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**NATIONAL PRIORITIES LIST SITES:  
Arkansas**

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

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

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## 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

## INTRODUCTION:

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-

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

### **EPA IS MAKING PROGRESS ON SITE CLEANUP**

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

The Superfund responds immediately to sites posing imminent threats to human health and the environment at both NPL sites and sites not on the NPL. The purpose is to stabilize, prevent, or temper the effects of a hazardous release, or the threat of one. These might include

tire fires or transportation accidents involving the spill of hazardous chemicals. Because they reduce the threat a site poses to human health and the environment, immediate cleanup actions are an integral part of the Superfund program.

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

The ultimate goal for a hazardous waste site on the NPL is a permanent solution to an environmental problem that presents a serious (but not an imminent) threat to the public or environment. This often requires a long-term effort. In the last four years, EPA has aggressively accelerated its efforts to perform these long-term cleanups of NPL sites. More cleanups were started in 1987, when the Superfund law was amended, than in any previous year. And in 1989 more sites than ever reached the construction stage of the Superfund cleanup process. Indeed construction starts increased by over 200 percent between late 1986 and 1989! Of the sites currently on the NPL, more than 500 — nearly half

— have had construction cleanup activity. In addition, over 500 more sites are presently in the investigation stage to determine the extent of site contamination, and to identify appropriate cleanup remedies. Many other sites with cleanup remedies selected are poised for the start of cleanup construction activity. Measuring success by "progress through the cleanup pipeline," EPA is clearly gaining momentum.

### **EPA MAKES SURE CLEANUP WORKS**

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

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

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

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

### CITIZENS HELP SHAPE DECISIONS

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

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

This State volume and the companion National Overview volume provide general Superfund background information and descriptions of activities at each State NPL site. These volumes are

intended to clearly describe what the problems are, what EPA and others participating in site cleanups are doing, and how we as a Nation can move ahead in solving these serious problems.

### USING THE STATE AND NATIONAL VOLUMES IN TANDEM

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

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

serious hazardous waste sites, and the vital roles of the various participants in the cleanup process.

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

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

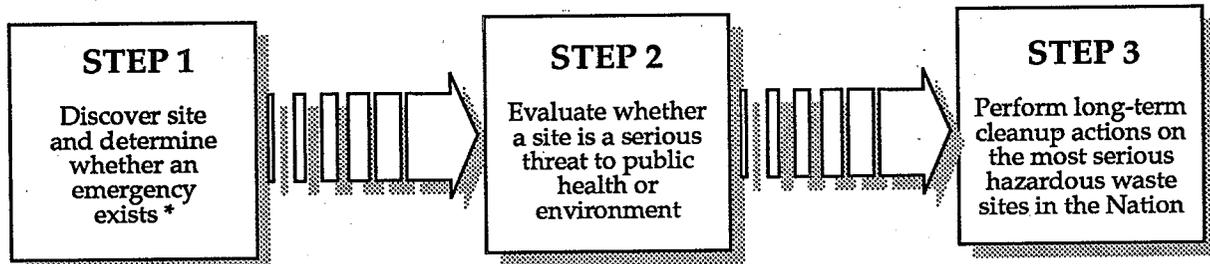


## SUPERFUND:

# HOW DOES THE PROGRAM WORK TO CLEAN UP SITES?

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

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



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

FIGURE 1

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

**How does EPA learn about potential hazardous waste sites?**

**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.

**What happens if there is an imminent danger?**

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

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

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

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*.

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

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

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

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

### STEP 3: LONG-TERM CLEANUP ACTIONS

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?

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.

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

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

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

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

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

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:

**T**he 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.)

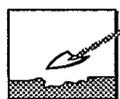


**Contaminated Soil and Sludges** on or near the site.



**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.

## USING THE STATE VOLUME



**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.

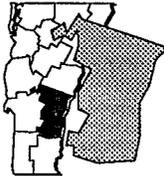


**Cleanup Complete** shows that all cleanup goals have been achieved for the contaminated site or part of the site.

### 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

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.....  
.....

### NPL Listing History

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

Site Responsibility: .....

NPL LISTING HISTORY  
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### Threats and Contaminants



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### Cleanup Approach

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### Response Action Status



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Site Facts: .....

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### Environmental Progress



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### 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

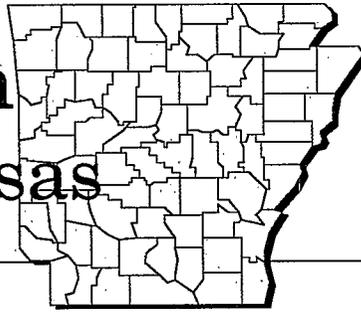
from area residents in communities affected by Superfund sites. Citizens are likely to be affected not only by hazardous site conditions, but also by the remedies that combat them. Site cleanups take many forms and can affect communities in different ways. Local traffic may be rerouted, residents may 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 Arkansas



Arkansas is the smallest state between the Mississippi River and the Pacific Ocean. The State covers 53,187 square miles and consists of prairies, southern lowlands forests, northwestern highlands, the Ozark Plateaus, and the eastern delta regions. Arkansas experienced a 4.7 percent increase in population through the 1980s, and currently has approximately 2,395,000 residents, ranking 33rd in U.S. populations. Principal state industries include manufacturing, agriculture, tourism, mining, and forestry. Arkansas produces food products, chemicals, lumber, paper, electric meters, furniture, appliances, automobile parts, transformers, apparel, fertilizers, machinery, and petroleum products.

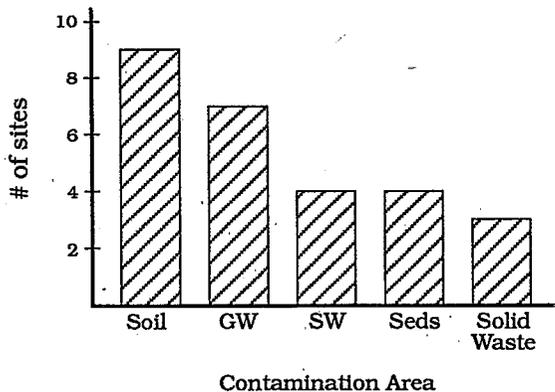
## How Many Arkansas Sites Are on the NPL?

Proposed Sites	1
Final Sites	8
Deleted Sites	<u>1</u>
	<b>10</b>

## Where Are the NPL Sites Located?

Cong. District 01	3 sites
Cong. District 02	3 sites
Cong. District 03	4 sites

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



**Soil and Solid Waste:** Heavy metals (inorganics), volatile organic compounds (VOCs), dioxin, and creosote (organics).



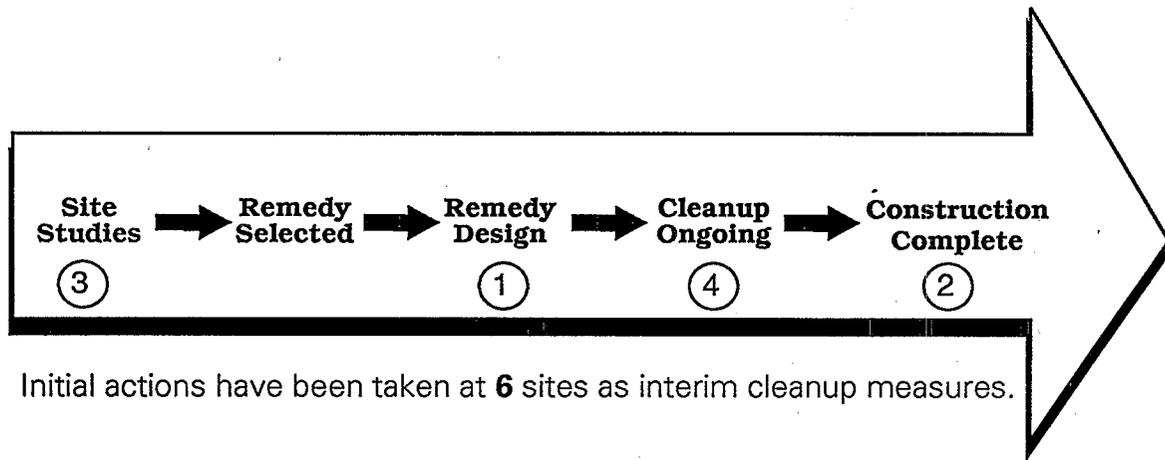
**Groundwater:** Heavy metals (inorganics) and creosote (organics).



**Surface Water and Sediments:** Heavy metals (inorganics) and creosote (organics).

\*Appear at 25% or more sites

## Where are the Sites in the Superfund Cleanup Process\* ?



Initial actions have been taken at **6** sites as interim cleanup measures.

## Who Do I Call with Questions?

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

Arkansas Superfund Office	(501) 562-7444
EPA Region VI Superfund Office	(214) 655-6705
EPA Region VI Superfund Public Relations	(214) 655-2240
EPA Headquarters Public Information Center	(202) 475-7751
EPA Superfund Hotline	(800) 424-9346

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



# The NPL Progress Report

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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.

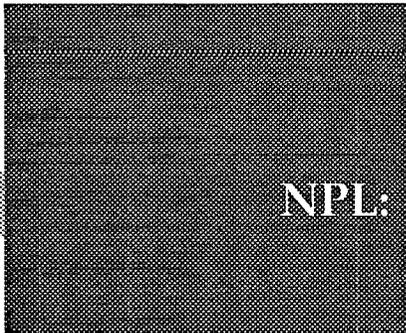
The sites are listed in alphabetical order. Further information on the activities and progress at each site is given in the site "Fact Sheets" published in this volume.

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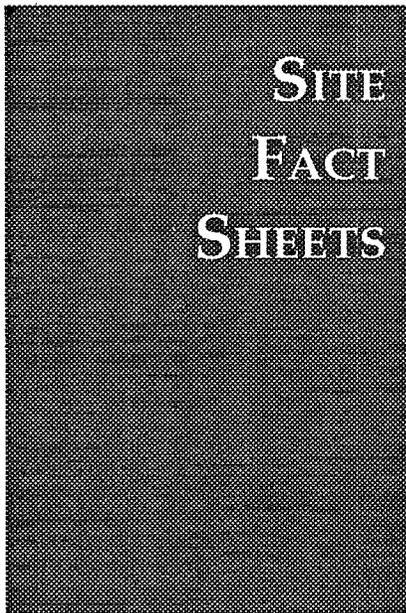
## Progress Toward Cleanup at NPL Sites in the State of Arkansas

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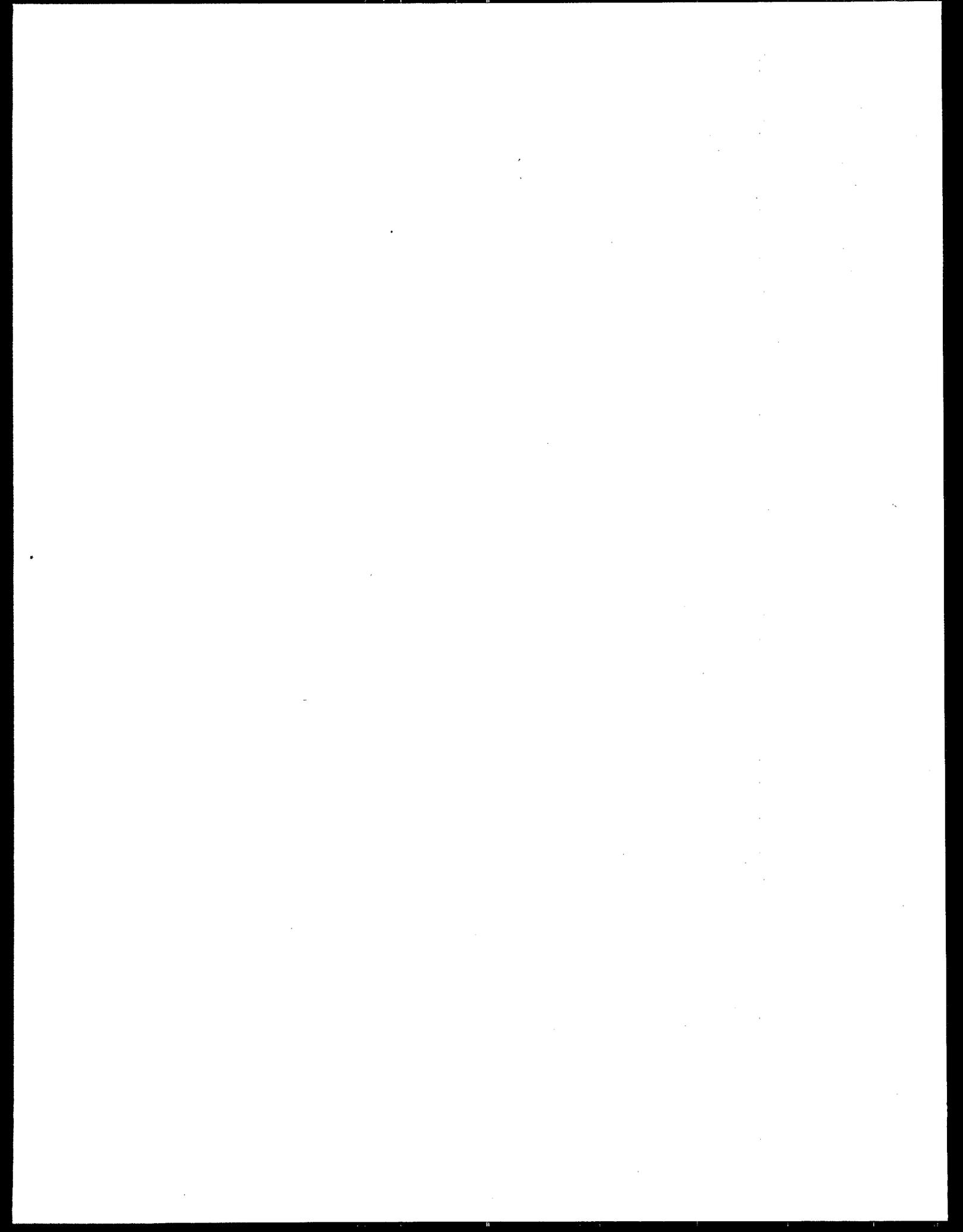
Page	Site Name	County	NPL	Date	Initial Response	Site Studies	Remedy Selected	Remedy Design	Cleanup Ongoing	Construction Complete
1	ARKWOOD, INC.	BOONE	Final	03/31/89	➡	➡				
3	CECIL LINDSEY SITE	JACKSON	Delete	10/04/89		➡	➡	➡	➡	➡
5	FRIT INDUSTRIES	LAWRENCE	Final	09/08/83		➡		➡	➡	➡
7	GURLEY PIT	CRITTENDEN	Final	09/08/83	➡	➡	➡	➡	➡	
9	INDUSTRIAL WASTE CONTROL	SEBASTIAN	Final	09/08/83		➡	➡	➡	➡	
11	JACKSONVILLE MUNICIPAL LANDFILL	PULASKI	Final	07/22/87	➡	➡				
13	MID-SOUTH WOOD PRODUCTS SITE	POLK	Final	09/08/83	➡	➡	➡	➡	➡	➡
15	MIDLAND PRODUCTS SITE	YELL	Final	06/10/86		➡	➡	➡		
17	ROGERS ROAD MUNICIPAL LANDFILL	PULASKI	Final	07/22/87	➡	➡				
19	VERTAC, INC.	PULASKI	Final	09/08/83	➡	➡	➡	➡	➡	



NPL:



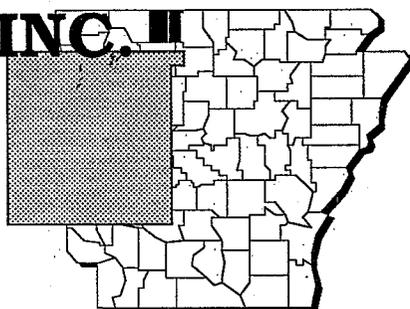
SITE  
FACT  
SHEETS



# ARKWOOD, INC. II

ARKANSAS

EPA ID# ARD084930148



REGION 6

CONGRESSIONAL DIST. 03

Boone County  
1/2 mile south of Omaha

## Site Description

The 20-acre Arkwood, Inc. wood-treatment plant site consisted of a millwork shop, a treating plant that used *creosote* and *pentachlorophenol* (PCP), and a yard for storing pretreated wood prior to sale. Operations began in the early 1960s. In 1973, the owner leased the facility to Mass Merchandisers, Inc. (MMI), which operated it until 1984. The plant was dismantled in 1986. During operation, the plant generated 6,000 to 7,000 pounds of waste each year. Operations wastes were dumped into a *sinkhole* on site until 1970. The sinkhole has since been sealed. Waste oils were placed in a ditch next to the railroad until 1974, when MMI began using a chemical recovery system. Other wastes, including liquids used to wash the treatment equipment, were stored in a tank and then spread over the storage yard to control dust. A cave, now sealed, was also used for waste disposal. The site was listed on the NPL when PCP and other organic chemicals were found in local wells. Approximately 650 people within 3 miles of the site rely on private wells for drinking water. The closest well is less than 1/4 mile from the site. The area surrounding the site is predominantly agricultural.

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

### NPL LISTING HISTORY

Proposed Date: 09/04/85

Final Date: 03/31/89

## Threats and Contaminants

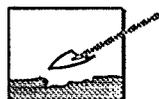


PCP was found in groundwater monitoring wells on site and in New Cricket Spring, one of 13 area springs. *Sediments* on site are heavily contaminated with PCP, but stream sediments off site showed much lower levels of contamination. Soil samples from disposal areas on site were shown to contain PCP, mostly concentrated in the top 2 feet of soil. Creosotes and hazardous by-products of PCP were also found in the soils. Rural residents who live less than 1 mile from the site use groundwater as their sole source of drinking water. Significant potential for contamination of the groundwater supplying drinking wells exists, based on underground geology and water flow at the site. Possible threats include drinking the contaminated groundwater or accidental ingestion or contact with the contaminated soil and sediments.

## Cleanup Approach

This site is being addressed in two stages: an immediate action and a *long-term remedial phase* addressing the entire site.

### Response Action Status



**Immediate Action:** In response to the immediate threat of contact with hazardous materials, the parties potentially responsible for site contamination installed fencing and warning signs in 1987.



**Entire Site:** MMI, under EPA supervision, is conducting a site investigation to determine the nature and extent of the contamination. The study will be completed in 1990. The feasibility study to evaluate possible cleanup alternatives also will be finished in 1990. Once completed, the EPA will evaluate cleanup alternatives and select a final cleanup remedy for the site.

**Site Facts:** In 1986, the EPA signed an *Administrative Order* requiring MMI to conduct investigations to determine the type and extent of contamination and identify alternatives for remedial action.

### Environmental Progress



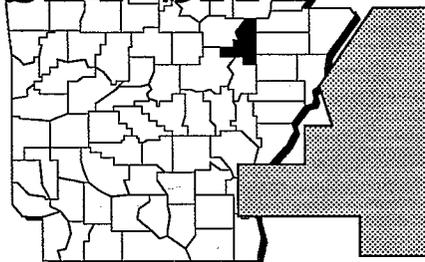
Fencing the site and installing warning signs has limited access to the site, thereby reducing the potential of exposure to hazardous substances at the Arkwood, Inc. site, and making the area safer while it awaits further cleanup activities.



# CECIL LINDSEY SITE

ARKANSAS

EPA ID# ARD980496186



REGION 6

CONGRESSIONAL DIST. 01

Jackson County

3 1/2 miles northeast of Newport

Alias:

City of Diaz Dump

## Site Description

From the early 1970s to 1980, the 5-acre Cecil Lindsey site was used as a salvage operation collecting machinery, cars, and scrap metals. Some municipal and industrial wastes were also reportedly disposed of on the property, although the operators had no permit to accept them. Drums that previously held pesticides and oils containing heavy metals were disposed of on site. About 20 homes housing 50 residents are located within 1 mile of the site, the nearest being 600 feet away. The nearest drinking water well is 1,200 feet away, but all private drinking water wells are *upgradient* of the site. The site is adjacent to the Village Creek *wetlands* and forested bottom land in an agricultural area. Portions of the site, which lies within the floodplain of Village Creek, are often flooded.

**Site Responsibility:** This site has been addressed through Federal actions.

### NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

Deleted: 09/22/89

## Threats and Contaminants



Heavy metals and *volatile organic compounds* (VOCs) were found in groundwater underlying the site. Heavy metals including arsenic, cadmium, and copper were found in soil throughout the site and VOCs were found in the southern portion of the site. Threats to drinking water are remote. Wells are not currently contaminated, nor are they likely to be, since they are upgradient of the site.

## Cleanup Approach

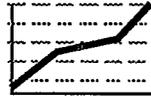
The site has been addressed in a single *long-term remedial phase* directed at soil cleanup and groundwater monitoring.

## Response Action Status



**Soil Cleanup and Groundwater Monitoring:** In 1987, the EPA placed groundwater and access restrictions, installed monitoring wells, removed the drums, and performed 1-year site monitoring. Other than these actions, a "no-action" remedy was selected, since the EPA, in conjunction with the State, has determined that the site has been cleaned to levels that are safe to people and the environment. No further actions are necessary. Sampling results showed that contamination levels in the groundwater have lessened. The EPA deleted the site from the NPL in 1989.

## Environmental Progress



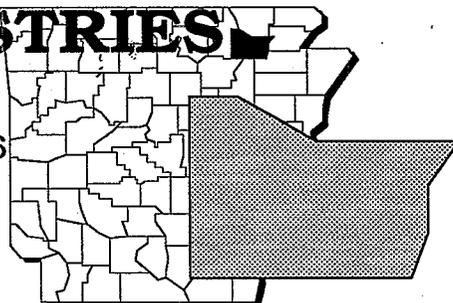
With the cleanup actions described above, the EPA has eliminated the potential for accidental contact with any contaminated material on site. As a result of these actions, the EPA has determined that the site meets established ecological and health standards and deleted the site from the NPL in 1989. Although there is no present danger to the drinking water, nearby homes will continue to be protected through the use of monitoring wells around the Cecil Lindsey site.



# FRIT INDUSTRIES

ARKANSAS

EPA ID# ARD059636456



REGION 6

CONGRESSIONAL DIST. 01

Lawrence County

22 miles northwest of Jonesboro

## Site Description

Frit Industries is a 30-acre site housing an active fertilizer plant. Product materials (micronutrients) and raw waste were stored in piles on the ground without a liner or cover. Waste piles on site were unprotected from rain, wind, and surface water runoff, therefore, materials have been dispersed across the site. In 1979, a fire consumed portions of a product storage facility. The water used to extinguish the fire further contaminated the soil and surface water. The nearest residence is 3 miles away. Although the community has a municipal waster system, there is an industrial park well approximately 1/4 mile from the site.

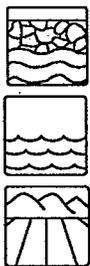
**Site Responsibility:** This site is being addressed through a combination of State, Federal, and *potentially responsible parties'* actions.

### NPL LISTING HISTORY

Proposed Date: 10/23/81

Final Date: 09/08/83

## Threats and Contaminants



The groundwater, surface water, and soil are contaminated with zinc sulfate, cadmium, chromium, and lead. Runoff from the site is channeled into a nearby creek by approximately 1 mile of drainage ditches. This creek flows into another creek, which discharges into the White River 4 miles downstream of the site. People could become exposed to heavy metals in the soil and water of Coon Creek and the drainage ditches, which have received 81,000 gallons of contaminated water. Threats to people include accidental ingestion of contaminated waters or soil, inhalation of dusts generated at the site, and direct contact with contaminants from dusts, groundwater, or surface water.

## Cleanup Approach

This site is being addressed in one *long-term remedial phase* focusing on the entire site.

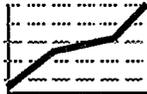
## Response Action Status



**Entire Site:** Since 1981, Frit Industries has been studying the site runoff, the potential for groundwater contamination, and the buildup of heavy metals in the *sediments* of drainage ditches and Coon Creek. The company submits regular reports to the State and to the EPA for comment and has proposed a cleanup plan involving a plant for treating runoff. Frit Industries submitted final reports to the EPA, which is evaluating whether the contamination has been successfully contained and whether to delete the site from the NPL.

**Site Facts:** An *Administrative Order* signed in 1982 required Frit to construct a surface water runoff treatment plant and to continue the monitoring of runoff. In 1983, an additional *Administrative Order* required Frit Industries to perform an investigation at the site and to conduct any necessary cleanup activities .

## Environmental Progress



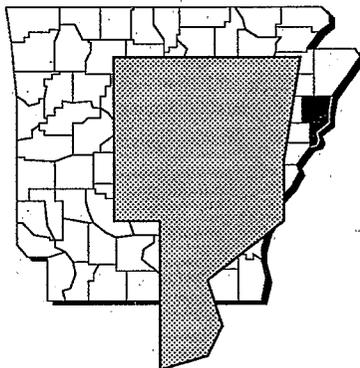
Frit Industries and the EPA are currently conducting site testing to determine if the water runoff treatment plant is effective and the site can be deleted from the NPL. Meanwhile, the EPA has determined that the site is safe while awaiting completion of the site evaluation.



# GURLEY PIT

## ARKANSAS

EPA ID# ARD035662469



**REGION 6**  
CONGRESSIONAL DIST. 01  
Crittenden County  
1 mile north of Edmondson

### Site Description

Gurley Pit encompasses approximately 3 acres, which are divided into three levees or *cells*. In 1970, Gurley Refining Company leased the pit for disposal of secondary oil refinery wastes. From 1970 until 1975, the pit was used for disposal of oil *sludges* and filter material. In 1975, the company closed the part of the refining operations that generated the wastes disposed of at the site. Site discharges contaminated a nearby stream, Fifteen Mile Bayou, damaging fish and wildlife. This is an agricultural area, with five residences within 1/2 miles. The nearest drinking well is 2 miles southeast of the site.

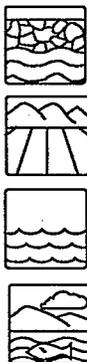
**Site Responsibility:** This site is being addressed through Federal and *potentially responsible parties'* actions.

#### NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

### Threats and Contaminants



The groundwater and soil are contaminated with heavy metals including arsenic, chromium, lead, and zinc. Sludges and surface water are contaminated with *polychlorinated biphenyls* (PCBs) and heavy metals including lead. The site is within the 100-year floodplain of the Fifteen Mile Bayou, which discharges to the Mississippi River. Overflows have occurred during rain events that have had an adverse effect on fish and waterfowl. Also, several people use the shallow *aquifer* as a source of drinking water.

### Cleanup Approach

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

## Response Action Status



**Emergency Actions:** After a flood in 1979, the EPA performed emergency cleanup of oil from the pit and installed drains and pumps to remove accumulated stormwater. In 1984, the potentially responsible parties for the site contamination built a fence and repaired the dikes.



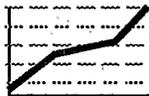
**Groundwater:** Contamination from the pit has not *migrated* through the sub-surface into the groundwater. Elevated levels of inorganic contaminants were detected but were consistent with natural background levels. No site-related contaminants were identified in the groundwater. Therefore, the EPA has decided that no cleanup actions are required for groundwater. The groundwater will be monitored for at least 30 years to ensure that no migration of the contaminants occurs.



**Entire Site:** The surface water within the pits will be treated on site and the discharge will go into the bayou. Oil containing PCBs from the water treatment process will be incinerated off site. The sludge will be *stabilized* on site and placed in a federally approved vault.

**Site Facts:** The EPA completed an Enforcement Decision Document in 1986 which addressed cleanup of the contamination sources at the site. In early 1990, the EPA issued a *Unilateral Order* under which the parties potentially responsible for the site contamination would clean up the source of contamination. There have been citizen complaints about odors from the site.

## Environmental Progress



The emergency cleanup of oil and the installation of drains and pumps to remove contaminated surface water undertaken by the EPA and the potentially responsible parties at the Gurley Pit have reduced the potential exposure to contaminants at the site. Further emergency actions will be taken to address the threat of accidental contact with and off-site migration of *acids* and heavy metals from the pits. The pits will be pumped down again, and the fence will be repaired while final cleanup activities continue.



# INDUSTRIAL WASTE CONTROL

ARKANSAS

EPA ID# ARD980496368



REGION 6

CONGRESSIONAL DIST. 03

Sebastian County

8 miles southeast of Fort Smith,

1 mile west of Jenny Lind

## Site Description

The Industrial Waste Control (IWC) site is located on 8 acres and is a closed and covered industrial *landfill*. The site is located in a strip mine that was abandoned and then used for local dumping. The site was operated under permit by IWC from 1974 to 1978. Industries used it to dispose of a wide variety of liquid and solid wastes. IWC built several ponds on the site for liquid wastes, and as many as 9,000 drums of waste also may have been buried there. In 1977, heavy rainfall flooded the waste ponds, contaminating nearby pastures and ponds. Fish kills were reported and local landowners filed for damages. As a result, the State closed the site in 1978. The landfill areas were covered with soil and graded, and natural vegetation has partially covered the site. The site is located in a rural area. Eighteen homes lie within 1/2 mile, and the nearest residence and well are 200 feet away.

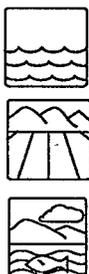
**Site Responsibility:** This site is being addressed through Federal actions.

### NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

## Threats and Contaminants



*Sediments* and soil are contaminated with *volatile organic compounds* (VOCs), *polynuclear aromatic hydrocarbons* (PNAs), and heavy metals including chromium, nickel and lead. Because the site is not being used, there is no immediate health risk from human contact with polluted soil or water. However, future use of the site or future *migration* of contaminants does cause concern. No contaminants currently exist in usable water sources, although it is possible that buried drums will disintegrate in the ground, releasing additional wastes that could *percolate* through the soil and threaten groundwater. A major concern is the possibility of groundwater contamination spreading through the interconnections between the extensive underground mine workings to the north and the surface strip mine under the site.

## Cleanup Approach

The site is being addressed in one *long-term remedial phase* focusing on source control and groundwater protection.

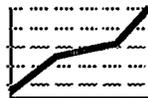
### Response Action Status



**Source Control and Groundwater Protection:** The remedies selected for the IWC site include: (1) removing about 3,000 liquid-filled drums for EPA-approved disposal off site; (2) excavating about 20,000 cubic yards of contaminated soil, which will be *stabilized* and redeposited in the excavations; (3) building an underground barrier wall of *slurry* to prevent contaminant movement; (4) installing a *french drain* (in this case, a perforated pipe at the bottom of a trench surrounded by sand and gravel filters) for collecting and diverting groundwater around the site to avoid contamination; (5) building ditches and *berms* to prevent surface water from flowing onto the site; (6) removing groundwater found during excavation to an off-site hazardous waste facility or treating it on site, as appropriate; (7) covering the site with a multi-layered *cap* consisting of a synthetic liner, clay, sand, soil, and plants; (8) installing a fence and imposing land use restrictions; and (9) monitoring groundwater and assessing the site every 5 years for remedy effectiveness. Site studies were completed in 1987 and a study of cleanup alternatives was completed in 1988. Engineering design of the selected cleanup actions was completed in 1989. Cleanup actions have begun and are expected to be completed in 1990.

**Site Facts:** A *Consent Decree* was signed in 1989 with the Steering Committee for the parties potentially responsible for site contamination to implement the selected cleanup actions.

### Environmental Progress



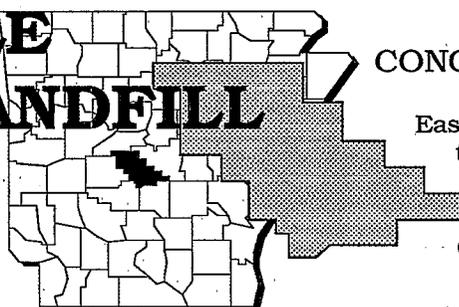
After adding the Industrial Waste Control site to the NPL, the EPA assessed conditions at the site and determined that no immediate actions were required to make it safer while awaiting the completion of the cleanup activities.



# JACKSONVILLE MUNICIPAL LANDFILL

ARKANSAS

EPA ID# ARD980809941



**REGION 6**  
CONGRESSIONAL DIST. 02

Pulaski County  
East Graham Road just inside  
the Pulaski County line

**Alias:**  
**Graham Road Landfill**

## Site Description

The Jacksonville Municipal Landfill site consists of 80 acres and was bought by the city in 1960 and operated as a municipal *landfill* until 1973. Forty of the 80 acres are contaminated. The landfill had no permit and kept no records of the wastes it accepted. The site was closed when the State turned down its permit application. The site came to the EPA's attention in 1983, when citizens complained that the landfill had been accepting hazardous wastes. A former county employee maintains that wastes were at first burned, but odor complaints prompted a change to dumping wastes into unlined trenches as deep as 25 feet. No cover was applied over disposed hazardous wastes. Drums of industrial and chemical waste were also accepted. The site floods during heavy rainfall. Groundwater in the area is as little as 5 feet below the ground surface. About 10,000 people live nearby; they draw drinking water from public and private wells within 3 miles of the the site. The nearest private well is 1,320 feet from the site.

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

### NPL LISTING HISTORY

Proposed Date: 01/22/87

Final Date: 07/22/87

## Threats and Contaminants

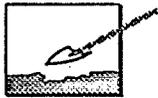


Soil contamination appears to be restricted to the drum areas on the site: there is no off-site contamination. Principal contaminants include TCDD (dioxin), *polychlorinated biphenyls* (PCBs), and herbicides. The landfill floods during heavy rains, contaminating surface water with herbicides. The site was unrestricted and children were seen playing on it until 1985. The water table is shallow and the site is poorly drained. The potential exists for exposure through direct contact with hazardous materials and soils on site. Contaminated water could leave the site because no *runoff* controls exist.

## Cleanup Approach

This site is being addressed in two stages: an initial action and a *long-term remedial phase* focusing on the entire site.

**Response Action Status**



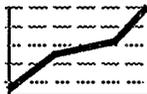
**Initial Action:** The City of Jacksonville installed a fence around the site in 1986.



**Entire Site:** The EPA is currently conducting an intensive site investigation to determine the nature and extent of the contamination. The investigation will define the contaminants and will recommend cleanup options. The study is planned for completion in 1990. Phase I of the study was completed in 1989. Soil, waste piles, *sediments*, trenches, groundwater, surface water, and drums were all sampled. Soil borings were taken to assess the depth of contamination. Workers installed 20 groundwater monitoring wells, and these, as well as residential wells, were sampled. Investigators prepared a topographic survey. Sample analysis is being evaluated. Initial assessment indicates hazardous chemicals are restricted to the site.

**Site Facts:** The site is within 1/2 mile of the Rogers Road Landfill, which is also listed on the NPL.

**Environmental Progress**



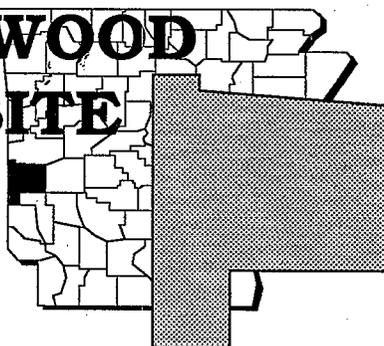
Fencing the site has reduced the potential of exposure at the Jacksonville Landfill. Further initial actions will be taken to reduce the threat of direct contact with or airborne *migration* of hazardous wastes. Drums will be *overpacked* and removed, and soil will be excavated and disposed of while investigations into a permanent cleanup solution are taking place.



# MID-SOUTH WOOD PRODUCTS SITE

ARKANSAS

EPA ID# ARD092916188



REGION 6  
CONGRESSIONAL DIST. 03

Polk County  
1/2 mile southwest of Mena  
between Hwy. 71 and Hwy. 375

## Site Description

The 57-acre Mid-South Wood Products site operates as a wood treatment plant. It was originally a post and pole factory in the late 1930s. Wood treating operations with *pentachlorophenol* (PCP) and *creosote* were conducted between 1967 and 1977. The site involves several areas: among these is the Old Plant site that was used to treat wood with PCP and creosote; and the Small Old Pond that received these chemicals as wastes; both of these areas have been covered with soil. The Old Pond area was used to store PCP and creosote *sludge* and has since been graded and covered with soil. Materials from the Old Pond were spread over the *landfarm* areas and mixed into the soil. The *landfill* area contains waste wood products. Clear Lake receives *runoff* from all the other areas. In 1977, the *chromated copper arsenate* process was introduced at the plant. It is still being used and surface drainage from the plant is put in *sumps*. Approximately 40 to 50 people live on 18 properties next to the site; 14 wells are located nearby. About 5,700 people are served by drinking water wells within 1 mile of the site. Investigations of the plant began in 1976, when several fish kills were reported downstream of the site; valuable stream fisheries are located near the site.

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

### NPL LISTING HISTORY

Proposed Date: 10/23/81

Final Date: 09/08/83

## Threats and Contaminants



The groundwater, standing surface water, soil, and *sediments* are contaminated with PCP, *polynuclear aromatic hydrocarbons* (PNAs), and heavy metals including arsenic and chromium. The people served by drinking water wells risk exposure by drinking contaminated groundwater. The surface water contamination may affect valuable stream fisheries in the area of the site.

## Cleanup Approach

The site is being addressed in an initial action and a *long-term remedial phase* addressing soil and groundwater cleanup.

### Response Action Status



**Initial Action:** Homes northwest of the site, the direction of groundwater flow, have been connected to the Mena city water system.



**Soil and Groundwater Treatment:** Studies of site contamination and possible remedies were completed in 1986. The selected remedies currently underway include: excavating, consolidating, and *stabilizing* contaminated soils and placing them in the North Landfarm area; covering the North Landfarm area with a clay *cap* to keep out water; site grading studies to locate free oil, liquids, or sludges in the Old Pond area and stabilizing them in place; installation of a *french drain system* to channel water to the treatment system; and cleanup of the treatment facility. The potentially responsible parties have undertaken both the design work and the cleanup actions at the Mid-South Wood Products site. The soil cleanup phase is complete and the groundwater recovery and treatment system is built. Workers will pump groundwater from recovery wells and treat it with activated carbon. Any resulting oils or sludges will be disposed of off site and the cleaned water will be discharged to East Fork Moon Creek. Groundwater highly contaminated with inorganics will be used as process water in the wood treatment plant. Groundwater monitoring will measure the effectiveness of cleanup activities. The parties responsible for site contamination will maintain the site, inspect it and continue to clean the groundwater. The EPA will review remedy effectiveness every 5 years.

**Site Facts:** The parties potentially responsible for contamination of the site signed a *Consent Decree* to perform the cleanup remedy in 1987. A long-term trust fund for oversight and management activities is being finalized with the potentially responsible parties.

### Environmental Progress



The provision of a safe drinking water source and the cleanup actions already underway continue to reduce contamination levels at the Mid-South Wood Products site, making it safer while it awaits completion of the cleanup activities.



# MIDLAND PRODUCTS SITE

ARKANSAS

EPA ID# ARD980745665



**REGION 6**  
CONGRESSIONAL DIST. 02

Yell County  
1/2 mile east of Ola  
on Hwy. 10

## Site Description

The Midland Products site is a 38-acre wood-treating facility and sawmill that operated from 1969 to 1979 and is now bankrupt and abandoned. The site is contaminated from past activities, especially in the 3-acre area where the wood treatment facilities and liquid waste *lagoons* are located. The processes involved *pentachlorophenol* (PCP) and *creosote*. Most of the contamination is in the soils and *sediments* in and around the lagoon area. Contaminated oil was found in the shallow groundwater but has not moved off site. Approximately 190 people live in this agricultural area. A home adjoins the southwest corner of the site; the nearest drinking well is 400 feet west, and residents within a 3-mile radius depend on private wells. The Petit Jean State Wildlife Management Area is 1 mile north of the site.

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

### NPL LISTING HISTORY

Proposed Date: 10/15/84

Final Date: 06/10/86

## Threats and Contaminants



The groundwater, lagoon sediments, and soil are contaminated with PCP, *polynuclear aromatic hydrocarbons* (PNAs), dioxins, and furans from wood treating operations. People could be exposed by direct contact with or eating or drinking contaminated materials. A nearby chicken farm and other commercial establishments may be threatened by the contaminated runoff.

## Cleanup Approach

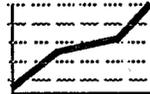
The site is being addressed in a single *long-term remedial phase* directed at soil and groundwater cleanup.

## Response Action Status



**Soil and Groundwater Cleanup:** Studies of possible cleanup actions were completed in 1987. The selected remedies at this site include: (1) collecting contaminated lagoon liquids and stormwater runoff and treating the liquids using *carbon adsorption*; (2) installing four groundwater recovery wells with oil removal systems, pumping at an accelerated rate, and treating the groundwater by carbon adsorption; (3) excavating the contaminated soils, sediments, and *sludges* from the lagoons and drainage-ways and destroying these wastes using on-site incineration; and (4) placing the clean ash on site and covering it with a vegetated soil cover. Engineering design of the selected remedies began in 1988 and is planned for completion in 1990. The State is taking the lead on site cleanup, with assistance from the EPA.

## Environmental Progress

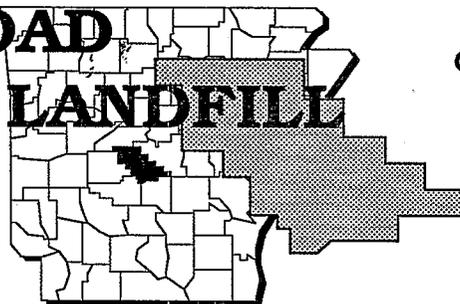


After listing the site on the NPL and performing interim studies, the EPA determined that the site does not require immediate actions to protect nearby residents or the environment. The EPA concluded that the Midland Products site does not pose a threat while it awaits further cleanup activities.



# ROGERS ROAD MUNICIPAL LANDFILL

ARKANSAS  
EPA ID# ARD981055809



**REGION 6**  
CONGRESSIONAL DIST. 02  
Pulaski County  
Rogers Road, east of Jacksonville

## Site Description

The Rogers Road Landfill is a 10-acre site that was purchased by the City of Jacksonville in 1953 and operated as a municipal *landfill* until 1974. The landfill accepted industrial and chemical waste in addition to municipal waste. The landfill closed when the Arkansas Department of Pollution Control and Ecology turned down an application for a permit. The site is located 1/2 mile to the west of the Jacksonville Municipal Landfill, which has also been listed on the National Priorities List (NPL). The area around the site is heavily wooded and the site itself is overgrown with vegetation. In 1985, the EPA inspected the site and found about 30 deteriorating drums, which gave off a strong chemical odor. Contaminated soils were found around the drums and *lagoons*, as well as the *runoff* paths. The landfill has no liner and drainage is poor, allowing water to collect. The groundwater is shallow, at a depth of 5 feet. Wastes were deposited as deep as 20 feet. An estimated 10,000 people draw drinking water from public and private wells within 3 miles of the site.

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

### NPL LISTING HISTORY

Proposed Date: 01/22/87  
Final Date: 07/22/87

## Threats and Contaminants



On-site soil and the waste *sludge* from drums are contaminated with herbicides, dioxin, *polychlorinated biphenyls* (PCBs), and trichloroethene. The potential exists for contamination of an *aquifer* used as a drinking water supply. People are at risk by direct contact or accidental ingestion of contaminated soils on site.

## Cleanup Approach

The site is being addressed in two stages: immediate action to limit site access and a *long-term remedial phase* centered on cleanup of the entire site.

**Response Action Status**



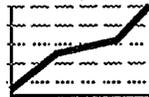
**Immediate Action:** The EPA initially inspected the site in 1985. In early 1986, the City of Jacksonville fenced the site to prevent public access.



**Entire Site:** The EPA is currently conducting an investigation into the nature and extent of the contamination at the site. The investigation will define the contamination and will recommend effective alternatives for the final cleanup. The investigation is planned to be completed in 1990.

**Site Facts:** An inquiry from a concerned citizen led the EPA to inspect this landfill in 1985.

**Environmental Progress**



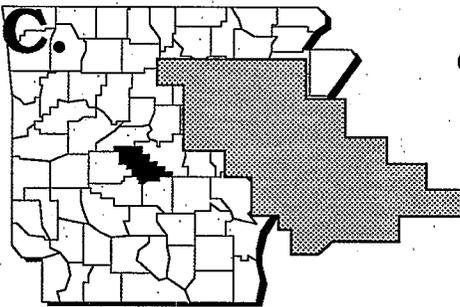
Installation of a fence surrounding the site has reduced the potential for exposure to hazardous substances at the Rogers Road Landfill site, making it safer while it awaits further investigation and the selection of the final cleanup remedy.



# VERTAC, INC.

ARKANSAS

EPA ID# ARD000023440



## REGION 6

CONGRESSIONAL DIST. 02

Pulaski County

Western edge of Jacksonville,  
15 miles northeast of Little Rock

### Site Description

Since 1948, pesticides were manufactured at the 92-acre Vertac, Inc. site. The company ceased operations in 1986. Inadequate waste disposal methods and production controls resulted in soil and surface water contamination by insecticides, herbicides, chlorinated *phenols*, and dioxin. The former *landfill* areas contain several thousand cubic yards of waste, and approximately 30,000 drums of herbicide production waste remain on site. The site's surface is drained by Rocky Branch Creek to Bayou Meto and to the Arkansas River. Contamination has been documented in most of Bayou Meto, which passes through the Arkansas Bayou Meto Wildlife Management Area. There, contaminants like dioxin, pesticides, and *polychlorinated biphenyls* (PCBs) were noted by the U.S. Department of Interior. Nearby Lake Dupree is contaminated with dioxin. The area is residential, with the nearest residences adjacent to the site.

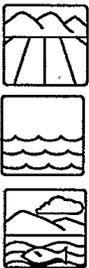
**Site Responsibility:** This site is being addressed through a combination of Federal, State, and *potentially responsible parties'* actions.

#### NPL LISTING HISTORY

Proposed Date: 10/23/81

Final Date: 09/08/83

### Threats and Contaminants



The soil and surface water are contaminated with insecticides, herbicides, chlorinated *phenols*, and dioxin from site disposal. Possible health hazards include accidental ingestion of or direct contact with the contaminants. In addition, surrounding waters and *wetlands* are threatened by *runoff* from the contaminated soil.

## Cleanup Approach

This site is being addressed in six stages: immediate actions and five *long-term remedial phases* focusing on landfill area, site study, groundwater and soil, barrels of waste and cleanup of the storage tanks and buildings.

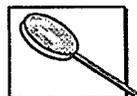
### Response Action Status



**Immediate Actions:** In 1986, under orders from the EPA, the parties potentially responsible for the site contamination installed a fence around Rocky Branch, which is located near the site. The EPA rebarreled the drummed wastes on site to prevent further leakage, and in 1988, again under EPA orders, the responsible parties began removing soil from contaminated residential areas.



**Landfill Area:** Site studies began here in 1983 when the EPA, the State, and the Department of Justice asked the potentially responsible parties to investigate site contaminants and undertake cleanup. The remedies selected included construction of a *slurry wall* to prevent contaminants from moving off the landfill areas, repair of existing clay *caps* over covered areas of the landfill, and closeout of a cooling water pond. The potentially responsible parties performed both the engineering design and completion of the cleanup between 1984 and 1986.



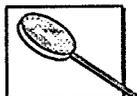
**Site Study:** The EPA is conducting an off-site study of the nature and extent of contamination of the site. The study is scheduled for completion in 1990.



**Groundwater and Soil:** The State has begun to investigate the nature and extent of groundwater and surface soil contamination caused by underground pipes and tank leakage. Completion of the investigation is expected in 1991.



**Barrels of Waste:** The State of Arkansas evaluated various methods of disposal of the 30,000 barrels of waste and contracted for the waste to be incinerated on site. The EPA is providing support services for the project including air monitoring, ash disposal, and delivery of the drums to the incinerator. The incineration process is presently ongoing, and tanks and process lines are also being secured.

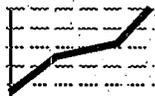


**Storage Tanks and Buildings:** The former owners are conducting this portion of the on-site study which includes the aboveground storage tanks and their contents, the buildings and contaminated debris left on site. Field work has been completed and the final study is expected in 1990.

continued

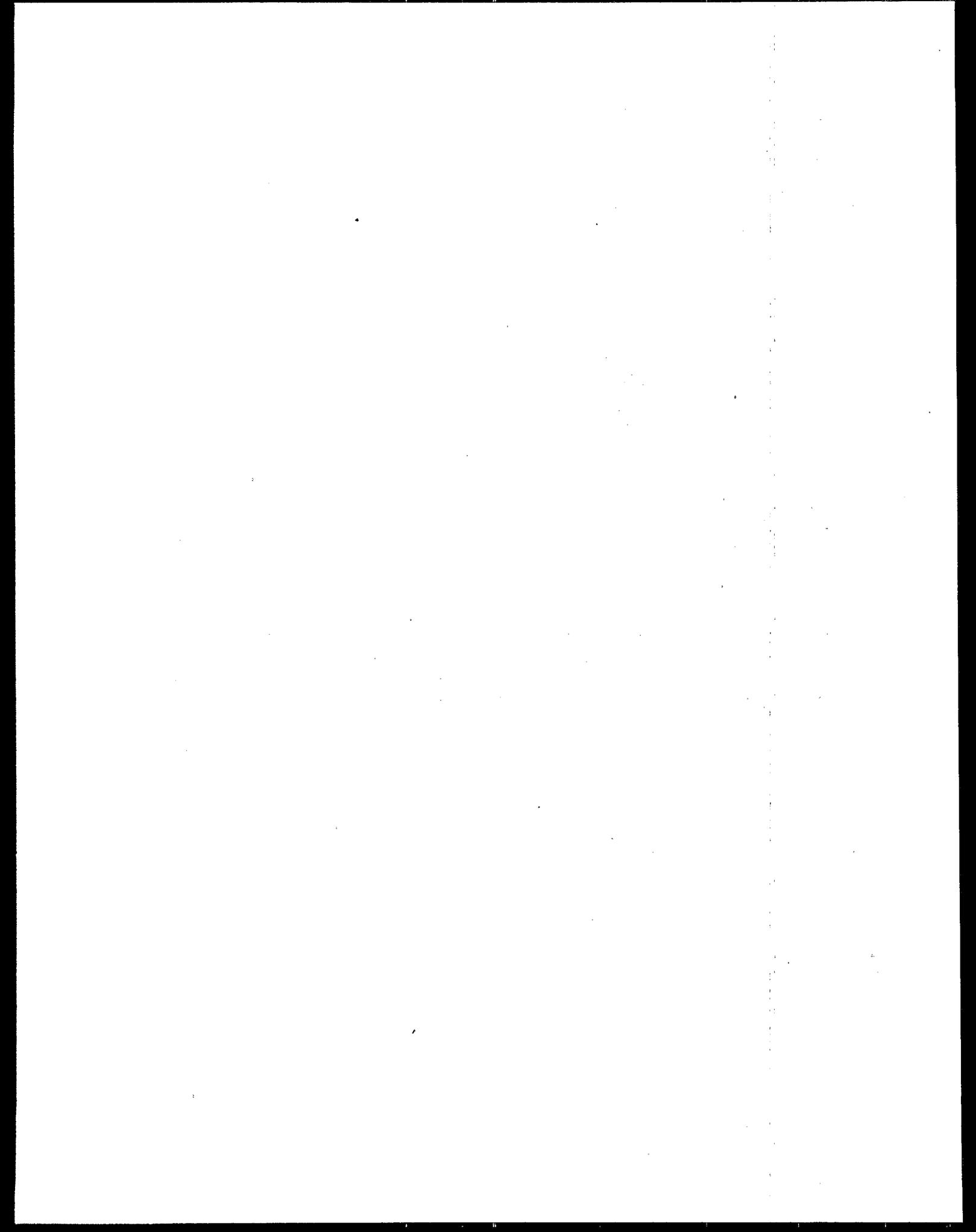
**Site Facts:** In 1983, the EPA, the State of Arkansas, and the Department of Justice negotiated a *Consent Decree* with Vertac, Inc., requiring them to conduct a site investigation and perform cleanup activities. In 1989, the EPA and Hercules, Inc., one of the former owners, signed an *Administrative Order*, under which Hercules would perform an on-site study to determine the nature and extent of site contamination. In 1988, Hercules removed contaminated soil from residential areas under an Administrative Order. There is highly organized community interest at this site.

### ***Environmental Progress***



The numerous cleanup actions performed have reduced the further spread of contaminants and the threat of exposure to dioxin wastes in the tanks and drums on site. The Vertac, Inc. site is safer, while studies continue toward identifying final cleanup actions.





## GLOSSARY:

### TERMS USED IN THE FACT SHEETS

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

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

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

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

**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.

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

## GLOSSARY

**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.

**Cell:** In solid waste disposal, one of a series of holes in a landfill where waste is dumped, compacted, and covered with layers of dirt.

**Chromated Copper Arsenate:** An insecticide/herbicide formed from salts of three toxic metals: copper, chromium, and arsenic. This salt is used extensively as a wood preservative in pressure treating operations. It is highly toxic and water soluble, making it a relatively mobile contaminant in the environment.

**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 remedial action, it must be in the form of a consent decree. A consent decree is subject to a public comment period.

**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.

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

**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.

**Landfarm:** To apply waste to land and/or incorporate waste into the surface soil, such as fertilizer or soil conditioner. This practice is commonly used for disposal of composted wastes.

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

**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.

**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.

**Pentachlorophenol (PCP):** A synthetic, modified petrochemical that is used as a wood preservative because of its toxicity to termites and fungi. It is a common component of creosotes and can cause cancer.

**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.

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

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

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

## GLOSSARY

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

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

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

**Sinkhole:** A hollow depression in the land surface in which drainage collects; associated with underground caves and passages that facilitate the movement of liquids.

**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. 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 trapped within the area surrounded by the slurry wall can be extracted and treated.

**Stabilization:** The process of changing an active substance into inert, harmless material, or physical activities at a site that act to limit the further spread of contamination without actual reduction of toxicity.

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

**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.

**Volatile Organic Compounds (VOC):** VOCs are made as secondary petrochemicals. They include light alcohols, acetone, trichloroethylene, perchloroethylene, dichloroethylene, benzene, vinyl chloride, toluene, and methylene chloride. These potentially toxic chemicals are used as solvents, degreasers, paints, thinners, and fuels. Because of their volatile

nature, they readily evaporate into the air, increasing the potential exposure to humans. Due to their low water solubility, environmental persistence, and widespread industrial use, they are commonly found in soil and groundwater.

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

