- and off-site cleanup areas. The site was fenced. More than 65,000 cubic yards of contaminated soil were excavated and placed in the cell in 1990. Final construction of the site cap was completed in 1991. All cleanup actions were completed in late 1992.



**Off-site Groundwater:** The EPA selected a remedy to clean up the off-site groundwater contamination in 1991. The selected remedy was to pump and treat the contaminated groundwater from most contaminated portions of the plume for five years. Once this is completed, the EPA will determine whether additional cleanup measures are necessary. Technical design for the selected remedy began in early 1992. Two technologies are being considered for cleanup of the groundwater. Both will be pilot tested in 1996. Final cleanup actions are expected to begin in 1997.



**Wetlands and Drainageways:** Preliminary sampling showed that sediment and surface water of the wetlands and drainageways between the site and the Sudbury River are contaminated with heavy metals. A decision was reached in 1993 to excavate and landfill contaminated sediments from these wetlands. The design of the remedy is currently underway and is expected to be completed in late 1996.



**Sudbury River:** After initial investigations of the contamination in the Sudbury River, the EPA determined that additional studies were warranted. The initial investigation showed that sediments and fish are contaminated with mercury and other heavy metals. Additional studies of mercury and mercury cycling in the river system began in 1994 and will continue for several years.

## Environmental Progress



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The excavation of contaminated soil and capping of the Hill area of the site have reduced the potential of exposure to hazardous substances by controlling contamination migration and isolating wastes. In 1992, the EPA re-posted the river with signs warning against the consumption of contaminated fish. These actions have made the Nyanza Chemical Waste Dump site safer while remaining cleanup actions are being planned.

## Site Repository

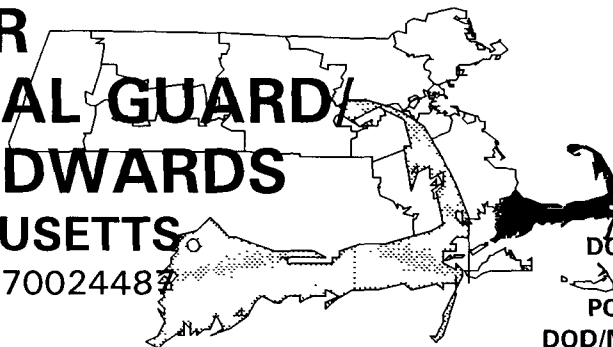


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Ashland Public Library, 66 Front Street, Ashland, MA 01721

# OTIS AIR NATIONAL GUARD/ CAMP EDWARDS MASSACHUSETTS

EPA ID# MA2570024487



## EPA REGION 1

Barnstable County  
Falmouth

### Other Names:

DOD/MMR/USAF Sani Landfill  
DOD/MMR/Base Landfill  
POD/MMR/USAF Sani Landfill  
DOD/MMR/Current Fire Training Area  
DOD/MMR/Former Firefighting  
Training Area

## Site Description

The Otis Air National Guard/Camp Edwards site covers approximately 21,000 acres and today is known as the Massachusetts Military Reservation (MMR). Although the occupants and property boundaries have changed several times since MMR was established in 1935, the primary mission has always been to provide training and housing to Air Force or Army units. A review of past and present operations and waste disposal practices identified numerous potentially contaminated areas, including eight that cover 3,900 acres on the southern portion of MMR. Six of the eight areas are located within Otis Air National Guard Base property boundaries: Former Fire Training Area, Current Fire Training Area, Base Landfill, Non-destructive Testing Laboratory Leach Pit, Fly Ash Disposal Area, and a plume of contaminated groundwater from a sewage treatment plant, which extends 3 miles south. The two remaining waste areas, the Unit Training Equipment Site and Property Disposal Office Storage Yard, are located at Camp Edwards, which currently is leased to the Army. The materials found at the eight areas are fly ash, bottom ash, waste solvents, waste fuels, herbicides, and transformer oil. While the Non-destructive Testing Laboratory operated from 1970 to 1978, waste solvents, emulsifiers, penetrants, and photographic developers were deposited in the sewer system. Effluent from the sewage treatment plant was discharged into sand beds where it seeped into the groundwater. In 1984, the U.S. Geological Survey detected contaminants in the monitoring wells downgradient of the plant. In 1983 and 1984, the Air Force detected volatile organic compounds (VOCs) in on-site monitoring wells near the Base Landfill and Current Fire Training Area. Monitoring by the Air National Guard and the State Department of Environmental Quality has detected VOCs in more than 200 private wells and in one Town well. The EPA has designated the Cape Cod Aquifer underlying MMR as a sole source aquifer under the Safe Drinking Water Act. The municipalities of Bourne and Sandwich and the Air Force base have an estimated population of 36,000 people and have drinking water wells within 3 miles of hazardous substances at the site. Irrigation wells also are located within 3 miles. Ashumet Pond, located less than 1 mile from the Former Fire Training Area, is used for recreational activities.

**Site Responsibility:** This site is being addressed through Federal actions.

### NPL LISTING HISTORY

Proposed Date: 07/14/89

Final Date: 11/21/89

## Threats and Contaminants

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The soil and groundwater are contaminated with VOCs, including trichloroethane, tetrachloroethylene, and dichloroethylene. People could be at risk if they accidentally drink or come into direct contact with contaminated groundwater. A fresh water wetland, located 3,600 feet downstream from the site, may be at risk.

## Cleanup Approach

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This site is being addressed in 12 stages: initial actions and eleven long-term remedial phases focusing on Chemical Spill Area Ten; Chemical Spill Area Four; Fuel Spill Area Two; Fire Training Area One; Storm Drainage Area Swale Two; Fuel Spill Area One; Base Landfill; the Remaining Priority One, Two, and Three Areas; and groundwater plumes.

## Response Action Status

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**Initial Actions:** In 1986, water lines were installed to private residences affected by groundwater contamination. In 1990, contaminated sediment was pumped from the site and removed.



**Chemical Spill Area Ten:** The National Guard Bureau (NGB) is studying the nature and extent of contamination at the site. The investigation will define the contaminants and will recommend alternatives for cleanup. The study is expected to be completed in 1995.



**Chemical Spill Area Four:** In 1992, the remedy for cleaning up the Chemical Spill Area Four was selected. The remedy calls for a groundwater extraction and treatment system. The system has been installed and began operation in late 1993. It is expected to continue operating through 1995.



**Fuel Spill Area Two:** The NGB currently is investigating the contamination at this area to determine the best cleanup strategy. The study is scheduled to be completed in late 1995.



**Fire Training Area One:** The NGB is conducting a study of the area to define the contaminants and to recommend alternatives for final cleanup. A removal action is underway to address the contaminated soils found at the site while site studies are being completed.



**Storm Drainage Area Swale Two:** The NGB is investigating this area to determine the nature and extent of contamination and select the best cleanup strategy. The study is scheduled for completion in 1995.



**Fuel Spill Area One:** The NGB is conducting a study of the contaminants at this area. The study is expected to be completed in 1995, at which time cleanup remedies will be selected.



**Base Landfill:** The NGB completed a study of the contamination at the Base Landfill in late 1992. A landfill cap is currently under construction to prevent the infiltration of precipitation and spread of contamination. Cleanup activities are scheduled to be completed in late 1995.



**Remaining Priority One Areas:** The NGB is investigating the Remaining Priority One Areas to determine the nature and extent of contamination. This investigation is expected to be completed in 1995.



**Remaining Priority Two Areas:** The NGB is investigating these areas to determine the contaminants of concern. The study is scheduled to be completed in late 1995.



**Remaining Priority Three Areas:** The NGB is investigating the nature and extent of contamination at these areas. The study is scheduled to be completed in 1995.



**Groundwater Plumes:** The NGB is pursuing an accelerated plan to address seven groundwater plumes located on MMR. The design of the proposed groundwater treatment system is scheduled to be completed in early 1996. Pilot studies involving the installation of an in place permeable treatment wall will address two of the groundwater plumes. Monitoring results are expected in 1995.

**Site Facts:** The Army and Air Force, through the NGB, are participating in the Installation Restoration Program, a specially funded program established by the Department of Defense (DOD) in 1978 to identify, investigate, and control the migration of hazardous contaminants at military and other DOD facilities. The Air Force has investigated Air Force property only. The NGB, which represents both the Army and Air Force, is coordinating a second investigation that addresses the entire facility.



## Environmental Progress



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Installation of water supply lines to residents affected by groundwater contamination has reduced the health threats posed by site contamination. The EPA, in coordination with the Army, Air Force, and the NGB, has determined that the Otis Air National Guard/Camp Edwards site does not pose an immediate threat to the environment or public health while final cleanup activities are being planned.

## Site Repository



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Jonathon Bourne Library, 19 Sandwich Road, Bourne, MA 02532

# PLYMOUTH HARBOR/ CANNON ENGINEERING CORP.

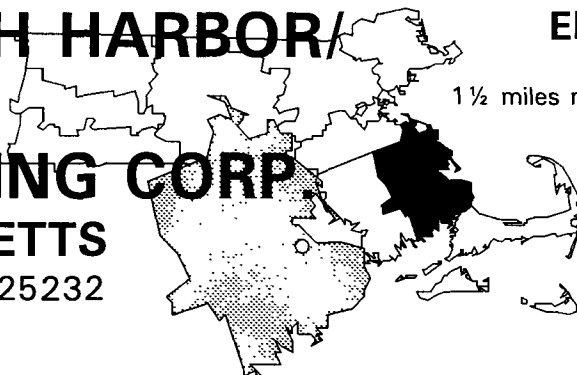
MASSACHUSETTS

EPA ID# MAD980525232

## EPA REGION 1

Plymouth County

1 ½ miles northwest of Plymouth Center



## Site Description

The Plymouth Harbor/Cannon Engineering Corp. site covers 2½ acres in Cordage Industrial Park. The site is located near the Town of Plymouth. The facilities on site consisted of three above ground storage tanks and the foundation of a razed building. Each storage tank was surrounded by a 6- to 8-foot-high earthen berm. The northernmost tank was located about 50 feet from Plymouth Harbor, while the central and southern tanks were located about 180 feet from the Harbor. The storage tanks were originally constructed in the 1920s and used for storing fuel and oil that were unloaded from barges. In 1975, the company obtained a license to store motor oils, industrial oils and emulsions, solvents, lacquers, organic and inorganic chemicals, cyanide and plating wastes, plating sludge, oily solids, pesticides, and clay and filter media with chemicals. Cannon Engineering Corp. transported and stored hazardous wastes at the Plymouth facility and incinerated the wastes at its Bridgewater facility until 1980, when the facilities went into receivership. Approximately 50,000 people live in the two communities surrounding the site; 33,000 people live within a 3-mile radius of the site, and about 300 people work within ½ mile of the site. The area has a number of beaches, summer cottages, public recreation, and tourist areas. Plymouth Harbor is used for boating and water sports. The historic area of Plymouth Rock is located 1½ miles southeast of the site.

**Site Responsibility:** The site was addressed through Federal, Commonwealth, and potentially responsible parties' action.

### NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

Deletion Date: 11/19/93

## Threats and Contaminants



The on-site soil and off-site sediments were contaminated with low levels of polycyclic aromatic hydrocarbons (PAHs) and lead. Pesticides also were present in the on-site soil. The site is fenced to limit access. There is no longer a health threat from contaminated on-site soils.

## Cleanup Approach

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### Response Action Status

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**Immediate Actions:** In 1983, Salt Water Trust removed the contents of and then cleaned and decontaminated the south tank. The EPA removed the contents of the central tank. A total of 44,022 gallons of oil-phase waste and 139,877 gallons of aqueous-phase waste were transported to disposal facilities for incineration. Sludge pumping operations began at the completion of the oil and aqueous waste removal. An estimated 52,750 gallons of sludge and 8,000 gallons of toluene were removed from the tanks and shipped for disposal at an approved facility.



**Source Control:** The remedies selected by the EPA in 1985 included removing the tanks and their pipes and disposing of them at an approved facility; conducting additional soil sampling at the site to determine the distribution of contaminants; sampling of groundwater, surface water, and sediment near the site; and assessing flood plains to determine possible effects on cleanup actions. In 1986 and 1987, the EPA cleaned the interiors of the three empty storage tanks and dismantled them. The pipework, foundations, and 33 drums of wastes already on the site were transported to a licensed disposal facility. Soil was excavated from two locations on the site, placed in drums, disposed of, and replaced with clean fill. Once the tanks and other materials were removed, the EPA sampled soil, groundwater, surface water, and sediments for the presence and distribution of remaining contamination at the site. A Flood Plains Assessment Report was prepared and evaluated for the site. The site was fenced at that time. All cleanup activities were completed in late 1987.



**Sampling Program Investigations:** The EPA studied the results of the sampling program to evaluate any possible human health and environmental risks. Based on this evaluation, the EPA is satisfied that the site poses no threat to human health and the environment. The Final Site Close Out Report, filed in May 1992, confirms the EPA's findings.

**Site Facts:** A history of complaints of odors and reports of leaks from the storage tanks on the site prompted the State and the EPA to investigate the site. In 1983, a Consent Agreement was reached with Salt Water Trust, the owners of the site. In accordance with the agreement, the site owners cleaned the south tank, and the EPA cleaned the central tank.

## Environmental Progress



The actions described above have eliminated the exposure to hazardous substances and removed the sources of contamination at the Plymouth Harbor/Cannon Engineering site. All cleanup activities have been completed and a Five-Year Review and Final Site Close Out Report were completed in 1992. The site was deleted from the NPL on November 19, 1993.

## Site Repository



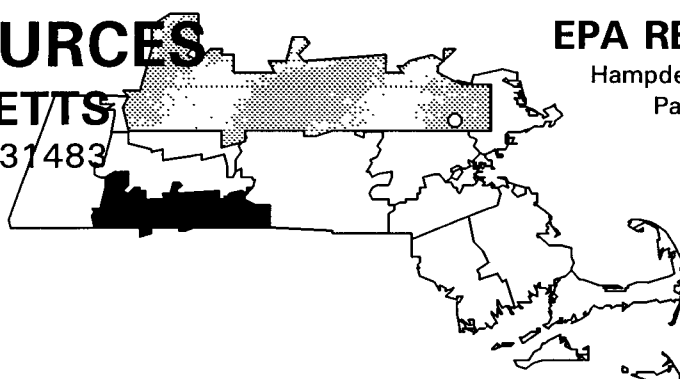
Plymouth Public Library, 132 South Street, Plymouth, MA 02360

# PSC RESOURCES MASSACHUSETTS

EPA ID# MAD980731483

## EPA REGION 1

Hampden County  
Palmer



### Site Description

The 3½-acre PSC Resources site operated in the 1970s as a waste oil refinery and solvent recovery plant. The facility reclaimed drained oils and solvents from Massachusetts collection points, treated them with heat, and sold them as lube oil base stock, road spray, and heavy fuel mixes. Millions of gallons of waste were left behind in tanks and lagoons when the current owner abandoned the plant in 1978. After a spill in 1982, the EPA discovered several leaking tanks and containment dikes, as well as saturated soils. Surface waters, wetlands, and groundwater are directly threatened by the waste. Approximately 4,500 people live within 3 miles of the site. The Quaboag River is located 200 feet southwest of the site and is used for swimming and fishing. The property is located near a residential and commercial district and is adjacent to the Town athletic field. The Palmer business district is located ¼ mile from the site.

**Site Responsibility:** This site is being addressed through Federal, State, and potentially responsible parties' actions.

#### NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

### Threats and Contaminants



Shallow groundwater contamination consists mostly of volatile organic compounds (VOCs) including benzene and methylene chloride. Polychlorinated biphenyls (PCBs), including Aroclor-1248 and Aroclor-1260, and lead have been found in soil samples. The surface water and oil in the dikes contain the heavy metals arsenic and lead, as well as benzene and PCBs. Oil in a rainwater catch basin contains PCBs and tetrachloroethylene. Contaminants have been detected in the soils and shallow groundwater in the nearby wetlands. The site is located in a 100-year flood plain, providing conditions for flooding to wash contaminants from the site into the Quaboag River. People may be exposed to contaminants by inhaling polluted air emanating from the site, coming in direct contact with or accidentally ingesting contaminated water or soil, or by eating contaminated fish.

## Cleanup Approach

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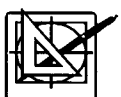
The site is being addressed in two stages: initial actions and a long-term remedial phase focusing on cleanup of the entire site.

### Response Action Status

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**Initial Actions:** The tanks were emptied of over 1 million gallons of hazardous wastes between 1979 and 1984. In 1986, the State Department of Environmental Protection (DEP) cleaned and removed the tanks. The DEP also fenced the site in 1986. The EPA completed the repair and reinforcement of the fence in the fall of 1991. The repair was necessary to limit unauthorized access and to extend the fence to include the debris pile and spill area on the western and southern sides of the site. Warning signs also were posted along the fence and on facility buildings.



**Entire Site:** The DEP has studied the nature and extent of the contamination at the site. The investigation defined the contaminants and recommended alternatives for the final cleanup. The study was completed in May 1991, and a proposed plan for cleanup was distributed for public comment. The remedy, selected in 1992, calls for the use of in-place stabilization of the on-site contaminated soils and sediments, followed by capping. The engineering design of the remedy began in late 1994 and is scheduled for completion in mid-1996.

**Site Facts:** In 1982, acting under authority of the Clean Water Act, the EPA asked the owner to contain the oil discharge, determine the contents of 22 tanks, and investigate the possibility of groundwater contamination. The owner complied with all requests. In 1994, the EPA, the Department of Justice, and the State Attorney General's Office announced a settlement with approximately 165 potentially responsible parties who have agreed to pay \$6 million to cover past costs and the cost of cleaning up the site.

## Environmental Progress



The removal of hazardous wastes and installation of a fence have reduced the potential of exposure to hazardous substances at the PSC Resources area while further cleanup activities are being designed.

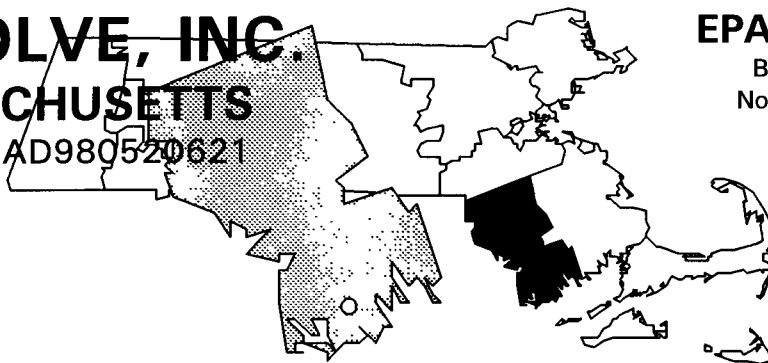
## Site Repository



Palmer Public Library, 455 North Main Street, Palmer, MA 01069

**RE-SOLVE, INC.**  
**MASSACHUSETTS**  
EPA ID# MAD980520621

**EPA REGION 1**  
Bristol County  
North Dartmouth



## Site Description

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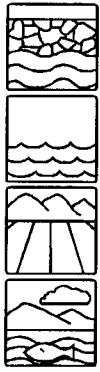
The Re-Solve, Inc. site is a former waste chemical reclamation facility situated on 6 acres of land. Between 1956 and 1980, Re-Solve handled a variety of hazardous materials, including solvents, waste oils, organic liquids and solids, acids, alkalines, inorganic liquids and solids, and polychlorinated biphenyls (PCBs). Residues from the distillation tower, liquid sludge waste, impure solvents, and burned tires were disposed of in four on-site unlined lagoons. The lagoon contents were burned periodically to reduce the volatile organic compounds (VOCs) content. An oil waste that accumulated at the bottom of the degreaser distillation still was disposed of on one portion of the site through landfarming. This oil waste also was spread throughout the site to control dust. Cooling water from the distillation tower was discharged to a shallow on-site lagoon. In 1974, the State issued Re-Solve a license to collect and dispose of hazardous waste. In 1980, the State agreed to accept Re-Solve's offer to surrender its disposal license on the condition that all hazardous waste be removed from the site. In 1981, legal action resulted in all drums, debris, and buildings being removed, but the contents of the four lagoons remained. Approximately 300 people live within a 1-mile radius of the site. Two residences are located within 150 yards of Re-Solve. The Re-Solve, Inc. site is bounded by wetlands, and the land surrounding the site is predominantly zoned for single family residential use. The bottoms of the lagoons are situated in the water table, and some contaminants have migrated to groundwater. All residences obtain their water from private wells located on their property.

**Site Responsibility:** This site is being addressed through Federal, Commonwealth, and potentially responsible parties' actions.

<p><b>NPL LISTING HISTORY</b> Proposed Date: 10/23/81 Final Date: 09/08/83</p>
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## Threats and Contaminants

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Groundwater is contaminated with VOCs, PCBs, and lead. Sediments are contaminated with PCBs and arsenic. Soil contains PCBs, arsenic, and VOCs including trichloroethylene (TCE), vinyl chloride, methylene chloride, and toluene. Surface water is contaminated with PCBs and VOCs. Fish from the river and ponds contain PCBs, zinc, and mercury. Trespassers may be at risk by coming into direct contact with or accidentally ingesting contaminated soil, sediments, groundwater, or surface water. Also, people who eat contaminated fish may be at risk. The Copicut River, located about 500 feet from the site, has been designated for the protection and propagation of fish, other aquatic life, and wildlife. The site is located over an aquifer that serves as a recharge area for part of a nearby town where a new municipal well is being planned. Contaminants are moving off site in surface water runoff and groundwater.

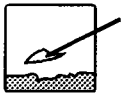
## Cleanup Approach

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This site is being addressed in four stages: an emergency action and three long-term remedial phases focusing on controlling the sources of contamination and cleanup of the entire site.

### Response Action Status

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**Emergency Action:** In 1985, the EPA removed sludges from the lagoons and excavated approximately 16,000 cubic yards of contaminated soil for off-site disposal in a federally approved landfill.

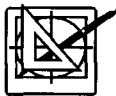


**Source Control:** To control the source of the contamination at the site, the EPA selected a remedy that included removing the contents of the four unlined lagoons, excavating soil from hot spots, and excavating soil from the former oil spreading area for disposal at an off-site approved facility. The entire site was capped to prevent contact with surface and groundwater. Approximately 16,000 cubic yards of soil was removed from the site. These remedies were completed in 1987. In addition, the site was fenced to limit access to the contaminated areas.





**Additional Source Control Measures:** The remedies selected by the EPA to prevent the additional migration of contaminants include excavating 22,500 cubic yards of PCB-contaminated soil located above the groundwater table; treating the soil on site by removing the contaminants using dechlorination, and then placing the soil back on site with 18 inches of gravel capping; excavating 3,000 cubic yards of PCB-contaminated sediments from wetland areas and treating them through dechlorination; conducting studies to determine if the dechlorination process can be used on a full-scale level; and restoring the wetlands. Also, emissions from the soil excavation and treatment will be monitored, and groundwater and surface water will be monitored quarterly to evaluate the effectiveness of the cleanup. The technical specifications and design for the cleanup were prepared by the parties potentially responsible for site contamination under EPA supervision. The pilot soil treatment plant began operations in 1992. As a result of the pilot studies, the EPA modified the soil/sediment treatment technology to low thermal desorption in place of dechlorination followed by off-site incineration of the desorbed contaminants. From mid-1993 to mid-1994, the parties potentially responsible for site contamination, successfully excavated and treated 36,000 cubic yards of PCB-contaminated soils and sediments, and approximately 75 cubic yards of desorbed contaminants were sent off site for incineration. In addition, approximately one acre of wetlands surrounding the source area were restored. The treated soil was backfilled, and the site graded and covered with 18 inches of crushed stone. Final activities are scheduled to be completed by late 1995.



**Entire Site:** Remedies selected to address contamination at the rest of the site include pumping the groundwater to keep the contaminant plume from moving; treating groundwater by exposing it to the air to evaporate the contaminants and using carbon filters to recapture the contaminants; discharging the treated water back into the aquifer; monitoring the groundwater, surface water, and wetlands; and restricting the future use of groundwater. A pilot test addressing the management of contaminant migration was completed in 1990. The design for the selected cleanup remedies is being performed by the potentially responsible parties and is scheduled to be completed in early 1996. Fish sampling will be performed at downgradient stations. Drinking water wells also will be monitored for traces of contamination. The clean up of PCB-contaminated sediments will require temporarily disrupting the wetlands. These effects are unavoidable; however, a wetlands restoration program will be implemented following completion of the cleanup activities. A plan for the wetlands restoration is currently being developed as part of the cleanup design phase.

**Site Facts:** A Consent Decree was signed in 1988 under which the parties potentially responsible for site contamination agreed to conduct the cleanup activities and to reimburse the government for past costs and future oversight costs.

## Environmental Progress



Removing the contamination sources such as soils and sludges from the site, along with restricting access to the site with a security fence, have reduced the health risks and environmental threats posed by the Re-Solve, Inc. site while final cleanup actions are being planned.

## Site Repository

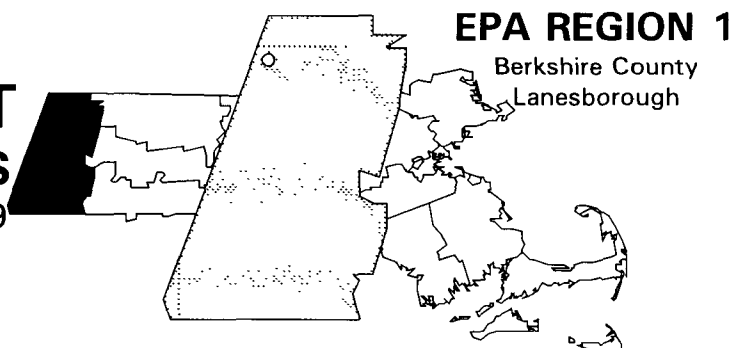


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Southworth Public Library, 732 Dartmouth Street, Dartmouth, MA 02748

# ROSE DISPOSAL PIT MASSACHUSETTS

EPA ID# MAD980524169



## Site Description

The Rose Disposal Pit site is a 1½-acre waste disposal area. The site occupies a section of a 14-acre residential lot bordering Balance Rock State Park, which is forest land, and the former Balance Rock Cafe; cropland and pastures also are nearby. Beginning in 1951 and continuing through 1959, waste oils and solvents from the General Electric (GE) Plant in nearby Pittsfield were disposed of in an open trench at the site. In 1980, the State Department of Environmental Quality Engineering inspected the site and found 15,000 cubic yards of soil contaminated with polychlorinated biphenyls (PCBs) and volatile organic compounds (VOCs). Two plumes of contaminated groundwater were discovered moving to the east and south away from the disposal area. Approximately 100 people live within a mile of the site and may be affected by the contaminated drinking water.

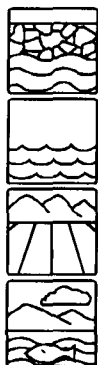
**Site Responsibility:** The site is being addressed through Federal and potentially responsible parties' actions.

### NPL LISTING HISTORY

Proposed Date: 10/15/84

Final Date: 06/10/86

## Threats and Contaminants



The groundwater is contaminated with PCBs and VOCs including trichloroethylene (TCE), benzene, and vinyl chloride. The contaminant plumes extend from the pit eastward into the park and to the south, and are carried off by a small unnamed stream. The sediments, soil, and surface water at the site and a nearby wetland were contaminated with PCBs and VOCs. VOCs, as well as vinyl chloride were found in downgradient drinking water wells.

## Cleanup Approach

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### Response Action Status

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**Initial Actions:** GE erected a storm fence and covered the site with plastic in 1984. GE then pumped out a pocket of contaminated oil found beneath the surface to prevent rain or snow from further spreading the contamination. An alternate permanent water supply also was provided to the restaurant and those residences affected by the contaminated plume.



**Source Control and Migration Management:** The selected remedy controls the source of contamination and manages the migration of contaminants. GE has performed all cleanup work. The remedy included excavation and on-site incineration of approximately 51,000 tons of contaminated soil and sediment. Soil in the disposal area was excavated below the water table. The intent of treating soils in the saturated zone was to remove PCBs from the source area. Migration of contaminants was controlled by active restoration of the shallow aquifer by air filtering the VOCs to a gas, and then using carbon adsorption to remove the airborne contaminants. Groundwater is being treated to reduce contaminants to levels that will meet drinking water standards. Sediments and surface water in the small pond located near the disposal area also were treated, and the pond was restored to its original wetlands character after cleanup. Incineration involved the use of an innovative form of on-site incineration that included an initial thermal extraction phase instead of chemical extraction to separate contaminants from the soil. Treatment of the VOCs rendered the PCBs relatively immobile in the saturated zone of the disposal area. Construction activities began in early 1993 and were completed in 1994. Groundwater will continue to be treated until drinking water standards are met.

**Site Facts:** In 1984, the EPA issued a joint enforcement order requiring GE to conduct removal activities at the site. In 1989, the EPA and GE signed a Consent Decree for the company to perform the cleanup and to reimburse the EPA for past and future oversight costs.

## Environmental Progress



The installation of a fence, the covering of the site, the provision of an alternate water supply, and treatment of contaminated soil, sediments and surface water have eliminated the potential of exposure to hazardous materials in these media. All construction activities have been completed at the Rose Disposal Pit site. Groundwater treatment will continue until drinking water standards are met.

## Site Repository



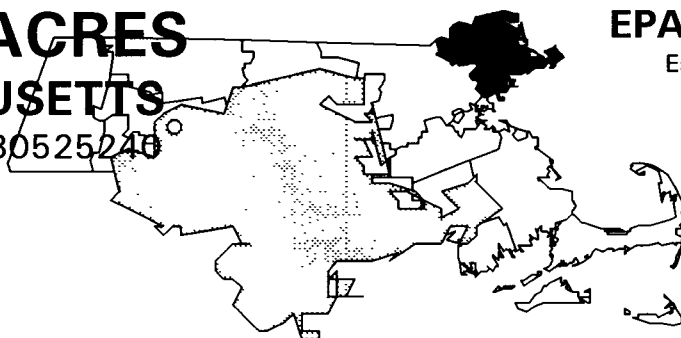
Lanesborough Public Library, Main Street, Lanesborough, MA 01970

# SALEM ACRES MASSACHUSETTS

EPA ID# MAD980525240

## EPA REGION 1

Essex County  
Salem



## Site Description

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From 1946 through 1969, 4 acres of the 235 Salem Acres site received sludge, grit, and grease from the South Essex Sewerage District through an agreement with the owners. This sludge contained tannery waste. The sludge was placed in eight unlined, uncovered disposal pits. Polychlorinated biphenyls (PCBs), volatile and semi-volatile organic compounds, arsenic, and chromium were found to be present in the pits. Residential housing borders the site on the south and the east. Approximately 65,000 people live within 1 mile, and 127,000 people live within 3 miles of the site. One of the disposal pits is located approximately 20 feet from Strongwater Brook. The site lies on the divide of two drainage basins that channel both surface water and groundwater directly into two major aquifers.

**Site Responsibility:** The site is being addressed through Federal and potentially responsible parties' actions.

### NPL LISTING HISTORY

Proposed Date: 10/15/84

Final Date: 06/10/86

## Threats and Contaminants

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The on-site soils and sludge are contaminated with PCBs, volatile and semi-volatile organic compounds, arsenic, and chromium. The sludge pit areas are now fenced, and access to them is restricted. Emergency capping of the pits in 1987 by the EPA has largely eliminated them as a current source of exposure. There is also a landfill and fly ash pile at the site. These remain uncapped and the potential contact or ingestion of these uncapped contaminants pose a health risk.

## Cleanup Approach

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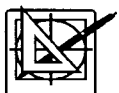
The site is being addressed in two stages: initial actions and a long-term remedial phase focusing on cleanup of the entire site.

## Response Action Status

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**Initial Actions:** In 1988, the EPA covered the sludge pits with a high density, polyethylene synthetic cap, removed the liquid wastes from the disposal pits to an off-site storage facility, and constructed concrete cut-off walls to prevent further releases into the wetlands. In 1990, repairs were made to a monitoring well and a security fence on site, and signs were posted to further restrict access.



**Entire Site:** The South Essex Sewerage District completed an investigation into the nature and extent of the soil and sludge contamination in early 1993. The investigation defined the contaminants of concern and recommended alternatives for final cleanup. The EPA selected a final remedy for the site, which includes sludge-fixation with fly ash and other substances such as cement and soil, as necessary. A contingent remedy includes the installation of an EPA-approved cap. After treatment, the sludges from the lagoons will be taken off site to a municipal landfill. The fly ash and "old landfill" on site also will be treated as necessary, excavated, and taken off site to a municipal landfill. The design of the cleanup remedies is underway by the potentially responsible parties, and is expected to be completed in 1996.

**Site Facts:** On May 26, 1987, the EPA signed a Consent Order with the South Essex Sewerage District to have the District perform the studies to examine the nature and extent of contamination and present technical options for cleanup. In December 1993, the EPA signed a Consent Decree with the South Essex Sewerage District to clean up the lagoons. The EPA also signed a separate Consent Decree with the Massachusetts Electric Company to clean up the fly ash pile on site. In October 1994, the EPA signed a Consent Order with Ugo DiBase, the remaining party, to clean up the landfill and three debris piles.

## Environmental Progress



The EPA has assessed conditions at the Salem Acres site and has determined that the initial capping and liquid waste removal actions, combined with the site security measures taken, have reduced the potential for exposure to contamination while final cleanup remedies are being designed.

## Site Repository



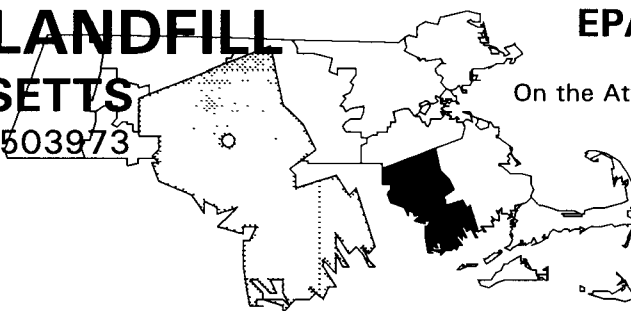
Salem Public Library, 370 Essex Street, Salem, MA 01970

# SHPACK LANDFILL MASSACHUSETTS

EPA ID# MAD980503973

## EPA REGION 1

Bristol County  
On the Attleboro/Norton town line



### Site Description

The Shpack Landfill covers 8 acres, 5 1/2 acres of which are within the Town of Norton, and the remaining 2 1/2 acres are in the City of Attleboro. The landfill was operated from 1946 until 1965, when a court order forced its closing. This landfill received domestic and industrial waste, including inorganic and organic chemicals, as well as radioactive waste. The area near the site includes a wooded swamp. Approximately 40,000 people live within a 3-mile radius of the site. Municipal water supplies for both townships do not extend to the area around the site. Therefore, residents in this area use private drinking water wells, most of which withdraw water from the bedrock aquifer. The distance from Shpack Landfill to the nearest residential well is about 150 feet. There are 27 private wells within a mile of the site that serve 103 people. The two municipal water supply well fields for Norton are situated in the shallow aquifer and are located 3 miles east and 5 1/4 miles northeast of the area. Municipal well fields for Attleboro also are completed in the shallow aquifer and are located 12,000 feet and 24,000 feet west of the study area. The Shpack Landfill directly borders the currently operating 50-acre Attleboro Landfill.

**Site Responsibility:** The site is being addressed through Federal and potentially responsible parties' actions.

#### NPL LISTING HISTORY

Proposed Date: 10/15/84

Final Date: 06/10/86

### Threats and Contaminants



The groundwater has been shown to contain volatile organic compounds (VOCs) including vinyl chloride and trichloroethylene (TCE), as well as heavy metals including chromium, barium, copper, nickel, manganese, arsenic, cadmium, and lead. Sediments on the edge of the swamp and soils contain radionuclides including radium and uranium. Surface water in the swampy area is contaminated with radium and alpha and beta particles, as well as organic compounds. The site is fenced to limit access. People who trespass on the site may be exposed to contamination by coming into direct contact with or accidentally ingesting contaminated groundwater, surface water, soil, or sediments. In addition, contaminants may have migrated off site by flooding of the swamp.

## Cleanup Approach

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The site is being addressed in a long-term remedial phase focusing on cleaning up the entire site.

## Response Action Status

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**Entire Site:** An investigation into the nature and extent of the contamination at the site was begun by the potentially responsible parties in 1990. Through sampling and characterization of soil, sediments, surface water, and groundwater, the investigation will define the contaminants of concern and will recommend alternatives for the final cleanup. The results of the first phase of study were released in 1993. The investigation is planned to be completed in 1996.

## Environmental Progress



Fencing the area has reduced the potential of exposure to hazardous substances on the Shpack Landfill site while the site investigations are taking place.

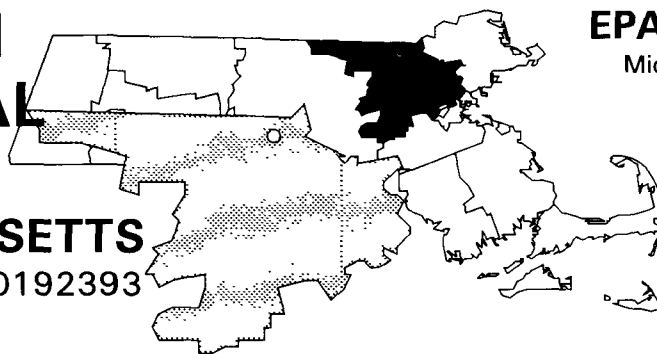
## Site Repository



Norton Conservation Commission, 70 East Main Street, Norton, MA 01237



**SILRESIM  
CHEMICAL  
CORP.  
MASSACHUSETTS**  
EPA ID# MAD000192393



**EPA REGION 1**  
Middlesex County  
Lowell

## Site Description

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The Silresim Chemical Corporation site covers approximately 5 acres in an industrial area. Starting in 1971, Silresim began reclaiming a variety of chemical wastes, waste oil, solvents, and sludges containing heavy metals. In 1977, Silresim declared bankruptcy and abandoned the site, leaving behind 30,000 decaying drums and several large storage tanks. The State began to clean up the site in 1978. The site is located a mile south of the central business district of Lowell and several hundred feet from the nearest residential area. Approximately 10,000 people live within 1 mile, and an estimated 24,000 people live within 3 miles of the site. Groundwater flows generally to the northwest towards Meadow Brook, which drains into the Concord and then the Merrimack River. The Merrimack River is the source of water for three neighboring cities.

**Site Responsibility:** This site is being addressed through Federal and potentially responsible parties' actions.

**NPL LISTING HISTORY**

Proposed Date: 07/01/82  
Final Date: 09/01/83

## Threats and Contaminants

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The groundwater is contaminated with volatile organic compounds (VOCs), semi-volatile organic compounds, pesticides, polychlorinated biphenyls (PCBs), and heavy metals. The soil is polluted with VOCs, semi-volatile organic compounds, pesticides, and PCBs. Low levels of dioxin also are present in the soil. Accidental ingestion or contact with contaminated soils and groundwater could pose a health risk to individuals.

## Cleanup Approach

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This site is being addressed in two stages: interim actions and a long-term remedial phase focusing on cleanup of the entire site.

## Response Action Status

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**Interim Actions:** Before the site was listed on the NPL, the State removed all chemical wastes in above-ground storage containers, fenced the site, and dismantled buildings. In 1983, the EPA monitored the air and sampled soils, and found contamination both on site and off site. In 1984, the EPA raised the height of the fence from 6 to 8 feet and covered highly contaminated areas with 9 inches of crushed gravel and a clay cap. In 1986, damage to the original fence was repaired. Subsequent sampling revealed an additional area of soil contamination that the EPA enclosed. In 1986, the EPA discovered dioxin; the fence was relocated to prevent public access, and a temporary gravel cover was laid over the dioxin-contaminated soil to prevent contact.



**Entire Site:** The potentially responsible parties and the EPA conducted investigations into the contamination and assessed the alternative technologies for cleanup. Activities included: groundwater, surface water and sediments sampling; monitoring; well installation; and sampling vents for air contamination. Surface soil testing and sampling beneath the clay cap and outside the fence determined the extent of soil contamination. These activities were completed in mid-1991, and remedies for final cleanup were selected by the EPA in late 1991. Soil will be treated by a vapor extraction system and through stabilization. Stabilized soil will be capped. The groundwater will be extracted and treated by air stripping. These cleanup activities are scheduled to last until late 1995. A pilot test of the soil vapor extraction system is scheduled for late 1995.

**Site Facts:** The EPA negotiated with a group of potentially responsible parties to conduct studies which determine the nature and extent of contamination and to develop alternative cleanup technologies. In the past, some residents and doctors of the community had attributed health effects to site contamination.

## Environmental Progress



Initial actions to fence the site and to cap or cover areas of contamination have reduced the potential for accidental exposure and the further migration of contamination from the Silresim Chemical site. These actions have eliminated the immediate threats posed by the site while cleanup activities are underway.

## Site Repository



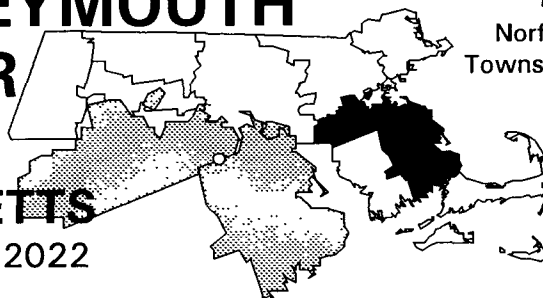
Pollard Memorial Library, 401 Merrimack Street, Lowell, MA 01850

# **SOUTH WEYMOUTH NAVAL AIR STATION MASSACHUSETTS**

EPA ID# MA2170022022

## **EPA REGION 1**

Norfolk and Plymouth Counties  
Towns of Weymouth, Abington and  
Rockland



## **Site Description**

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The South Weymouth Naval Air Station (SOWEY NAS), approximately 1,442 acres in size, is primarily located in Weymouth but extends into two other towns. The land surrounding the site is suburban, with a mixture of residential, industrial, and commercial uses. After acquiring the site in 1941, the U.S. Navy used it as a Lighter than Air facility for dirigible aircraft used to patrol the North Atlantic during World War II. The facility was closed at the end of the war, then reopened in 1953 as a Naval Air Station for aviation training. SOWEY NAS has been in use continuously since that time. The mission of SOWEY NAS is to train all assigned units for their mobilization assignment; to provide administrative coordination and logistic support to the Marine Air Reserve Training Detachment South Weymouth and to perform such other functions as directed by the Chief of Naval Operations and to administer the Naval Reserve Program as directed by the Chief of Naval Reserve. Currently, there are two active runways and approximately 200 buildings used for flight support operations. Activities performed at the site include aircraft maintenance, refueling, personnel training and housing, and administrative support services. In addition, the U.S. Coast Guard operates a buoy maintenance depot on the property through an agreement with the Navy. Air station-generated wastes were reportedly disposed of in three on-site landfills. The West Gate landfill operated from 1969 to 1972, and the Rubble Disposal area and the Small Landfill operated from 1972 until the mid-1980s. Flammable liquid wastes reportedly were burned in the on-site fire training area, and small amounts of waste battery acid, possibly containing lead, may have been disposed of in a tile leachfield. At the Coast Guard's buoy depot, lead-based paint from buoys was reportedly sandblasted from 1972 until 1986. Other potential source areas on site include 12 PCB transformers and a sewage treatment plant. Eighteen municipal drinking water wells, located within four miles of source areas at SOWEY NAS, provide drinking water to approximately 74,000 people. In addition, approximately 85 private drinking water wells located within four miles of SOWEY NAS draw from the same aquifer. Large tracts of wetlands occur throughout the surrounding towns. Just west of SOWEY NAS is a large wetland containing the Weymouth Great Pond, a source of municipal water for much of the area, including the air station.

**Site Responsibility:** The site is being addressed through Federal actions.

### **NPL LISTING HISTORY**

Proposed Date: 06/23/93

Final Date: 05/31/94

## Threats and Contaminants

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Soil samples, collected during the installation of monitoring wells, were found to be contaminated with volatile organic compounds (VOCs) and heavy metals.

Groundwater samples collected near the West Gate landfill, the Rubble Disposal area, the fire fighting training area, and the tile leachfield are contaminated primarily with heavy metals. There are recreational fisheries and wetlands along the Old Swamp River and French Stream/Indian Head River watersheds. Ingesting or coming into direct contact with the contaminants found in the soil or groundwater could be a public health risk.

## Cleanup Approach

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The site is being addressed in a long-term remedial phase focusing on cleanup of the entire site.

## Response Action Status

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**Initial Actions:** In 1986, two drums containing PCB-contaminated soil from a leaking transformer were removed to an off-site facility for disposal. An overflow of 5,000 gallons of jet fuel occurred in December 1986 and was cleaned up to meet the requirements of the Massachusetts Department of Environmental Protection. In 1992, during demolition of a secondary containment area at the former sewage treatment plant, several empty pesticide containers and two compressed gas cylinders (one was found to contain chlorine) were unearthed. The soil, cylinders, containers, and debris were excavated. In addition the chlorine cylinder was containerized and removed from the site.



**Entire Site:** The Navy completed the preliminary site assessment in 1988 and prepared a Draft Environmental Impact Statement in mid-1990. Studies of the nature and extent of site contamination and the most appropriate cleanup options are currently underway.

## Environmental Progress



The removal of hazardous materials from the SOWEY NAS site has reduced immediate threats to the public and the environment while site studies are underway.

## Site Repository



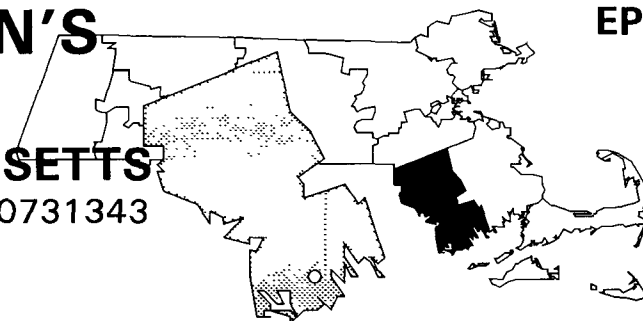
Not yet established.

# SULLIVAN'S LEDGE MASSACHUSETTS

EPA ID# MAD980731343

## EPA REGION 1

Bristol County  
New Bedford



### Site Description

The 12-acre Sullivan's Ledge disposal area, in the northwestern corner of New Bedford, operated as a quarry until about 1932. In 1935, the City of New Bedford acquired the site through tax title foreclosure. Between the 1940s and the 1970s, local industries used the quarry pits and adjacent areas for disposal of hazardous material and other wastes including electrical capacitors, fuel oil, volatile liquids, tires, scrap rubber, demolition materials, brush and trees. After a fire at the site in the 1970s, the City backfilled the only existing open pit and covered all exposed refuse. In 1982, when the Massachusetts Department of Public Works drilled test borings as part of a plan to build a commuter parking lot, electrical capacitors, which may have caused polychlorinated biphenyl (PCB) contamination, were unearthed. Approximately 98,500 people live within 3 miles of the site in this residential area. Within a mile of the site are two nursing homes and three schools. The New Bedford Municipal Golf Course is located immediately north of the site. An unnamed stream borders the site and discharges into Middle Marsh, which is on the golf course. Immediately north of the marsh lie railroad tracks, the Apponagansett Swamp, and the City of New Bedford municipal landfill.

**Site Responsibility:** The site is being addressed through Federal and potentially responsible parties' actions.

#### NPL LISTING HISTORY

Proposed Date: 09/08/83

Final Date: 09/21/84

### Threats and Contaminants



In 1982, the EPA detected PCBs in ambient air. Volatile organic compounds (VOCs) in the on-site and immediately off-site groundwater increase with depth. Inorganic compounds and PCBs also are present in the groundwater. The soil is contaminated with PCBs and polycyclic aromatic hydrocarbons (PAHs). The soils along the eastern and southern boundaries contain the highest contaminant concentrations. Soils have eroded from the site into the unnamed stream and have been transported from the site. Sediments in the unnamed stream, Middle Marsh, four golf course water hazards, and a portion of the Apponagansett Swamp are contaminated with PCBs. People may become exposed to the contaminated dusts stirred up at the site. At the busy golf course, people may be exposed to contaminants in soil and sediments, particularly from dry intermittent stream beds.

## Cleanup Approach

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The site is being cleaned up in three stages: an initial action and two long-term remedial phases focusing on cleanup of the Sullivan's Ledge Disposal Area and the Middle Marsh.

### Response Action Status

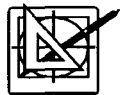
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**Initial Action:** The City of New Bedford erected a fence around the Sullivan's Ledge Landfill from 1984 to 1985 to limit the potential for exposure to hazardous materials at the site.



**Sullivan's Ledge Disposal Area:** The EPA has chosen the following remedies for cleaning up the disposal area portion of the site: establish security measures, connect the site to power lines, and furnish sanitary facilities; excavate, solidify, and dispose of soils on the site; excavate and dispose of sediments from the stream and the golf course water hazards; construct an impermeable cap over an 11-acre area to cover the quarry pits and contain the contaminated surface soils and sediments that would be solidified and placed on site; divert and line a portion of the unnamed stream to prevent water from being pulled into extraction wells; install an active pumping system to collect contaminated shallow bedrock groundwater, a passive collection system to collect contaminated seeps and shallow groundwater, and a treatment system to treat collected groundwater; restore and enhance the wetlands to reasonably similar hydrologic and botanical conditions that existed prior to excavation; monitor the site with 5-year reviews; and use institutional controls to ensure that the bedrock groundwater will not be used for drinking water since it cannot be cleaned to drinking water standards. The technical design of these selected remedies began in 1991, and is scheduled to be completed in late 1995.



**Middle Marsh:** In 1989, the EPA began a study of the contamination in the Middle Marsh sediments. In 1991, the EPA released results of the studies undertaken, which indicated significant PCB accumulation in wildlife in and around Middle Marsh.

While sediments in the Marsh also were found to be heavily contaminated with PCBs, the threat to human health was judged to be negligible. A decision on the appropriate cleanup remedy was reached in late 1991. The EPA chose the following remedy for Middle Marsh: establish security measures and clear the land; excavate contaminated sediments from portions of the Middle Marsh and the adjacent wetland; screen and dewater the excavated sediments; dispose of the excavated materials beneath the cap to be constructed at the Sullivan's Ledge Disposal Area; restore the affected wetlands; use institutional controls to prevent future residential use of and restrict access to the area; and establish a long-term environmental monitoring plan. In the event that the Sullivan's Ledge Disposal Area would be unavailable for disposal, the EPA also selected a contingency remedy which includes the same site preparation, excavation, wetlands restoration, institutional controls and long-term monitoring as the remedy described above; however, excavated sediments would be treated by solvent extraction and would be replaced within Middle Marsh. The technical design of these selected remedies began in 1993 and is expected to be completed in early 1996.

**Site Facts:** An agreement was reached with 14 parties potentially responsible for site contamination to pay for cleanup of the Sullivan's Ledge Disposal Area. A separate agreement was reached with 15 potentially responsible parties to pay for the Middle Marsh Area cleanup.

## Environmental Progress



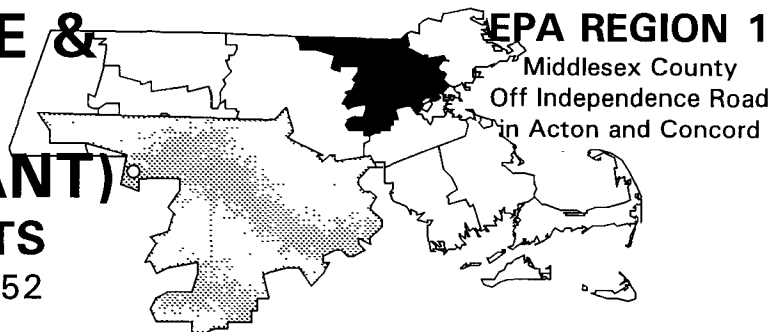
Fencing the area has limited the potential for exposure to hazardous materials at the Sullivan's Ledge Landfill while final cleanup actions are being designed.

## Site Repository



New Bedford City Hall, City Planning Department, 133 Williams Street, New Bedford, MA 02740

**W. R. GRACE &  
CO., INC.  
(ACTON PLANT)  
MASSACHUSETTS  
EPA ID# MAD001002252**



## Site Description

The W. R. Grace and Company site covers approximately 200 acres. The site was the former location of the American Cyanamid Company and the Dewey & Almy Chemical Company. These companies produced sealant products for rubber containers, latex products, plasticizers, resins, and other products. Operations at the W. R. Grace facility included the production of materials used to make concrete, container sealing compounds, latex products, and paper and plastic battery separators. Effluent wastes from these operations flowed into several unlined lagoons (the Primary Lagoon, Secondary Lagoon, North Lagoon, and Emergency Lagoon), and solid and hazardous wastes were buried in or placed onto an on-site industrial landfill and several other disposal areas. These other waste sites include the Battery Separator Lagoons, the Battery Separator Chip Pile, the Boil Lagoon, and the Tank Car Area. In addition, the by-products of some chemical processes were disposed of in the Blowdown Pit. Since 1973, residents in South Acton have filed complaints about periodic odors and irritants in the air around the W. R. Grace plant. Investigations in 1978 indicated that two municipal wells, Assabet #1 and #2, were contaminated. As a result of these findings, the Town took precautionary action and closed the two wells. Discharge to all lagoons and the Battery Separator Area ceased in 1980. The site is bounded in part by Fort Pond Brook and by the Assabet River.

**Site Responsibility:** This site is being addressed through Federal and potentially responsible parties' actions.

### NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

## Threats and Contaminants



Groundwater is contaminated with volatile organic compounds (VOCs) and heavy metals including lead, arsenic, chromium, and nickel. Sediments are contaminated with cadmium. The soil and sludge in the disposal areas are contaminated primarily with arsenic and VOCs, including vinyl chloride, ethyl benzene, benzene, 1,1-dichlorethylene, and bis(2-ethylhexyl)phthalate. Trespassers may be at risk by coming in direct contact with or accidentally ingesting contaminated groundwater, surface water, sediments, soil, or sludge.



## Cleanup Approach

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The site is being addressed in four stages: interim actions and three long-term remedial phases focusing on aquifer restoration, landfill and lagoon closure, and residual contamination.

### Response Action Status

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**Interim Actions:** The parties potentially responsible for site contamination removed tanks from the site in 1982 and 1983.



**Aquifer Restoration:** The potentially responsible parties have installed an aquifer restoration facility. It has been in operation since 1985 to stop the discharge of contaminated groundwater into the Assabet River, Fort Pond Brook, and various other ponds. Supplemental studies will be conducted in mid-1996 to evaluate the effectiveness of the aquifer restoration facility. If necessary, modifications will be made to upgrade the facility.



**Landfill and Lagoon Closure:** The EPA's recommended cleanup plan includes: excavating and transporting for off-site incineration the highly contaminated material from the Blowdown Pit; excavating and stabilizing the material in the Blowdown Pit, the Primary Lagoon, Secondary Lagoon, North Lagoon, and Emergency Lagoon by mixing it with cement, lime, and fly ash to form a solid; excavating the soils from the Battery Separator Lagoons, Boiler Lagoon, and Tank Car area; placing both the stabilized and non-stabilized materials excavated from the site in the existing industrial landfill and covering these materials with a cap to prevent surface water or rain water from coming into contact with the buried contaminants; closing the Chip Pile area; modifying the Aquifer Restoration System to address emission controls; and monitoring each area. The design for this remedy was conducted in phases and completed in 1993. Construction was initiated in 1994.



**Residual Contamination:** An investigation is scheduled to begin in 1996 to determine if any remaining contamination exists in the lagoons. If cleanup goals are not met through the first set of remedies, other methods will be evaluated to address the remaining contamination.

**Site Facts:** The company entered into a Consent Decree with the EPA in 1980 to conduct a study of the site and to carry out cleanup activities.

## Environmental Progress



Removing tanks and installing an aquifer restoration facility have reduced the potential for exposure to hazardous substances in groundwater and leaking tanks, making the W. R. Grace area safer while cleanup activities are underway.

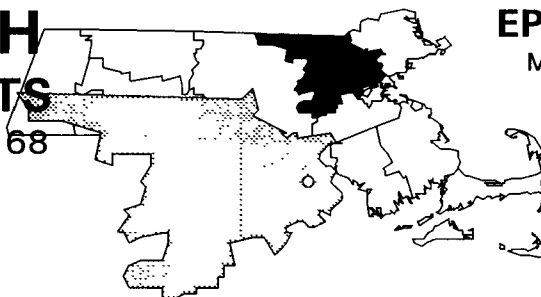
## Site Repository



Acton Public Library, 486 Main Street, Acton, MA 01720

# WELLS G & H MASSACHUSETTS

EPA ID# MAD980732168



**EPA REGION 1**  
Middlesex County  
City of Woburn

## Site Description

Wells G & H were two municipal wells developed in 1964 and 1967 to supplement the water supply of the City of Woburn. The site covers a total area of 330 acres. The wells supplied 30 percent of the city's drinking water. In 1979, city police discovered several 55-gallon drums of industrial waste abandoned on a vacant lot in the vicinity of the site; subsequently these drums were removed. As a result of this discovery, the nearby wells were tested and found to be contaminated. Both of the wells were shut down in 1979. Five separate properties on the site were found to be the contributing sources of contamination to the aquifer that supplied the water to these two municipal wells. The population of Woburn is approximately 36,600 people. The area surrounding the site is predominantly residential. Some non-residential properties are fenced to limit unauthorized access. The site includes commercial and industrial parks, as well as recreational areas and some residential gardens. The Aberjona River flows through the middle of the site. Surface water runoff from the site is directed through drainage systems toward the river and its tributaries.

**Site Responsibility:** The site is being addressed through Federal and potentially responsible parties' actions.

### NPL LISTING HISTORY

Proposed Date: 12/30/82  
Final Date: 09/08/83

## Threats and Contaminants



The groundwater is contaminated with volatile organic compounds (VOCs) including trichloroethylene (TCE) and tetrachloroethylene (PCE). Sediments in the Aberjona River are contaminated with polycyclic aromatic hydrocarbons (PAHs) and heavy metals such as chromium, zinc, mercury, and arsenic. Soil is contaminated with PAHs, polychlorinated biphenyls (PCBs), VOCs, and pesticides. Children use an undeveloped portion of Olympia Nominee Trust, located near the site, for riding dirt bikes. People are at risk if they accidentally touch or swallow contaminated groundwater, soil, or sediments in the Aberjona River. The site is located on land that serves as a recharge area for the aquifer from which the Woburn Municipal Wells G & H drew water.

## Cleanup Approach

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The site is being addressed in four stages: immediate actions and three long-term remedial phases focusing on source control and contaminant migration, and cleanup of the central aquifer and the Aberjona River.

## Response Action Status

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**Immediate Actions:** One of the parties potentially responsible for site contamination secured their own property with a fence and a guard. Drums containing PCB sludge and soil were removed to an approved facility. One of the potentially responsible parties was required to investigate and remove the pure PCE found in a well on their property.



**Source Control and Contaminant Migration:** The EPA's selected remedy includes excavating and incinerating 2,100 cubic yards of contaminated soils on site and backfilling the excavated areas; treating additional contaminated soil in place by extracting soil vapors for treatment with activated carbon; and pumping contaminated groundwater from the five source areas and removing the contaminants by using a stream of air that is forced through the water. Contaminants removed by the air stream will be further treated prior to being released into the atmosphere. The EPA negotiated with the potentially responsible parties to prepare the technical specifications and design for the cleanup. The potentially responsible parties have begun some and completed other pre-design activities at four of the five properties. Design work and construction of groundwater treatment systems at two of the four properties was completed in 1993. All remaining design work is expected to be completed in 1995. The two operating groundwater recovery and treatment systems recovered more than 25 million gallons of contaminated groundwater during their second year of operation. Excavation of contamination at one of the properties led to off-site disposal of 67 tons of hazardous sludge, 354 tons of non-hazardous sludge, 255 tons of debris soils, 45 drum carcasses, and 987 tons of mixed contaminant soils this year.



**Central Aquifer:** In 1993, three of the five parties potentially responsible for site contamination began a study to explore the nature and extent of contamination in the central aquifer area, which is beyond the various other source area property boundaries within the Wells G & H site. The study will evaluate a way to cleanup the contamination that has migrated from the source areas. Completion of the study is scheduled for 1997.



**Aberjona River Study:** The EPA is conducting an investigation into the risk to human health and the environment within the Aberjona River and the upper Mystic Lake. If risks are found, a more complete investigation of contamination and cleanup alternatives will be undertaken. The investigation is expected to be completed in 1997.

**Site Facts:** The EPA has signed a Consent Decree with three of the potentially responsible parties to conduct a study of contamination at the Central Aquifer area.

## Environmental Progress



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The removal of contaminated materials and the fencing of one portion of the Wells G & H site have reduced the potential for exposure to hazardous materials at the site while final cleanup activities are underway and are being planned.

## Site Repository



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Thompson Public Library, 45 Pleasant Street, Woburn, MA 01801