

EPA/540/4-90/021
September 1990

**NATIONAL PRIORITIES LIST SITES:
Maryland**

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

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

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

TABLE OF CONTENTS

	PAGE
INTRODUCTION:	
A Brief Overview	iii
SUPERFUND:	
How Does the Program Work to Clean Up Sites	vii
How To:	
Using the State Volume	xvii
NPL SITES:	
A State Overview	xxi
THE NPL PROGRESS REPORT	xxiii
NPL: Site Fact Sheets	1
<hr/>	
GLOSSARY:	
Terms Used in the Fact Sheets	G-1

INTRODUCTION:

WHY THE SUPERFUND PROGRAM?

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

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

After Discovery, the Problem Intensified

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

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

EPA Identified More than 1,200 Serious Sites

EPA has identified 1,236 hazardous waste sites as the most serious in the Nation. These sites comprise the "National Priorities List": sites targeted for cleanup under the Superfund. But site discoveries continue, and

A BRIEF OVERVIEW

EPA estimates that, while some will be deleted after lengthy cleanups, this list, commonly called the NPL, will continue to grow by approximately 100 sites per year, reaching 2,100 sites by the year 2000.

THE NATIONAL CLEANUP EFFORT IS MUCH MORE THAN THE NPL

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

INTRODUCTION

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

EPA IS MAKING PROGRESS ON SITE CLEANUP

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

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

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

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

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

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

EPA MAKES SURE CLEANUP WORKS

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

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

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

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

CITIZENS HELP SHAPE DECISIONS

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

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

This State volume and the companion National Overview volume provide general Superfund background information and descriptions of activities at each 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.

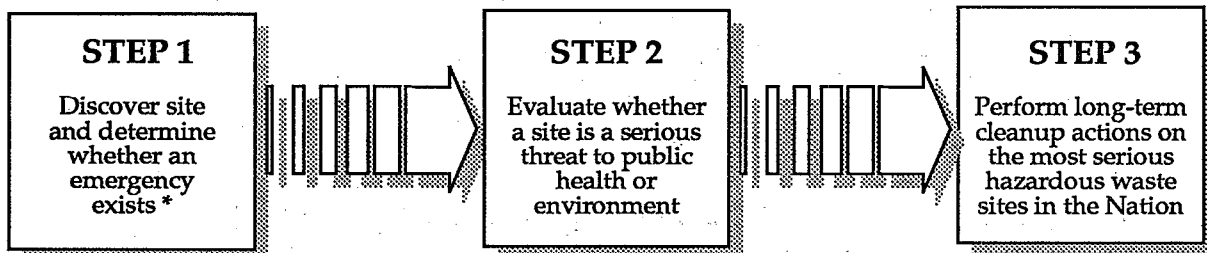
To help you understand the cleanup accomplishments made at these sites, this State volume includes a description of the process for site discovery, threat evaluation and long-term cleanup of Superfund sites. This description — *How Does the Program Work to Clean Up Sites?* — will serve as a good reference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

What happens if there is an imminent danger?

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

STEP 1: SITE DISCOVERY AND EMERGENCY EVALUATION

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

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

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

STEP 2: SITE THREAT EVALUATION

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

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

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

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

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

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

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

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

How does EPA use the results of the site inspection?

SUPERFUND

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

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

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

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

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

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

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

STEP 3: LONG-TERM CLEANUP ACTIONS

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

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

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

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

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

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

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

How are cleanup alternatives identified and evaluated?

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:

USING THE STATE VOLUME

The Site Fact Sheets presented in this book are comprehensive summaries that cover a broad range of information. The fact sheets describe hazardous waste sites on the National Priorities List (NPL) and their locations, as well as the conditions leading to their listing ("Site Description"). They list the types of contaminants that have been discovered and related threats to public and ecological health ("Threats and Contaminants"). "Cleanup Approach" presents an overview of the cleanup activities completed, underway, or planned. The fact sheets conclude with a brief synopsis of how much progress has been made on protecting public health and the environment. The summaries also pinpoint other actions, such as legal efforts to involve polluters responsible for site contamination and community concerns.

The following two pages show a generic fact sheet and briefly describes the information under each section. The square "icons" or symbols accompanying the text allow the reader to see at a glance which environmental resources are affected and the status of cleanup activities.

Icons in the *Threats and Contaminants* Section



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



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



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

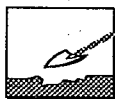


Contaminated Soil and Sludges on or near the site.



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

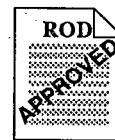
Icons in the *Response Action Status* Section



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



Site Studies at the site are planned or underway.



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



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



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



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

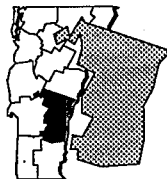
Site Responsibility

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

SITE NAME

STATE

EPA ID# ABC00000000



EPA REGION
CONGRESSIONAL DIST
County Name
Location

Aliases:

Site Description

NPL Listing History

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

Site Responsibility:

NPL LISTING HISTORY



Threats and Contaminants

Cleanup Approach

Response Action Status





Site Facts:

Environmental Progress



Environmental Progress

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

WHAT THE FACT SHEETS CONTAIN

Site Description

This section describes the location and history of the site. It includes descriptions of the most recent activities and past actions at the site that have contributed to the contamination. Population estimates, land usages, and nearby resources give readers background on the local setting surrounding the site. Throughout the site description and other sections of the site summary, technical or unfamiliar terms that are *italicized* are presented in the glossary at the end of the book. Please refer to the glossary for more detailed explanation or definition of the terms.

Threats and Contaminants

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

Cleanup Approach

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

Response Action Status

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

Site Facts

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

How To

The fact sheets are arranged in alphabetical order by site name. Because site cleanup is a dynamic and gradual process, all site information is accurate as of the date shown on the bottom of each page. Progress is always being made at NPL sites, and EPA will periodically update the Site Fact Sheets to reflect recent actions and publish updated State volumes.

HOW CAN YOU USE THIS STATE BOOK?

You can use this book to keep informed about the sites that concern you, particularly ones close to home. EPA is committed to involving the public in the decisionmaking process associated with hazardous waste cleanup. The Agency solicits input

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

Definitive information on a site can help citizens sift through alternatives and make decisions. To make good choices, you must know what the threats are and how EPA intends to clean up the site. You must understand the cleanup alternatives being proposed for site cleanup and how residents may be affected by each one. You also need to have some idea of how your community intends to use the site in the future

and to know what the community can realistically expect once the cleanup is complete.

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

NPL Sites in State of Maryland



Maryland is the forty-second largest state in the nation, covering 10,460 square miles. The State is located in the Middle Atlantic region, stretching from the Atlantic Ocean to the Allegheny Mountains. Maryland's population grew by 9.6 percent in the 1980s, and currently has approximately 4,622,000 residents, ranking 19th in U.S. populations. Principal State industries include manufacturing and tourism and agricultural crops including; corn, soybeans, and tobacco. Maryland manufacturing produces electric and electronic equipment, food and related products, and chemicals.

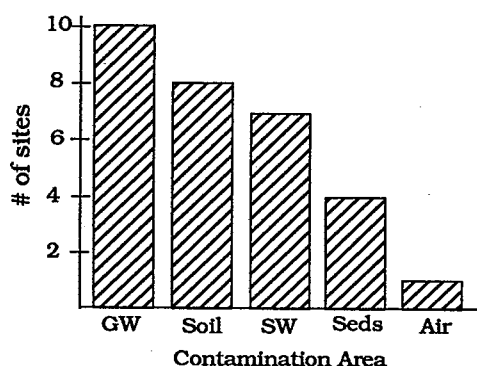
How Many Maryland Sites Are on the NPL?

Proposed	1
Final	9
Deleted	<u>2</u>
	12

Where Are the NPL Sites Located?

Cong. District 01	5 sites
Cong. District 03	2 sites
Cong. District 04	3 sites
Cong. District 06	1 site
Cong. District 07	1 site

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



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



Soil: Heavy metals (inorganics), volatile organic compounds (VOCs), creosote (organics), and plastics.



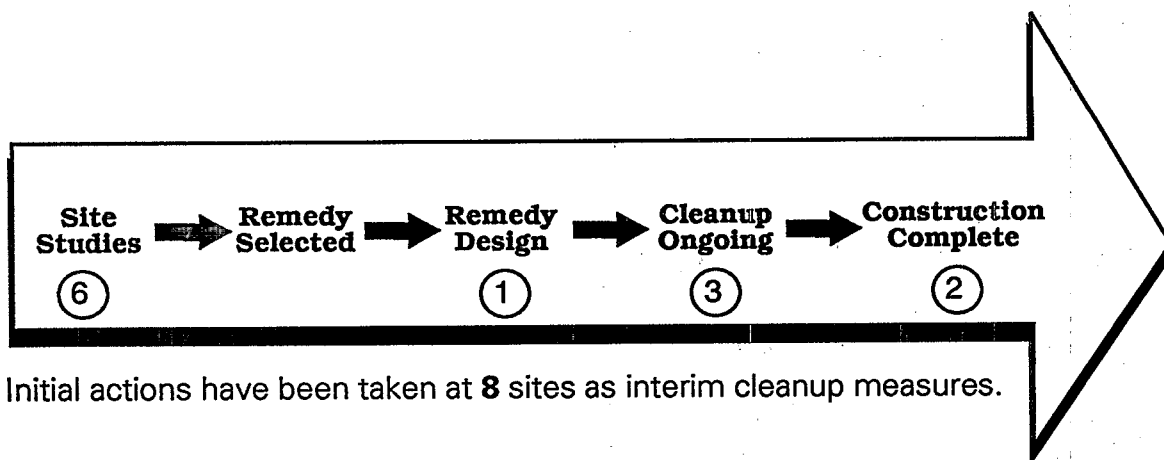
Surface Water and Sediments: Heavy metals (inorganics), volatile organic compounds (VOCs), creosote (organics), pesticides, and plastics.



Air: Heavy metals (inorganics), and acids.

*Appear at 20% or more sites

Where are the Sites in the Superfund Cleanup Process* ?



Who Do I Call with Questions?

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

Maryland Superfund Office	(301) 225-6953
EPA Region III Superfund Office	(215) 597-8132
EPA Public Information Center	(202) 475-7751
EPA Superfund Hotline	(800) 424-9346
EPA Region III Superfund Public Relations Office	(215) 597-9905

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



The NPL Progress Report

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

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

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

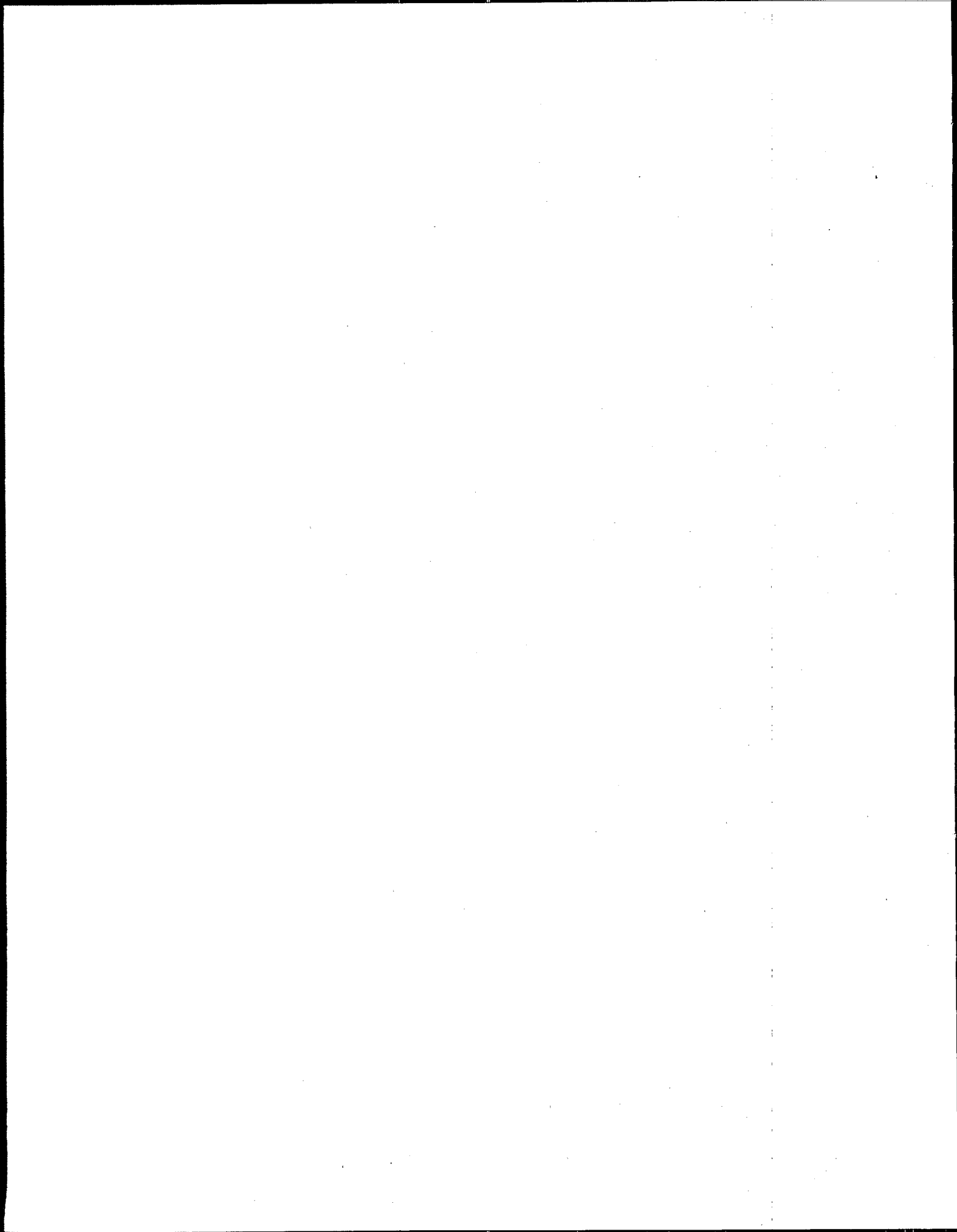
The sites are listed in alphabetical order. Further information on the activities and progress at each site is given in the site "Fact Sheets" published in this volume.

Progress Toward Cleanup at NPL Sites in the State of Maryland

Page	Site Name	County	NPL	Date	Initial Response	Site Studies	Remedy Selected	Remedy Design	Cleanup Ongoing	Cleanup Complete
1	ANNE ARUNDEL COUNTY LANDFILL	ANNE ARUNDEL	Prop.	06/16/88	➡	➡				
3	BUSH VALLEY LANDFILL	HARFORD	Final	03/31/89		➡				
5	CHEMICAL METALS INDUSTRIES	BALTIMORE	Deleted	12/30/82		➡	➡	➡	➡	➡
7	KANE & LOMBARD STREET DRUMS	BALTIMORE	Final	06/01/86	➡	➡	➡	➡	➡	
9	LIMESTONE ROAD	ALLEGHANY	Final	09/01/83		➡	➡	➡		
11	MID-ATLANTIC WOOD PRESERVERS	ANNE ARUNDEL	Final	06/01/86	➡	➡				
13	MIDDLETOWN ROAD DUMP	ANNE ARUNDEL	Deleted	04/18/88	➡	➡	➡			➡
15	SAND, GRAVEL, AND STONE	CECIL	Final	09/01/83	➡	➡	➡	➡	➡	
17	SOUTHERN MD WOOD TREATING	ST. MARYS	Final	06/01/86	➡	➡	➡	➡	➡	
19	USA ABERDEEN - EDGEWOOD	HARFORD	Final	02/21/90		➡				
21	USA ABERDEEN, MICHAELSVILLE	HARFORD	Final	10/04/89	➡	➡				
23	WOODLAWN COUNTY LANDFILL	CECIL	Final	07/01/87	➡	➡				

NPL:

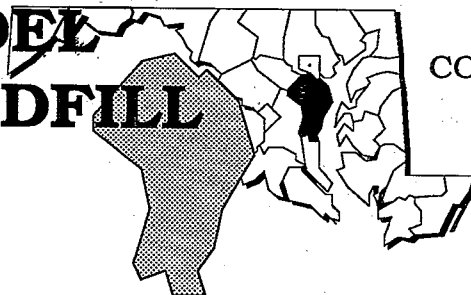
SITE
FACT
SHEETS



ANNE ARUNDEL COUNTY LANDFILL

MARYLAND

EPA ID# MDD980705057



REGION 3

CONGRESSIONAL DIST. 04

Anne Arundel County
Glen Burnie

Aliases:
Smucks Dump
Glen Burnie Landfill

Site Description

The Anne Arundel Landfill site is a 130-acre parcel in the suburban Baltimore town of Glen Burnie that was used by the County of Anne Arundel as a municipal solid waste landfill for domestic waste until it was closed in 1982. Beginning in 1945, 80 acres of the site were used as a gravel and sand excavation operation owned by a private individual. During and following the excavation of *borrow* soils, the site was used as an "uncontrolled dump" with open burning. In 1968, the site was reported as having two large surface water ponds, into which the residues from the burning were placed. By 1969, most of the 80 acres were used for dumping. Anne Arundel County took over the site and began operations in 1970. In the late 1970s, the State began to investigate the possible presence of hazardous substances at the site. Monitoring wells installed in 1980 showed that groundwater was contaminated. The Patapsco Aquifer, which lies under the site, is the most productive water source in the county and is an important source of water for public and private wells. An estimated 93,000 people live within 3 miles of the site, which is in a mixed industrial, commercial, and residential area. Approximately 3,000 people live within 1 mile of the site, and less than 100 live within 1,000 feet.

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

NPL LISTING HISTORY

Proposed Date: 06/16/88

Threats and Contaminants



Sampling by the EPA of 11 groundwater monitoring wells in 1983 confirmed that the groundwater was contaminated with *volatile organic compounds* (VOCs), cyanide, and heavy metals including lead. The EPA also found the *sediments* of Furnace Creek to be contaminated with lead and cyanide. Contaminants in the groundwater may pose a threat to people in the area because the underlying Patapsco Aquifer is a water supply source for municipal and domestic wells. This water system is interconnected to Baltimore's water supply. Contamination found in sediments may pose a threat to the ecosystem of the stream that borders the site. There is also a threat of explosion due to methane gas buildup.

Cleanup Approach

The site is being addressed in two stages: an initial action and a single *long-term remedial phase* directed at cleanup of the entire site.

Response Action Status



Initial Action: Gas venting pipes have been inserted to prevent methane buildup.



Entire Site: The State is monitoring drinking well sources to test for the intrusion of contamination. It is proposed that the County begin an investigation of the site and a feasibility study of possible remedies in 1990 in preparation for the cleanup. Once these studies are completed, the EPA will make a final remedy selection.

Environmental Progress

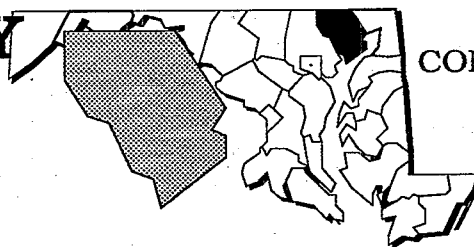


The installation of gas venting pipes to eliminate the danger of explosion from methane buildup has greatly reduced the potential for the Anne Arundel Landfill site to pose an immediate threat to the surrounding public or the environment while the site is awaiting further cleanup activities.



BUSH VALLEY LANDFILL MARYLAND

EPA ID# MDD980504195



REGION 3
CONGRESSIONAL DIST. 01

Harford County
Abingdon

Alias:
Harris Landfill

Site Description

Before 1977, the 29-acre Bush Valley Landfill site was allegedly used for the open burning of trash. The property, which was privately owned, was used as a *landfill* for municipal wastes from 1975 to 1982. During this period, the landfill had a State permit to accept municipal wastes. Between 1979 and 1984, the State issued orders to the owner to neutralize *leachates* and build drainage ditches and containment *berms* as part of the landfill's operating procedures and *closure* plans. The owner of the facility never complied fully with the orders. During a site inspection in 1984, the EPA observed erosion and leachate *seeping* from slopes at the landfill. The landfill did not contain diversion ditches or leachate collection systems and was only partially covered. The Perryman Water Treatment Plant supplies approximately 35,000 people from eight municipal wells. Three of the eight wells are within 3 miles of the site. A few private wells are nearby, the closest of which is a shallow well 500 feet away.

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

NPL LISTING HISTORY

Proposed Date: 06/16/88

Final Date: 03/31/89

Threats and Contaminants



An on-site groundwater monitoring well contained *volatile organic compounds* (VOCs) including vinyl chloride from former waste disposal practices. Also, the EPA observed soil leachate seeping from slopes of the landfill. Potential risks exist if contaminated groundwater is used as a drinking water supply. Since water is blended into the system, the entire population could be affected if one or more of the wells used by the Perryman Water Treatment Plant become contaminated. *Runoff* from the landfill goes to two basins on the site; one of these basins runs into Bynum Run, which is near the site. A *wetland* which adjoins the site could become contaminated, threatening the wildlife in the area.

Cleanup Approach

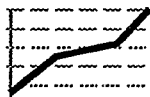
This site is being addressed in a single *long-term remedial* phase focusing on groundwater and soil cleanup at the entire site.

Response Action Status



Entire Site: The EPA is scheduled to conduct a study to determine the nature and extent of contamination and to identify alternatives for cleanup. After the completion of this investigation, the EPA will start cleanup activities to address the groundwater and soil contamination at this site.

Environmental Progress



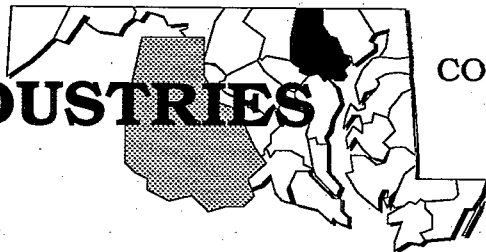
After listing this site on the NPL, the EPA performed a preliminary site investigation and determined that conditions at the Bush Valley site do not pose an immediate threat to nearby residents or the surrounding environment while the EPA begins investigations and performs cleanup activities.



CHEMICAL METALS INDUSTRIES

MARYLAND

EPA ID# MDD980555478



REGION 3
CONGRESSIONAL DIST. 03

Baltimore County
Baltimore

Alias:
CMI

Site Description

The Chemical Metals Industries site is divided into two areas: a former gas station that operated on one area and was also used as a dump yard for chemicals, and a laboratory and manufacturing center that contained chemical processing equipment designed for recrystallization of solid materials from liquid solutions. Gwynn's Falls, a tributary to the Patapsco River, is located near the site. There are approximately 10,000 people living within 3 miles of the site. The site is located in a mixed residential and industrial area, with 20 homes located between the two site areas.

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

NPL LISTING HISTORY

Deletion Date: 12/30/82

Threats and Contaminants



Specific contaminants detected in the air, soil, and surface water include cyanides, ammonia compounds, *acids*, caustics, and heavy metal salts. Health threats at the site included direct contact with contaminated air, surface water, and soils; breathing contaminated air; and drinking contaminated surface water or accidentally eating contaminated soils. Danger of fire and explosion from volatilized chemicals on the site posed an additional threat to nearby residents.

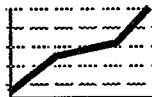
Cleanup Approach

This site was addressed in a single *long-term remedial phase* focusing on cleanup of the contamination at the entire site.

Response Action Status

Entire Site: All materials posing an immediate threat were identified, removed, and disposed of in 1982. Drums and scrap debris were removed from the site and liquid organic waste was removed. Liquid inorganic wastes were treated to make them acceptable for discharge to the city sewer system. The underground storage tank at the former gas station was filled with concrete slurry. A clay cap and topsoil were applied and compacted over the site. Sand blasters removed chemical contamination from the walls of the former gas station. The interior of the laboratory and manufacturing area were cleaned and decontaminated. The site was fenced and police and fire personnel were made available to ensure site security. As a result of the cleanup activities and subsequent sampling to ensure the effectiveness of the remedy, the EPA, in cooperation with the State of Maryland, determined that the site no longer posed a threat to the public. The site was deleted from the NPL in 1982.

Site Facts: The Chemical Metals Industries site was placed on the Interim Priorities List in October 1981; however, all cleanup actions were completed before the first proposed NPL was established.

Environmental Progress

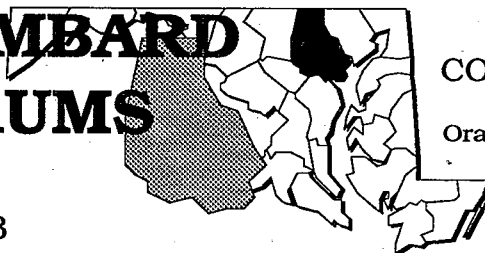
By performing all cleanup actions described above, the EPA has eliminated or contained contamination sources at the site. In conjunction with the State, the EPA has determined that the Chemical Metals Industries site has been cleaned to established standards and is no longer a threat to the public or the environment.



KANE & LOMBARD STREET DRUMS

MARYLAND

EPA ID# MDD980923783



REGION 3

CONGRESSIONAL DIST. 03

Baltimore County

Orangeville Subdivision in Baltimore

Site Description

The 8 1/3-acre Kane and Lombard Street Drums site operated as part of an open dump between 1962 and 1984 and accepted demolition, municipal, and industrial wastes. The site and some of the adjacent property have a long history of excavation and filling. Approximately 1,200 drums containing hazardous materials have been removed from the site. There are approximately 37,000 people within 3 miles of the site. Residential developments and a large medical complex are found about 1/3 mile from the site, and a large park area is about 3/4 mile from the site. A high school and its recreation areas border the property. The site lies along the edge of an industrial and commercial strip that borders a railroad and highway network. Herring Run and Back River, *downslope* of the site, are an arm of the Chesapeake Bay and are used for fishing, crabbing, and recreational purposes.

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

NPL LISTING HISTORY

Proposed Date: 10/01/84

Final Date: 06/01/86

Threats and Contaminants



The groundwater is contaminated with *volatile organic compounds* (VOCs) including vinyl chloride and benzene, and heavy metals including cadmium and mercury from former waste disposal practices. Cadmium has also been detected in off-site groundwater. Specific contaminants detected in soils include various *volatile organic compounds* (VOCs), *polychlorinated biphenyls* (PCBs), *polynuclear aromatics* (PNAs), and phthalates. Off-site soil is contaminated with arsenic, beryllium, lead, PNAs, and phthalates. Health threats include exposure to contaminated soil and air through ingestion, inhalation, and skin contact. If *bioaccumulation* of contaminants is confirmed, people who participate in fishing, crabbing, and recreational uses of Herring Run and Back River may also be at risk.

Cleanup Approach

This site is being addressed in three stages: emergency actions and a *long-term remedial phase* focusing on source control and cleanup of contaminated groundwater.

Response Action Status



Emergency Actions: In 1984, the EPA removed approximately 1,150 drums from the site. The majority of full drums contained flammable solids. An additional drum containing PCBs was removed and stored pending shipment to a disposal facility. The site was covered with 12,000 cubic yards of topsoil, and surface contours were reshaped to prevent surface water from mixing with contaminants and moving off site. The EPA also installed a fence for security purposes.



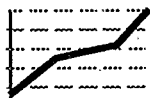
Source Control: The final selection of cleanup technologies to address contamination include: construction of subsurface *containment* and diversion structures around the waste disposal areas, construction of a multi-layer soil *cap*, construction of a drainage system, and continued groundwater monitoring. The EPA prepared the technical specifications and design for the selected cleanup technologies and is currently performing the cleanup at the site. Final cleanup activities are expected to be completed in 1990.



Groundwater: The State is conducting a second investigation to determine the nature and extent of groundwater contamination underlying the site. This investigation will identify alternatives for cleanup and is scheduled to be completed in 1991.

Site Facts: In 1983, the State of Maryland issued an order to the *potentially responsible parties* to conduct cleanup activities. The potentially responsible parties appealed the order and the State requested the EPA's assistance.

Environmental Progress



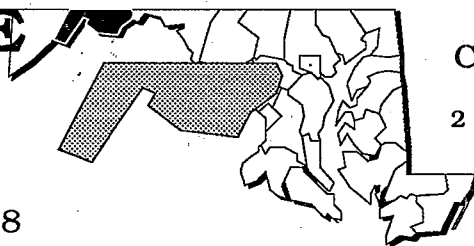
Emergency actions have reduced the potential for exposure to contamination at the Kane and Lombard Street Drums site. Ongoing cleanup activities are designed to isolate the remaining contamination thereby eliminating threats to public health and the environment.



LIMESTONE ROAD

MARYLAND

EPA ID# MDD980691588



REGION 3

CONGRESSIONAL DIST. 06

Alleghany County

2 1/2 miles southeast of Cumberland

Aliases:

Cumberland Cement & Supply
Diggs Sanitation

Site Description

The 210-acre Limestone Road site consists of two parcels of land; the former Diggs Sanitation Company and the Cumberland Cement and Supply Company. The site includes large areas of *landfilled* and dumped commercial, residential, and demolition refuse on both properties. Approximately 110 tons of chromium-containing *sludge* were also disposed of on the properties. Beginning in the mid-1970s, various contractors were allowed to dump clean fill (housing demolition wastes) on the property to provide a larger and more level working surface. Allegations were made that 11 tons of hazardous waste have been disposed of on the Diggs property as an extension of previous filling and grading operations. There are approximately 425 people within 1 mile of the site. The site is bordered by several residences and the Cumberland City Dump. There is one residence on the Diggs property, and 18 residences are within 1/2 mile *downgradient* of the site. The residences are supplied with groundwater from private wells.

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

NPL LISTING HISTORY

Proposed Date: 12/01/82

Final Date: 09/01/83

Threats and Contaminants



Inorganic chemicals and heavy metals including zinc and lead were detected in on-site soils during test pit sampling. The surface water is contaminated with chromium, cadmium, and zinc. Possible health threats include direct contact with or accidental ingestion of contaminated soil or surface water. There is also a possibility that groundwater may become contaminated through *runoff* from the soil or surface water.

Cleanup Approach

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

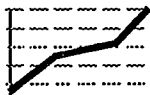
Response Action Status



Entire Site: The EPA has selected the following remedies for cleanup of the site contamination: (1) reshaping site surface contours to manage water infiltration and runoff; (2) *capping* contaminated soil on all properties; (3) fencing of both properties; (4) continued monitoring of groundwater, surface water, and sediment; (5) completing a historical review of pertinent geological information; (6) chemically analyzing shale to determine its composition; (7) reevaluating and establishing background data control points for groundwater; and (8) frequent groundwater sampling, as well as increasing stream and residential sampling. In addition, the EPA remedy requires evaluating the effects of natural conditions on the overall water quality of the area. The parties potentially responsible for contamination at the site are preparing the technical specifications and design for the selected cleanup technologies. Cleanup activities will begin once the design phase is completed.

Site Facts: In 1988, the potentially responsible parties entered into a *Consent Decree* with the EPA to conduct cleanup activities at the site. The State subsequently filed a motion to intervene, requesting that it be made a party to the Consent Decree on equal terms with the EPA. The issue related to the State's role was settled among the parties, and the decree was amended and signed by the potentially responsible parties, the State, and the EPA. The decree was entered in court in 1990.

Environmental Progress



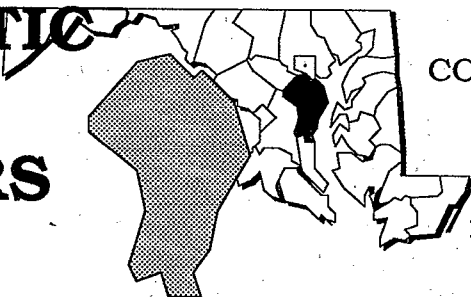
After adding the Limestone Road site to the NPL, the EPA performed preliminary investigations and found that the site does not currently pose an immediate threat to public health or the environment while further investigations and cleanup activities are proceeding.



MID-ATLANTIC WOOD PRESERVERS

MARYLAND

EPA ID# MDD064882889



REGION 3
CONGRESSIONAL DIST. 04
Anne Arundel County
Harmans

Alias:
Mid-Atlantic Harmans Wood
Treatment Factory

Site Description

The Mid-Atlantic Wood Preservers site is an active wood-treating facility that stands on a 3-acre parcel in Harmans. It consists of two *impoundments* that straddle Shipley Avenue near its intersection with Dorsey Road. Both are enclosed by chain-link fencing. The operation employs a two-part *chromated copper arsenate* (CCA) process. In the first part, workers pressure-treat lumber in an enclosed processing plant; in the second, the wood is allowed to drip and dry. From 1976 until 1981, operators allowed the contaminated drippings to fall directly onto the ground. Surface water from the site drains toward Stoney Run Creek, while the groundwater moves in a northwesterly direction. The groundwater beneath the site and surface soils are contaminated with wood-treating metals. The pollution was determined to have come from the overflow of a CCA storage tank and from lumber drippings, and the owner undertook cleanup activities in 1980. The area surrounding the site is industrial, commercial, and residential. About 1,180 people within a 3-mile radius depend on approximately 75 wells as a source of drinking water and for a variety of other uses including domestic, public, commercial, recreational, institutional, industrial, and irrigation. The closest residence is within 200 feet of the site. Stoney Run Creek flows north through a *wetland* area 600 feet west of the site, extending 4 miles before discharging to the Patapsco River near Elkridge. Stoney Run is restricted to recreational use.

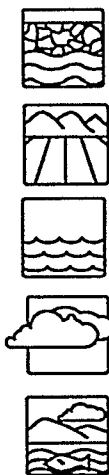
Site Responsibility: This site is being addressed through a combination of Federal, State, and *potentially responsible parties'* actions.

NPL LISTING HISTORY

Proposed Date: 10/01/84

Final Date: 06/01/86

Threats and Contaminants

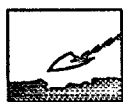


Heavy metals including arsenic and chromium from former process wastes have been detected in monitoring wells on site and in an off-site private well, as well as in the soils on the site. Low levels of copper were found in the water of Stoney Run. People are at risk from accidentally ingesting contaminated groundwater or from inhaling contaminated residues in the soils. The wetlands and stream areas near the site also are subject to contamination from the surface water *runoff* from the site or from the inflow of contaminated groundwater.

Cleanup Approach

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

Response Action Status

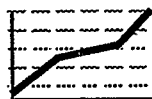


Immediate Action: Under orders from the State, the owner developed plans to remedy the groundwater contamination in 1980. Operational changes included leaving the drying wood on the concrete drainage pad longer before moving it to the storage lot and modifying the drainage pad so that it collects all waste drippings for reuse. All wastes captured by the drip pad are recirculated within the process system and *sludges* are shipped off site for disposal. The owner also removed 26 cubic yards of contaminated soil from beneath the chemical storage tank overflow pipe and disposed of it at an EPA-approved facility. Nevertheless, the EPA's 1983 investigation indicated that excess contamination remains in the groundwater and that further cleanup may be necessary.



Entire Site: A study of groundwater contamination at the site is under way and is being financed by the owner. This investigation will explore the nature and extent of the problems and will recommend the best strategies for final cleanup. It is scheduled for completion in early 1990.

Environmental Progress

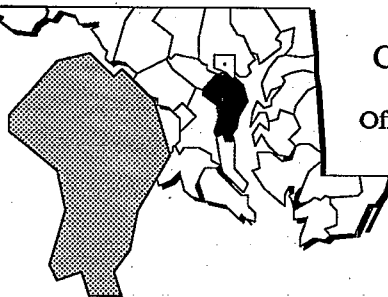


The owner's actions to limit the spread of groundwater contamination and the removal of contaminated soil from the site have reduced the potential of the further spread of contamination at the Mid-Atlantic Wood Preservers site while the selection of a final cleanup strategy is being made.



MIDDLETOWN ROAD DUMP MARYLAND

EPA ID# MDD980705099



REGION 3
CONGRESSIONAL DIST. 04
Anne Arundel County
Off Maryland Route 50, near Annapolis

Alias:
Dale Dickerson Dump

Site Description

The Middletown Dump, situated on approximately 2 1/2 acres, is a privately owned dump off Route 50 near Annapolis. The facility, now inactive, took in rubble and construction debris for several decades without proper State permits. In 1981, it was discovered that about 40 drums and four dumpster loads of suspected hazardous substances were on the site. The owner was forced to initiate cleanup when a drum-crushing accident spread contaminants over a half acre. That year, the State shut down the dump because of its violations of State water pollution and hazardous waste laws. Approximately 5,000 people live within 1 mile of the site; 2,500 people within 3 miles are served by groundwater in both public and private wells. A stream flowing off the site enters Whitehawk Creek, which is used for recreation.

Site Responsibility: This site was addressed through Federal actions.

NPL LISTING HISTORY

Proposed Date: 12/01/82

Final Date: 09/01/83

Deletion Date: 04/18/88

Threats and Contaminants



Soil was contaminated with heavy metals such as lead, aluminum, chromium, zinc, cyanide, barium, and cadmium. Access to the site was unrestricted, making the risk of direct contact with contaminated areas possible.

Cleanup Approach

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

Response Action Status

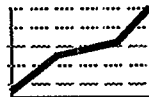


Emergency Actions: In 1983, the EPA conducted an emergency cleanup to eliminate immediate threats from contamination. EPA workers performed the following: (1) removed contaminated soil and 5-gallon pails of marine paint; (2) sampled the soil to confirm that contaminant removal had been adequate; (3) installed six groundwater monitoring wells around the site perimeter; (4) sampled and tested drums; and (5) moved 1 million tires elsewhere on the site to expedite subsurface investigation. More drums were discovered under the tires. The EPA removed 68 drums, 70 contaminated tires, and 610 tons of contaminated soil.



Entire Site: The EPA and the State conducted an intensive investigation of site conditions during and after the emergency removal. The study evaluated water, soil, and *sediment* quality in the vicinity of the site. It revealed that as a result of the previous EPA cleanup actions, the hazardous wastes were gone, and that no threat to human health remained. The site contains only uncontaminated trash and tires. Declaring that no further cleanup action was warranted, the EPA, with agreement from the State, deleted the site from the NPL in April 1988.

Environmental Progress



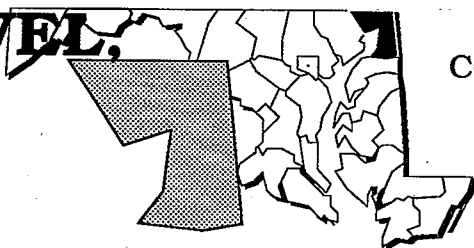
The EPA, through emergency removal of hazardous wastes and evaluations of the extent of contamination at the Middletown Dump, successfully cleaned up the site. After further studies, the EPA, with concurrence by the State, determined that the site no longer posed a threat to the surrounding community or the environment, and delisted the site from the NPL in 1988.



SAND, GRAVEL, AND STONE

MARYLAND

EPA ID# MDD980705164



REGION 3
CONGRESSIONAL DIST. 01
Cecil County
3 miles west of Elkton

Aliases:
Elkton Quarry
Maryland Sand and Gravel

Site Description

From 1969 to 1974, 3 acres of the Sand, Gravel, and Stone site, which is on a 200-acre parcel, were used for the disposal of bulk wastes such as processing wastewater, *sludges*, and *still bottoms*, and about 90 drums of solid and semi-solid waste. The operator dug pits and disposed of approximately 700,000 gallons of waste into them, including buried drums and sludges in on-site pits. In 1982, the EPA detected *volatile organic compounds* (VOCs) in the groundwater at the site, although water samples from nearby homes were not contaminated. Approximately 570 people live within a 1-mile radius of the site; 8,000 are within 3 miles. The nearest home *upgradient* of the buried toxic wastes is 800 feet; the nearest home *downgradient* is 1,800 feet from the site. Elk Nest State Forest is within 3 miles, as is the Elk River *estuary* and *wetlands*. Mill Creek, a headwater located on the site, is a documented spawning area.

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

NPL LISTING HISTORY

Proposed Date: 12/01/82

Final Date: 09/01/83

Threats and Contaminants



The shallow groundwater has been shown to contain heavy metals including cadmium and chromium and VOCs including benzene and toluene from former waste disposal practices. The deep groundwater is contaminated with lead. Heavy metals, pesticides, and VOCs have been detected in *sediments* and surface water. Ponds heavily contaminated with heavy metals and VOCs have dried, and the sediments have become topsoil. Trespassers are at risk by touching, inhaling, or accidentally consuming contaminated soils. Site access is restricted by a fence around the perimeter of the facility. The bog turtle, an endangered species, has not been seen on the site since the 1970s.

Cleanup Approach

The site is being addressed in four stages: immediate actions and three *long-term remedial phases* focusing on drum and shallow *aquifer* cleanup, deep aquifers, and soil cleanup.

Response Action Status



Immediate Actions: Under State order, the owner removed 200,000 gallons of liquid waste from the site in 1974. In 1985, a temporary fence was constructed around the site to limit access.



Drums and Shallow Aquifer: The parties potentially responsible for site contamination installed a new fence around the site and posted warning signs. A groundwater treatability study is in progress by the potentially responsible party to determine the most effective way to address groundwater contamination. The design of this remedy is planned for completion in mid-1992. Drum removal activities were initiated in March 1990.



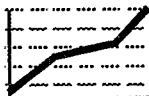
Deep Aquifers: The potentially responsible parties are conducting a study to determine the nature and extent of site contamination and to identify alternatives for cleanup. Phase II, an intensive study of the deep aquifers to assess the nature and extent of contamination and to identify the best strategies for cleanup, is also ongoing. Once the EPA selects the remedy, the potentially responsible parties will proceed with design and cleanup activities.



On-site Soils: An intensive study of on-site soil contamination, Phase III, is slated for 1990. The parties potentially responsible for site pollution might undertake this investigation, which will determine the nature and extent of the problem and will identify the best approaches for cleanup. Design is scheduled for 1992.

Site Facts: In 1985, a steering committee of potentially responsible parties volunteered to perform the Phase II study, signing a *Consent Order* in 1986. Forty-one responsible parties and the EPA signed a *Consent Decree* in November 1987 in which the parties agreed to conduct cleanup actions and to pay a portion of the EPA's past and future oversight costs.

Environmental Progress



The immediate construction of a fence around the site to limit public access and the removal of liquid wastes have reduced the potential for exposure to hazardous materials at the Sand, Gravel, and Stone site while further studies and a final remedy selection are taking place.



SOUTHERN MARYLAND WOOD TREATING

MARYLAND

EPA ID# MDD980704852



REGION 3
CONGRESSIONAL DIST. 01
Saint Mary's County
Hollywood

Site Description

Four acres of the 25-acre Southern Maryland Wood Treating (SMWT) site, located about 50 miles southeast of Washington, D.C., were used to treat wood from 1965 to 1978. The facility treated wood with coal tar, *creosote*, and *pentachlorophenol* (PCP) and is now inactive. Operators disposed of process wastes in six unlined *lagoons* and filled a seventh with contaminated water and *sludge*. In 1982, under an order from the Maryland Department of Health, the potentially responsible parties attempted to clean up the site by spraying lagoon liquids and *landfarming* lagoon sludges in two areas on site. Sludges were mixed with wood chips and manure and spread over a 3-acre section of the site. This attempt was not successful, and now the top 3 feet of soil in this area are heavily contaminated with *polycyclic aromatic hydrocarbons* (PAHs). Soil under the former lagoon area is also heavily contaminated from *seepage* from the lagoons. Surface soil in other areas of the site was contaminated by drippings from treated wood. The site is surrounded by residential and agricultural areas. About 40 homes are located within 1/2 mile of the site, and 150 homes are within 1 mile of the site. Approximately 260 people depend on wells within 3 miles of the site for drinking water.

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

NPL LISTING HISTORY

Proposed Date: 10/01/84

Final Date: 06/01/86

Threats and Contaminants



The groundwater is contaminated with *volatile organic compounds* (VOCs), PAHs, PCP, styrene, and creosote by-products from the wood-treatment operations. The main threat to public health associated with the site is long-term exposure to carcinogens found in PAHs in the subsurface and surface soils.



Cleanup Approach

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

Response Action Status



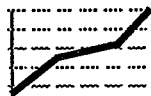
Immediate Actions: In 1980, the parties potentially responsible for contamination of the site excavated and treated part of the contaminated soil on the site under orders from the State. In 1982, the six lagoons were completely emptied, *backfilled*, and graded. Wastewater was used to spray a wooded area behind the site while excavated sludge was placed in a sludge treatment area east of the site. The seventh pond was partially excavated. The EPA and the State conducted additional emergency measures to *stabilize* the site. By 1986, approximately 1,400 cubic yards of contaminated soil were excavated from the northwest bank of the freshwater pond. The soils were then placed onto a synthetic liner east of the former lagoon area and *capped* with a synthetic cover. A decontamination pad was used to clean the heavy excavation equipment.



Entire Site: The cleanup remedies selected for this site in 1988 include: (1) excavating and on-site incinerating of contaminated soils and *sediments*; (2) installing a barrier to control groundwater *migration* through the pond and process area; (3) pumping and treating contaminated groundwater and surface water; (4) backfilling, regrading, and replanting the site where necessary; and (5) monitoring groundwater, surface water, sediment, and organisms. A UV oxidation or *carbon adsorption* method may be used in the cleanup process. A final technology selection will be determined during the pre-design studies. The cleanup processes will be completed in different phases; the first phase is to install a barrier wall around the pond and process area and then constructing a permanent decontamination area. The design of this phase was finished in 1989. Construction has begun and completion is expected in 1990. The next phase will accomplish the remainder of the cleanup process. The pre-design work of the remedy is under way for this phase.

Site Facts: In 1980, a *Consent Decree* was signed between the State, the EPA, and SMWT Corporation, one of the potentially responsible parties, to conduct immediate cleanup actions at the site.

Environmental Progress



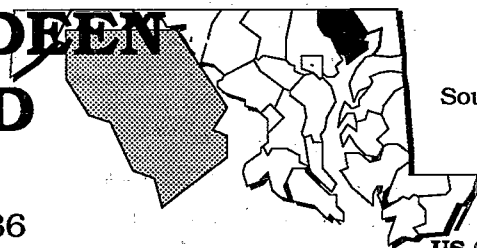
Excavating, treating, and capping contaminated soils at the Southern Maryland Wood Treating have prevented the further spread of contaminants and have reduced the risk to the public while the site awaits the completion of the permanent cleanup remedies selected.



USA ABERDEEN EDGEWOOD

MARYLAND

EPA ID# MD2210020036



REGION 3

CONGRESSIONAL DIST. 01
Southern Harford County and southeastern
Baltimore County

Aliases:

USA Aberdeen Proving Ground
US Coast Guard - Upper Chesapeake Range
USA Edgewood Arsenal
US Coast Guard - Poole Island Range

Site Description

The Aberdeen Proving Ground (APG) occupies 79,000 acres of land and water near the head of Chesapeake Bay. The APG consists of two areas that are listed separately on the NPL: the Edgewood area and the Michaelsville area. The Edgewood area is 13,000 acres and includes Gunpowder Neck, Pooles Island, Carroll Island, and Graces Quarters. The Edgewood area is separated from the Michaelsville area by the Bush River. The Edgewood area was used for the development and testing of chemical agent munitions. From 1917 to the present, the Edgewood area conducted chemical research programs, manufactured chemical agents, and tested, stored, and disposed of toxic materials. The Edgewood area has large areas of land and water and numerous buildings, which are contaminated or suspected of contamination. Virtually every land portion of the area is reportedly contaminated or potentially contaminated. Substances disposed of in the area include significant quantities of napalm, white phosphorus and chemical agents. On-site area surface water includes rivers, streams and wetlands. There are 38,600 people living within 3 miles of the site. On-site residences house military personnel and military dependents. Four Edgewood area standby water supply wells in the Canal Creek area previously served approximately 3,000 people. The Long Bar Harbor well field of the County Department of Public Works and the well field used by the Joppatowne Sanitary Subdistrict serve 35,000 people within 3 miles of the site.

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

NPL LISTING HISTORY

Proposed Date: 04/01/85

Final Date: 02/21/90

Threats and Contaminants



Preliminary on-site groundwater sampling has identified various metals, phosphorus, and *volatile organic compounds* (VOCs) including chloroform and benzene. Preliminary on-site soil contamination sampling has identified various VOCs, metals, and unexploded ordnance in surface and subsurface soil. Preliminary on-site surface water sampling has identified various metals, phosphorus, and VOCs. People who accidentally touch or ingest contaminated groundwater, surface water, soil, or *sediments* may be at risk. The wetlands area is a designated habitat for bald eagles.

Cleanup Approach

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

Response Action Status

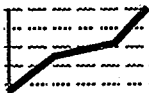


Entire Site: As an initial action, the Army conducted an environmental monitoring program in 1977 and 1978 at the Edgewood area. Evidence was found of substantial groundwater and surface water contamination.

Contamination at the Edgewood area has been identified in separate study areas which will be addressed in future cleanup actions. Within each study area there may be multiple cleanup phases. The areas include: Canal Creek, Old-O-Field, J-Field, Carroll Island, Graces Quarters, Westwood Area, and the Other Edgewood Areas. The Canal Creek study area is 700 acres and surrounds both branches of Canal Creek. There is a *landfill* and closed pilot plant in this area. The area is primarily contaminated with white phosphorus. The Old-O-Field is 700 acres and has six former disposal pits which are contaminated with mustard gas and lewesite. Four disposal/burn areas have been identified on the J-Field. Contaminants include various chemical agents and ammunitions. Carroll Island is 850 acres, and the area was used for air testing of chemical agents. Burning pits and small dump areas were used for disposal of water. Graces Quarters includes 890 acres and was used for chemical agent and biological stimulant testing. Some disposal activities may have been conducted. Westwood Area is 523 acres and the area was used as a bomb-drop target area. There is an active solid waste landfill in the area which is permitted to receive only rubble and asbestos wastes. Other Edgewood areas include all areas not covered by specific study areas. Work plans outlining the schedule and objectives of environmental investigations were completed for each of these study areas in 1989. These studies will be conducted between the present time and 1993 and will result in defining the contaminants for each area and identifying alternatives for site cleanup once completed. The EPA will select cleanup remedies to be carried out by the federal government.

Site Facts: The Aberdeen Proving Ground is participating in the *Installation Restoration Program* (IRP), the specially funded program established in 1978 under which the Department of Defense (DOD) has been identifying and evaluating its past hazardous waste sites and controlling the *migration* of hazardous contaminants at military or other DOD installations.

Environmental Progress



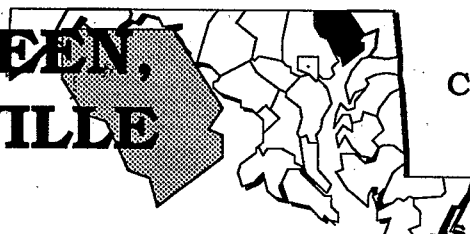
The EPA and the Army have isolated various areas of contamination at the USA Aberdeen-Edgewood site and have completed the work plans for cleanup of these areas. Once these studies are reviewed and the final cleanup alternatives are selected, the Army will begin the work to clean up the site contamination areas.



USA ABERDEEN, MICHAELSVILLE

MARYLAND

EPA ID# MD3210021355



REGION 3
CONGRESSIONAL DIST. 01
Southern Harford County

Aliases:
USA Edgewood Arsenal
US Coast Guard - Poole Island Range
US Coast Guard - Upper Chesapeake Range

Site Description

The Aberdeen Proving Ground (APG) occupies 79,000 acres of land and water near the head of the Chesapeake Bay. The APG consists of two areas that are listed separately on the NPL: the Michaelsville area and the Edgewood area. The Michaelsville area consists of 17,000 acres, including the 20-acre Michaelsville Landfill, the Phillips Field Disposal Area, and the White Phosphorous Burial Site, and it is separated from the Edgewood area of the site by the Bush River. The area contains firing ranges, impact areas, vehicle test tracks, and laboratories in support of the testing activities. The Michaelsville Landfill operated as a sanitary landfill from the 1970s until 1980. The landfill received household garbage and refuse from the installation. The Phillips Field Disposal Area includes the active Phillips Field Landfill, Disposal Areas 1 through 4, and two grease pits. The active Phillips Field Landfill is a construction debris landfill and lies on top of an older landfill that is unlined and is about 16 feet deep. The White Phosphorous Burial Site is believed to be within a 15-acre area in the Chesapeake Bay near Mosquito Creek. Reportedly, munitions were buried under 2 feet of soil at the location. The Michaelsville area is bordered on the west by the Bush River and to the northeast and south by the Chesapeake Bay. The area is drained by seven creeks plus the Bush River. There are 38,600 people living within 3 miles of the site. Residences located on the Michaelsville Landfill area of the site house military personnel and dependents.

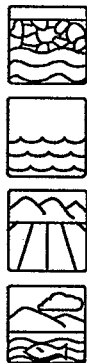
Site Responsibility: This site is being addressed through Federal actions.

NPL LISTING HISTORY

Proposed Date: 04/01/85

Final Date: 10/04/89

Threats and Contaminants



Preliminary groundwater and surface water sampling has identified various heavy metals, phosphorous, and *volatile organic compounds* (VOCs). Soil is contaminated with pesticides. People who accidentally touch or ingest contaminated groundwater, surface water, soil or *sediments* may be at risk. There also is a possible risk of *bioaccumulation* of contaminants in the food chain.

Cleanup Approach

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

Response Action Status



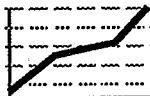
Initial Actions: The Army has begun excavating pesticide-contaminated soil at the golf course and sampling is under way. Abandoned underground storage tanks are also being removed. Soil sampling around the tanks will be conducted to determine if additional excavation and soil removal are required.



Entire Site: Contamination at the Michaelsville area has been identified in separate study areas which will be addressed in future cleanup actions. The areas include the landfill source, groundwater, the Phillips Field Landfill, the White Phosphorous Area, the Fire Training Area, and the other areas. An investigation is under way and is expected to be completed in 1993. The study will define the contaminants for each area, evaluate the health and environmental risks, and will identify alternatives for site cleanup.

Site Facts: The EPA and the Army entered into an *Interagency Agreement* in March 1990. Under this agreement, the Army will conduct investigations and cleanup activities at the site. The USA Aberdeen, Michaelsville site is participating in the *Installation Restoration Program* (IRP), the specially funded program established by the Department of Defense (DOD) to identify, evaluate, and control the *migration* of hazardous wastes at military or other DOD installations.

Environmental Progress



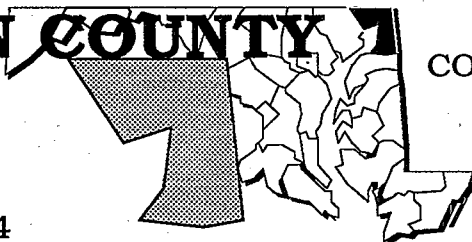
The EPA and the Army have excavated soil in one area of contamination and sampled it. Underground storage tanks are being removed, and the Army has isolated various areas of contamination at the Michaelsville site. Further investigations leading to the final selection process for cleaning up the various areas are currently being conducted.



WOODLAWN COUNTY LANDFILL

MARYLAND

EPA ID# MDD980504344



REGION 3
CONGRESSIONAL DIST. 07

Cecil County
Woodlawn

Alias:
Woodlawn Transfer Station

Site Description

Cecil County owned and operated the 37-acre Woodlawn County Landfill from 1965 to 1979, when it was closed under a State order. Before becoming a *landfill*, the property was a privately owned sand and gravel quarry. Operators filled two large quarry pits with agricultural, municipal, and industrial wastes. According to State records, the only documented hazardous waste disposal at the site was *polyvinyl chloride (PVC) sludge* by the Firestone Tire and Rubber Company. This sludge was initially disposed of throughout the site, but in 1977, two designated disposal *cells* were put into use. However, EPA and State analyses showed contamination of on-site groundwater as well as stream *sediments* 200 feet from the site. When the EPA sampled home wells in 1987, all were free of contamination. An estimated 5,700 people draw drinking water from public and private wells within 3 miles of the site. The nearest private well is within 400 feet of the landfill. All homeowners adjacent to the site use private wells as their sole source of water. The contaminated stream enters Basin Run, a State-designated trout stream, about 2 miles from 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: 01/22/87

Final Date: 07/01/87

Threats and Contaminants



The groundwater is contaminated with PVC, benzene, toluene, and lead. *Volatile organic compounds (VOCs)* and lead are found in stream sediments. Possible health threats include drinking or coming in direct contact with contaminated groundwater or stream sediments.

Economically valuable trout streams are located in the vicinity that may be threatened by site contamination.

Cleanup Approach

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

Response Action Status



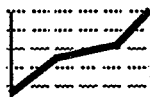
Immediate Action: The parties potentially responsible for the site contamination *capped* the PVC sludge in 1981 to keep rainwater from spreading the pollution, and they installed monitoring wells. The State samples on-site monitoring wells twice a year.



Entire Site: The potentially responsible parties agreed to undertake an intensive study of soil and groundwater contamination at the site and to recommend the best approaches for cleanup. The investigation began in 1988 and is scheduled for completion in 1991, after which the potentially responsible parties, under EPA monitoring, will clean up the site using the EPA-selected remedies.

Site Facts: The EPA signed a *Consent Order* with the Firestone Tire and Rubber Company and Cecil County in 1988 to conduct a site investigation.

Environmental Progress



Capping the PVC sludge has eliminated the possibility of rainwater spreading the contaminants from the Woodlawn County Landfill while further investigations and cleanup activities continue.



GLOSSARY:

TERMS USED IN THE FACT SHEETS

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

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.

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

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

Bioaccumulate: The process by which some contaminants or toxic chemicals gradually collect and increase in concentration in living tissue, such as in plants, fish, or people as they breathe contaminated air, drink contaminated water, or eat contaminated food.

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

