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**NATIONAL PRIORITIES LIST SITES:
New Hampshire**

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:

National Technical Information Service (NTIS)
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161
(703) 487-4600

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INTRODUCTION:

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

A BRIEF OVERVIEW

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-



INTRODUCTION

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 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.

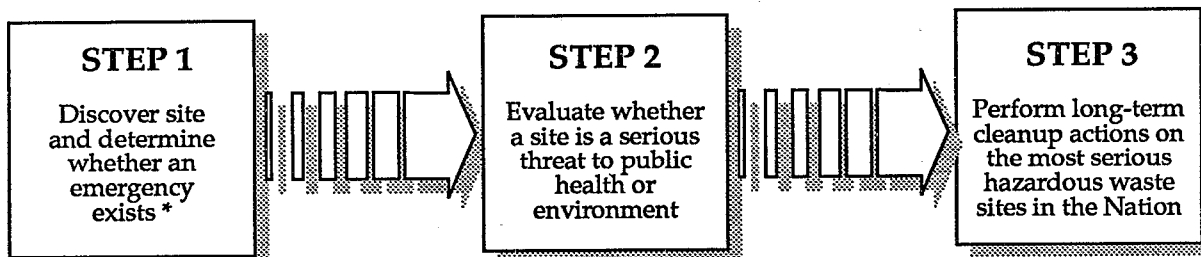
To help you understand the cleanup accomplishments made at these sites, this State volume includes a description of the process for site discovery, threat evaluation and long-term cleanup of Superfund sites. This description — *How Does the Program Work to Clean Up Sites?* — will serve as a good reference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

SUPERFUND

How does EPA learn about potential hazardous waste sites?

What happens if there is an imminent danger?

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

STEP 1: SITE DISCOVERY AND EMERGENCY EVALUATION

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.

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

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.

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.

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

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

How does EPA use the results of the site inspection?

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

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 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*.

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

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.

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

How are cleanup alternatives identified and evaluated?

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

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.

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.

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.

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

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

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

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

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

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.

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.

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.

Can EPA make parties responsible for the contamination pay?

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.)

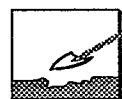


Contaminated Soil and Sludges on or near the site.



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

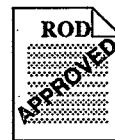
Icons in the *Response Action Status* Section



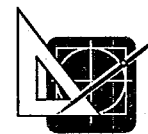
Initial Actions have been taken or are underway to eliminate immediate threats at the site.



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.

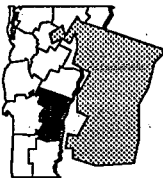
Site Responsibility

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

SITE NAME

STATE

EPA ID# ABC00000000



EPA REGION
CONGRESSIONAL DIST
County Name
Location

Aliases:

Site Description

NPL Listing History

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

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 New Hampshire



New Hampshire is located on the Canadian border between Maine and Vermont, and is bordered by the Atlantic Ocean on the southwest corner. The State covers 9,279 square miles consisting of a low, rolling coast followed by hilly terrain and mountains rising out of a central plateau. New Hampshire experienced a 17.9 percent increase in population through the 1980s and currently has approximately 1,085,000 residents, ranking 40th in U.S. populations. Principal State industries include manufacturing, tourism, agriculture, trade, and mining of non-fuel minerals. New Hampshire manufacturing produces machinery, electrical and electronics products, plastics, fabricated metal products, and leather goods.

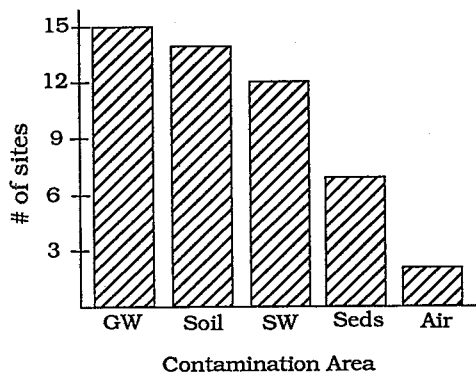
How Many New Hampshire Sites Are on the NPL?

Proposed	0
Final	16
Deleted	0
	16

Where Are the NPL Sites Located?

Cong. District 01	12 sites
Cong. District 02	4 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), creosote (organics), and polychlorinated biphenyls (PBCs).



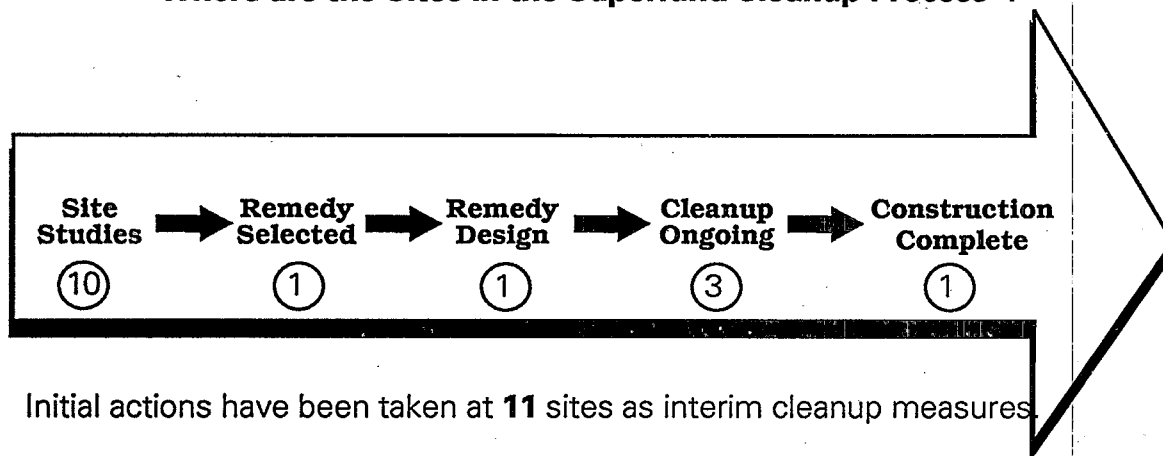
Surface Water and Sediments: Volatile organic compounds (VOCs), heavy metals (inorganics), and polychlorinated biphenyls (PBCs).



Air: Volatile organic compounds (VOCs).

*Appear at 20% or more sites

Where are the Sites in the Superfund Cleanup Process*?



Who Do I Call with Questions?

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

New Hampshire Superfund Office	(603) 271-2908
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



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 immediate 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.

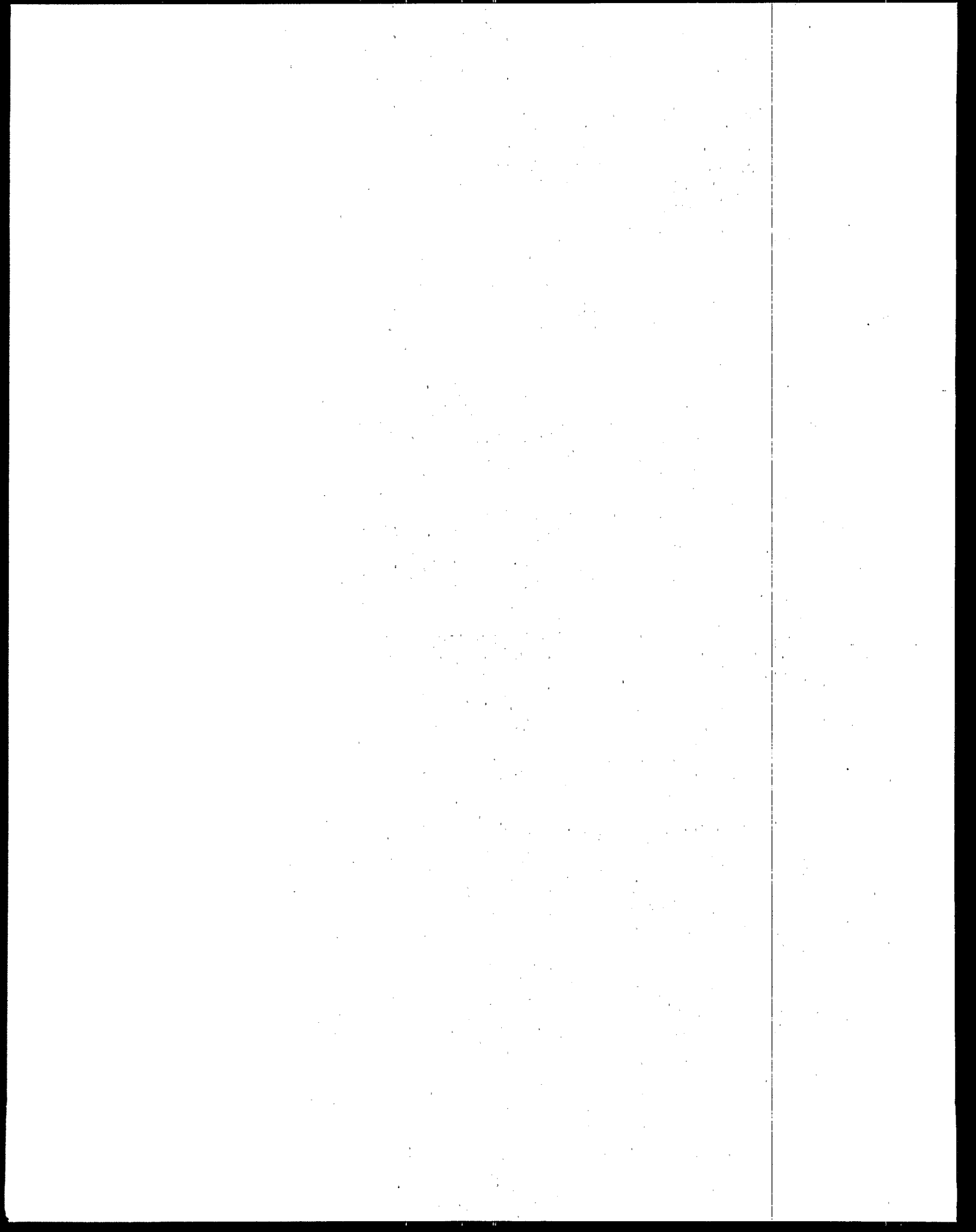
The sites are listed in alphabetical order. Further information on the activities and progress at each site is given in the site "Fact Sheets" published in this volume.

Progress Toward Cleanup at NPL Sites in the State of New Hampshire

Page	Site Name	County	NPL	Date	Initial Response	Site Studies	Remedy Selected	Remedy Design	Cleanup Ongoing	Construction Complete
1	AUBURN ROAD LANDFILL	ROCKINGHAM	Final	09/08/83	➡	➡	➡	➡	➡	
3	COAKLEY LANDFILL	ROCKINGHAM	Final	065/20/86	➡	➡				
5	DOVER MUNICIPAL LANDFILL	STRAFFORD	Final	09/08/83		➡				
7	FLETCHER'S PAINT WORKS	HILLSBOROUGH	Final	03/31/89	➡	➡				
9	HOLTON CIRCLE	ROCKINGHAM	Final	03/31/89		➡				
11	KEARSARGE METALLURGICAL CORP.	CARROLL	Final	09/01/84	➡	➡				
13	KEEFE ENVIRONMENTAL SERVICES	ROCKINGHAM	Final	09/08/83	➡	➡	➡	➡	➡	
15	MOTTOLO PIG FARM	ROCKINGHAM	Final	07/01/87	➡	➡				
17	OTTATI & GOSS/KINGSTON STEEL DRUM	ROCKINGHAM	Final	09/08/83	➡	➡	➡	➡	➡	
20	PEASE AIR FORCE BASE	ROCKINGHAM	Final	02/21/90		➡				
22	SAVAGE MUNICIPAL WATER SUPPLY	HILLSBOROUGH	Final	09/01/84	➡	➡				
24	SOMERSWORTH SANITARY LANDFILL	STRAFFORD	Final	09/08/83		➡				
26	SOUTH MUNICIPAL WATER SUPPLY	HILLSBOROUGH	Final	09/01/84		➡	➡			
28	SYLVESTER SITE	HILLSBOROUGH	Final	09/01/83	➡	➡	➡	➡	➡	➡
30	TIBBETTS ROAD	STRAFFORD	Final	07/10/86	➡	➡				
32	TINKHAM'S GARAGE	ROCKINGHAM	Final	09/08/83	➡	➡	➡	➡		

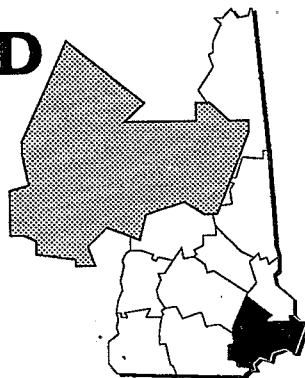
SITE
FACT
SHEETS

NPL:



AUBURN ROAD LANDFILL NEW HAMPSHIRE

EPA ID# NHD980524086



REGION 1
CONGRESSIONAL DIST. 01

Rockingham County
Londonderry

2 miles north of Route 28 on Auburn Road

Site Description

The Auburn Road Landfill in Londonderry consists of four separate disposal areas: (1) the former Londonderry Town Dump, which operated during the 1960s and was the disposal site for over 1,000 drums of chemical waste; (2) a tire disposal area, where tires and demolition debris and several hundred drums of chemical waste were dumped; (3) a solid waste *landfill*, the largest disposal area, active until the entire site was closed in early 1980; and (4) a *seepage lagoon*, which is next to a mound of overflow waste from the tire dump. Most of the residents in the area depend on bedrock wells for their water supply. In 1986, the EPA determined that contaminated groundwater flowed off site toward the drinking water supply wells at the Whispering Pines Mobile Home Park and potentially to other private residential wells. The State ordered the landfill closed early in 1980, after hazardous wastes were identified in soil, and toxic organics were found in surface water and groundwater. The area surrounding the landfill is residential and commercial, and the 300 homes and 270 mobile homes within a 1-mile radius use groundwater as a primary source of drinking water. Approximately 1,050 people live within 3 miles of the site. Two unnamed streams drain from the site and flow into Cohas Brook, which in turn empties into the Merrimack 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

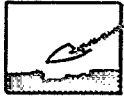


The groundwater is contaminated with *volatile organic compounds* (VOCs), *creosotes*, and inorganic chemicals. The soil is also contaminated with VOCs, creosote compounds, and inorganics, as well as *polychlorinated biphenyls* (PCBs) and pesticides. Whispering Pines Pond and Cohas Brook are polluted with low levels of VOCs. The fencing of the town dump, the tire dump, and solid waste areas decrease the likelihood of exposure to contaminated soils, although the areas adjacent to the fences are used for riding dirt bikes and horses. Exposure to contaminated groundwater is eliminated at the present time because the municipal water supply has been extended to local residents, but bedrock fractures may promote *migration* of contaminants into off-site groundwater and may present a potential threat to private wells outside the area. The site includes large areas of *wetlands* and ponds, which are environmentally sensitive.

Cleanup Approach

The site is being addressed in four stages: an initial action and three *long-term remedial phases* focusing on providing a water supply, *capping* the site, and cleanup of the groundwater contamination.

Response Action Status



Initial Action: The Federal Emergency Management Agency (FEMA) temporarily relocated 17 families beginning in early 1986. At that time, the EPA excavated 1,666 drums in 3 locations and then restored two of the excavated areas. Drums were consolidated, covered, and sampled prior to their disposal off site. A 24-hour security guard was maintained prior to disposal. The owner fenced the four disposal areas from 1987 to 1988 and posted warning signs. In 1988, the EPA excavated 360 drums from the tire dump.



Water Supply Line: In late 1987, the Town of Londonderry extended the current water service provided by the Manchester Water Works to 17 homes along Auburn Road and to 260 mobile homes in the Whispering Pines mobile home village. Nine thousand linear feet of water line were installed. Londonderry constructed and paid for the water supply line under an agreement with the EPA.

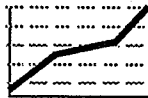


Groundwater: In 1989, the EPA selected cleanup technologies that specified the collection of contaminated groundwater through a series of shallow and deep bedrock wells and the use of groundwater collection trenches. Inorganic contamination is to be removed using chemical precipitation. Groundwater will then be treated for removal of organic contaminants using a combination of *air stripping* and, if necessary, *carbon treatment*. An engineering design for this remedy is expected to start in 1991.



Cap: The EPA specified that a multi-layer cap be placed over the solid waste area, the town dump area, and the tire dump area to prevent the further spread of contaminants to the groundwater. A design for the cap is planned to start in 1990.

Environmental Progress



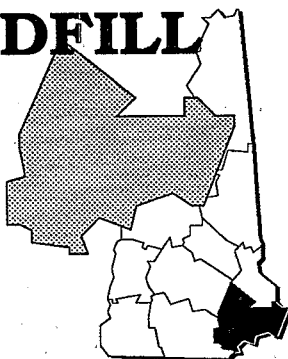
The EPA, FEMA, and the Town of Londonderry have acted to protect area residents from site contamination by relocating affected populations, providing a safe water supply, and removing of a large number of drums containing contaminants. The planned capping will prevent any further spread of contamination as the groundwater cleanup continues at the Auburn Road Landfill site.



COAKLEY LANDFILL

NEW HAMPSHIRE

EPA ID# NHD064424153



REGION 1

CONGRESSIONAL DIST. 01

Rockingham County
Greenland and North Hampton

Site Description

The Coakley Landfill site is a 92-acre parcel of land within the towns of Greenland and North Hampton, and is owned and operated by several municipalities. The *landfill* area encompasses 27 acres in the southern portion of the site. The site accepted municipal and industrial wastes from the Portsmouth area between 1972 and 1982, and incinerator residue from the Incineration Recovery Plant Refuse to Energy Project between 1982 and 1985. The primary source of contamination is the landfill itself. *Volatile organic compounds* (VOCs) and metals are the predominant contaminants found. On- and off-site surface water and groundwater are contaminated. The site is located on a groundwater/surface water divide, and residential wells to the south, southeast, and northeast of the landfill are contaminated with low levels of VOCs. Public water service has been extended to the areas with contaminated wells by local communities. Approximately 79,300 people are served by wells within 3 miles of the site. There are also several small commercial facilities, motels, and restaurants nearby.

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

NPL LISTING HISTORY

Proposed Date: 10/15/84

Final Date: 05/20/86

Threats and Contaminants



On-site groundwater is contaminated with arsenic, *phenol*, and methyl ethyl ketones; off-site groundwater is contaminated with heavy metals including arsenic, chromium, and lead, and VOCs including benzene and methyl ethyl ketones. On-site *sediments* are contaminated with arsenic and lead. Stream sediments contain contamination from arsenic and VOCs. *Leachate* contamination at the site includes VOCs, tetrahydrofuran, and ketones. Potential use of groundwater as a water supply is the main threat to human health.

Cleanup Approach

The site is being addressed in two stages: initial actions to ensure a safe drinking water source and a *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status



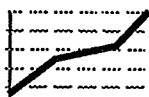
Initial Actions: In 1989, North Hampton extended a municipal water line to residents who had been supplied by 13 private wells that were contaminated with VOCs. The State set up an early warning system to detect well contamination in the entire area. Most area residents now have uncontaminated water.



Entire site: An investigation was conducted by the State from 1986 to 1987. The goals of the field work were to characterize the *hydrogeologic* conditions at the site including an estimate of the total area of the landfill and soil deposits, hydraulic properties of bedrock and selected surface streams, and to identify pathways for contaminant *migration* from the site. The State completed the study to determine the alternative technologies for cleanup of the site and a proposed plan was issued early in 1990. With assistance from EPA, the final decision on the method of cleanup to be used at the site is scheduled for later in 1990.

Site Facts: The State issued a *Consent Order* requiring the owner to accept only incinerator ash from the Refuse to Energy Project in 1983. As of February 1990, notices have been sent to 60 parties potentially responsible for the site contamination.

Environmental Progress



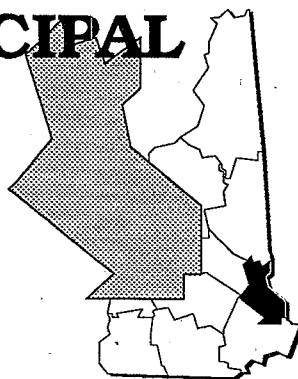
The provision of an alternate drinking water source has reduced the potential for exposure to contamination, making the Coakley Landfill safer while it awaits further cleanup activity.



DOVER MUNICIPAL LANDFILL

NEW HAMPSHIRE

EPA ID# NHD980520191



REGION 1
CONGRESSIONAL DIST. 01
Strafford County
In Mallego Plains section of Dover

Site Description

The Dover Municipal Landfill is a 55-acre inactive *landfill* located on Tolend Road in the Mallego Plains section in the western corner of Dover. Owned and operated by the City since 1954, the landfill initially accepted domestic refuse from Dover, but by the 1960s it took in drums and loose trash from both Dover and Madbury. Buried materials include leather-tanning wastes, organic solvents, municipal trash, and *sludge* from the Dover wastewater plant. It is believed that drums were no longer accepted after 1975. In 1977, the State installed monitoring wells around the area and found that organic solvents were entering groundwater, posing a potential threat to public water supplies for Dover and Portsmouth. The State and the Dover City Council closed the landfill in 1980. The site is in a residential area; the nearest home is 100 yards to the southeast. A nursing home is 2,500 feet away, and a prison and work farm are located nearby. There are 50 homes within 1 mile of the landfill, and the surrounding area is used for hunting and berrying. Two water supplies are at risk but are not currently contaminated: the Calderwood municipal well, 1/2 mile north, which supplies 20% of Dover's water; and Bellamy Reservoir, 1/3 mile south, which supplies Portsmouth, Newington, New Castle, Greenland, and portions of Rye, Meadbury, and Durham. *Leachate* from the landfill is entering the Cocheco River, 400 feet away from the site at the closest point. *Wetlands* also exist near the site.

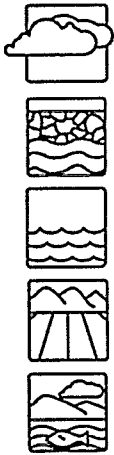
Site Responsibility: The site is being cleaned up through a combination of Federal and State action.

NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

Threats and Contaminants



Air is polluted with *volatile organic compounds* (VOCs), which have been detected above background levels near leachate streams on the site. The groundwater is contaminated with VOCs, *acid* and *base/neutral* extractable organic compounds, and heavy metals. Three residential wells have been contaminated with organics from the site; however, water is not currently being consumed from them. *Sediments* are contaminated with heavy metals, including arsenic, chromium, and lead. Soil contamination includes *polyaromatic hydrocarbons* (PAHs) off site and heavy metals, including arsenic, chromium, and lead both on and off site. The Cocheco River receives leachate; VOCs have also been detected in the surface water. People on or near the site could be exposed to contaminants that have evaporated into the air. People using the site for recreational purposes could touch, accidentally ingest, or inhale contaminated dust. Drinking contaminated groundwater and swimming or wading in the contaminated Cocheco River could also expose people to harmful chemicals. Nearby wetlands are potentially threatened by site contamination.

Cleanup Approach

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

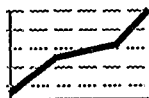
Response Action Status



Entire Site: In 1988, the State began a study of the site to assess the nature and extent of contamination. The parties potentially responsible for the site contamination have assumed responsibility for the study that will identify the alternate cleanup strategies. The EPA will evaluate the study findings and expects to select a final cleanup strategy for the site in 1990.

Site Facts: The State and City Council closed the landfill in 1988. The EPA and the potentially responsible parties entered into an *Administrative Agreement* to complete a feasibility study of site cleanup strategies.

Environmental Progress



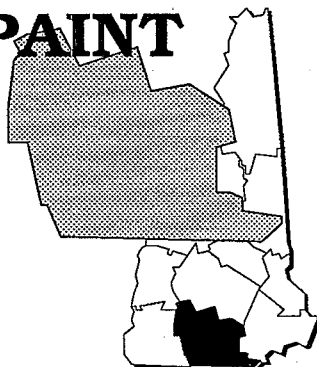
Following the listing of this site on the NPL, the EPA determined that the Dover Municipal Landfill site currently poses no immediate threat to public health or the environment while it awaits further cleanup activities.



FLETCHER'S PAINT WORKS

NEW HAMPSHIRE

EPA ID# NHD001079649



REGION 1
CONGRESSIONAL DIST. 02

Hillsborough County
21 Elm Street in Milford

Aliases:

Fletcher Paint on Elm Street
Fletcher Storage Facility on Mill Street

Site Description

This 2-acre site consists of two neighboring lots owned by Fletcher's Paint Works: a plant on Elm Street and a storage area 700 feet south on Mill Street. Fletcher's has manufactured and sold paints and stains for residential use at its plant since 1949. Bulk paint pigments are stored at the warehouse. The owner is storing several hundred drums behind the plant, and naphtha and mineral spirits are stored in unlined underground tanks. Contaminants from the storage facility were found in a drainage ditch on the adjoining Hampshire Paper Co. property, and this ditch was made a part of the site. The State inspected the facility in 1982 in response to a complaint and found 800 drums of alkyd resins and 21 drums of solvent. Leaking and open drums, as well as stained soil were observed. EPA investigation of the site was prompted by discovery of contamination of the adjacent Keyes municipal water supply well. Drums were removed from the Elm Street facility, and a synthetic liner and clean fill have been placed over the high levels of *polychlorinated biphenyls* (PCBs) at the Mill Street storage facility. The site is situated in a densely populated residential/commercial area approximately 1/4 mile from the downtown area. Approximately 11,400 people within 3 miles obtain drinking water from public and private wells. There are three schools within 1/2 mile of the site. The site is adjacent to and *upslope* from the Souhegan River, which is used for recreational activities.

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

NPL LISTING HISTORY

Proposed Date: 06/21/88

Final Date: 03/31/89

Threats and Contaminants



Air contaminants consist of *volatile organic compounds* (VOCs). Bagged asbestos is being stored on the site and the drummed wastes are contaminated with VOCs, *base/neutral* solids and liquids, and PCB liquids. *Sediments* from the Souhegan River, upslope and adjacent to the site, and surface waters contain VOC contaminants, including benzene and toluene, as well as heavy metals including nickel and lead, and PCBs. Soil contamination consists of VOCs, heavy metals and PCBs in on-site soils, as well as organic solvents, barium, lead, and nickel. The plant is easily accessible and is adjacent to a road leading to a popular recreation area. People on or near the site could risk exposure to contaminants by accidentally ingesting or inhaling chemicals in the air, water, soil or sediments.

Cleanup Approach

The site is being addressed in two stages: initial actions to control site contamination and a single *long-term remedial phase*, with major attention being given to the soil and groundwater cleanup.

Response Action Status

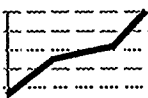


Initial Actions: The EPA mounted an emergency removal effort at the site in 1988. Twelve bags of asbestos were contained and sent to an EPA approved *landfill*. Soil and air samples were taken. Air monitoring was conducted regularly during the cleanup activities. The EPA lined the surface of the PCB-contaminated lot with a synthetic liner, covered it with 6 to 8 inches of gravel and topped it with 1-1/2 inches of stone dust. Safe drummed materials were left on site, but hazardous ones were numbered, consolidated, and packed in new containers and sent to a federally approved landfill.



Soil and Groundwater: The EPA is conducting an intensive study of soil and groundwater contamination at the site and will recommend cleanup strategies. The investigation is expected to be completed in 1992, and a final remedy selection will be made at that time.

Environmental Progress



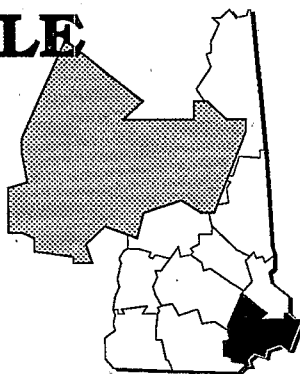
With the cleanup actions described above, the EPA has greatly reduced the potential for accidental soil and dust exposure at both Fletcher Paint Works locations. Upon completion of the soil and groundwater cleanup, contamination levels will be reduced to meet established health and ecological standards for the site.



HOLTON CIRCLE

NEW HAMPSHIRE

EPA ID# NHD981063860



REGION 1
CONGRESSIONAL DIST. 01
Rockingham County
Londonderry

Site Description

Holton Circle is a development of about 25 homes. The site has a series of residential wells and one commercial well, known as the Town Garage well. According to tests conducted in 1984 by the State, the wells are contaminated. The EPA and the State have been investigating the area since 1985 and have not yet verified a source of the contamination. The Department of Defense owned the Town Garage well, located 1,000 feet west of the Holton Circle, from the early 1940s to 1968 and operated a radio beacon there during World War II. The EPA also investigated a small auto repair shop about 1,000 feet south of Holton Circle. The shop uses 1 to 2 gallons of *degreasing* solvents annually. The area around the site consists of mixed rural and residential properties and is being actively developed. Approximately 7,400 people obtain drinking water from private wells within 3 miles of Holton Circle.

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

NPL LISTING HISTORY

Proposed Date: 06/21/88

Final Date: 03/31/89

Threats and Contaminants



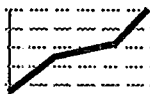
The groundwater in the wells is contaminated with *volatile organic compounds* (VOCs) including dichloroethylene and dichloroethane. People may be exposed to these VOCs by drinking the contaminated groundwater. The six residences with contaminated drinking water wells have been connected to a public water supply.

Cleanup Approach

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

Response Action Status

Groundwater: The EPA will conduct an investigation into the groundwater contamination at the site. The investigation will define the contaminants and recommend alternatives for the final cleanup. The investigation is expected to be completed in 1992.

Environmental Progress

After adding this site to the NPL, the EPA assessed conditions and determined that, besides connecting six residences with contaminated wells to the public water supply, no further immediate actions are required to make the Holton Circle site safe while waiting for cleanup actions to begin.

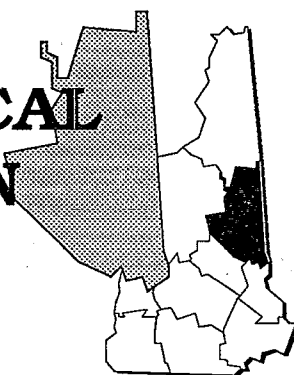


KEARSARGE METALLURGICAL CORPORATION

NEW HAMPSHIRE

EPA ID# NHD062002001

REGION 1
CONGRESSIONAL DIST. 01
Carroll County
Conway



Site Description

Precision stainless castings were manufactured on this 9-acre site from 1964 until Kearsarge Metallurgical Corporation went out of business in 1982. Of the 9 acres, Kearsarge owned 5; the 4 remaining acres have different ownership but are included within the site boundaries. The wastes produced from the processes of making the casts (casting, cleaning, finishing, and pickling) were initially disposed of on site. During the 1970s and 1980s some of these wastes were drummed and stored on site. A large pile of approximately 5,600 cubic yards of solid wastes is located behind a foundry building. This stockpile contains ceramic sand, scrap metal, rusted drums, and various other refuse from foundry operations and extends across the Kearsarge property line. There is an 8-foot high waste pile located behind one of two abandoned buildings that is surrounded by a chainlink fence. The closest drinking water wells are two wells that supply water for the municipality and a water supply well for the residential area across the Pequawket Pond. The municipal wells are approximately 3,000 feet north of the site and supply most of the water to the area. Pequawket Pond marks the southern boundary of the site and is used for recreational purposes. Approximately 8,100 people live within 3 miles of the site, and 2,700 people within 3 miles of the site use groundwater in the area for drinking purposes.

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

NPL LISTING HISTORY

Proposed Date: 09/01/83

Final Date: 09/01/84

Threats and Contaminants



The groundwater is contaminated with *volatile organic compounds* (VOCs) including toluene and *trichloroethylene* (TCE). *Sediment* samples taken from Pequawket Pond indicate the presence of some heavy metals. The soils in the woodlands area east of the site and in the drainage way area are contaminated with low levels of VOCs, primarily trichloroethane. Samples taken from Pequawket Pond indicate the presence of heavy metals including chromium, copper, and nickel. VOCs were detected in off-site surface water, primarily in the swampy area east of the site and the catch basins. There is a potential for human exposure to VOCs and radioactivity by inhalation and ingestion of the dusts and dirt from the site. The radioactive source is believed to be the underlying Conway Granite, a

—Threats and Contaminants Continued—

a natural source. The potential exists for exposure to contaminants from the sediments and surface water in the swamp and drainage area, soils, the waste pile, and contaminated groundwater. The town's drinking water supply has not been shown to be contaminated; however, the possibility exists that the site may contribute groundwater to the municipal wells during periods of low recharge. Residents have the potential for exposure through contact with the contaminated soils and surface water in the swamp areas east of the site and direct contact with the soils in the waste pile.

Cleanup Approach

The site is being cleaned up in two stages: initial actions to control site contamination and a *long-term remedial phase* focusing on cleanup of the entire site.

Response Action Status



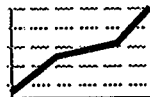
Initial Actions: The site owner arranged for the removal of 300 drums and quantities of contaminated soil and for the installation of 8 monitoring wells around the site. Other actions to control the source of contamination are scheduled for 1990. In addition, 23 monitoring and observation wells were installed by GEI, Inc. The wells supplemented the 8 monitoring wells previously installed. Seventeen test pits were excavated and solid waste samples were collected from drums. Three rounds of groundwater samples were also collected. Surface water and sediment samples were collected from the Pequawket Pond.



Entire Site: One of the potentially responsible parties, GEI, Inc., conducted an investigation into the nature and extent of the contamination at the site. The State of New Hampshire, under a *Cooperative Agreement* with the EPA, then expanded the study and is investigating alternatives for the final cleanup.

Site Facts: The State of New Hampshire filed a Civil Action in the Superior Court of Carroll County in 1983, asking for civil penalties for disposal of hazardous waste and ordering the owner to conduct a *hydrogeological* study.

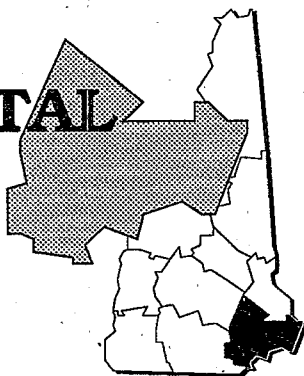
Environmental Progress



The initial cleanup actions to remove contaminated drums and soil have greatly reduced the potential of exposure to hazardous substances, making the Kearsarge area safer while it awaits future cleanup activities.



**KEEFE
ENVIRONMENTAL
SERVICES**
NEW HAMPSHIRE
EPA ID# NHD092059112



REGION 1
CONGRESSIONAL DIST. 01
Rockingham County
Epping

Site Description

The Keefe Environmental Services site, covering 7 acres in Rockingham County, was operated as a chemical waste facility from 1978 until 1981, when the company filed for bankruptcy. Waste storage containers that were present on site at that time included 4,100 drums, four 5,000-gallon and four 10,000-gallon aboveground storage tanks, and a 700,000-gallon synthetically lined *lagoon*. Solvents, *acids*, caustics, heavy metals, paint *sludges*, waste oils, and organic chemicals were disposed at the site. Soil and groundwater on and off site have been contaminated. The site is located in a State-protected *watershed* with *wetland* areas draining to the Piscassic River. The site is located in a semi-rural area. There are approximately 12 houses, with a population of 30 people, located along Exeter Road, south of the site. The groundwater *aquifer* is used as a water supply for ten residences located nearby and is the major source of drinking water for approximately 2,000 people within a 3-mile radius of the site. The Town of New Market has a water supply *intake* on the Piscassic River 7 miles downstream from the site.

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

NPL LISTING HISTORY

Proposed Date: 10/01/81

Final Date: 09/08/83

Threats and Contaminants



The groundwater and soil at the site, and off-site surface water, are contaminated with *volatile organic compounds* (VOCs) including trichloroethane and benzene. The health threats to workers or others nearby consist of drinking the contaminated water or coming in direct contact with hazardous wastes left on the site.

Cleanup Approach

The site is being cleaned up in three stages: initial actions to control site contamination and two *long-term remedial phases* focusing on cleanup of the lagoon and the soil and groundwater.

Response Action Status



Initial Actions: In 1981, when the site operations ceased, the EPA declared an emergency at the site after determining that the waste lagoon was about to overflow. The EPA and the State initiated emergency actions that included drawing down the lagoon to lessen the threat of a spill. In continuing emergency actions during 1983 and 1984, the EPA and the State removed more than 4,000 drums, four 5,000-gallon aboveground tanks, and four 10,000-gallon aboveground tanks of hazardous waste.



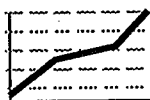
Lagoon: The actions for cleanup of the lagoon included removal of the contents of the lagoon for disposal off site at a regulated facility and removal of the lagoon liner and the highly contaminated soil adjacent to the lagoon for disposal at a regulated facility. These cleanup activities were completed in 1984.



Soil and Groundwater: The cleanup activities chosen by the EPA for the soil and groundwater include treatment by removing contaminants from the soil with vacuum pressure, pumping the contaminated groundwater, filtering volatile contaminants by exposing the groundwater to air, and absorbing the airborne chemicals by *carbon adsorption*. Treated groundwater will be discharged to a groundwater recharge area adjacent to the wetland along the site border. The State recently completed the technical specifications and design for the selected remedy, and cleanup activities are underway.

Site Facts: A *Consent Agreement* was entered into with 119 settling potentially responsible parties in 1986. The EPA filed suit against the non-settling parties in 1989.

Environmental Progress



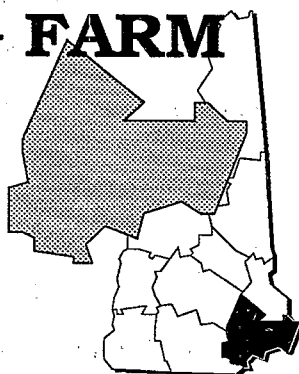
The cleanup actions described above are under way. The health risks and environmental threats posed by these hazardous materials are being eliminated as the work progresses. Upon completion of the cleanup activities, the soil and groundwater contamination levels at the Keefe Environmental Services site will be reduced to meet established health standards for the site.



MOTTOLO PIG FARM

NEW HAMPSHIRE

EPA ID# NHD980503361



REGION 1

CONGRESSIONAL DIST. 01

Rockingham County

Off Blueberry Hill Road in Raymond

Alias:

Raymond Hazardous Waste Site

Site Description

The 50-acre Mottolo Pig Farm site is an abandoned pig farm located in an undeveloped wooded area. From 1975 to 1979, Richard Mottolo, the owner of the property, disposed of chemical manufacturing wastes from two companies in a 1/4-acre fill area adjacent to the piggery buildings. During the 4-year period, over 1,600 drums and pails of wastes, including organic compounds such as toluene, xylene, and methyl ethyl ketone, were disposed of at the site. State studies showed that groundwater beneath the site was contaminated and that contaminants were *seeping* into a brook that empties into the Exeter River. The Exeter River is a drinking water supply for the nearby communities of Exeter, Hampton, and Stratham. An estimated 1,600 people depend on groundwater within 3 miles of the site as a source of drinking water. There are approximately 200 single family residences within 1 mile of the site, with the nearest residence approximately 150 yards from the source area. Residential areas border the site property on three sides.

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

NPL LISTING HISTORY

Proposed Date: 04/01/85

Final Date: 07/01/87

Threats and Contaminants



Specific contaminants detected in groundwater include *volatile organic compounds* (VOCs) and heavy metals such as iron, manganese, arsenic, and zinc. Contaminated *leachate* from the site seeps into an adjacent brook. A small area of on-site soils contains VOCs. Threats to human health include drinking contaminated groundwater, direct contact with or accidental drinking of contaminated surface water, touching or accidentally ingesting contaminated soils, and inhaling contaminated dusts.

Cleanup Approach

The site is being cleaned up in two stages: initial action and a *long-term remedial phase* focusing on groundwater treatment.

Response Action Status



Initial Action: In 1980, under authority of the Clean Water Act, the EPA used emergency funds to excavate and store drums on site. From 1981 to 1982, the EPA removed drums and pails from the site along with 160 tons of contaminated soil, preventing further contamination of the soil and groundwater. EPA actions also included limiting site access, sampling and analysis, strengthening of *berms*, *overpacking* containers, and removing and disposing of materials. The EPA excavated observation pits to determine if surface water diversion was feasible.



Groundwater: The parties potentially responsible for contamination at the site are currently conducting a study to determine the nature and extent of the groundwater contamination at the site caused by chemical manufacturing wastes. The study will define the contaminants of concern and will recommend alternatives for the final cleanup. The study is planned to be completed in 1991.

Site Facts: In 1988, the EPA and the K.J. Quinn Company signed an *Administrative Consent Order*, in which the company agreed to perform an investigation of the site under EPA monitoring. K.J. Quinn is one of several parties potentially responsible for contamination problems originating at the site.

Environmental Progress



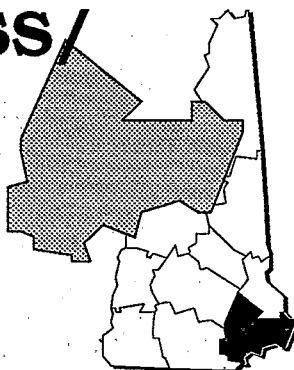
Initial actions to limit access to the site and remove contaminated drums and soil have reduced the immediate threat to the public and environment while the site awaits further cleanup actions.



OTTATI & GOSS/ KINGSTON STEEL DRUM

NEW HAMPSHIRE

EPA ID# NHD990717647



REGION 1
CONGRESSIONAL DIST. 01
Rockingham County
Kingston

Alias:
Kingston Steel Drum/GRT Lakes Container

Site Description

The Ottati & Goss/Kingston Steel Drum site, situated on 35 acres, contains a 1-acre parcel in the southwest portion that was leased and known as the Ottati & Goss (O&G) site and a 6-acre Great Lakes Container Corporation (GLCC) site consisting of a rectangular parcel bordered on the east by Route 125. From the late 1950s through 1967, Conway Barrel & Drum Company (CBD) owned the site and performed drum reconditioning operations on the parcel of land later owned by the Great Lakes Container Corporation. The reconditioning operations included caustic rinsing of drums and disposal of the rinse water in a dry well near South Brook. Kingston Steel Drum, the operator of the facility from 1967, continued the same operations as GLCC through 1973. South Brook and Country Pond became polluted, so CBD established *leaching* pits in an area removed from South Brook. The State's Water Supply and Pollution Control Commission reported on-site *runoff* and *seepage* from the leaching pits draining into South Brook and eventually into Country Pond, where fish kills occurred. Vegetation along South Brook died and swimmers experienced skin irritation. In 1973, International Mineral & Chemical Corporation (IMC), purchased the drum and reconditioning plant and operated it until 1976. In 1978, heavy *sludges* from the wash tank and from drainings, as well as residues from incinerator operations, were brought to the O&G site for processing. After O&G operations ceased in 1979, the New Hampshire Bureau of Solid Waste Management ordered the owners and operators not to restart operations and to remove approximately 4,370 drums that were at various stages of deterioration and were spilling organic compounds onto the ground. Approximately 450 people live within a 1-mile radius of the site. Most of these residents rely on bedrock wells for their water supply. An estimated 4,500 people live within 3 miles of the site. A marshy area lies *downslope* of the site. The Powwow River and Country Pond, located nearby, are used for swimming and fishing.

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 soils are contaminated with *volatile organic compounds* (VOCs). The on-site soil also contains *polychlorinated biphenyls* (PCBs), metals, and *acids and base/neutral* compounds. Sampling conducted in 1989 indicated no current public threat was likely at the site; however, there is a potential for future threat due to contaminated groundwater off site. The overburden and bedrock *aquifers* are contaminated, but residential water supply wells show no contamination. Some PCBs have *migrated* into South Brook; however, no PCBs have been detected in the marsh or Country Pond water or *sediments*. Adjacent marshland is considered an environmentally sensitive area and could potentially become contaminated.

Cleanup Approach

The site is being addressed in five phases, an initial action and four *long-term remedial phases* concentrating on soil excavation, groundwater cleanup at two separate areas and soil cleanup.

Response Action Status



Initial Action: Beginning in 1980, several actions were taken: the site was secured by fencing, leaking drums were packed and removed, and contaminated soils and debris were removed. About 12,800 tons of soil, drums, and metals were removed, plus 101,700 tons of flammable sludge, 6,000 cubic yards of flammable liquid, and other materials.



Soil Excavation: Based on the results of the site investigation conducted by the EPA, the selected remedy was to excavate and treat the contaminated soil. The parties potentially responsible for the site contamination excavated 5,000 cubic yards of contaminated soil and sediments, which were incinerated. An additional 14,000 cubic yards of soil were excavated and treated using low temperature thermal *stripping*. The remedial action was completed in the fall of 1989.



Kingston Steel Groundwater Treatment: Extraction and treatment of contaminated groundwater, with eventual discharge of treated groundwater, is planned for the remediation of the groundwater on the site. One of the potentially responsible parties is currently designing the groundwater extraction and treatment system.



Ottati & Goss Groundwater Remediation: Based on the results of the site investigation, the EPA has selected extraction and treatment of contaminated groundwater with the eventual discharge of treated groundwater on the site. This phase of the site cleanup is pending final review and approval.

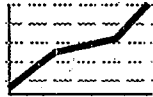


Kingston Steel Soil Remediation: The EPA-selected cleanup at the Kingston Steel area and the remainder of the site is similar to soil excavations and cleanups previously performed at the site.

continued

Site Facts: The Justice Department, on behalf of the EPA, brought a civil action suit against several potentially responsible parties in 1980. The court found the defendants liable for contamination on and off site. The EPA settled with a group of potentially responsible parties during the trial and they, under a *Consent Decree*, have completed the soil remedy on the Ottati & Goss portion of the site.

Environmental Progress



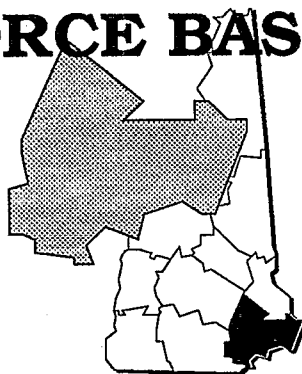
The EPA has determined that the removal of contaminated soils and sediments has reduced the potential for exposure to contamination at the Ottati & Goss/Kingston Steel Drum site. These completed actions and other site cleanups will continue to reduce site contamination levels, making the site safer as it approaches final cleanup.



PEASE AIR FORCE BASE

NEW HAMPSHIRE

EPA ID# NH7570024847



REGION 1

CONGRESSIONAL DIST. 01

Rockingham County
Portsmouth, Newington, and Greenland

Site Description

The Pease Air Force Base site has maintained aircraft since the 1950s on a 4,365-acre parcel of land. A 1986 Air Force study identified 18 waste disposal areas on the base, 13 of which received hazardous wastes including organic solvents, pesticides, paint strippers, and other industrial wastes. Of these disposal areas, 7 were used as *landfills*, 2 were areas where waste oil and solvents were burned for firefighting exercises, and 4 were areas where solvents and other liquid wastes were discharged. The status of additional possible disposal areas is under study. All hazardous wastes generated on the base now are disposed of off site at EPA-regulated facilities. In 1977, a well supplying drinking water to 8,700 people on the base was found to be contaminated and was closed. In 1984, the Air Force installed an *aeration* system to remove contaminants from all water supply wells. Surface water and *sediments* are contaminated by *runoff* from one of the landfills. An estimated 30,000 people obtain drinking water from public and private wells that are within 3 miles of hazardous substances on the base. Shellfish are harvested from Great Bay and Little Bay, which are within 3 miles downstream of the base. The bays also are used for recreational activities. Because the bays and Piscataqua River are connected to the Atlantic Ocean, tides can move any contamination into the ocean. The base abuts Great Bay, which is a tidal *estuary*. Both coastal and freshwater *wetlands* are along surface water *migration* pathways from the disposal areas.

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

NPL LISTING HISTORY

Proposed Date: 07/14/89

Final Date: 02/21/90

Threats and Contaminants



The groundwater is contaminated with *trichloroethylene* (TCE). Sediments of three drainage ditches are contaminated with heavy metals including lead and zinc. The soil is contaminated with organic solvents and fuel oils. Surface water runoff from one landfill is contaminated with heptachlor and lindane. People who live on the base may be threatened by accidentally ingesting contaminated groundwater, surface water, sediments, or soil. Some disposal areas on the base are not fenced, making it possible for people and animals to come into direct contact with hazardous substances. In addition, eating contaminated fish or waterfowl poses a health threat. A nearby estuary and coastal freshwater wetlands could be affected by contamination. Potential threats also exist for the bald eagles that nest in the area.

Cleanup Approach

This site is being addressed in three *long-term remedial phases* focusing on cleanup of the landfills, fire training areas, and spill sites.

Response Action Status



Landfills: The Air Force is conducting an investigation into the contamination of several landfills at the site. The investigation, started in 1989, will define the contaminants and will recommend alternatives for the final cleanup.



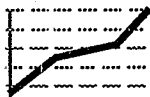
Fire Training Areas: The Air Force also started an investigation in 1989 into the contamination of the two fire training areas. The investigation will define the contaminants at these areas and will recommend alternatives for the final cleanup.



Spill Sites: The Air Force is planning to conduct an investigation into contamination of the spill sites. The investigation, planned to start in 1991, will define the contaminants at the site and will recommend alternatives for the final cleanup.

Site Facts: The EPA issued a special *notice letter* to the Air Force in 1989 to initiate an *Interagency Agreement* negotiation among the EPA, the Air Force, and the State of New Hampshire. Pease Air Force Base is participating in the *Installation Restoration Program* (IRP). The base holds a permit as a hazardous waste *generator* and storage facility and is allowed to discharge treated wastewater into the Piscataqua River. The Air Force plans to close the base; plans for future use of the property are under discussion.

Environmental Progress



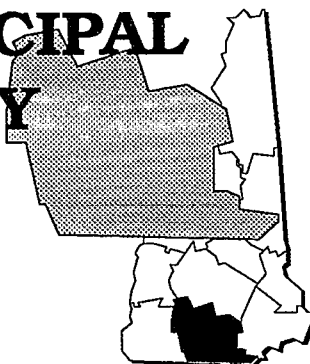
After adding this site to the NPL, the EPA, in cooperation with the Air Force and the State of New Hampshire, assessed conditions at the site and determined that there were no immediate actions required to make it safe while waiting for cleanup actions to begin.



SAVAGE MUNICIPAL WATER SUPPLY

NEW HAMPSHIRE

EPA ID# NHD980671002



REGION 1
CONGRESSIONAL DIST. 02
Hillsborough County
2 miles west of Milford

Alias:
Milford Well and Trailer Park

Site Description

The Savage Municipal Water Supply site covers about 30 acres west of the center of Milford and consists of a municipal well and the underlying *aquifer*, the water-bearing layer of rock and gravel from which the Town of Milford gets its water. The Savage Municipal Well operated from 1960 to 1983, during which time it supplied 40% to 45% of Milford's water. The remainder of the water came from the Keyes and Kokko Wells. During Savage's years of operation, several metal industries opened plants near the well, along the Souhegan River. Investigations at the site began in 1983, as part of a statewide water sampling program. Sampling detected contamination, and the well was closed. Following the closing of the well, the State began investigations to locate the source of contaminants, which also were present in water samples taken at nearby industries. The land surrounding the Savage Well is planted with feed corn intended for silage. A stream that receives discharge from two industries, Hendrix Wire and Cable and Hitchner Manufacturing, flows through the farmland prior to discharging to the Souhegan River. Hitchner manufacturing has purchased the well from the Town of Milford.

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

NPL LISTING HISTORY

Proposed Date: 09/01/83

Final Date: 09/01/84

Threats and Contaminants



The groundwater is contaminated with *volatile organic compounds* (VOCs), including *trichloroethylene* (TCE) and vinyl chloride and heavy metals, including lead, chromium, and mercury. The soil is contaminated with VOCs. The stream on site is contaminated with VOCs and lead. Trespassers who accidentally touch, drink, or ingest contaminated groundwater, surface water, or soil are potentially at risk.

Cleanup Approach

The site is being addressed in two stages: immediate actions and a *long-term remedial phase* to investigate the extent of contamination and to determine cleanup alternatives.

Response Action Status



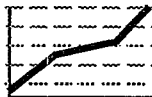
Immediate Actions: In 1983, the EPA provided bottled water to the 75 residents of Milford Mobile Home Park affected by contaminated well water and then connected the park to the municipal water supply.



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

Site Facts: In 1987, the EPA and the parties potentially responsible for the contamination of the site signed a *Consent Order* to conduct an investigation at the site.

Environmental Progress



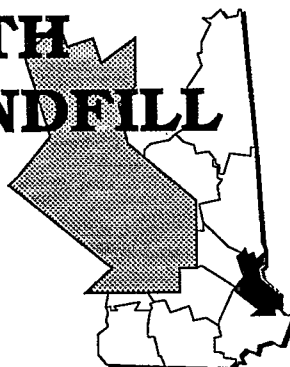
The provision of an alternate drinking water source has reduced the potential for exposure to hazardous materials at the Savage Municipal Water site while the investigation is completed and cleanup activities begin.



SOMERSWORTH SANITARY LANDFILL

NEW HAMPSHIRE

EPA ID# NHD980520225



REGION 1
CONGRESSIONAL DIST. 01
Strafford County
Blackwater Road

Site Description

The Somersworth Sanitary Landfill is located on 26 acres of land approximately 1 mile southwest of downtown Somersworth. The City operated a disposal site on the property from the mid-1930s until 1981. Originally, the town burned residential, commercial, and industrial wastes at the site. In 1958, the dump was converted to a *landfill*. Unknown quantities of *sludges*, solvents, *acids*, dyes, metals, laboratory or pharmaceutical wastes, and potash were disposed of at this site. Four groundwater monitoring wells installed as part of site *closure* plan activities indicated that *volatile organic compounds* (VOCs) and inorganic contaminants were present. The landfill is located in a predominantly residential area of Somersworth. Forest Glade Park, which was reclaimed as a recreational park in 1978, sits atop the easternmost 10 acres of the site. An apartment building for elderly residents, a fire station, and a National Guard Armory abut the property to the east, and an elementary school is located approximately 2,300 feet northeast. Approximately 11,000 people live in Somersworth. The former Somersworth Municipal Supply Well #3 is located approximately 2,300 feet from the landfill. This well was closed in 1984 and is being dismantled because of historically high levels of iron and manganese. Prior to 1984, it supplied approximately 10% of the town's total water supply and was used during peak periods. Most of the residences in the area obtain drinking water from the Somersworth municipal supply system; however, there are at least seven private wells in the area. Peter's Marsh Brook, located adjacent to the western edge of the landfill, is a tributary of Tate's Brook, which, in turn, is a tributary of the Salmon Falls River. Both the City of Somersworth and the City of Berwick, Maine withdraw water from the river for their drinking water supplies. Water *intakes* are located approximately 1 1/2 miles from 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 is contaminated with VOCs. *Sediments* are contaminated with xylenes and heavy metals including arsenic, chromium, and lead. The on-site soil is contaminated with VOCs, *polyaromatic hydrocarbons* (PAHs), and heavy metals. Peter's Marsh Brook and Tate's Brook have been shown to contain VOCs and heavy metals including arsenic and mercury. There are no barriers restricting access to the landfill from the park. Peter's Marsh Brook is considered to be the primary receptor of groundwater contamination. If private water supply wells were installed or reopened in this area or near Peter's Marsh Brook, long-term exposure to contaminated drinking water would pose health risks.

Cleanup Approach

This site is being addressed in a single *long-term remedial phase* to investigate the extent of contamination and select cleanup alternatives.

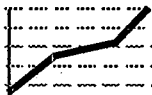
Response Action Status



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

Site Facts: The EPA entered into a *Consent Agreement* requiring the parties potentially responsible for contamination at the site to conduct a study of site contamination. The settling parties have agreed to pay past State and Federal costs for the site and oversight costs, as well.

Environmental Progress



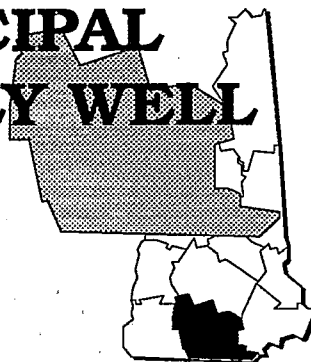
Following listing of this site on the NPL, the EPA has determined that the site contamination presently does not pose an immediate threat to public health or the environment. Currently no actions are needed to make the site safer while waiting for final cleanup actions to begin.



SOUTH MUNICIPAL WATER SUPPLY WELL

NEW HAMPSHIRE

EPA ID# NHD980671069



REGION 1

CONGRESSIONAL DIST. 02

Hillsborough County

Sharon Road, 2 miles south of Peterborough

Site Description

The South Municipal Water Supply site covers 250 acres in a rural portion of the Contoocook River Valley. The well was installed in 1952 and provided water to the Town of Peterborough for nearly 30 years. The South Municipal Water Supply Well served approximately 4,600 people. In 1982, the State conducted a routine sampling of the water supply and found contaminants in the South Well, at which time the well was shut down. The source of this contamination was thought to be the New Hampshire Ball Bearings (NHBB) facility, located 1,200 feet west of the well, which has manufactured precision ball bearings at the site since 1946. In 1955, the company purchased the 24 acres it now occupies. Major source areas include discharges from three drainage *outfalls*, an inactive *leachfield*, and drainage from a tank truck used to haul waste from the facility. Floor drains in the plant were sealed in 1983. A brook 200 feet from the plant drains into a *wetland* area and Noone Pond before emptying into the Contoocook River. Discharges to the leachfield and *sump* ceased in 1972 with the connection of the town sewer line. Periodic on-site dumping of a 275-gallon tank truck containing waste solvents ceased in the late 1970s. The population of the Town of Peterborough is over 5,000. Less than 100 single family residences are located within 1 mile of NHBB, and the nearest private residence is located approximately 1,000 feet from the facility.

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

NPL LISTING HISTORY

Proposed Date: 09/01/83

Final Date: 09/01/84

Threats and Contaminants



The groundwater, soils, and surface water are contaminated with *volatile organic compounds* (VOCs) including chloroform, benzene, and toluene. *Sediments* are also contaminated with VOCs and *polychlorinated biphenyls* (PCBs). People who accidentally eat, drink, or touch contaminated groundwater, surface water, soil, or sediments may be at risk. Included within the site area is the Contoocook River/ Noone Pond system and a wetlands area that could be at risk from contamination.

Cleanup Approach

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

Response Action Status



Entire Site: The investigation to determine the nature and extent of contamination and to identify alternatives for cleanup was completed by New Hampshire Ball Bearings and the final decision on the method to be used to clean up the site was reached in 1989. The methods of site cleanup selected by the EPA include: constructing a groundwater pump and treatment system, vacuum extraction for small areas of soils contaminated with VOCs, and excavation with off-site disposal for sediments contaminated with PCBs.

Site Facts: The EPA and New Hampshire Ball Bearings signed a *Consent Order* in 1989 in which the company agreed to conduct a study of the contamination at the site.

Environmental Progress



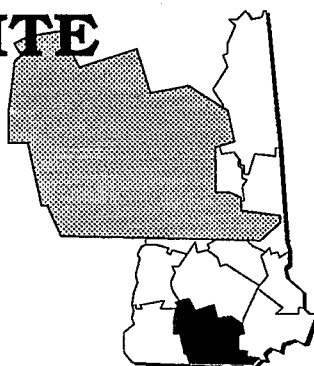
The EPA has conducted studies of the conditions at the South Municipal Water Supply site and has determined that there are currently no immediate actions needed to make the site safer while waiting for the selected cleanup actions to begin.



SYLVESTER SITE

NEW HAMPSHIRE

EPA ID# NHD099363541



REGION 1

CONGRESSIONAL DIST. 02

Hillsborough County

Nashua

Alias:

Gilson Road Site

Site Description

The 6-acre Sylvester hazardous waste dump site was used as a sand *borrow pit* for an undetermined number of years. During the late 1960s, after much of the sand had been removed from the property, the operator of the pit began an unapproved and illegal waste disposal operation, apparently intending to fill the excavation. Household refuse, demolition materials, chemical *sludges*, and hazardous liquid chemicals were dumped at the site. The household refuse and demolition materials were usually buried, while the hazardous liquids were allowed to *percolate* into the ground adjacent to the old sand pit or were stored in steel drums that were placed on the ground. The illegal solid waste activity at the site was first discovered in late 1970. The first indication that hazardous wastes were also being dumped occurred in 1978 when State personnel observed drums being stored at the site. A court order was issued in 1979 prohibiting all further disposal of hazardous wastes on the site. The site is in a residential area, with approximately 1,000 people living in an adjoining mobile home park, and there are five private water wells within 1/4 mile of the site. The site is 680 feet from Lyle Reed Brook, which flows through the trailer park and enters the Nashua River, a source of drinking water. The Merrimack River is 11 miles downstream and is also a source of drinking water.

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

NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

Threats and Contaminants

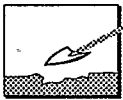


Approximately 900,000 gallons of hazardous wastes were discharged to *leachfields* on site in 1979, contaminating hundreds of thousands of gallons of groundwater. The groundwater is contaminated with heavy metals and *volatile organic compounds* (VOCs). Lyle Reed Brook also is contaminated with VOCs and metals. The main health threat associated with the site is drinking or direct contact with contaminants in the groundwater and surface water. Groundwater is not currently used since all residents are connected to a separate municipal supply. Contaminants may leach into the bedrock *aquifer*; however, *capping* the site has greatly reduced the likelihood of continued contamination of the surface water.

Cleanup Approach

The site is being addressed in three stages: immediate actions and two completed long-term remedial phases to cap the site and to extract and treat the groundwater.

Response Action Status



Immediate Actions: In 1979, the State removed 1,000 drums from the site. In early 1980, the EPA constructed a fence around the dumping area and removed 1,314 accessible surface drums. The groundwater contaminant *plume* movement was monitored and an access road built. Between 1981 and 1982, the EPA installed a groundwater interception and recirculation system to temporarily pump and recirculate the contaminated groundwater to prevent it from reaching Lyle Brook and from further contaminating the aquifer.



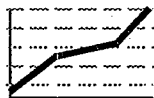
Capping: The State constructed a *slurry wall* surrounding a 20-acre area and built an impervious membrane cap to prevent any further contamination of on-site groundwater.



Groundwater Treatment: A 300-gallon-per-minute groundwater treatment facility was constructed to remove toxic substances in the groundwater. The treatment process consists of a combination of physical, chemical, and biological treatments. The process involves pumping the groundwater from within the slurry wall containment area and then exposing it to air to remove contaminants. A review of the effectiveness of the treatment is currently being evaluated by the New Hampshire Department of Environmental Services.

Site Facts: Several *Consent Decrees* were entered into by the EPA, the State, and numerous *potentially responsible parties* to provide for reimbursement of past costs and the undertaking of cleanup designs and actions at two of the three other sites involved.

Environmental Progress



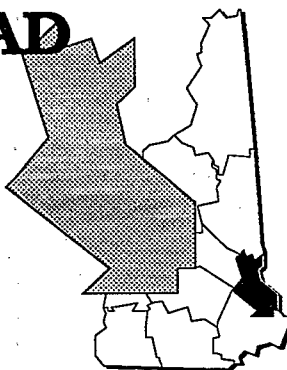
The removal, fencing, capping, and groundwater containment activities described above have greatly reduced the risk of exposure to hazardous materials at the Sylvester site. Cleanup actions at the Sylvester site have reduced contamination levels; the evaluation conducted by the State will determine whether further actions are needed.



TIBBETTS ROAD

NEW HAMPSHIRE

EPA ID# NHD989090469



REGION 1

CONGRESSIONAL DIST. 01

Strafford County
Barrington

Site Description

The Tibbetts Road Site occupies approximately 2 acres. The site was used for storing drums collected from 1946 to 1958. Many of the drums were leaking and rusted and contained thinners, solvents, antifreeze, kerosene, motor and transmission oil, *polychlorinated biphenyls* (PCBs), grease, and brake fluid. The EPA removed all the deteriorating drums in 1984. Approximately 2,100 people living within 3 miles of the site depend on groundwater for drinking water. The New Hampshire Water Supply and Pollution Control Commission found drinking water wells serving approximately 20 people to be contaminated. The site is situated in a residential area *upgradient* from a lake used for recreational purposes.

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

NPL LISTING HISTORY

Proposed Date: 04/10/85

Final Date: 07/10/86

Threats and Contaminants

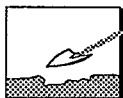


The groundwater and soils are contaminated with *volatile organic compounds* (VOCs), including benzene, *trichloroethylene* (TCE), toluene, and xylenes, according to tests conducted by the New Hampshire Water Supply and Pollution Control Commission. People who accidentally ingest contaminated groundwater or soil are at potential risk.

Cleanup Approach

The site is being addressed in two stages: immediate actions to limit the spread of contamination and a *long-term remedial phase* to investigate the extent of soil and groundwater contamination and cleanup alternatives.

Response Action Status

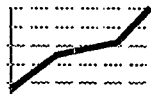


Immediate Actions: In 1984, the EPA removed 350 deteriorated and leaking drums stored within 50 yards of private residences and disposed of them at an approved disposal site. Residents were temporarily relocated while the drums were being removed. During the summer of 1985, the EPA and the State conducted an investigation to determine if any additional materials needed to be removed from the site. Low levels of dioxin were detected in the soil and VOCs in the drinking water. The EPA and the State began a joint soil removal effort. Between 1985 and the summer of 1988, PCB- and dioxin-contaminated soil was incinerated and the solvent-contaminated soil was excavated and disposed of by the State. A water supply system was constructed to provide drinking water to the 26 families with contaminated wells.



Soil and Groundwater: An investigation is currently being conducted by the EPA to determine the extent of soil and groundwater contamination remaining at the site and alternative technologies for cleanup. This investigation is scheduled to be completed in early 1992.

Environmental Progress



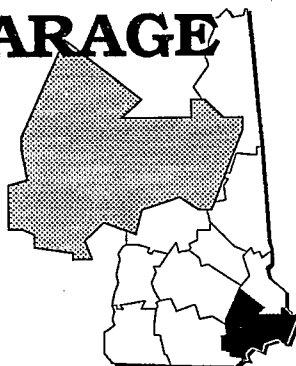
The removal of the drums and soil from the Tibbetts Road site and the provision of a new water supply have reduced the potential for exposure to contamination. These actions help to protect the public health and the environment while the site awaits further cleanup action.



TINKHAM'S GARAGE

NEW HAMPSHIRE

EPA ID# NHD062004569



REGION 1
CONGRESSIONAL DIST. 01
Rockingham County
Londonderry

Site Description

The Tinkham's Garage site covers about 375 acres in Londonderry. During 1978 and 1979, oil, oily wastes, washings from septic tank trucks, and other substances were discharged at the site. In 1978, residents complained of foam and odors in a small unnamed brook, which then prompted an investigation revealing that improper waste disposal had occurred. The State ordered the site owner to prevent further degradation of surface water and groundwater. In early 1983, wells of the Londonderry Green Apartment complex and several other private wells were closed due to contamination, and residents were provided with municipal water. The open and wooded land that comprises the majority of the site is bordered by residential and agricultural land. Approximately 400 people reside within a condominium complex on the western boundary of the site. Additional residences include private, one-family homes within site boundaries to the north.

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

NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

Threats and Contaminants

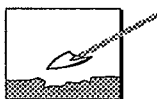


Volatile organic compounds (VOCs) were identified in the surface water and groundwater on site and in areas adjacent to the site. The soils located in the field behind Tinkham's Garage and in some condominium-complex *leachfields* have also been shown to contain VOC contamination. A potential threat to residential wells adjacent to the site may exist if the contaminated groundwater continues to be used as a water source. The contaminated area in the field behind the garage poses a threat if people accidentally eat, drink, or come in direct contact with the soils, surface water, or groundwater.

Cleanup Approach

The site is being addressed in two stages: initial actions and a *long-term remedial phase* to conduct a study of cleanup alternatives.

Response Action Status



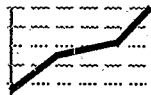
Initial Actions: The State issued a health order in early 1983, advising residents not to drink well water. Bottled water was provided, and a municipal water supply line was installed and operational by the fall of 1983.



Entire Site: In 1987, the EPA entered into an agreement with 23 of the parties potentially responsible for the site contamination to conduct a study before the cleanup technologies were designed. The following three areas of contamination were identified as needing attention: the soil in the garage area; the groundwater in the general area of the garage and the condominium complex; and a soil pile that contains soil removed during earlier excavations of leachfield soils. The remedies selected include: (1) excavation of approximately 10,800 cubic yards of contaminated soils behind Tinkham's Garage; (2) field work and analytical modeling to determine the need for removal of additional potentially contaminated soils in the condominium complex; (3) on-site treatment of contaminated soils by vacuum extraction; (4) regrading and revegetation of excavated source areas after treated soils have been returned to their original locations; (5) reconstruction of any removed leachfields; restoration of *wetlands* where contaminated soils are excavated; (6) extraction and off-site treatment of contaminated groundwater at the Town of Derry's wastewater treatment works, which may require off-site pretreatment; and (7) groundwater monitoring on and off site. The work is to begin in 1990 and is scheduled for completion in 1991.

Site Facts: The potentially responsible parties, under a *Consent Decree*, have agreed to undertake the cleanup design and activities at the site. This site is closely associated with the Sylvester's, Plymouth Harbor, and Cannon Engineering NPL sites.

Environmental Progress



The provision of an alternate drinking water source has reduced the potential for exposure to contamination at the Tinkham's Garage site, and has protected the public health while it awaits planned cleanup activities.



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GLOSSARY

TERMS USED IN THE FACT SHEETS

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

Aeration: A process that promotes breakdown of contaminants in soil or water by exposing them to air.

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.

Aquifer: An underground layer of rock, sand, or gravel capable of storing water within cracks and pore spaces, or between grains. When water contained within an aquifer is of sufficient quantity and quality, it can be tapped and used for drinking or other purposes. The water contained in the aquifer is called groundwater.

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.

GLOSSARY

Berm: A ledge, wall, or a mound of earth used to prevent the migration of contaminants.

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.

Carbon Adsorption: A treatment system in which contaminants are removed from groundwater and surface water by forcing water through tanks containing activated carbon, a specially treated material that attracts and holds or retains contaminants.

Carbon Treatment: [see Carbon Adsorption].

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].

Cooperative Agreement: A contract between EPA and the states wherein a State agrees to manage or monitor certain site cleanup responsibilities and other activities on a cost-sharing basis.

Creosotes: Chemicals used in wood preserving operations and produced by distillation of tar, including polycyclic aromatic hydrocarbons and polynuclear aromatic hydrocarbons [see PAHs and PNAs]. Contaminating sediments, soils, and surface water, creosotes may cause skin ulcerations and cancer with prolonged exposure.

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

Downslope: [see Downgradient].

Estuary (estuarine): Areas where fresh water from rivers and salt water from nearshore ocean waters are mixed. These areas may include bays, mouths of rivers, salt marshes, and lagoons. These water ecosystems shelter and feed marine life, birds, and wildlife.

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.

Installation Restoration Program: The specially funded program established in 1978 under which the Department of Defense has been identifying and evaluating its hazardous waste sites and controlling the migration of hazardous contaminants from those sites.

Intake: The source where a water supply is drawn from, such as from a river or waterbed.

Interagency Agreement: A written agreement between EPA and a Federal agency that has the lead for site cleanup activities (e.g. the Department of Defense), that sets forth the roles and responsibilities of the agencies for performing and overseeing the activities. States are often parties to interagency agreements.

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.

Neutrals: Organic compounds that have a relatively neutral pH, complex structure and, due to their organic bases, are easily absorbed into the environment. Naphthalene, pyrene, and trichlorobenzene are examples of neutrals.

GLOSSARY

Notice Letter: A General Notice Letter notifies the parties potentially responsible for site contamination of their possible liability. A Special Notice Letter begins a 60-day formal period of negotiation during which EPA is not allowed to start work at a site or initiate enforcement actions against potentially responsible parties, although EPA may undertake certain investigatory and planning activities. The 60-day period may be extended if EPA receives a good faith offer [see Good Faith Offer] within that period.

Outfall: The place where wastewater is discharged into receiving waters.

Overpacking: Process used for isolating large volumes of waste by jacketing or encapsulating waste to prevent further spread or leakage of contaminating materials. Leaking drums may be contained within oversized barrels as an interim measure prior to removal and final disposal.

Percolation: The downward flow or filtering of water or other liquids through subsurface rock or soil layers, usually continuing downward to groundwater.

Phenols: Organic compounds that are used in plastics manufacturing and are by-products of petroleum refining, tanning, textile, dye, and resin manufacturing. Phenols are highly poisonous and can make water taste and smell bad.

Plume: A body of contaminated groundwater flowing from a specific source. The movement of the groundwater is influenced by such factors as local groundwater flow patterns, the character of the aquifer in which groundwater is contained, and the density of contaminants.

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 admin-

istrative order on consent [see Administrative Order on Consent] to participate in site cleanup activity without admitting liability.

Radionuclides: Elements, including radium, and uranium-235 and -238, which break down and produce radioactive substances due to their unstable atomic structure. Some are man-made and others are naturally occurring in the environment. Radon, which is the gaseous form of radium, decays to form alpha particle radiation, which can be easily blocked by skin. However, it can be inhaled, which allows alpha particles to affect unprotected tissues directly and thus cause cancer. Uranium, when split during fission in a nuclear reactor, forms more radionuclides which, when ingested, can also cause cancer. Radiation also occurs naturally through the breakdown of granite stones.

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.

Seepage Pits: A hole, shaft, or cavity in the ground used for storage of liquids, usually in the form of leachate, from waste disposal areas. The liquid gradually leaves the pit by moving through the surrounding soil.

Septage: Residue remaining in a septic tank after the treatment process.

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

Slurry Wall: Barriers used to contain the flow of contaminated groundwater or subsurface liquids. Slurry walls are constructed by digging a trench around a contaminated area and filling the trench with an impermeable material that prevents water from passing through it. The groundwater or contaminated liquids trapped within the area surrounded by the slurry wall can be extracted and treated.

Stripping: A process used to remove volatile contaminants from a substance [see Air Stripping].

Sumps: A pit or tank that catches liquid runoff for drainage or disposal.

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

GLOSSARY

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].

Unilateral [Administrative] Order: [see Administrative Order on Consent].

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.

Upslope: Upstream; often used relative to groundwater [see Upgradient].

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.

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.