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NATIONAL PRIORITIES LIST SITES:
Vermont

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.

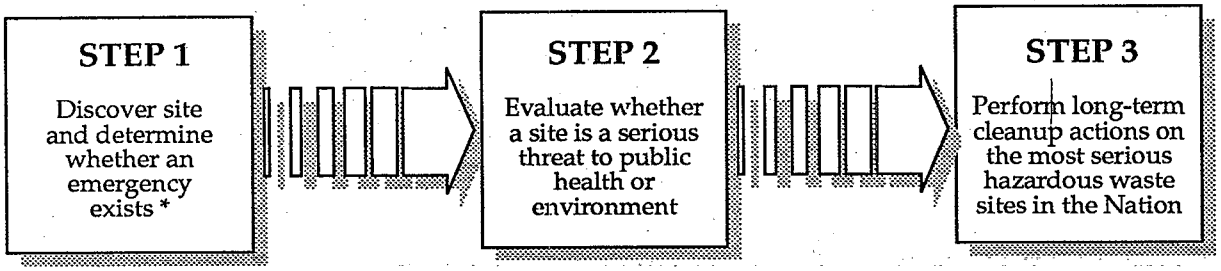
To help you understand the cleanup accomplishments made at these sites, this State volume includes a description of the process for site discovery, threat evaluation and long-term cleanup of Superfund sites. This description — ***How Does the Program Work to Clean Up Sites?*** — will serve as a good 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.)

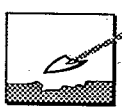
Contaminated **Surface Water and Sediments** on or near the site. (These include lakes, ponds, streams, and rivers.)

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

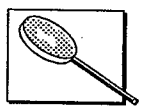
Contaminated **Soil and Sludges** on or near the site.

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.

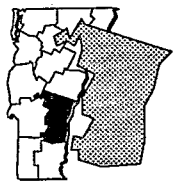
Site Responsibility

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

SITE NAME
STATE
EPA ID# ABC00000000



EPA REGION
CONGRESSIONAL DIST
County Name
Location

Aliases:

Site Description

Site Responsibility:

NPL LISTING HISTORY

Threats and Contaminants

Cleanup Approach

Response Action Status

Site Facts:

Environmental Progress

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.

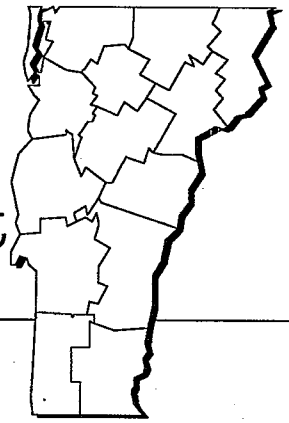
HOW CAN *YOU* USE THIS STATE BOOK?

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 Vermont



Vermont is located in the New England region of the United States, bordered on the north by Canada, and New Hampshire and New York to the east and west respectively. The State covers 9,273 square miles, averaging only 20 to 36 miles in width and includes the Greens Mountains that traverses north-south axis of the state. Vermont experienced a 9.0 percent increase in population through the 1980s and currently has approximately 557,000 residents, ranking 48th in U.S. populations. Principal State industries include manufacturing, tourism, agriculture, trade, finance, insurance, real estate, and government. Vermont manufacturing produces machine tools, furniture, scales, books, computer components, and fishing rods.

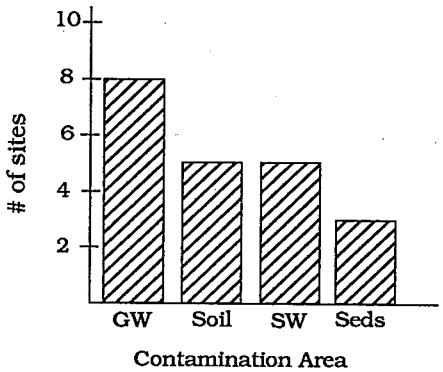
How Many Vermont Sites Are on the NPL?

Proposed	2
Final	6
Deleted	0
	8

Where Are the NPL Sites Located?

Cong. District 01	8 sites

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



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

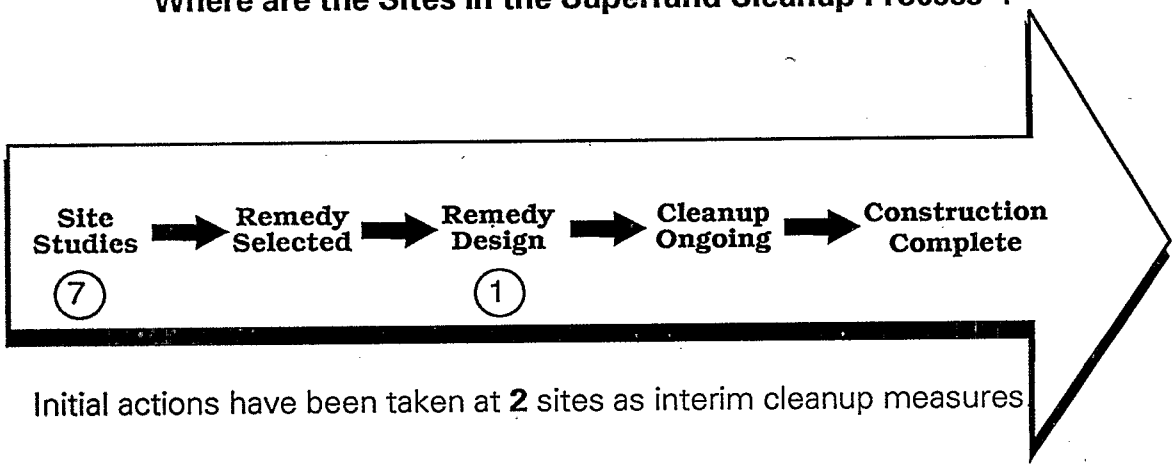
Soil: Volatile organic compounds (VOCs), creosotes (organics), heavy metals (inorganics), polychlorinated biphenyls (PCBs), and creosote (organics).

Surface Water and Sediments: Volatile organic compounds (VOCs), heavy metals (inorganics), polychlorinated biphenyls (PCBs), creosote (organics), and plastics.

*Appear at 20% or more sites

continued

Where are the Sites in the Superfund Cleanup Process*?



Initial actions have been taken at **2** sites as interim cleanup measures.

Who Do I Call with Questions?

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

Vermont Superfund Office	(802) 244-8702
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 Vermont

Page	Site Name	County	NPL	Date	Initial Response	Site Studies	Remedy Selected	Remedy Design	Cleanup Ongoing	Construction Complete
1	BENNINGTON LANDFILL	BENNINGTON	Final	03/31/89		➡				
3	BFI/ROCKINGHAM	WINDHAM	Final	10/04/89		➡				
5	BURGESS BROTHERS LANDFILL	BENNINGTON	Final	03/31/89		➡				
7	DARLING HILL DUMP	CALEDONIA	Final	10/04/89		➡				
9	OLD SPRINGFIELD LANDFILL	WINDSOR	Final	09/08/83	➡	➡	➡	➡		
11	PARKER LANDFILL	CALEDONIA	Final	02/21/90		➡				
13	PINE STREET CANAL	CHITTENDEN	Final	09/08/83	➡	➡				
15	TANSITOR ELECTRONICS INC.	BENNINGTON	Final	10/04/89		➡				

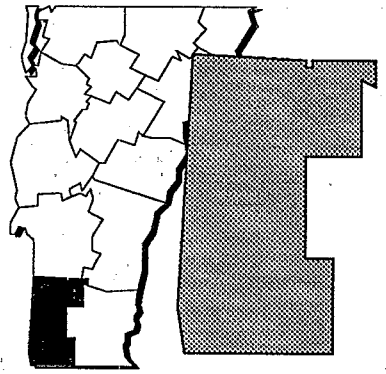
NPL:

Site Fact Sheets

BENNINGTON LANDFILL

VERMONT

EPA ID# VTD981064223



REGION 1

CONGRESSIONAL DIST. 01

Bennington County

Off Houghton Lane

Site Description

The Bennington Landfill, located off Houghton Lane in Bennington, is a municipal sanitary *landfill* on 28 acres, 10 of which are still in active use. The area was a sand and gravel pit until it was licensed in 1983 as a landfill. The town of Bennington purchased the site in 1985. Several Bennington industries dumped liquid wastes into an unlined *lagoon* on the site from 1969 to 1975. Town records indicate that *polychlorinated biphenyls* (PCBs), organic solvents, and lead were disposed of at the site. The lagoon was closed in 1975; workers landfilled it after attempts to dry it up failed. An underground drain system built in 1976 is designed to lower the groundwater level. The system discharges through a *culvert* into an unlined, ponded area. Approximately 2,200 residents within 3 miles of the site use private wells. The area surrounding the site is mainly industrial. Morgan Spring, a bedrock water source 3 miles south of the landfill, is used regularly to supplement the Bennington water system.

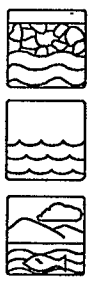
Site Responsibility: The site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 06/21/88

Final Date: 03/31/89

Threats and Contaminants



A culvert discharging groundwater from beneath the site contains PCBs, heavy metals including lead and arsenic, and *volatile organic compounds* (VOCs) including benzene and xylene. In 1986, the Vermont Department of Environmental Conservation detected contaminants in the groundwater discharging from the culvert, which had caught fire. The State found several flammable materials in it. The site is incompletely fenced, making the potential for direct contact with contaminants a possibility. Contaminants have been found in the *sediments* in Hewitt Brook, within 3 miles downstream of the site, which is used for fishing. A freshwater *wetland* is 500 feet east of the culvert and may be subject to contamination from the site.

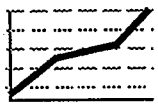
Cleanup Approach

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

Response Action Status

Entire Site: A study is being planned for 1991 to investigate the extent of the contamination over the entire site area. Recommendations for cleanup alternatives will be given at that time. The study will determine the most expedient and effective approaches for cleanup.

Environmental Progress

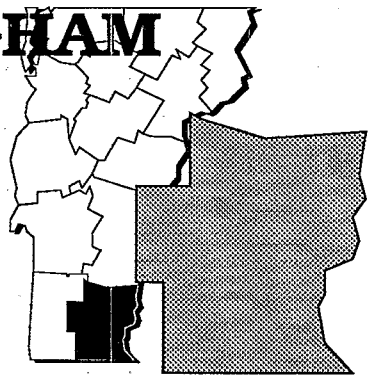


Presently, the EPA is assessing the Bennington Landfill site to determine whether any intermediate actions are necessary to make it safer while waiting for site studies and cleanup actions to begin.

BFI/ROCKINGHAM

VERMONT

EPA ID# VTD980520092



REGION 1

CONGRESSIONAL DIST. 01

Windham County

Rockingham

Alias:
Rockingham Landfill

Site Description

Twenty-five acres of the BFI/Rockingham site, consisting of 103 acres in Rockingham, are now in use as a sanitary *landfill.* In the early 1960s, the site served as a *borrow* area for construction of I-91. In 1977, Browning-Ferris Industries, Inc. (BFI) bought the landfill from an individual who had started operations in 1968. State files indicate that industrial wastes, including heavy metals, *bases,* pesticides, and *volatile organic compounds* (VOCs) were deposited in the unlined disposal area from 1968 to 1979 by the previous owner and Browning-Ferris. In 1983, Vermont licensed the site as a municipal landfill certified to accept hazardous waste from small *generators.* The Vermont Department of Environmental Conservation (VT DEC) reports that nearby residential and monitoring wells *downgradient* of the site have been contaminated since 1979. There are two *leachate* collection ponds on site. A tar *cap* covers a portion of the landfill to prevent the infiltration of rainwater. However, cracks in the cap have been observed, and it is covered with new refuse. Approximately 2,700 people live within 1 mile of the site, and 6,400 residents live within 3 miles. Several homes with contaminated wells near the site now receive water from a new well provided by BFI. More than 4,500 people in Vermont and New Hampshire obtain drinking water from public and private wells within 3 miles of the landfill. The Connecticut River is 560 feet to the east, along the drainage route of surface water leaving the site.

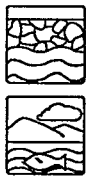
Site Responsibility: The site is being addressed through Federal actions.

NPL LISTING HISTORY

Proposed Date: 06/21/88

Final Date: 10/04/89

Threats and Contaminants

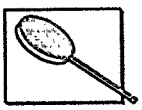


The groundwater contains contamination from heavy metals including chromium, copper, lead, and VOCs. Drinking water from contaminated wells in the area poses a threat to health. The Connecticut River may also receive contaminants via groundwater discharge, posing a threat to its quality and marine life.

Cleanup Approach

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

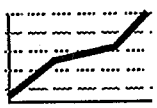
Response Action Status



Entire Site: As an initial action, BFI provided an alternate drinking water supply to residences with contaminated wells. BFI has been conducting groundwater monitoring since 1979. The EPA will conduct an investigation into the nature and extent of contamination at the site that is expected to begin in early 1991, with completion tentatively scheduled for 1992. The investigation will define the contaminants of concern and will recommend cleanup strategies.

Site Facts: The State issued three orders to the owner between 1980 and 1983 requiring BFI to determine the *hydrogeology* of the landfill, monitor on-site groundwater, and provide drinking water to affected residents nearby. BFI has approval to operate the site as a solid waste landfill until July 1, 1990; however, to continue operating, the company must obtain a permit under Vermont Act 250.

Environmental Progress

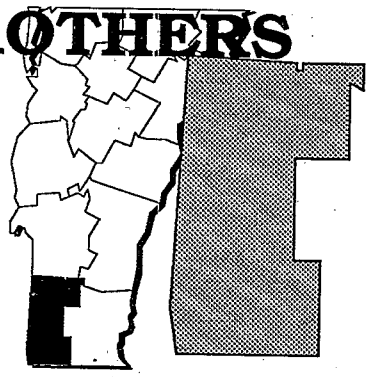


The initial cleanup actions described above and the installation of an alternate water source have reduced the potential for exposure to contaminated groundwater, making the site safer while it awaits further studies and cleanup actions.

BURGESS BROTHERS LANDFILL

VERMONT

EPA ID# VTD003965415



REGION 1

CONGRESSIONAL DIST. 01

Bennington County

Woodford

Site Description

The Burgess Brothers Landfill is a 60-acre site located in Woodford. A large part of this closed *landfill*, still owned by the Burgess family, lies within the Green Mountain National Forest. Burgess Brothers Construction Company, of nearby Bennington, operated the facility as a sand pit, salvage yard, and dump from the 1940s until the mid-1970s. For 20 years, Union Carbide Corp.'s Bennington Plant disposed of wastes from battery manufacture at the site; an unknown quantity of lead *sludge* between 1956 and 1971; and the equivalent of 47,780 drums of hazardous wastes from 1971 to 1976. The wastes were dumped into unlined settling *lagoons* next to the sand pit bank. Studies conducted by both the State and Union Carbide have determined that soils, groundwater, and surface water on, and *downgradient* of, the site are contaminated with heavy metals and *volatile organic compounds* (VOCs). The site area is largely rural and is sparsely populated, but 13,900 people live within 3 miles of the site. Residents draw drinking water from private and public wells; the nearest well is 1/2 mile from the lagoons. A spring used to supply drinking water to Bennington is 1 1/2 miles west of the site. Barney Brook and the Waloomsic River are within 3 miles downstream of the site; both are used for recreation. A freshwater *wetland* is located approximately 1/4 mile from the site.

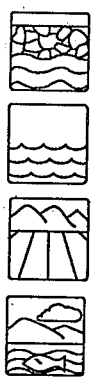
Site Responsibility: The site is being addressed through Federal and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 06/21/88

Final Date: 03/31/89

Threats and Contaminants



Groundwater, surface water, and soils are contaminated with heavy metals including mercury and lead and VOCs including vinyl chloride and *trichloroethylene* (TCE). The site is unrestricted; people and animals risk exposure by direct contact with contaminated soils or surface water. There are sensitive areas nearby, including freshwater wetlands and National Forest land, both of which are also used for recreational purposes and which could be polluted by site contamination.

continued

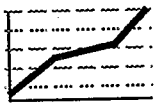
Cleanup Approach

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 EPA will conduct an evaluation of the most viable cleanup alternatives for the entire site area. Recommendations for the selected cleanup methods for soil, surface water, and groundwater will be offered at the conclusion of this study, scheduled for 1990. Once the study has been completed and the results have been evaluated, the EPA will select final cleanup methods.

Environmental Progress

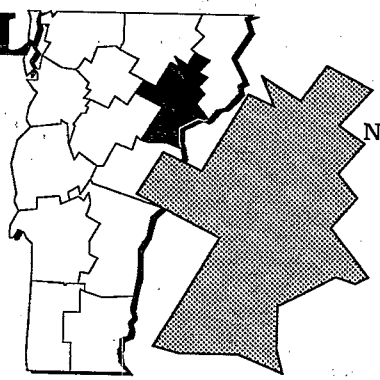


The EPA will conduct an evaluation to determine if immediate actions are necessary to ensure that the public and environment are not at risk while studies at the Burgess Brothers Landfill are being conducted and the final cleanup alternatives are being evaluated.

DARLING HILL DUMP

VERMONT

EPA ID# VTD980052118



REGION 1
CONGRESSIONAL DIST. 01
Caledonia County
Northeast portion of Lyndon (Lyndonville)

Alias:
Lyndonville Town Dump

Site Description

The Darling Hill site is an inactive dump that occupies approximately 3 1/2 acres at the top of a steep hill along Darling Hill Road in rural Lyndon. From 1952 to 1972, the Village of Lyndonville leased and operated the dump. The dump was used for the disposal of light industrial and municipal wastes. Ray O. Parker and Son, Inc. of Lyndonville leased and operated the dump from 1972 to 1983, and purchased it in 1983. During this time, the dump was used mainly for the disposal of scrap wood, metal, demolition materials, and industrial wastes. The site continued operating until the 1980s, but as of 1989, it was closed. An estimated 92,000 gallons of liquid industrial wastes were dumped directly on the ground at the unlined site, as were 2,000 tons of liquid, semi-liquid, and solid industrial wastes including metal plating rinse water, alkali *degreasers*, and organic solvents. The depth to groundwater below the dump is more than 100 feet. The village well field serving 3,200 people is 1/2 mile southwest of the dump. An additional 460 people use private wells within 3 miles of the site. About 300 feet west of the site and down a steep hill is the West Branch of the Passumpsic River, which meets the East Branch about 1/2 mile farther south. The river is used for recreational fishing and boating.

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 Village water supply contains low levels of *volatile organic compounds* (VOCs) including *trichloroethylene* (TCE) and toluene. Although soil contamination has not been verified, metal plating rinse waters, alkali degreasers, and organic solvents were dumped on the ground. Individuals could be exposed to contaminants by direct contact with soils or by drinking contaminated groundwater.

Cleanup Approach

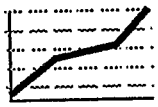
The site is being addressed in a single *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

Entire Site: The EPA is currently investigating the site to determine the extent and nature of the contamination and to choose cleanup alternatives. The study is planned for completion in 1991. At the conclusion of these studies, the EPA will select the most efficient method for the site cleanup, which will commence shortly thereafter.

Site Facts: Two *Consent Orders* were signed in 1989. Under the terms of these agreements, the parties potentially responsible for the site contamination will perform an investigation and install a carbon filtration system on the municipal well field.

Environmental Progress

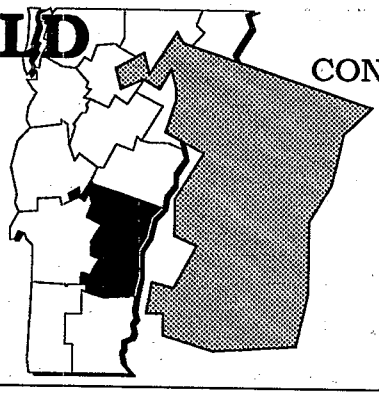


The EPA assessed the conditions at the Darling Hill Dump and determined that the site currently poses no immediate threat to the public or the environment while it is awaiting the results of the investigation and selection of cleanup remedies.

OLD SPRINGFIELD LANDFILL

VERMONT

EPA ID# VTD000860239



REGION 1

CONGRESSIONAL DIST. 01

Windsor County

Springfield

Site Description

The Springfield Landfill site covers 27 acres of an 80-acre parcel of land. The *landfill* was operated by the Town of Springfield between 1947 and 1968 for the disposal of municipal solid waste and hazardous industrial liquid and semi-liquid waste. The site is currently owned by Springfield Mobile Estates, which operates a trailer park that once consisted of 38 mobile homes. Approximately 60 people resided in the trailer park, which was built on top of the landfill; many have since moved after having sold these trailers to the *potentially responsible parties* for the site contamination. Investigation of the site found *volatile organic compound* (VOC) contamination in a spring and in a residential well near the mobile home park. The EPA began investigations at the site in 1976, following a resident's complaint of foul-smelling water. Four areas of contamination have been identified at the site where industrial waste was either disposed of separately in trenches or mixed with municipal waste. Approximately 500 people live within a 1-mile radius of the site. Many area residents are hooked up to the public drinking water system. Residents upstream of the site rely upon private wells for drinking water. The land use within a 1-mile radius is primarily low-density residential housing, light agricultural, undeveloped forest land, and commercial development. The site is on a terrace above, and 1/4 mile west of, the Black River. *Leachate* from the site flows out the side of the steep slopes next to the landfill and eventually reaches the Black River and Seaver Brook; however, neither is used as a drinking water source.

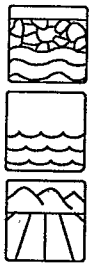
Site Responsibility: This site is being addressed through Federal and potentially responsible parties' actions.

NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

Threats and Contaminants



The groundwater, surface water and *sediments* are contaminated with VOCs including benzene and vinyl chloride. The on-site soil is contaminated with VOCs, *polychlorinated biphenyls* (PCBs) and *polycyclic aromatic hydrocarbons* (PAHs). On-site workers and residents are at risk by touching or accidentally eating or drinking contaminated groundwater, surface water, soils, or sediments.

Cleanup Approach

The site is being addressed in three stages: immediate actions to provide a safe water supply and two *long-term remedial phases* concentrating on leachate and groundwater contamination and further investigation into groundwater cleanup and source control.

Response Action Status

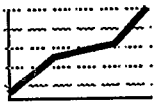
Immediate Actions: In 1984, the potentially responsible parties connected area residents to the public water supply. The EPA temporarily relocated 42 families while testing was conducted on the site. The families returned to their homes in 1987.

Leachate and Groundwater: The remedy selected by the EPA includes: (1) construction of an underground system to collect leachate passing through the site; (2) installation of wells to extract contaminated groundwater; (3) on-site treatment of the collected leachate and groundwater or possibly removing the leachate and groundwater to a publicly owned treatment works; (4) monitoring the site; and (5) conducting additional studies to determine how to isolate the landfill waste materials from the groundwater. The EPA also plans to place restrictions on the future use of groundwater underlying the contaminated area. The potentially responsible parties are preparing the technical specifications and design for the selected cleanup plan. Cleanup activities are scheduled to begin once the design phase is completed in 1991.

Source Control: Additional studies are under way to determine the possibility of preventing waste materials from entering the groundwater. The investigation is planned to be completed in 1990. Two potentially responsible parties are developing a more focused investigation to evaluate source control alternatives for the site.

Site Facts: An *Administrative Order* was issued in 1984 requiring the potentially responsible parties to supply an alternate water source. A second Administrative Order was issued in 1989 requiring a study for a second long-term remedial phase.

Environmental Progress

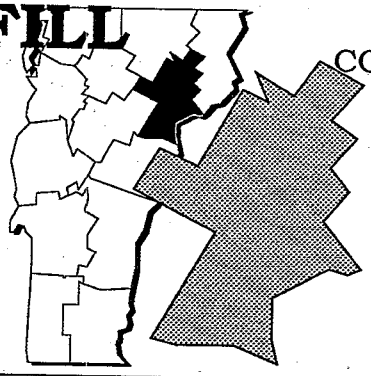


Provision of a safe drinking water supply and the other actions performed at the Old Springfield Landfill site have reduced the risk of exposure to contaminated materials while the site awaits construction of leachate control and treatment facilities and the results of the investigation into final cleanup alternatives.

PARKER LANDFILL

VERMONT

EPA ID# VTD981062441



REGION 1

CONGRESSIONAL DIST. 01

Caledonia County

Lyndon

Site Description

The Parker Sanitary Landfill is a 25-acre site that has operated as a solid waste *landfill* since 1972. Before 1983, approximately 1 million gallons of liquid wastes and 760 tons of solid or semi-solid wastes including metal plating rinse waters, waste oils, electroplating *sludges*, paint sludges, chlorinated solvent sludges, caustic cleaners, and metallic salts were disposed of in at least three areas of the landfill. Liquid and sludge wastes were poured directly onto the ground or into unlined pits and *lagoons*. During a site inspection in 1984, the State detected contaminants in a stream bordering the landfill, in groundwater at the landfill, and in four private wells 1/2 mile from the landfill. The site is located in a residential area, and an estimated 3,200 people obtain drinking water from a municipal well field approximately 2 miles from the landfill; 124 private wells are within 3 miles of the landfill. The stream flows into the Passumpsic River, which is used for recreational activities.

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

NPL LISTING HISTORY

Proposed Date: 06/21/88

Final Date: 02/21/90

Threats and Contaminants

Groundwater and stream surface waters are contaminated with *volatile organic compounds* (VOCs) including *trichloroethylene* (TCE). The site is unfenced, making it possible for people and animals to come into direct contact with hazardous substances. Trespassers may be threatened by accidentally touching or ingesting contaminated groundwater, surface water, or soil. Also, contaminated fish or waterfowl may pose a hazard if eaten.

continued

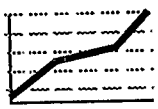
Cleanup Approach

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 parties potentially responsible for the site contamination will study the contamination at the site. The investigation will define the contaminants and will recommend alternatives for the final cleanup. This investigation is scheduled to start in 1990. Once the study is completed, the EPA will evaluate the investigation findings and will select the cleanup remedies to address the site contamination.

Environmental Progress

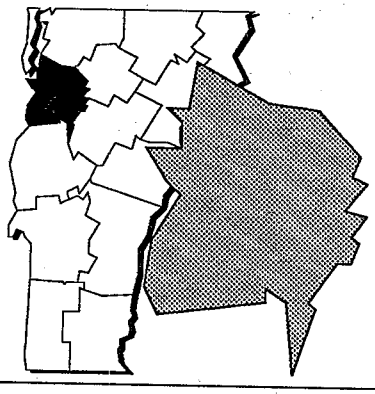


Following listing of this site on the NPL, the EPA has completed a site assessment and determined that it presently poses no immediate threat to public health or the environment while the Parker Landfill site awaits site investigations and future cleanup actions.

PINE STREET CANAL

VERMONT

EPA ID# VTD980523062



REGION 1

CONGRESSIONAL DIST. 01

Chittenden County

Burlington

Site Description

The Pine Street Canal site covers 80 acres and consists of a portion of the Pine Street Canal, Barnes Basin, an adjacent filled-in *wetland* formerly known as Maltex Pond, and an additional portion of land. In 1908, a coal *gasification* plant began operating on Pine Street, southeast of the canal. The plant ceased operations in 1966. Plant wastewaters and residual oil and wood chips saturated with organic compounds were directly discharged or disposed of in the Pine Street Canal wetland. During the 1960s and 1970s, an oil-like material was detected *seeping* from the wetland into Pine Street Canal, Barnes Basin, and Maltex Pond. The State detected high levels of organic compounds associated with coal tar at several locations on the site, which is along the proposed location of a major highway. The State is concerned that construction will release organic compounds to the canal and possibly to Lake Champlain, the source of Burlington's drinking water. There are several single and multiple-family dwellings, including apartment buildings, within 1 mile of the site. Burlington has an approximate population of 38,700.

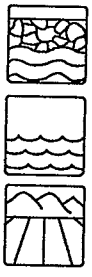
Site Responsibility: This site is being addressed through Federal actions.

NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

Threats and Contaminants



The groundwater is contaminated with *polycyclic aromatic hydrocarbons* (PAHs) and *volatile organic compounds* (VOCs) including benzene, toluene, and xylenes. The *sediment* is contaminated with *polychlorinated biphenyls (PCBs),* PAHs, and VOCs. The surface water is contaminated with phthalates and VOCs. The soil is contaminated with PAHs, VOCs, and heavy metals including lead and manganese, and the pesticide dieldrin. There is unrestricted public access to the site, although access is difficult because of marshy terrain. Trespassers may be threatened by accidentally touching or ingesting contaminated surface water, groundwater, soil, or sediment, or by swimming in the canal. In addition, eating contaminated fish may pose a health hazard. Breathing the air contaminated with VOCs may also be a hazard. Portions of the site are seasonally flooded, permitting the spread of contamination. The site has been posted by the City of Burlington and the Vermont Department of Health.

continued

Cleanup Approach

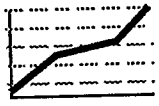
The site is being addressed in two stages: emergency actions and a *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status

Emergency Actions: In 1985, the EPA conducted emergency actions by excavating 500 cubic yards of coal tar, solidifying it, and disposing of it in an approved facility. The Maltex Pond area was also *capped* with clay, covered with topsoil, and seeded. A temporary fence was erected and some sampling was conducted.

Entire Site: The EPA is currently studying the nature and extent of the contamination at the site. The EPA plans to conduct field investigations which will include: a soil gas survey, a geophysical survey, air sampling, biological studies, surface water and sediment sampling, soil sampling, installation of monitoring wells, and groundwater sampling.

Environmental Progress

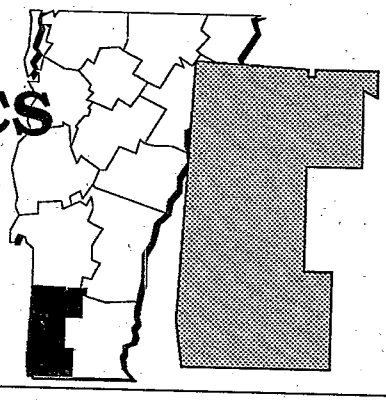


The emergency removal actions described above and the construction of a fence have greatly reduced the potential of exposure to hazardous substances, making the Pine Street Canal safer while it awaits further cleanup activities.

TANSITOR ELECTRONICS INC.

VERMONT

EPA ID# VTD000509174



REGION 1

CONGRESSIONAL DIST. 01

Bennington County

Bennington

Site Description

Tansitor Electronics, Inc. manufactures electronic capacitors and is located on 36 acres in the mostly rural area of Bennington. According to the Vermont Department of Environmental Conservation (VT DEC), Tansitor disposed of approximately 115 drums of process wastes into an unnamed stream or directly onto the ground. An estimated 1,500 residents of Vermont and New York obtain drinking water from private wells within 3 miles of the site. *Runoff* from the disposal area, overflow from a contaminated pond, and the process wastes have entered the perennial stream that joins Brown's Brook within 3 miles of the site, which is used for recreational activities.

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 VT DEC found that the on-site surface water, groundwater, *sediment* and soils were contaminated with silver, boron, and *volatile organic compounds* (VOCs). The drums with process wastes were found to contain materials consisting of trichloroethane (TCA), acetone, oils, and acid *sludges.* Due to the absence of contaminants in drinking water supplies, the site is not considered an imminent threat to human health; however, environmental damage has occurred to soils, surface water, and groundwater.

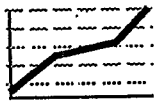
Cleanup Approach

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

Response Action Status

Groundwater and Sediment: The EPA emergency response staff collected water and sediment samples to determine whether immediate action was warranted. The EPA will conduct a comprehensive investigation to determine the extent of contamination and to evaluate alternative technologies for cleanup. The investigation is scheduled to begin in 1990.

Environmental Progress



The EPA assessed the conditions on the site and determined that there were no immediate actions required to make the Tansitor Electronics site safer while it awaits further cleanup activities.

GLOSSARY:

TERMS USED IN THE FACT SHEETS

This glossary defines the italicized terms used in the site fact sheets for the State of Vermont. 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.

Vermont

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.

Bases: Substances characterized by high pH (greater than 7.0), which tend to be corrosive in chemical reactions. When bases are mixed with acids, they neutralize each other, forming salts.

Borrow Pit: An excavated area where soil, sand, or gravel has been dug up for use elsewhere.

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.

Consent Order: [see Administrative Order on Consent].

Culvert: A pipe under a road, railroad track, path, or through an embankment used for drainage.

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

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.

Gasification (coal): The conversion of soft coal into gas for use as a fuel.

Generator: A facility that emits pollutants into the air or releases hazardous wastes into water or soil.

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.

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.

Polynuclear Aromatic Hydrocarbons (PNAs): PNAs, such as naphthalene, and biphenyls, are a group of highly reactive organic compounds that are a common component of creosotes, which can be carcinogenic.

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.

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].

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.

Watershed: The land area that drains into a stream or other water body.