EPA/540/4-90/008
September 1990

NATIONAL PRIORITIES LIST SITES: Connecticut

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Emergency & Remedial Response
Office of Program Management
Washington, D.C. 20460

If you wish to purchase copies of any additional State volumes or the National Overview volume, ***Superfund: Focusing on the Nation at Large***, contact:

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INTRODUCTION: A BRIEF OVERVIEW

WHY THE SUPERFUND PROGRAM?

As the 1970s came to a close, a series of headline stories gave Americans a look at the dangers of dumping industrial and urban wastes on the land. First there was New York 's Love Canal. Hazardous waste buried there over a 25-year period contaminated streams and soil, and endangered the health of nearby residents. The result: evacuation of several hundred people. Then the leaking barrels at the Valley of the Drums in Kentucky attracted public attention, as did the dioxin tainted land and water in Times Beach, Missouri.

In all these cases, human health and the environment were threatened, lives were disrupted, property values depreciated. It became increasingly clear that there were large numbers of serious hazardous waste problems that were falling through the cracks of existing environmental laws. The magnitude of these emerging problems moved Congress to enact the Comprehensive Environmental Response, Compensation, and Liability Act in 1980. CERCLA — commonly known as the Superfund — was the first Federal law established to deal with the dangers posed by the Nation's hazardous waste sites.

After Discovery, the Problem Intensified

Few realized the size of the problem until EPA began the process of site discovery and site evaluation. Not hundreds, but thousands of potential hazardous waste sites existed, and they presented the Nation with some of the most complex pollution problems it had ever faced.

In the 10 years since the Superfund program began, hazardous waste has surfaced as a major environmental concern in every part of the United States. It wasn't just the land that was contaminated by past disposal practices. Chemicals in the soil were spreading into the groundwater (a source of drinking water for many) and into streams, lakes, bays, and wetlands. Toxic vapors contaminated the air at some sites, while at others improperly disposed or stored wastes threatened the health of the surrounding community and the environment.

EPA Identified More than 1,200 Serious Sites

EPA has identified 1,236 hazardous waste sites as the most serious in the Nation. These sites comprise the "National Priorities List": sites targeted for cleanup under the Superfund. But site discoveries continue, and EPA estimates that, while some will be deleted after lengthy cleanups, this list, commonly called the NPL, will continue to grow by approximately 100 sites per year, reaching 2,100 sites by the year 2000.

THE NATIONAL CLEANUP EFFORT IS MUCH MORE THAN THE NPL

From the beginning of the program, Congress recognized that the Federal government could not and should not address all environmental problems stemming from past disposal practices. Therefore, the EPA was directed to set priorities and establish a list of sites to target. Sites on the NPL (1,236) are thus a rela-

tively small subset of a larger inventory of potential hazardous waste sites, but they do comprise the most complex and environmentally compelling cases. EPA has logged more than 32,000 sites on its National hazardous waste inventory, and assesses each site within one year of being logged. In fact, over 90 percent of the sites on the inventory have been assessed. Of the assessed sites, 55 percent have been found to require no further Federal action because they did not pose significant human health or environmental risks. The remaining sites are undergoing further assessment to determine if long-term Federal cleanup activities are appropriate.

EPA IS MAKING PROGRESS ON SITE CLEANUP

The goal of the Superfund program is to tackle immediate dangers first, and then move through the progressive steps necessary to eliminate any long-term risks to public health and the environment.

The Superfund responds immediately to sites posing imminent threats to human health and the environment at both NPL sites and sites not on the NPL. The purpose is to stabilize, prevent, or temper the effects of a hazardous release, or the threat of one. These might include tire fires or transportation accidents involving the spill of hazardous chemicals. Because they reduce the threat a site poses to human health and the environment, immediate cleanup actions are an integral part of the Superfund program.

Immediate response to imminent threats is one of the Superfund 's most noted achievements. Where imminent threats to the public or environment were evident, EPA has completed or monitored emergency actions that attacked the most serious threats to toxic exposure in more than 1,800 cases.

The ultimate goal for a hazardous waste site on the NPL is a permanent solution to an environmental problem that presents a serious (but not an imminent) threat to the public or environment. This often requires a long-term effort. In the last four years, EPA has aggressively accelerated its efforts to perform these long-term cleanups of NPL sites. More cleanups were started in 1987, when the Superfund law was amended, than in any previous year. And in 1989 more sites than ever reached the construction stage of the Superfund cleanup process. Indeed construction starts increased by over 200 percent between late 1986 and 1989! Of the sites currently on the NPL, more than 500 — nearly half — have had construction cleanup activity. In addition, over 500 more sites are presently in the investigation stage to determine the extent of site contamination, and to identify appropriate cleanup remedies. Many other sites with cleanup remedies selected are poised for the start of cleanup construction activity. Measuring success by "progress through the cleanup pipeline," EPA is clearly gaining momentum.

EPA MAKES SURE CLEANUP WORKS

EPA has gained enough experience in cleanup construction to understand that environmental protection does not end when the remedy is in place. Many complex technologies — like those designed to clean up groundwater — must operate for many years in order to accomplish their objectives.

EPA 's hazardous waste site managers are committed to proper operation and maintenance of every remedy constructed. No matter who has been delegated responsibility for monitoring the cleanup work, the EPA will assure that the remedy is carefully followed and that it continues to do its job.

Likewise, EPA does not abandon a site even after the cleanup work is done. Every

five years the Agency reviews each site where residues from hazardous waste cleanup still remain to ensure that public and environmental health are still being safeguarded. EPA will correct any deficiencies discovered and report to the public annually on all five-year reviews conducted that year.

CITIZENS HELP SHAPE DECISIONS

Superfund activities also depend upon local citizen participation. EPA's job is to analyze the hazards and deploy the experts, but the Agency needs citizen input as it makes choices for affected communities.

Because the people in a community with a Superfund site will be those most directly affected by hazardous waste problems and cleanup processes, EPA encourages citizens to get involved in cleanup decisions. Public involvement and comment does influence EPA cleanup plans by providing valuable information about site conditions, community concerns and preferences.

This State volume and the companion National Overview volume provide general Superfund background information and descriptions of activities at each State NPL site. These volumes are intended to clearly describe what the problems are, what EPA and others participating in site cleanups are doing, and how we as a Nation can move ahead in solving these serious problems.

USING THE STATE AND NATIONAL VOLUMES IN TANDEM

To understand the big picture on hazardous waste cleanup, citizens need to hear about both environmental progress across the country and the cleanup accomplishments closer to home. The public should understand the challenges involved in hazardous waste cleanup and the decisions we must make — as a Nation — in finding the best solutions.

The National Overview volume — ***Superfund: Focusing on the Nation at Large*** — accompanies this State volume. The National Overview contains important information to help you understand the magnitude and challenges facing the Superfund program as well as an overview of the National cleanup effort. The sections describe the nature of the hazardous waste problem nationwide, threats and contaminants at NPL sites and their potential effects on human health and the environment, the Superfund program's successes in cleaning up the Nation's serious hazardous waste sites, and the vital roles of the various participants in the cleanup process.

This State volume compiles site summary fact sheets on each State site being cleaned up under the Superfund program. These sites represent the most serious hazardous waste problems in the Nation, and require the most complicated and costly site solutions yet encountered. Each State book gives a "snapshot" of the conditions and cleanup progress that has been made at each NPL site in the State through the first half of 1990. Conditions change as our cleanup efforts continue, so these site summaries will be updated periodically to include new information on progress being made.

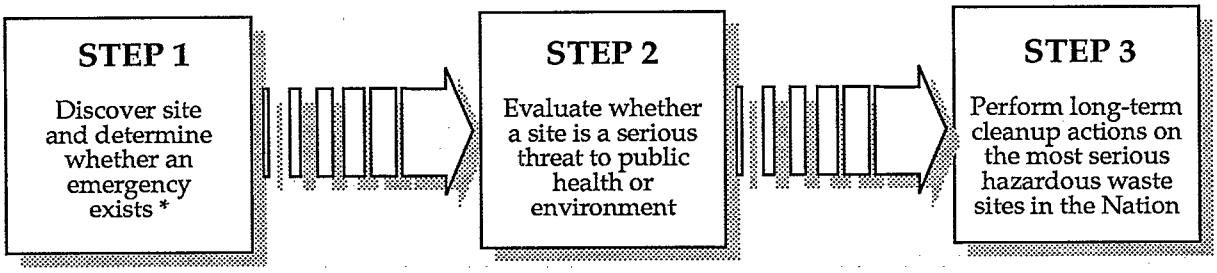
To help you understand the cleanup accomplishments made at these sites, this State volume includes a description of the process for site discovery, threat evaluation and long-term cleanup of Superfund sites. This description — ***How Does the Program Work to Clean Up Sites?*** — will serve as a good reference point from which to review the cleanup status at specific sites. A glossary also is included at the back of the book that defines key terms used in the site fact sheets as they apply to hazardous waste management.

SUPERFUND:

How Does the Program Work to Clean Up Sites?

The diverse problems posed by the Nation's hazardous waste sites have provided EPA with the challenge to establish a consistent approach for evaluating and cleaning up the Nation's most serious sites. To do this, EPA had to step beyond its traditional role as a regulatory agency to develop processes and guidelines for each step in these technically complex site cleanups. EPA has established procedures to coordinate the efforts of its Washington, D.C. Headquarters program offices and its front-line staff in 10 Regional Offices with the State governments, contractors, and private parties who are participating in site cleanup. An important part of the process is that any time during cleanup, work can be led by EPA or the State or, under their monitoring, by private parties who are potentially responsible for site contamination.

The process for discovery of the site, evaluation of threat, and long-term cleanup of Superfund sites is summarized in the following pages. The phases of each of these steps are highlighted within the description. The flow diagram below provides a summary of this three step process.



** Emergency actions are performed whenever needed in this three-step process*

FIGURE 1

Although this State book provides a current "snapshot" of site progress made only by emergency actions and long-term cleanup actions at Superfund sites, it is important to understand the discovery and evaluation process that leads up to identifying and cleaning up these most serious uncontrolled or abandoned hazardous waste sites in the Nation. This discovery and evaluation process is the starting point for this summary description.

STEP 1: SITE DISCOVERY AND EMERGENCY EVALUATION

How does EPA learn about potential hazardous waste sites?

Site discovery occurs in a number of ways. Information comes from concerned citizens — people may notice an odd taste or foul odor in their drinking water, or see half-buried leaking barrels; a hunter may come across a field where waste was dumped illegally. Or there may be an explosion or fire which alerts the State or local authorities to a problem. Routine investigations by State and local governments, and required reporting and inspection of facilities that generate, treat, store, or dispose of hazardous waste also help keep EPA informed about either actual or potential threats of hazardous substance releases. All reported sites or spills are recorded in the Superfund inventory (CERCLIS) for further investigation to determine whether they will require cleanup.

What happens if there is an imminent danger?

As soon as a potential hazardous waste site is reported, EPA determines whether there is an emergency requiring an immediate cleanup action. If there is, they act as quickly as possible to remove or stabilize the imminent threat. These short-term **emergency actions** range from building a fence around the contaminated area to keep people away or temporarily relocating residents until the danger is addressed, to providing bottled water to residents while their local drinking water supply is being cleaned up, or physically removing wastes for safe disposal.

However, emergency actions can happen at any time an imminent threat or emergency warrants them — for example, if leaking barrels are found when cleanup crews start digging in the ground or if samples of contaminated soils or air show that there may be a threat of fire or explosion, an immediate action is taken.

STEP 2: SITE THREAT EVALUATION

If there isn't an imminent danger, how does EPA determine what, if any, cleanup actions should be taken?

Even after any imminent dangers are taken care of, in most cases contamination may remain at the site. For example, residents may have been supplied with bottled water to take care of their immediate problem of contaminated well water. But now it's time to figure out what is contaminating the drinking water supply and the best way to clean it up. Or

EPA may determine that there is no imminent danger from a site, so now any long-term threats need to be evaluated. In either case, a more comprehensive investigation is needed to determine if a site poses a serious but not imminent danger, and requires a long-term cleanup action.

Once a site is discovered and any needed emergency actions are taken, EPA or the State collects all available background information not only from their own files, but also from local records and U.S. Geological Survey maps. This information is used to identify the site and to perform a **preliminary assessment** of its potential hazards. This is a quick review of readily available information to answer the questions:

- Are hazardous substances likely to be present?
- How are they contained?
- How might contaminants spread?
- How close is the nearest well, home, or natural resource area like a wetland or animal sanctuary?
- What may be harmed — the land, water, air, people, plants, or animals?

Some sites do not require further action because the preliminary assessment shows that they don't threaten public health or the environment. But even in these cases, the sites remain listed in the Superfund inventory for record keeping purposes and future reference. Currently, there are more than 32,000 sites maintained in this inventory.

If the preliminary assessment shows that a serious threat *may* exist, what's the next step?

Inspectors go to the site to collect additional information to evaluate its hazard potential. During this **site inspection**, they look for evidence of hazardous waste, such as leaking drums and dead or discolored vegetation. They may take some samples of soil, well water, river water, and air. Inspectors analyze the ways hazardous materials could be polluting the environment — such as runoff into nearby streams. They also check to see if people (especially children) have access to the site.

How does EPA use the results of the site inspection?

Information collected during the site inspection is used to identify the sites posing the most serious threats to human health and the environment. This way EPA can meet the

requirement that Congress gave them to use Superfund monies only on the worst hazardous waste sites in the Nation.

To identify the most serious sites, EPA developed the Hazard Ranking System (HRS). The HRS is the scoring system EPA uses to assess the relative threat from a release or a potential release of hazardous substances from a site to surrounding groundwater, surface water, air, and soil. A site score is based on the likelihood a hazardous substance will be released from the site, the toxicity and amount of hazardous substances at the site, and the people and sensitive environments potentially affected by contamination at the site.

Only sites with high enough health and environmental risk scores are proposed to be added to EPA's **National Priorities List (NPL)**. That's why there are 1,236 sites are on the NPL, but there are more than 32,000 sites in the Superfund inventory. Only NPL sites can have a long-term cleanup paid for from the national hazardous waste trust fund — the Superfund. But the Superfund can and does pay for emergency actions performed at any site, whether *or not it's on the NPL.*

How do people find out whether EPA considers a site a national priority for cleanup using Superfund money?

The public can find out whether a site that concerns them is on the NPL by calling their Regional EPA office at the number listed in this book.

The proposed NPL identifies sites that have been evaluated through the scoring process as the most serious problems among uncontrolled or abandoned hazardous waste sites in the U.S. In addition, a site will be added to the NPL if the Agency for Toxic Substances and Disease Registry issues a health advisory recommending that people be moved away from the site. Updated at least once a year, it's only after public comments are considered that these proposed worst sites are officially added to the NPL.

Listing on the NPL does not set the order in which sites will be cleaned up. The order is influenced by the relative priority of the site's health and environmental threats compared to other sites, and such factors as State priorities, engineering capabilities, and available technologies. Many States also have their own list of sites that require cleanup; these often contain sites not on the NPL that are scheduled to be cleaned up with State money. And it should be said again that any emergency action needed at a site can be performed by the Superfund whether or not a site is on the NPL.

STEP 3: LONG-TERM CLEANUP ACTIONS

After a site is added to the NPL, what are the steps to cleanup?

The ultimate goal for a hazardous waste site on the NPL is a permanent, long-term cleanup. Since every site presents a unique set of challenges, there is no single all-purpose solution. So a five-phase "remedial response" process is used to develop consistent and workable solutions to hazardous waste problems across the Nation:

1. Investigate in detail the extent of the site contamination: **remedial investigation,**
2. Study the range of possible cleanup remedies: **feasibility study,**
3. Decide which remedy to use: **Record of Decision or ROD,**
4. Plan the remedy: **remedial design,** and
5. Carry out the remedy: **remedial action.**

This remedial response process is a long-term effort to provide a permanent solution to an environmental problem that presents a serious, but not an imminent threat to the public or environment.

The first two phases of a long-term cleanup are a combined **remedial investigation and feasibility study** (RI/FS) that determine the nature and extent of contamination at the site, and identify and evaluate cleanup alternatives. These studies may be conducted by EPA or the State or, under their monitoring, by private parties.

Like the initial site inspection described earlier, a remedial investigation involves an examination of site data in order to better define the problem. But the remedial investigation is much more detailed and comprehensive than the initial site inspection.

A remedial investigation can best be described as a carefully designed field study. It includes extensive sampling and laboratory analyses to generate more precise data on the types and quantities of wastes present at the site, the type of soil and water drainage patterns, and specific human health and environmental risks. The result is information that allows EPA to select the cleanup strategy that is best suited to a particular site or to determine that no cleanup is needed.

Placing a site on the NPL does not necessarily mean that cleanup is needed. It is possible for a site to receive an HRS score high enough to be added to the NPL, but not ultimately require cleanup actions. Keep in mind that the purpose of the scoring process is to provide a preliminary and conservative assessment of *potential* risk. During subsequent site investigations, the EPA may find either that there is no real threat or that the site does not pose significant human health or environmental risks.

How are cleanup alternatives identified and evaluated?

EPA or the State or, under their monitoring, private parties identify and analyze specific site cleanup needs based on the extensive information collected during the remedial investigation. This analysis of cleanup alternatives is called a **feasibility study.**

Since cleanup actions must be tailored exactly to the needs of each individual site, more than one possible cleanup alternative is always considered. After making sure that all potential cleanup remedies fully protect human health and the environment and comply with Federal and State laws, the advantages and disadvantages of each cleanup alternative are carefully compared. These comparisons are made to determine their effectiveness in the short- and long-term, their use of permanent treatment solutions, and their technical feasibility and cost.

To the maximum extent practicable, the remedy must be a permanent solution and use treatment technologies to destroy principal site contaminants. But remedies such as containing the waste on site or removing the source of the problem (like leaking barrels) are often considered effective. Often special pilot studies are conducted to determine the effectiveness and feasibility of using a particular technology to clean up a site. Therefore, the combined remedial investigation and feasibility study can take between 10 and 30 months to complete, depending on the size and complexity of the problem.

Does the public have a say in the final cleanup decision?

Yes. The Superfund law requires that the public be given the opportunity to comment on the proposed cleanup plan. Their concerns are carefully considered before a final decision is made.

The results of the remedial investigation and feasibility study, which also point out the recommended cleanup choice, are published in a report for public review and comment. EPA or the State encourages the public to review the information and take an active role in the final cleanup decision. Fact sheets and announcements in local papers let the community know where they can get copies of the study and other reference documents concerning the site.

The public has a minimum of 30 days to comment on the proposed cleanup plan after it is published. These comments can either be written or given verbally at public meetings that EPA or the State are required to hold. Neither EPA nor the State can select the final cleanup remedy without evaluating and providing written answers to specific community comments and concerns. This "responsiveness summary" is part of EPA's write-up of the final remedy decision, called the Record of Decision or ROD.

The ROD is a public document that explains the cleanup remedy chosen and the reason it was selected. Since sites frequently are large and must be cleaned up in stages, a ROD may be necessary for each contaminated resource or area of the site. This may be necessary when contaminants have spread into the soil, water and air, and affect such sensitive areas as wetlands, or when the site is large and cleaned up in stages. This often means that a number of remedies using different cleanup technologies are needed to clean up a single site.

If every cleanup action needs to be tailored to a site, does the design of the remedy need to be tailored too?

Yes. Before a specific cleanup action is carried out, it must be designed in detail to meet specific site needs. This stage of the cleanup is called the **remedial design**. The design phase provides the details on how the selected remedy will be engineered and constructed.

Projects to clean up a hazardous waste site may appear to be like any other major construction project but, in fact, the likely presence of combinations of dangerous chemicals demands special construction planning and procedures. Therefore, the design of the remedy can take anywhere from 6 months to 2 years to complete. This blueprint for site cleanup includes not only the details on every aspect of the construction work, but a description of the types of hazardous wastes expected at the

site, special plans for environmental protection, worker safety, regulatory compliance, and equipment decontamination.

Once the design is complete, how long does it take to actually clean up the site and how much does it cost?

The time and cost for performing the site cleanup — called the **remedial action** — are as varied as the remedies themselves. In a few cases, the only action needed may be to remove drums of hazardous waste and decontaminate them — an action that takes limited time and money. In most cases, however, a remedial action may involve different and expensive measures that can take a long time.

For example, cleaning polluted groundwater or dredging contaminated river bottoms can take several years of complex engineering work before contamination is reduced to safe levels. Sometimes the selected cleanup remedy described in the ROD may need to be modified because of new contaminant information discovered or difficulties that were faced during the early cleanup activities. Taking into account these differences, a remedial cleanup action takes an average of 18 months to complete and costs an average of $26 million per site.

Once the cleanup action is complete, is the site automatically "deleted" from the NPL?

No. The deletion of a site from the NPL is anything but automatic. For example, cleanup of contaminated groundwater may take up to 20 years or longer. Also, in some cases the **long-term monitoring** of the remedy is required to ensure that it is effective. After construction of certain remedies, operation and maintenance (e.g., maintenance of ground cover, groundwater monitoring, etc.) or continued pumping and treating of groundwater, may be required to ensure that the remedy continues to prevent future health hazards or environmental damage, and ultimately meets the cleanup goals specified in the ROD. Sites in this final monitoring or operational stage of the cleanup process are designated as "construction completed".

It's not until a site cleanup meets all the goals and monitoring requirements of the selected remedy that EPA can officially propose the site for "**deletion**" from the NPL. And it's not until public comments are taken into consideration that a site can actually be deleted from the NPL. Deletions that have occurred are included in the "Construction Complete" category in the progress report found later in this book.

Can EPA make parties responsible for the contamination pay?

Yes. Based on the belief that "the polluters should pay," after a site is placed on the NPL, the EPA makes a thorough effort to identify and find those responsible for causing contamination problems at a site. Although EPA is willing to negotiate with these private parties and encourages voluntary cleanup, it has the authority under the Superfund law to legally force those potentially responsible for site hazards to take specific cleanup actions. All work performed by these parties is closely guided and monitored by EPA, and must meet the same standards required for actions financed through the Superfund.

Because these enforcement actions can be lengthy, EPA may decide to use Superfund monies to make sure a site is cleaned up without unnecessary delay. For example, if a site presents an imminent threat to public health and the environment, or if conditions at a site may worsen, it could be necessary to start the cleanup right away. Those responsible for causing site contamination are liable under the law for repaying the money EPA spends in cleaning up the site.

Whenever possible, EPA and the Department of Justice use their legal enforcement authorities to require responsible parties to pay for site cleanups, thereby preserving the Superfund for emergency actions and sites where no responsible parties can be identified.

HOW TO:

USING THE STATE VOLUME

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 National Priorities List (NPL) and their locations, as well as the conditions leading to their listing ("Site Description"). They 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 on 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 following two pages show a generic fact sheet and briefly describes the information under each section. The square "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.

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.)

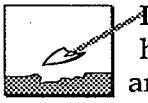
Contaminated **Surface Water and Sediments** on or near the site. (These include lakes, ponds, streams, and rivers.)

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

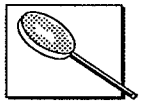
Contaminated **Soil and Sludges** on or near the site.

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

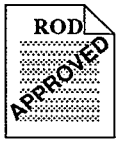
Icons in the *Response Action Status* Section



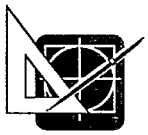
Initial Actions have been taken or are underway to eliminate immediate threats at the site.



Site Studies at the site are planned or underway.



Remedy Selected indicates that site investigations have been concluded and 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 — are currently underway.

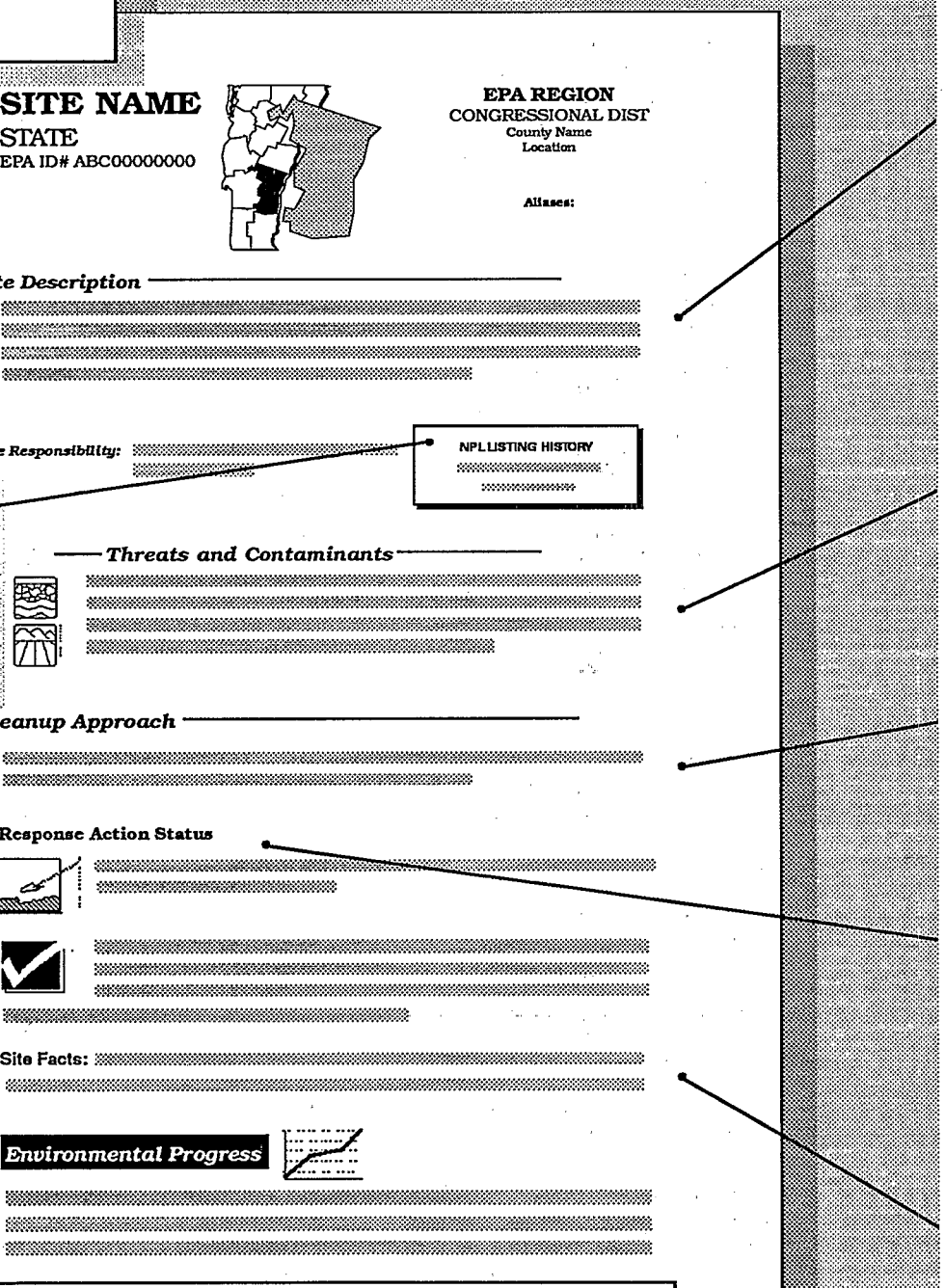
Cleanup Complete shows that all cleanup goals have been achieved for the contaminated site or part of the site.

Site Responsibility

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

NPL Listing History

Dates when the site was Proposed, made Final, and Deleted from the NPL



Environmental Progress

A summary of the actions to reduce the threats to nearby residents and the surrounding environment; progress towards cleaning up the site and goals of the cleanup plan are given here.

WHAT THE FACT SHEETS CONTAIN

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. Throughout the site description and other sections of the site summary, technical or unfamiliar terms that are *italicized* are presented in the glossary at the end of the book. Please refer to the glossary for more detailed explanation or definition of the terms.

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 are also described. Specific contaminants and contaminant groupings are italicized and explained in more detail in the glossary.

Cleanup Approach

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

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 are often 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.

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 EPA to achieve site cleanup or other facts pertaining to community involvement with the site cleanup process are reported here.

How To

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 EPA will periodically update the Site Fact Sheets to reflect recent actions and publish updated State volumes.

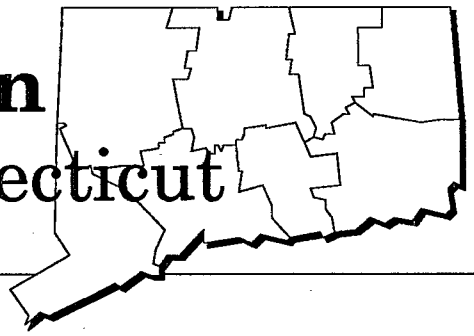
HOW CAN *YOU* USE THIS STATE BOOK?

You can use this book to keep informed about the sites that concern you, particularly ones close to home. EPA is committed to involving the public in the decisionmaking 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 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 to know what the community can realistically expect once the cleanup is complete.

EPA wants to develop cleanup methods that meet community needs, but the Agency can only 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.

NPL Sites in State of Connecticut



Connecticut is the second smallest state in the nation, covering 5,018 square miles. The State topography consists of western upland in the northwest part of the state, narrow central lowland in the north and south, and hilly eastern upland drained by rivers. Connecticut experienced a 4.0 percent increase in population through the 1980s and currently has approximately 3,233,000 residents, ranking 28th in U.S. State populations. Principal State industries include manufacturing, retail, government, and services. Connecticut produces livestock, aircraft engines and parts, submarines, copper, helicopters, and electrical equipment.

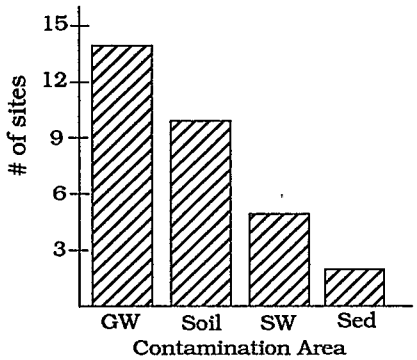
How Many Connecticut Sites Are on the NPL?

Proposed	1
Final	13
Deleted	0
	14

Where Are the NPL Sites Located?

Cong. District 01	1 site
Cong. District 02	6 sites
Cong. District 04	1 site
Cong. District 05	3 sites
Cong. District 06	3 sites

How are Sites Contaminated and What are the Principal* Chemicals ?



Groundwater: Volatile organic compounds (VOCs), and heavy metals (inorganics).

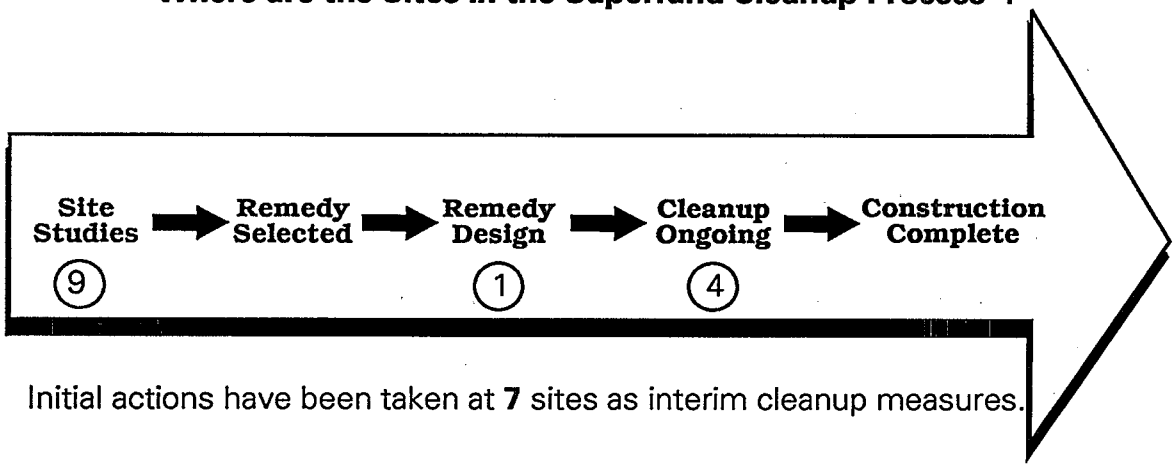
Soil: Volatile organic compounds (VOCs), heavy metals (inorganics), polychlorinated biphenyls (PCBs), and creosote (organics).

Surface Water and Sediments: Volatile organic compounds (VOCs), and heavy metals (inorganics).

*Appear at 20% or more sites

continued

Where are the Sites in the Superfund Cleanup Process*?



Initial actions have been taken at **7** sites as interim cleanup measures.

Who Do I Call with Questions?

The following pages describe each NPL site in Connecticut, providing specific information on threats and contaminants, cleanup activities, and environmental progress. Should you have questions, please call one of the offices listed below:

Connecticut Superfund Office	(203) 566-4633
EPA Region I Superfund Office	(617) 573-9645
EPA Public Information Office	(202) 477-7751
EPA Superfund Hotline	(800) 424-9346
EPA Region I Superfund Public Relations Office	(617) 565-3417

*Cleanup status reflects phase of site activities rather than administrative accomplishments.

The NPL Progress Report

The following Progress Report lists the State sites currently on or deleted from the NPL, and briefly summarizes the status of activities for each site at the time this report was prepared. The steps in the Superfund cleanup process are arrayed across the top of the chart, and each site's progress through these steps is represented by an arrow (➡) which indicates the current stage of cleanup at the site.

Large and complex sites are often organized into several cleanup stages. For example, separate cleanup efforts may be required to address the source of the contamination, hazardous substances in the groundwater, and surface water pollution, or to clean up different areas of a large site. In such cases, the chart portrays cleanup progress at the site's *most advanced stage,* reflecting the status of site activities rather than administrative accomplishments.

- ➡ An arrow in the "Initial Response" category indicates that an emergency cleanup or initial action has been completed or is currently underway. Emergency or initial actions are taken as an interim measure to provide immediete relief from exposure to hazardous site conditions or to stabilize a site to prevent further contamination.
- ➡ An arrow in the "Site Studies" category indicates that an investigation to determine the nature and extent of the contamination at the site is currently ongoing or planned to begin in 1991.
- ➡ An arrow in the "Remedy Selection" category means that the EPA has selected the final cleanup strategy for the site. At the few sites where the EPA has determined that initial response actions have eliminated site contamination, or that any remaining contamination will be naturally dispersed without further cleanup activities, a "No Action" remedy is selected. In these cases, the arrows in the Progress Report are discontinued at the "Remedy Selection" step and resume in the final "Construction Complete" category.
- ➡ An arrow at the "Remedial Design" stage indicates that engineers are currently designing the technical specifications for the selected cleanup remedies and technologies.
- ➡ An arrow marking the "Cleanup Ongoing" category means that final cleanup actions have been started at the site and are currently underway.
- ➡ A arrow in the "Construction Complete" category is used *only* when *all phases* of the site cleanup plan have been performed and the EPA has determined that no additional construction actions are required at the site. Some sites in this category may currently be undergoing long-term pumping and treating of groundwater, operation and maintenance or monitoring to ensure that the completed cleanup actions continue to protect human health and the environment.

The sites are listed in alphabetical order. Further information on the activities and progress at each site is given in the site "Fact Sheets" published in this volume.

Progress Toward Cleanup at NPL Sites in the State of Connecticut

Page	Site Name	County	NPL	Date	Initial Response	Site Studies	Remedy Selected	Remedy Design	Cleanup Ongoing	Construction Complete
1	BARKHAMSTED-NEW HARTFORD LNDF	LITCHFIELD	Final	10/04/89		➡				
3	BEACON HEIGHTS LANDFILL	NEW HAVEN	Final	09/08/83		➡	➡	➡	➡	
5	CHESHIRE GW CONTAMINATION	NEW HAVEN	Prop	06/21/88	➡	➡				
7	DURHAM MEADOWS	MIDDLESEX	Final	10/04/89	➡	➡				
9	GALLUP'S QUARRY	WINDHAM	Final	10/04/89	➡	➡				
11	KELLOGG-DEERING WELL FIELD	FAIRFIELD	Final	09/01/84		➡	➡	➡	➡	
13	LAUREL PARK, INC.	NEW HAVEN	Final	09/08/83	➡	➡	➡	➡	➡	
15	LINEMASTER SWITCH CORPORATION	WINDHAM	Final	02/21/90	➡	➡				
17	NUTMEG VALLEY ROAD	NEW HAVEN	Final	03/31/89	➡	➡				
19	OLD SOUTHINGTON LANDFILL	HARTFORD	Final	09/21/84		➡				
21	PRECISION PLATING	TOLLAND	Final	10/04/89	➡	➡				
23	REVERE TEXTILE PRINTS CORPORATION	WINDHAM	Final	07/01/87		➡				
25	SOLVENTS RECOVERY SERVICE OF NE	HARTFORD	Final	09/08/83		➡	➡	➡	➡	
27	YAWORSKI WASTE LAGOON	WINDHAM	Final	09/08/83		➡	➡	➡		

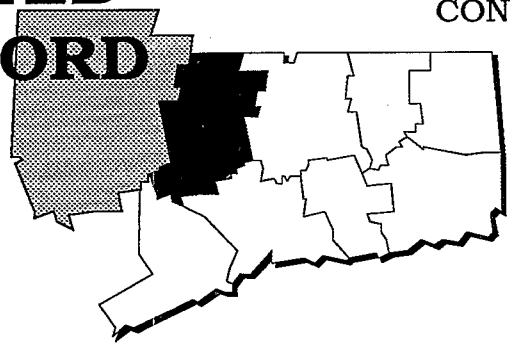
NPL:

Site Fact Sheets

BARKHAMSTED-NEW HARTFORD LANDFILL

CONNECTICUT

EPA ID# CTD980732333



REGION 1

CONGRESSIONAL DIST. 06

Litchfield County

Barkhamsted

Site Description

The Barkhamsted-New Hartford Landfill encompasses 98 acres near the Barkhamsted and New Hartford town line. Since 1974, it has been owned and operated by the Regional Refuse Disposal District One. The *landfill* is unlined and accepts municipal and industrial wastes, including oily metal grindings and *sludge* containing heavy metals. A barrel-crushing operation also is on site to reclaim metals. In 1983, leaking drums containing hazardous solvents were observed on site during a State inspection. Tests indicate *volatile organic compounds* (VOCs) were present in shallow and deep wells on site. An unnamed brook borders the site to the southwest and north and flows through a *wetland* to the Farmington River. The surrounding area is rural and residential. Many private wells and a municipal supply well serving an estimated 4,800 people are within 3 miles of the site.

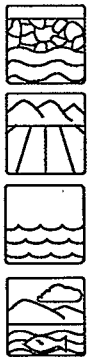
Site Responsibility: The site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 06/21/88

Final Date: 10/04/89

Threats and Contaminants



The groundwater underlying the site is contaminated with VOCs including xylene, toluene, and vinyl chloride, which are present in shallow and deep wells on site. The site is not completely fenced, making it possible for people and animals to come into contact with hazardous substances. Potential human health threats include drinking or coming in direct contact with the groundwater or contaminated soils, the surface water, or *sediment* from the brook and beaver pond.

Cleanup Approach

The site is being addressed in a single *long-term remedial phase* aimed at cleanup of the entire site.

Response Action Status

Entire Site: The Farmington Valley Health District shut down the on-site well serving the landfill office due to VOC contamination. An investigation into the nature and extent of site contamination is planned to begin in 1991.

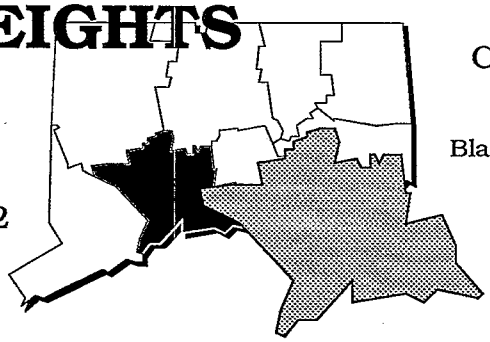
Environmental Progress

The EPA has studied the conditions at the Barkhamsted-New Hartford Landfill site and has determined, as the contaminated water source has been removed from service, that no other immediate actions are required to make it safer while waiting for cleanup actions to begin.

BEACON HEIGHTS LANDFILL

CONNECTICUT

EPA ID# CTD072122062



REGION 1

CONGRESSIONAL DIST. 05

New Haven County

Southeast of the intersection of Blackberry Hill Road and Skokorat Road

Alias:
Betkoski's Dump

Site Description

The Beacon Heights Landfill site covers 30 acres on an 83-acre property. Between 1920 and 1979, the *landfill* was used for the disposal of industrial and municipal waste, including oils, chemical liquids, *sludges*, solvents, rubber, and plastics. Landfill operations included open burning along with burial of noncombustibles. During an investigation conducted by the EPA in 1984, benzene and several other solvents were detected in two private wells on Skokorat Road at levels that exceed drinking water standards set by the State of Connecticut. Hockanum Brook, located 1/2 mile northwest of the landfill, flows into the Naugatuck River 2 miles northwest of the site. Approximately 44 homes are within 1/2 mile of the site along Skokorat and Blackberry Hill Road. The nearest residences are approximately 1,000 feet to the north and west of the site. Eight hundred people live within 1 mile of the site. Local residences used groundwater as the drinking water supply source. The local surface water is used for recreational purposes. An apple orchard is located approximately 600 feet northwest of the landfill.

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 underlying the site was found to be contaminated with *volatile organic compounds* (VOCs) including methylene chloride. The on-site *leachate* and soils are contaminated with VOCs, as well as lead. The on-site surface water has been shown to be contaminated with VOCs. People are at risk by touching or drinking contaminated surface or groundwater, breathing potentially contaminated air, or by accidentally ingesting soil on the site.

Cleanup Approach

The site is being cleaned up in two *long-term remedial phases* focusing on control of contamination sources and cleanup of the entire site.

Response Action Status

Source Control: In 1985, the EPA chose the following remedies, which the parties potentially responsible for the contamination at the site agreed to carry out: (1) excavation of Betkoski's Dump and other contaminated soils for consolidation with the main landfill prior to closing it down; (2) covering the consolidated wastes to prevent contaminant *migration*; (3) providing gas venting and stormwater management controls; and (4) installing a system to collect leachate along the perimeter of the site. The parties potentially responsible also are required to fence the site and to enforce State and local control of use of groundwater in the area. Forty-nine residences that elected to do so have been connected to the municipal water line. Three pumping stations and a reservoir have been built to accommodate the additional water service.

Entire Site: Under the EPA's guidance, a study for leachate disposal is currently being developed by the parties potentially responsible. It has been decided that the area should be *capped*; after the design is finalized, the responsible parties will construct the cap and collect leachate for off-site disposal or on-site treatment followed by discharge to surface water. A more extensive groundwater monitoring system is also planned.

Site Facts: In 1987, 32 of the more than 70 companies identified by the EPA as potentially responsible parties agreed to pay for a substantial portion of the site cleanup.

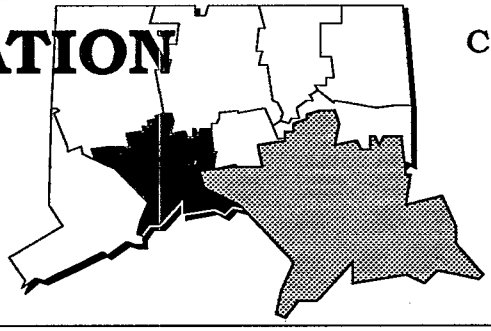
Environmental Progress

The interim actions described above have provided a safe drinking water supply to residents, have reduced the potential for exposure to contamination, and have made the Beacon Hills Landfill site safer while it awaits further planned cleanup activities.

CHESHIRE GROUNDWATER CONTAMINATION SITE

CONNECTICUT

EPA ID# CTD981067317



REGION 1

CONGRESSIONAL DIST. 01

New Haven County

Cheshire

Site Description

The 15-acre Cheshire Groundwater Contamination site in Cheshire has been leased by a variety of tenants that have conducted varied manufacturing processes. A major portion of the site has been owned by Cheshire Associates, a New York-based partnership, since 1966. The company leased the property to Valley National Corporation from 1966 to 1979 and to Cheshire Molding Co. from 1979 to 1980. Both companies manufactured plastic molding at the site; neither kept records of disposal practices or waste quantities. Airpax Corporation Plant 2, the current lessee, manufactured electrochemical and electronic devices beginning in 1983 and disposed of its wastes in accordance with the existing State regulations. The wastes of principal concern at the site include organic chemicals and solvents. Both soil and groundwater on the site are contaminated with *volatile organic compounds* (VOCs), as are residential wells both on and off site, on-site shallow wells, and an off-site bedrock well. The area is residential and industrial. About 330 people living within 1 mile use private wells for drinking water. Cheshire municipal wells, serving 22,900 people, lie 2 miles southeast of the site.

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

NPL LISTING HISTORY

Proposed Date: 06/21/88

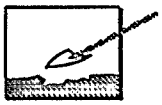
Threats and Contaminants

The groundwater is contaminated with VOCs from the organic chemicals and solvents formerly used at the site. Wells are polluted with VOCs, including high levels of trichloroethane, dichloroethylene, tetrachloroethylene, and xylenes. VOCs contaminating the soil also include trichloroethane, dichloroethylene, and tetrachloroethylene. People drinking contaminated groundwater are at risk from exposure to contaminants. The site is in a low-lying freshwater *wetland* bordered by two ponds.

Cleanup Approach

The site is being addressed in initial actions and a *long-term remedial phase* aimed at providing an alternate drinking water source and cleaning up the groundwater at the entire site.

Response Action Status

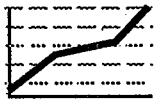


Initial Actions: In October 1983, in compliance with a State *Consent Agreement,* Cheshire Associates removed 20 cubic yards of contaminated soil to an EPA-regulated *landfill.* Municipal water has been provided to the contaminated residential wells.

Entire Site: A thorough investigation of the site to assess the type and extent of contamination and to identify cleanup strategies is scheduled to begin in late 1990.

Site Facts: In 1983, the Connecticut Department of Environmental Protection (DEP) signed a Consent Agreement with Cheshire Associates requiring the company to remove contaminated on-site soil and to monitor VOCs in the 2 private wells semiannually for 5 years.

Environmental Progress

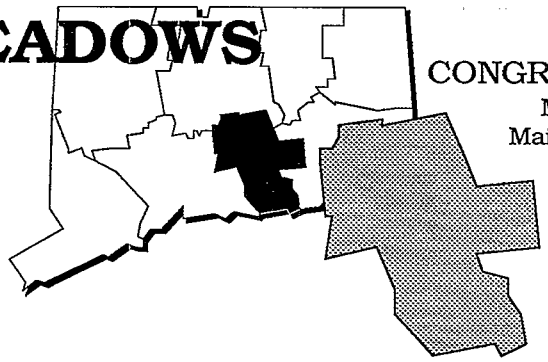


Removal of contaminated soil and the provision of a safe drinking water supply have reduced the potential exposure to contaminated drinking water at the Cheshire site, making it safer while it awaits further cleanup activity.

DURHAM MEADOWS

CONNECTICUT

EPA ID# CTD001452093



REGION 1

CONGRESSIONAL DIST. 02

Middlesex County

Main Street in Durham

Alias:
Merriam Mfg.

Site Description

Investigations at the Durham Meadows site center around the Merriam Manufacturing Company, which occupies 5 acres on Main Street. Established in 1851, the company makes metal products, primarily boxes for files, security, tools, and fishing supplies. Merriam disposed of contaminated wastewater and *sludges* on its property in two unlined and undiked *lagoons* built in 1973. Before that, waste was apparently put into the facility's septic system. The owner ceased dumping in the lagoons in 1982. In another area, paint wastes and *degreasing* solvents were stored on the ground in drums. Some were in poor condition or leaking during a State inspection in 1981. In early 1983, after an EPA/State inspection, the EPA ordered the owner to correct several violations of State hazardous waste management regulations. In response, Merriam removed drums and supplied alternative water to affected residents. Durham has a population of approximately 5,600 residents, all using private wells. The nearest resident lives only 10 feet away from the site border. The site is less than 1/2 mile from the Coginchaug River, which eventually drains into the Connecticut River. A freshwater *wetland* is within 1,500 feet of the site.

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

NPL LISTING HISTORY

Proposed Date: 06/21/88

Final Date: 10/04/89

Threats and Contaminants

Wastewater and sludges from manufacturing processes at the site contained paint waste and organic solvents. In 1982, the State Department of Environmental Protection detected *volatile organic compounds* (VOCs), including methylene chloride in private wells in the Durham area. Drinking contaminated groundwater could threaten the health of nearby residents. The site currently lacks any security or physical barrier to prevent direct contact with contaminated wastes. The nearby freshwater wetlands could potentially become polluted from the contaminants *migrating* from the site.

continued

Cleanup Approach

The site is being addressed in initial actions and a *long-term remedial phase* focusing on developing cleanup alternatives for contamination at the entire site.

Response Action Status

Initial Actions: Under State order, Merriam removed drums containing hazardous wastes to an EPA-approved facility and supplied bottled water to residents in the vicinity of the site after the private wells were found to be contaminated. Carbon filters have since been installed in affected homes.

Entire Site: The EPA will perform a detailed site investigation to determine the extent and nature of groundwater contamination and to recommend strategies for cleanup. The study is scheduled to be completed by late 1993. Once the investigation is completed, the EPA will evaluate the study findings and select the final cleanup remedies for site contamination.

Site Facts: The State ordered Merriam Manufacturing to supply bottled water to residents in the vicinity of the site. The EPA issued an *Administrative Order* requiring Merriam to correct several violations of State hazardous waste management regulations.

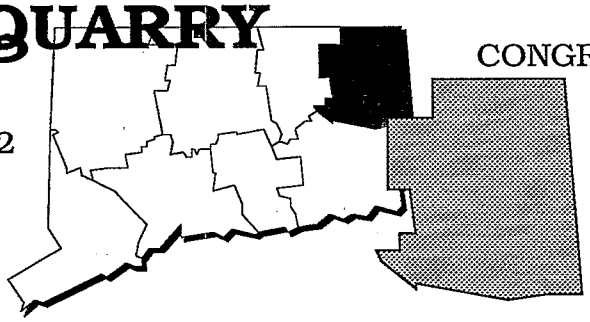
Environmental Progress

The provision of an alternate drinking water source and the removal of some hazardous materials have reduced the potential for exposure to contaminated drinking water or soil from the Durham Meadows site, making it safer while awaiting further cleanup activities.

GALLUP'S QUARRY

CONNECTICUT

EPA ID# CTD108960972



REGION 1

CONGRESSIONAL DIST. 02

Windham County

Plainfield

Site Description

Gallup's Quarry is a 22-acre abandoned gravel pit located in a rural area on Tarbox Road, 1 mile south of Plainfield's business district. In the 1970s, the owner accepted chemical wastes without a permit. Drums and free liquids were dumped at the site, including wastes containing *volatile organic compounds* (VOCs) and heavy metals. Several of these contaminants have been detected in on-site monitoring wells operated by the State from 1980 to 1981 and by the EPA in 1986. In 1989, the EPA sampled private drinking water wells and found no contamination. The area is rural and residential. Approximately 6,500 people rely on wells within 3 miles of the site as their sole source of drinking water. A community well is 4,000 feet away, and a private well is 1,160 feet from the site.

Site Responsibility: The site is being cleaned up through combined State and Federal actions.

NPL LISTING HISTORY

Proposed Date: 06/21/88

Final Date: 10/04/89

Threats and Contaminants

The groundwater is contaminated with VOCs and heavy metals, including copper, nickel, and chromium. Ketone and hydrocarbons have been found in the soil. The site is currently unrestricted. Direct contact with hazardous substances on site may pose a potential health threat. Mill Brook and associated *wetlands,* located 500 feet *downslope* of the site, are threatened by site contamination. Local residents use these resources for swimming and recreational purposes.

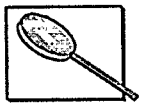
continued

Cleanup Approach

The site is being addressed in two stages: an initial action to limit exposure to contamination and a *long-term remedial phase* aimed at cleanup of the entire site.

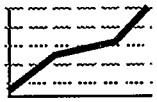
Response Action Status

Initial Action: In 1978, the site was evaluated by the Connecticut Department of Environmental Protection. The State environmental staff and the State Police supervised removal of waste drums and contaminated soil. The owner agreed to reimburse the State for the removal activities at Gallup's Quarry and another property he owned. However, limited soil analyses conducted by the State in 1981 indicated that soil contaminated with ketone and hydrocarbons remained on the site.



Entire Site: The EPA has scheduled an in-depth investigation at Gallup's Quarry for 1990. The study will explore the extent and nature of soil and groundwater contamination and will recommend cleanup strategies for the site. Completion of the study and a final selection of a cleanup method is planned for 1992.

Environmental Progress

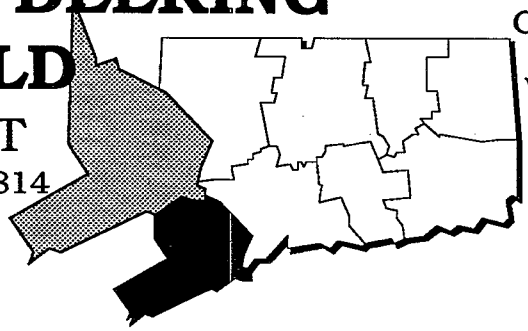


The EPA assessed conditions at Gallup's Quarry and determined that the site does not pose an immediate threat to public health or the surrounding environment. The initial actions described above have reduced the risk of accidental exposure to contamination and have made the site safer while it awaits further cleanup activities.

KELLOGG-DEERING WELL FIELD

CONNECTICUT

EPA ID# CTD980670814



REGION 1

CONGRESSIONAL DIST. 04

Fairfield County

Western bank of the Norwalk River

Alias:
Smith Well Field

Site Description

The Kellogg-Deering Well Field site consists of an approximately 10-acre municipal well field and adjacent areas that contribute to the well field contamination. Groundwater sampling data indicated that a significant source area of contamination exists below the Elinco/Pitney Bowes/Matheis Court Complex located at the eastern edge of the site. EPA recognizes that some groundwater cleanup efforts are being undertaken by the owners and will evaluate these efforts during the technical design phase to determine if they are consistent with the overall cleanup of the aquifer. The well field supplies approximately 25% of the drinking water for 45,000 residents in the city of Norwalk. The primary source of public water supply to the Norwalk First Taxing District (NFTD) Water Department is surface water from four reservoirs. Reservoir water is blended with well field water at varying ratios depending on reservoir storage and distribution system location. The well field is located adjacent to residential and industrial areas.

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

NPL LISTING HISTORY

Proposed Date: 09/01/83

Final Date: 09/01/84

Threats and Contaminants

The groundwater and soil are contaminated with *volatile organic compounds* (VOCs), primarily *trichloroethylene* (TCE) and perchloroethylene (PCE). People could be exposed to chemical contaminants by drinking contaminated water if no treatment were provided; however the water department is treating and blending water from the wells and reservoir to provide safe drinking water.

Cleanup Approach

The site is being addressed in two *long-term remedial phases* focusing on wellhead treatment and source control.

Response Action Status

Wellhead Treatment: The water department installed an aerator in 1981 at one of the wells. The aerator consistently removes 65% of the volatile organics in the groundwater. In 1984, the utility installed an *air stripper* on another well, bringing the removal of VOCs to 99%. The air filtering actions were completed in 1988. The air stripper is part of the water treatment plant, and it will remain in operation. Contaminants are removed from water by air filtering the volatile contaminants to a gas. The treated water is discharged into the existing conventional water treatment plant and distribution system.

Source Control: The remedy selected by the EPA for controlling the source of contamination involves treatment by extracting contaminants from the soil with vacuum extraction; extraction, treatment, and discharge of contaminated groundwater; and institutional controls to prevent exposure during the time that the remedy is being conducted. The EPA has plans for a third set of studies for the area between the well field and the contaminant source control. Air and groundwater monitoring also will be provided. The technical phase is expected to begin in the fall 1990.

Site Facts: An EPA *Administrative Order* was signed with the parties potentially responsible for the site contamination in 1989 concerning the wellhead treatment.

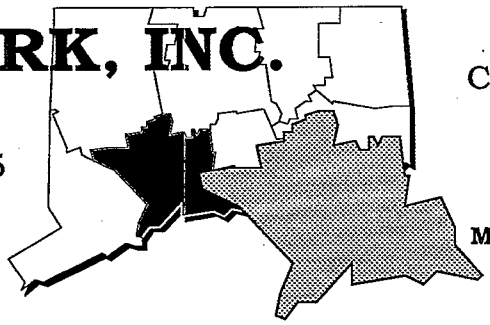
Environmental Progress

The interim action described above has eliminated the potential of exposure to hazardous substances in the drinking water, and will continue to protect these households until planned cleanup activities at the Kellogg-Deering site are completed.

LAUREL PARK, INC.

CONNECTICUT

EPA ID# CTD980521165



REGION 1

CONGRESSIONAL DIST. 05

New Haven County

Naugatuck

Aliases:

Murthas Hunter Mountain Landfill

Laurel Park Landfill

Site Description

The Laurel Park, Inc. site is a *landfill* that occupies approximately 20 acres of a 35-acre parcel of land. The landfill has been in existence since the late 1940s, and several industries disposed of solvents, oils, hydrocarbons, chemical and liquid *sludge*, chemical solids, tires, and rubber products there. The facility continued to operate as a municipal landfill until 1987. The central developed portion of the town of Naugatuck, which has an estimated population of 26,500 people, is located approximately 1 mile northeast of the site. Homes are located around three sides of the landfill. Approximately 50 homes are located within a 1/4-mile radius of the site, with the closest residents being about 1,000 feet from the site. The nearest homes used groundwater from individual wells as a drinking water supply source but have been connected to the public water supply. The homes at the bottom of Huntington Hill, *downslope* of the landfill, are on a public water supply line. Most of the area immediately bordering the site is forested.

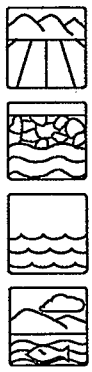
Site Responsibility: This site is being addressed through a combination of Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

Threats and Contaminants



The on-site soil and *leachate* are contaminated with inorganic and organic chemicals including dichloroethane and benzene. Groundwater and surface water are contaminated with heavy metals including calcium and magnesium and with *volatile organic compounds* (VOCs) such as toluene and acetone. The human health threats include direct contact with, drinking, or accidental ingestion of contaminated groundwater, surface water, soils, and leachate. Forested areas surrounding the site may be threatened by *runoff* of site contamination.

Cleanup Approach

The site is being addressed in three stages: an initial action and two *long-term remedial phases* concentrating on fencing, water line installation, and sewer treatment; and source control and groundwater treatment.

Response Action Status

Initial Actions: A leachate collection system was constructed in 1984, under a court order, to capture contaminants leaching from the landfill area into the groundwater and other site areas. Additionally, the potentially responsible parties provided bottled water to area residents affected by a contaminated drinking water supply.

Fencing, Water Line, and Sewer Treatment: The potentially responsible party fenced a leachate *seep* in 1986 and installed a water supply line in 1989. The water line is complete except for surface landscaping. All of the homes are hooked up, with the exception of three residences that refused to be hooked to the system. There is no hook-up fee, but the homeowners have to pay for municipal water use. The potentially responsible parties constructed a sewer line, completed early in 1990, to carry leachate from the site to the Naugatuck Water Pollution Control facility for treatment.

Source Control and Groundwater Treatment: The remedy selected by the EPA to address both the source control and groundwater control includes: (1) installation of a cover over all waste disposal areas to prevent contact with surface water and groundwater; (2) rehabilitation of the existing leachate collection system, including addition of a system consisting of *french drains* and groundwater extraction wells, followed by off-site treatment and discharge at the Naugatuck Water Pollution Control Facility; and (3) monitoring of the air, water, soils, and groundwater at the site. Preparation of the technical specifications and design for the selected remedy is the next step.

Site Facts: In the early 1960s, citizens began to complain about odors, fires, spills, and runoff from the site. In 1985, Uniroyal Chemical Company, Inc., a potentially responsible party, entered into an *Administrative Consent Order* with the EPA to conduct an investigation into the type and extent of contamination at the site. In 1989, the State and Uniroyal agreed to equally fund the installation of a sewer line to convey leachate from the landfill.

Environmental Progress

Initial actions to provide safe drinking water and to control the source of the contamination have reduced the immediate threats at the Laurel Park, Inc. site. Additional cleanup actions and the planned groundwater treatment will continue to reduce contamination levels at the site, making it safe to the nearby residents and the environment.

LINEMASTER SWITCH CORPORATION

CONNECTICUT

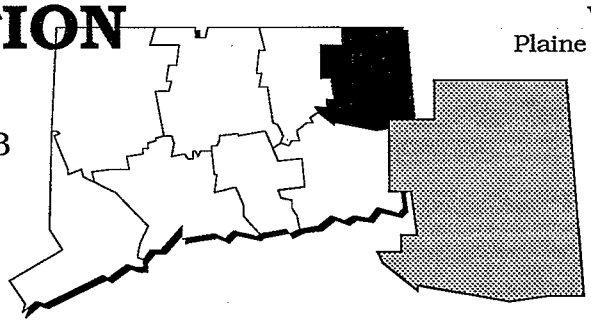
EPA ID# CTD001153923

REGION 1

CONGRESSIONAL DIST. 02

Windham County

Plaine Hill Road in Woodstock



Site Description

The 45-acre Linemaster Switch site has manufactured electrical and pneumatic foot switches and wiring harnesses since 1952. Facility operations involve the use of *trichloroethylene* (TCE), paint, and thinners. Wastes are stored in barrels in sheds near the factory building. The site boundary has been expanded to 92 acres due to contamination, extending to Route 171 to the south, Plaine Hill Road to the west, and Route 169 to the north and east. Approximately 2,100 people are located and obtain drinking water from wells drawing on the contaminated groundwater within 3 miles of the site. An on-site well supplies drinking water to the factory and its offices. The site is surrounded by the Town of Woodstock, a rural community of approximately 5,300 people. Artificial ponds located on the site are used for boating.

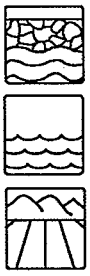
Site Responsibility: This site is being addressed through a combination of Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 06/24/88

Final Date: 02/21/90

Threats and Contaminants



Groundwater, *sediments*, surface water and soils are contaminated with TCE. TCE was also detected in Linemaster's main pump house well, which supplies drinking water to the factory and its offices. Solvents were detected in the artificial ponds. The site is unfenced, making it possible for people and animals to come into direct contact with hazardous substances. Other human health threats include drinking contaminated groundwater or touching the soil, surface water, or sediments.

Cleanup Approach

The site is being addressed in two stages: an initial action that provided drinking water to Linemaster employees and surrounding residents and a *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

Initial Action: Linemaster began providing bottled water to its employees in 1986. Also in 1986, the EPA began to provide bottled water to off-site residents whose wells are contaminated. Presently, all bottled water is provided by Linemaster.

Entire Site: Linemaster's main production well has been equipped with an *air stripper* to remove contaminants, and the well now supplies potable water to the factory and one on-site residence. Several other contaminated wells, both on and off site, have been equipped with carbon treatment systems to remove contaminants. A water supply monitoring program has been established for on- and off-site wells. Monitoring wells have been drilled to determine the extent of site contamination and to aid in developing a remedy. A small pilot study of vapor extraction as a means to clean up contaminants proved ineffectual due to the high water table. Other alternatives are currently being developed. The parties potentially responsible for the site contamination are currently conducting a *hydrogeologic* investigation to determine appropriate actions to eliminate the contamination threat. A decision is expected in 1991.

Site Facts: In 1986, the Connecticut Department of Environmental Protection issued an Abatement Order requiring Linemaster to develop a plan for a hydrological study to determine the extent and degree of contamination on the site. In 1987, Linemaster and the EPA entered into a *Consent Order* to provide bottled water off site, monitor residential wells, and conduct a hydrogeologic study.

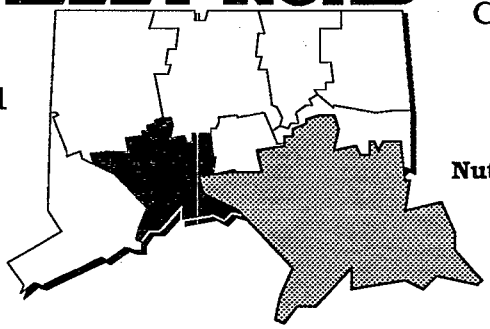
Environmental Progress

Supplying alternative water to affected residents has reduced the potential for exposure to hazardous substances in the drinking water, and will continue to protect surrounding households and Linemaster employees until planned cleanup activities are completed.

NUTMEG VALLEY ROAD

CONNECTICUT

EPA ID# CTD980669261



REGION 1

CONGRESSIONAL DIST. 05

New Haven County
Wolcott

Alias:
Nutmeg Screw Machine Products, Inc.

Site Description

The investigation of the Nutmeg Valley Road site centers around Nutmeg Screw Machine Products Company (NSMP), which covers 3 1/2 acres on Nutmeg Valley Road. The area around the site is both rural residential and light industrial, with several other metal-working and metal-finishing shops in the immediate vicinity, including Waterbury Heat Treating Corporation (WHTC) and Alpine Electronic Components, Inc. (AEC). WHTC is 300 feet to the northwest of NSMP and performs various heat-treating operations (annealing and hardening) on metal parts and *degreasing*, polishing, *acid* dipping, and assembly functions; AEC leases part of the NSMP building. NSMP is a small metal-working and machine shop that has been in business since 1951. Substances used in the machining processes include a kerosene-like cutting oil, machine lubrication oils, and agents used for cleaning and degreasing (carbon tetrachloride). Carbon tetrachloride, cyanide wastes, and cutting oils were dumped onto the ground at an estimated rate of up to 15 gallons per day, according to the State. This practice was followed for approximately 14 to 20 years, ceasing by 1980. Approximately 10,500 people draw drinking water from private wells within 3 miles of the site. There are 43 industries and 25 residences using groundwater as a water source at this site. Within a 3-mile radius of the site lie the towns of Waterbury, with a population of approximately 103,800, and Wolcott, with a population of approximately 13,200.

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

NPL LISTING HISTORY
Proposed Date: 01/23/87
Final Date: 03/31/89

Threats and Contaminants

Contamination has been documented in 25 industrial wells. The groundwater is contaminated with *volatile organic compounds* (VOCs), heavy metals, and high levels of cyanide. The soil is also contaminated with VOCs and heavy metals including lead and copper. Contamination has been documented in the groundwater beneath the site. The primary health threats to area residents are from drinking or direct contact with contaminated water or soil.

continued

Cleanup Approach

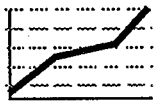
The site is being addressed in two stages: immediate actions and a *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

Immediate Actions: The State has been supplying bottled drinking water to affected residents since 1987. Also, carbon filters have been installed on the industrial wells to reduce contamination levels. Interim measures have included the extension of public water supplies to the area.

Entire Site: The EPA plans to conduct an investigation into the soil and groundwater contamination at the site and develop strategies for final cleanup. The study is expected to start in 1992 and is scheduled for completion in 1993. Once completed, the EPA will evaluate the study findings and select the final cleanup remedies for the contamination at the site.

Environmental Progress

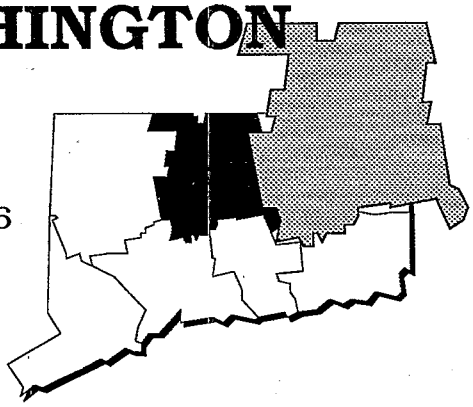


The initial actions described above have provided safe drinking water to affected residents and reduced contamination levels in the industrial water supply, making this site safer while it awaits completion of the site investigation and final cleanup.

OLD SOUTHINGTON LANDFILL

CONNECTICUT

EPA ID# CTD980670806



REGION 1

CONGRESSIONAL DIST. 06

Hartford County County

Old Turnpike Road in Southington

Site Description

The Old Southington Landfill is a 10-acre site that may have been used as early as the 1920s until 1967 as a municipal disposal area. During this time the *landfill* was open to residents and businesses of the town. In 1967, the Town of Southington closed the landfill. *Closure* procedures included compacting loose refuse, covering the landfill with at least 2 feet of clean fill material, and reseeding the grasses. Between 1973 and 1980, parts of the landfill were subdivided and sold for commercial development. Several residential and commercial structures now occupy the closed landfill and adjacent areas. The former landfill is located approximately 700 feet southeast of the former municipal Well No. 5, which was installed in 1971 by the Town of Southington Water Department as a public water supply. In 1979, the municipal well was closed because groundwater analyses indicated the presence of *volatile organic compounds* (VOCs) at levels that exceeded State standards. The well has not been reopened. The site is located about 3,500 feet east of the Quinnipiac River. A drainage ditch is located on site and flows into Black Pond, which is used for recreational purposes, as well as for duck hunting and fishing.

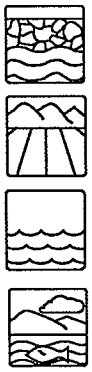
Site Responsibility: This site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 09/08/83

Final Date: 09/21/84

Threats and Contaminants



The groundwater, soil, and surface water are contaminated with VOCs including trichloroethane. On-site workers and trespassers could be threatened by touching or accidentally ingesting contaminants in the groundwater, surface water, or soil. Black Pond, used for recreation, hunting, and fishing, is threatened by site contaminants; ingestion of contaminated fish, waterfowl, and plants may pose a health threat.

continued

Cleanup Approach

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

Response Action Status

Entire Site: The potentially responsible parties are currently conducting an investigation into the contamination at the site. The investigation will define the contaminants and will recommend alternatives for the final cleanup. The investigation is planned to be completed in 1991.

Site Facts: In 1987, the EPA issued an *Administrative Order* to three parties potentially responsible for the contamination of the site to perform a study to determine the nature and extent of contamination at the site.

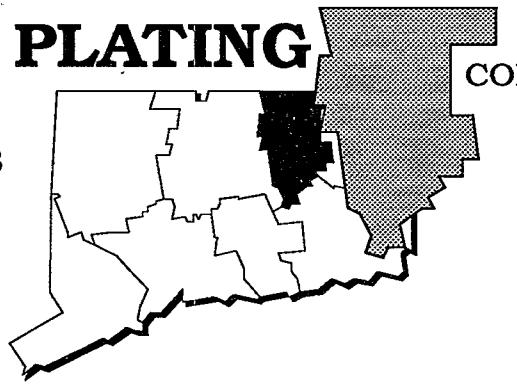
Environmental Progress

After adding this site to the NPL, the EPA assessed conditions at the site and determined that contamination from the Old Southington Landfill site does not currently pose an immediate threat to area residents and surrounding environments and no emergency actions were required to make it safe while waiting for cleanup actions to begin.

PRECISION PLATING

CONNECTICUT

EPA ID# CTD051316313



REGION 1

CONGRESSIONAL DIST. 02

Tolland County

Vernon

Site Description

Precision Plating Corporation has been chrome plating various metal parts and fixtures on this 3-acre site since 1970. The chrome plating process includes alkaline cleaning, chemical etching, rinsing, buffing, and polishing. Wastes generated during this process include rinse waters containing heavy metals, batch wastes of alkaline cleaner, and spent plating and etching *acids*. Before 1983, rinse waters were discharged to a storm drain outside the building. Process plating acids and chrome plating wastes were stored on the ground in drums and in a 500-gallon tank. In 1979, Vernon's Health Department found the well serving Hillside Industrial Park to be contaminated with hexavalent and trivalent chromium. The rupturing of drums and the tank by a snow plow was determined to be the cause of the contamination. The company, and later the EPA, confirmed that the groundwater underlying the site had become contaminated. An estimated 10,800 people obtain drinking water from public and private wells within 3 miles of the site. Surface waters in the area are used for recreational fishing. The site is within 1 mile of a freshwater *wetland*.

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

NPL LISTING HISTORY

Proposed Date: 06/21/88

Final Date: 10/04/89

Threats and Contaminants

The groundwater underlying the Precision Plating site is contaminated with hexavalent and trivalent chromium as a result of the spillage of contaminants at the site. The site is unfenced, making it possible for people and animals to come into direct contact with hazardous substances. The health of people who use contaminated groundwater as a water supply may be threatened.

Cleanup Approach

This site is being addressed in two stages: an initial action to reduce the threat of exposure and a single *long-term remedial phase*, which will concentrate on cleanup of the entire site.

Response Action Status

Initial Action: The State issued orders to the owners of Hillside Industrial Park and Precision Plating to study and clean up the site. Precision Plating complied with the order by installing five shallow monitoring wells on site, sampling surface water, and removing 20 cubic yards of contaminated soil. In addition, Precision Plating and Hillside Industrial Park are providing alternate drinking water supplies to High Manor Mobile Home Park.

Entire Site: In 1990, the parties potentially responsible for the site contamination began a study of sources and the extent of contamination at the site. Once the investigation has been completed and reviewed by the EPA, a final cleanup remedy for the site will be selected.

Site Facts: In 1986, the State issued orders requiring Precision Plating and Hillside Industrial Park to provide drinking water to affected residents.

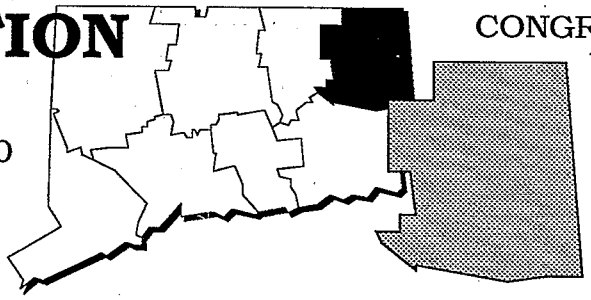
Environmental Progress

By providing drinking water to nearby residents, the potential of exposure to hazardous substances has been reduced, and these households will continue to be protected until cleanup activities are completed at the Precision Plating site.

REVERE TEXTILE PRINTS CORPORATION

CONNECTICUT

EPA ID# CTD004532610



REGION 1

CONGRESSIONAL DIST. 02

Windham County

Sterling

Site Description

The Revere Textile Prints Corporation site covers 2 acres in Sterling. The textile processing facility first operated over 50 years ago as the U.S. Finishing Company. In 1978, a town employee allegedly observed Revere Textile employees dumping barrels of wastes into the Moosup River. The facility was destroyed by fire in 1980. Following the fire, a number of drums were evident in the ruins of two buildings on site. The property was sold in 1980. On site at the time were over 1,500 drums leaking dyes, paints, solvents, and heavy metals onto the ground. The State detected over 30 compounds in the drums and soil on site and issued an order against the new owner to clean up the site. In 1982, ownership of the site was transferred to Sterling Industrial Park Corporation. After several State inspections and rounds of sampling, the drums were removed in 1983 by the new owner. An unknown quantity of contaminated soil was also removed. On-site monitoring wells were sampled in 1984 and found to be contaminated. Approximately 350 people live within 1 mile of the site, while 4,500 people live within a 3-mile radius. The Moosup River is *downgradient* of the site and is also contaminated. This river is used for recreational purposes.

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

NPL LISTING HISTORY

Proposed Date: 06/01/86

Final Date: 07/01/87

Threats and Contaminants

Groundwater is contaminated with antimony, methanol, and *volatile organic compounds* (VOCs) including toluene and *trichloroethylene* (TCE). The soil is contaminated with barium and VOCs including ethyl benzene and xylene. Surface water is contaminated with TCE and magnesium. People who accidentally touch, drink, or ingest contaminated groundwater, surface water, or soil may be at risk. Residents in the area depend on the groundwater as their sole source of drinking water.

continued

Cleanup Approach

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

Response Action Status

Entire Site: The EPA is currently studying the contamination at the site. The investigation will define the contaminants and will recommend alternatives for the final cleanup remedy. Once the investigation is complete, the EPA will review the study findings and select the final cleanup strategies for site contamination.

Site Facts: In 1980, the State issued an order against the owner to clean up the site. A new owner, Sterling Industrial Park Corporation, complied with the order in 1983.

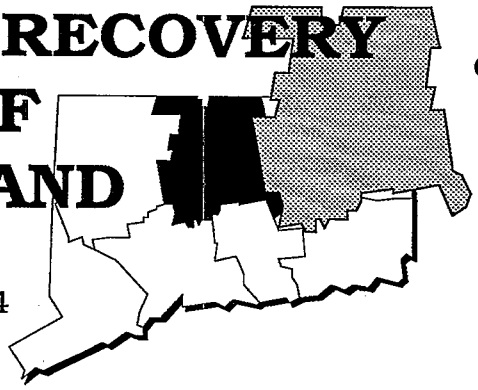
Environmental Progress

The initial actions to remove drums and contaminated soils from the site have reduced the potential for accidential exposure to hazardous wastes, while studies are ongoing to identify final cleanup remedies for the Revere Textile site.

SOLVENTS RECOVERY SERVICE OF NEW ENGLAND

CONNECTICUT

EPA ID# CTD009717604



REGION 1

CONGRESSIONAL DIST. 06

Hartford County

Southington

Site Description

Solvents Recovery Services of New England is a fenced 2 1/2-acre facility in the town of Southington and is currently in operation. The facility operates as an EPA-approved hazardous waste treatment and storage facility. The facility receives various industrial solvents that are distilled for reuse or blended for use as a fuel product. From 1957 to 1967, *stillbottom sludges* were disposed of in two unlined *lagoons*. In 1967, sludge disposal was discontinued, and the lagoons were drained and covered with fill. After the lagoons were closed, wastes were incinerated in an open pit on site or disposed of off site. In the 1970s, the State ordered that the incineration practice be discontinued. Other past and present operating practices on site, such as accidental spills or poor housekeeping, may have constituted additional sources of contamination. No hazardous waste disposal currently takes place at the site. The Town of Southington Well #4 is approximately 2,000 feet south of the site, and Well #6 is located 1,300 feet to the south of the site. Both of these wells were closed in 1979 because of contamination. The population within a 3-mile radius of the site is 36,000. The area of the site is a mixture of commercial, light industrial, and some agricultural uses. The facility is located approximately 500 feet west of the Quinnipiac River.

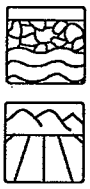
Site Responsibility: The site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 12/01/82

Final Date: 09/08/83

Threats and Contaminants



The groundwater is contaminated with isopropyl alcohol, acetone, toluene, and other *volatile organic compounds* (VOCs). The soil is contaminated with lead, cadmium, *polychlorinated biphenyls* (PCBs), and VOCs. People who accidentally drink contaminated groundwater would be at risk. However, since the two municipal wells have been taken out of service, this health threat is reduced.

Cleanup Approach

The site is being addressed in two *long-term remedial phases* directed at groundwater cleanup and source control.

Response Action Status

Groundwater: In 1983, the parties potentially responsible for the site contamination to pump and treat groundwater by *air stripping* the contaminants in the facility's cooling water tower. The treated water is subsequently discharged through a drainage ditch to the Quinnipiac River. Solvents Recovery Services has installed the on-site groundwater pumping system, which is currently operational. The off-site groundwater pumping system is not yet operational.

Source Control: Solvents Recovery Service is currently conducting an investigation into the sources and the nature and extent of site contamination to identify alternatives for cleanup. The EPA will evaluate the investigation findings to select the final cleanup remedies for the contaminated areas.

Site Facts: In 1983, Solvents Recovery Service signed a *Consent Decree* with the EPA requiring the installation of a system to recover groundwater on and off site and a plan for on-site storage and management of hazardous wastes.

Environmental Progress

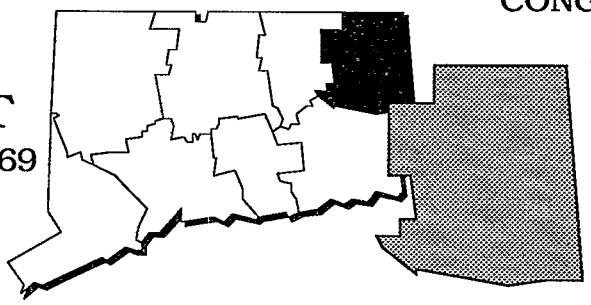
The *closure* of the contaminated drinking well has eliminated the threat of exposure to affected residences while pump and treat operations continue to reduce groundwater contamination to safe levels at the Solvents Recovery site.

YAWORSKI WASTE LAGOON

CONNECTICUT

EPA ID# CTD009774969

REGION 1
CONGRESSIONAL DIST. 02
Windham County
Canterbury Township



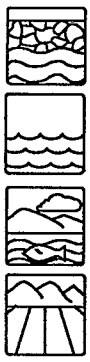
Site Description

The Yaworski Waste Lagoon is a *dewatered* and *backfilled lagoon*, approximately 800 feet by 300 feet and 12 feet deep. From about 1948 to 1973, drummed material and bulk wastes including textile dyes, solvents, resins, *acids*, caustics, *stillbottom sludges*, and solvent-soaked rags were disposed of in the lagoon. Periodically, flammable liquid waste was burned in several pits in the lagoon area until 1965, when the Connecticut Department of Health ordered a halt to on-site burning of waste. The combined efforts of local residents and State and local officials concerned about adverse human health and environmental effects from disposal operations at the site led to the end of all dumping at the site in 1973. In 1976, the Connecticut Department of Environmental Protection (CTDEP) directed James Yaworski, the site owner, to assess the environmental hazard posed by the site. Mr. Yaworski was required to install monitoring wells adjacent to the lagoon. Sampling of these wells detected contaminated groundwater. In 1980, CTDEP ordered Mr. Yaworski to employ a professional engineering firm to conduct an environmental study of the property. The firm recommended closing the lagoon by covering the waste and, in 1982, CTDEP ordered Mr. Yaworski to close the lagoon in accordance with the engineering firm's report. After a fire in 1982, the EPA decided that additional information was needed about the site to better assess the potential threat to human health and the environment. The population of Canterbury is approximately 1,600. The nearest residence that uses groundwater is 1,600 feet *upgradient* from the site and across the Quinebaug River. The site is surrounded by agricultural land and bordered by the Quinebaug River. It lies within the 100-year floodplain.

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

NPL LISTING HISTORY
Proposed Date: 12/01/82
Final Date: 09/08/83

Threats and Contaminants



Groundwater samples taken from areas immediately adjacent to the lagoon revealed the presence of low levels of *volatile organic compounds* (VOCs) and heavy metals. Inorganic contaminants were found in the *sediments* in the *wetlands* area just south of the lagoon. The soil is contaminated with *polychlorinated biphenyls* (PCBs) and *polyaromatic hydrocarbons* (PAHs), and soil samples taken from areas immediately adjacent to the lagoon revealed the presence of low levels of VOCs. The contaminants *seeping* through the dike into the wetlands pose a risk to people who come in contact with it.

continued

Cleanup Approach

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

Response Action Status

Entire Site: The parties potentially responsible for the site contamination will be responsible for containing the waste in the lagoon by constructing an impermeable cover that complies with all environmental laws, improving the dike around the lagoon to ensure that it can withstand floods, establishing a groundwater protection standard known as an Alternate Concentration Limit (ACL), and monitoring the groundwater for 30 years to confirm that the ACL standard is met. Design of the technologies to be used in the remedy described above is expected to be complete by 1990. A groundwater treatment method will be installed if, after implementation of the source control remedy, groundwater contamination remains above the ACLs.

Environmental Progress

After adding this site to the NPL, the EPA assessed site conditions and determined that the site contamination does not currently pose an immediate threat to area residents and surrounding environments while waiting for cleanup actions to begin at the Yaworski Waste site.

GLOSSARY:

Terms Used in the Fact Sheets

This glossary defines the italicized terms used in the site fact sheets for the State of Connecticut. The terms and abbreviations contained in this glossary are often defined in the context of hazardous waste management as described in the site fact sheets, and apply specifically to work performed under the Superfund program. Therefore, these terms may have other meanings when used in a different context.

Acids: Substances, characterized by low pH (less than 7.0) that are used in chemical manufacturing. Acids in high concentration can be very corrosive and react with many inorganic and organic substances. These reactions may possibly create toxic compounds or release heavy metal contaminants that remain in the environment long after the acid is neutralized.

Administrative Order On Consent: A legal and enforceable agreement between EPA and the parties potentially responsible for site contamination. Under the terms of the Order, the potentially responsible parties agree to perform or pay for site studies or cleanups. It also describes the oversight rules, responsibilities and enforcement options that the government may exercise in the event of non-compliance by potentially responsible parties. This Order is signed by PRPs and the government; it does not require approval by a judge.

Administrative Order [Unilateral]: A legally binding document issued by EPA directing the parties potentially responsible to perform site cleanups or studies (generally, EPA does not issue unilateral orders for site studies).

Air Stripping: A process whereby volatile organic chemicals (VOCs) are removed from contaminated material by forcing a stream of air through it in a pressurized vessel. The contaminants are evaporated into the air stream. The air may be further treated before it is released into the atmosphere.

Backfill: To refill an excavated area with removed earth; or the material itself that is used to refill an excavated area.

Cap: A layer of material, such as clay or a synthetic material, used to prevent rainwater from penetrating and spreading contaminated materials. The surface of the cap is generally mounded or sloped so water will drain off.

Closure: The process by which a landfill stops accepting wastes and is shut down

under Federal guidelines that ensure the public and the environment is protected.

Consent Decree: A legal document, approved and issued by a judge, formalizing an agreement between EPA and the parties potentially responsible for site contamination. The decree describes cleanup actions that the potentially responsible parties are required to perform and/or the costs incurred by the government that the parties will reimburse, as well as the roles, responsibilities, and enforcement options that the government may exercise in the event of non-compliance by potentially responsible parties. If a settlement between EPA and a potentially responsible party includes cleanup actions, it must be in the form of a consent decree. A consent decree is subject to a public comment period.

Consent Order: [see Administrative Order on Consent].

Degrease: To remove grease from wastes, soils, or chemicals, usually using solvents.

Dewater: To remove water from wastes, soils, or chemicals.

Downgradient: A downward hydrologic slope that causes groundwater to move toward lower elevations. Therefore, wells *downgradient* of a contaminated groundwater source are prone to receiving pollutants.

Downslope: [see Downgradient].

French Drain System: A crushed rock drain system constructed of perforated pipes, which is used to drain and disperse wastewater.

Hydrogeology: The geology of groundwater, with particular emphasis on the chemistry and movement of water.

Lagoon: A shallow pond where sunlight, bacterial action, and oxygen work to purify wastewater. Lagoons are typically used for the storage of wastewaters, sludges, liquid wastes, or spent nuclear fuel.

Landfill: A disposal facility where waste is placed in or on land.

Leachate [n]: The liquid that trickles through or drains from waste, carrying soluble components from the waste. **Leach, Leaching [v.t.]:** The process by which soluble chemical components are dissolved and carried through soil by water or some other percolating liquid.

Long-term Remedial Phase: Distinct, often incremental, steps that are taken to solve site pollution problems. Depending on the complexity, site cleanup activities can be separated into a number of these phases.

Migration: The movement of oil, gas, contaminants, water, or other liquids through porous and permeable rock.

Polycyclic Aromatic Hydrocarbons or Polyaromatic Hydrocarbons (PAHs): PAHs, such as pyrene, are a group of highly reactive organic compounds found in motor oil. They are a common component of creosotes and can cause cancer.

Polychlorinated Biphenyls (PCBs): A group of toxic chemicals used for a variety of purposes including electrical applications, carbonless copy paper, adhesives, hydraulic fluids, microscope emersion oils, and caulking compounds. PCBs are also produced in certain combustion processes. PCBs are extremely persistent in the environment because they are very stable, non-reactive, and highly heat resistant. Burning them produces even more toxins. Chronic exposure to PCBs is believed to cause liver damage. It is also known to bioaccumulate in fatty tissues. PCB use and sale was banned in 1979 with the passage of the Toxic Substances Control Act.

Potentially Responsible Parties (PRPs): Parties, including owners, who may have contributed to the contamination at a Superfund site and may be liable for costs of response actions. Parties are considered PRPs until they admit liability or a court makes a determination of liability. This means that PRPs may sign a consent decree or administrative order on consent [see Administrative Order on Consent] to participate in site cleanup activity without admitting liability.

Runoff: The discharge of water over land into surface water. It can carry pollutants from the air and land into receiving waters.

Sediment: The layer of soil, sand and minerals at the bottom of surface waters, such as streams, lakes, and rivers that absorb contaminants.

Seeps: Specific points where releases of liquid (usually leachate) form from waste disposal areas, particularly along the lower edges of landfills.

Sludge: Semi-solid residues from industrial or water treatment processes that may be contaminated with hazardous materials.

Stillbottom: Residues left over from the process of recovering spent solvents.

Trichloroethylene (TCE): A stable, colorless liquid with a low boiling point. TCE has many industrial applications, including use as a solvent and as a metal degreasing agent. TCE may be toxic to people when inhaled, ingested, or through skin contact and can damage vital organs, especially the liver [see also Volatile Organic Compounds].

Upgradient: An upward slope; demarks areas that are higher than contaminated areas

and, therefore, are not prone to contamination by the movement of polluted groundwater.

Volatile Organic Compounds (VOCs): VOCs are made as secondary petrochemicals. They include light alcohols, acetone, trichloroethylene, perchloroethylene, dichloroethylene, benzene, vinyl chloride, toluene, and methylene chloride. These potentially toxic chemicals are used as solvents, degreasers, paints, thinners, and fuels. Because of their volatile nature, they readily evaporate into the air, increasing the potential exposure to humans. Due to their low water solubility, environmental persistence, and widespread industrial use, they are commonly found in soil and groundwater.

Wetland: An area that is regularly saturated by surface or groundwater and, under normal circumstances, capable of supporting vegetation typically adapted for life in saturated soil conditions. Wetlands are critical to sustaining many species of fish and wildlife. Wetlands generally include swamps, marshes, and bogs. Wetlands may be either coastal or inland. Coastal wetlands have salt or brackish (a mixture of salt and fresh) water, and most have tides, while inland wetlands are non-tidal and freshwater. Coastal wetlands are an integral component of estuaries.