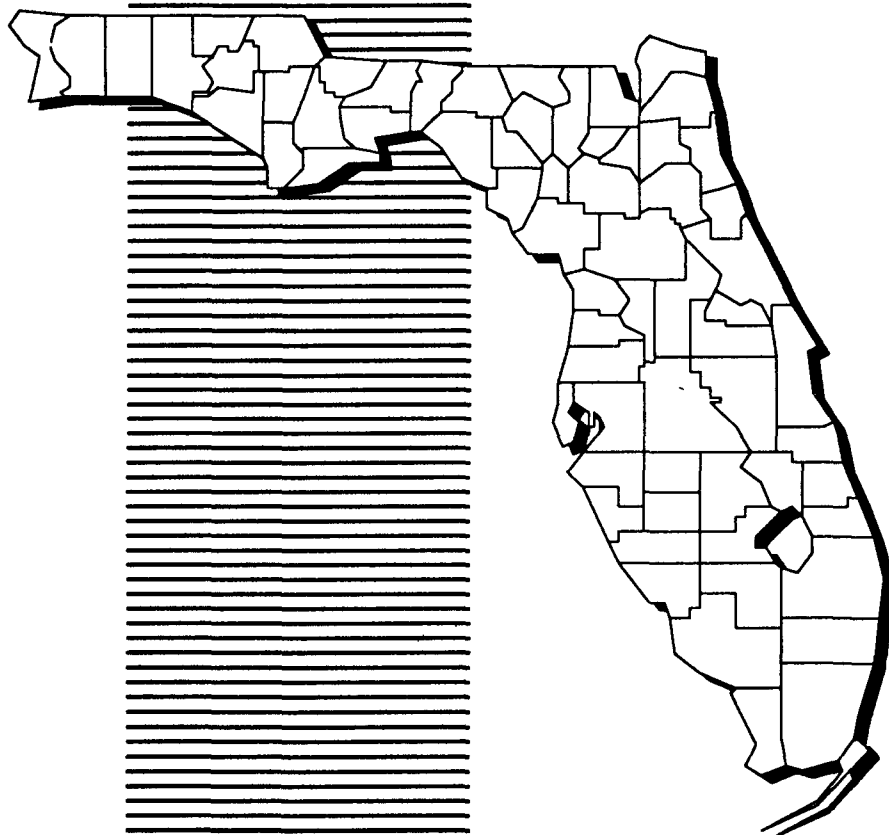




National Priorities List Sites:

F L O R I D A



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NATIONAL PRIORITIES LIST SITES: Florida

U.S. Environmental Protection Agency
Region 5, Library (P1-100)
77 West Jackson Boulevard, 12th Floor
Chicago, IL 60604-3000

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Emergency & Remedial Response
Office of Program Management
Washington, DC 20460**

If you wish to purchase copies of any additional State volumes contact:

National Technical Information Service (NTIS)
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161
(703) 487-4650

The National Overview volume, **Superfund: Focusing on the Nation at Large (1991)**, may be ordered as PB92-963253.

The complete set of the overview documents, plus the 49 state reports may be ordered as PB92-963253.

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INTRODUCTION

WHY THE SUPERFUND PROGRAM?

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

In all these cases, human health and the environment were threatened, lives were disrupted, and property values were reduced. 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 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 the Environmental Protection Agency (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.

Since the Superfund program began, hazard-

A Brief Overview

ous 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 improperly disposed or stored wastes threatened the health of the surrounding community and the environment at others.

The EPA Identified More than 1,200 Serious Sites

The EPA has identified 1,245 hazardous waste sites as the most serious in the Nation. These sites comprise the National Priorities List; sites targeted for cleanup under Superfund. But site discoveries continue, and the EPA estimates that, while some will be deleted after lengthy cleanups, this list, commonly called the NPL, will continue to grow by approximately 50 to 100 sites per year, potentially 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

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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 (1,245) thus are a relatively small subset of a larger inventory of potential hazardous waste sites, but they do comprise the most complex and compelling cases. The EPA has logged more than 35,000 sites on its national inventory of potentially hazardous waste sites and assesses each site within one year of being logged.

THE 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.

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 release of hazardous substances, or the threat of one, into the environment. 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 Superfund's most noted achievements. Where imminent threats to the public or environment were evident, the EPA has initiated or completed emergency actions that attacked the most serious threats of toxic exposure in more than 2,700 cases.

The ultimate goal for a hazardous waste site on the NPL is a permanent solution to an environ-

mental problem that presents a serious threat to the public or the environment. This often requires a long-term effort. The 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. By 1991, construction had started at more than four times as many sites as in 1986! Of the sites currently on the NPL, more than 500 — nearly half — have had construction cleanup activity. In addition, more than 400 more sites presently are 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. In measuring success by "progress through the cleanup pipeline," the EPA clearly is gaining momentum.

THE EPA MAKES SURE CLEANUP WORKS

The 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.

The 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, the 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

INTRODUCTION

health are being safeguarded. The EPA will correct any deficiencies discovered and will 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. The EPA's job is to analyze the hazards and to deploy the experts, but the Agency needs citizen input as it makes choices for affected communities.

Because the people in a community where a Superfund site is located will be those most directly affected by hazardous waste problems and cleanup processes, the 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.

The State and U.S. Territories volumes and the companion National overview volume provide general Superfund background information and descriptions of activities at each NPL site. These volumes clearly describe what the problems are, what the 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 TOGETHER

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. Citizens also 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, *Superfund: Focusing on the Nation at Large (1991)*, 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, vital roles of the various participants in the cleanup process, the Superfund program's successes in cleaning up the Nation's serious hazardous waste sites, and the current status of the NPL. If you did not receive this overview volume, ordering information is provided in the front of this book.

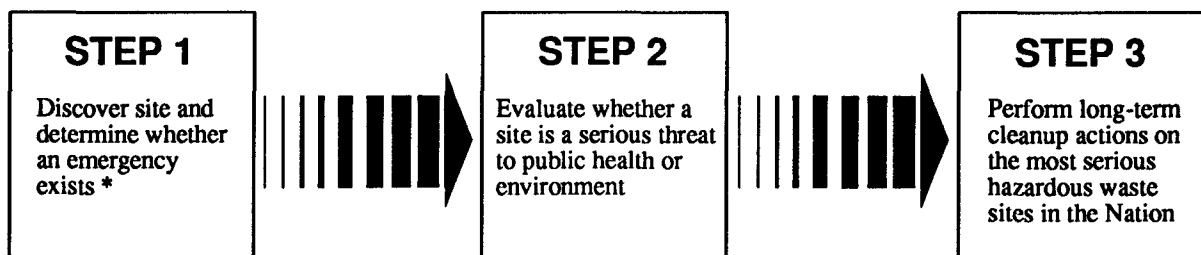
This volume compiles site summary fact sheets on each State or Territorial site being cleaned up under the Superfund program. These sites represent the most serious hazardous waste problems in the Nation and require the most complicated and costly site solutions yet encountered. Each book gives a "snapshot" of the conditions and cleanup progress that has been made at each NPL site. Information presented for each site is current as of April 1991. Conditions change as our cleanup efforts continue, so these site summaries will be updated annually to include information on new progress being made.

To help you understand the cleanup accomplishments made at these sites, this 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 reference point from which to review the cleanup status at specific sites. A glossary defining key terms as they apply to hazardous waste management and site cleanup is included as Appendix A in the back of this book.

The diverse problems posed by hazardous waste sites have provided the EPA with the challenge to establish a consistent approach for evaluating and cleaning up the Nation's most serious sites. To do this, the EPA has 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. The EPA has established procedures to coordinate the efforts of its Washington, D.C. Headquarters program offices and its front-line staff in ten Regional Offices, with the State and local governments, contractors, and private parties who are participating in site cleanup. An important part of the process is that any time

How Does the Program Work to Clean Up Sites?

THREE-STEP SUPERFUND PROCESS



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

during cleanup, work can be led by the 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 the 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 above provides a summary of the three-step process.

Although this 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 to identifying and cleaning up these most serious uncontrolled or abandoned hazardous

SUPERFUND

waste sites in the Nation. The discovery and evaluation process is the starting point for this summary description of Superfund involvement at hazardous waste sites.

STEP 1: SITE DISCOVERY AND EMERGENCY EVALUATION



How does the EPA learn about potential hazardous waste sites?

Site discovery occurs in a number of ways. Information comes from concerned citizens. People may notice an odd taste or foul odor in their drinking water or see half-buried leaking barrels; a hunter may come across a field where waste was dumped illegally. 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 the EPA informed about actual or potential threats of hazardous substance releases. All reported sites or spills are recorded in the Superfund inventory (CERCLIS) for further investigation to determine whether they will require cleanup.



What happens if there is an imminent danger?

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

wastes for safe disposal.

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

STEP 2: SITE THREAT EVALUATION



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

Even after any imminent dangers are taken care of, in most cases, contamination may remain at the site. For example, residents may have been supplied with bottled water to take care of their immediate problem of contaminated well water, but now it's time to determine what is contaminating the drinking water supply and the best way to clean it up. The EPA may determine that there is no imminent danger from a site, so 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 whether it requires a long-term cleanup action.

Once a site is discovered and any needed emergency actions are taken, the 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 such as 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 do not 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 35,000 sites maintained in this inventory.



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

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



How does the EPA use the results of the site inspection?

Information collected during the site inspection is used to identify the sites posing the most serious threats to human health and the environment. This way, the EPA can meet the requirement that Congress gave them to use Superfund monies only on the worst hazardous waste sites in the Nation.

To identify the most serious sites, the EPA developed the Hazard Ranking System (HRS). The HRS is the scoring system the 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 that 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 the NPL. That's why 1,245 sites are on the NPL, but there are more than 35,000 sites in the Superfund inventory. Only NPL sites can have a long-term cleanup paid for from Superfund, the national hazardous waste trust fund. Superfund can, and does, pay for emergency actions performed at any site, whether or not it's on the NPL.



Why are sites proposed to the NPL?

Sites proposed to the NPL 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 proposed 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. The NPL is updated at least once a year, and it's only after public comments are considered that these proposed worst sites officially are added to the list.

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 tech-

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nologies. Many States also have their own list of sites that require cleanup; these often contain sites that are not on the NPL and are scheduled to be cleaned up with State money. And, it should be noted again that any emergency action needed at a site can be performed by the Superfund, whether or not a site is on the NPL.

A detailed description of the current progress in cleaning up NPL sites is found in the section of the 1991 National overview volume entitled *Cleanup Successes: Measuring Progress*.



How do people find out whether the EPA considers a site a national priority for cleanup under the Superfund Program?

All NPL sites, where Superfund is responsible for cleanup, are described in the State and Territorial volumes. The public also can find out whether other sites, not on the NPL, are being addressed by the Superfund program by calling their Regional EPA office or the Superfund Hotline at the numbers listed in this book.

STEP 3: LONG-TERM CLEANUP ACTIONS



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

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

1. *Remedial Investigation*: investigate in detail the extent of the site contamination

2. *Feasibility Study*: study the range of possible cleanup remedies

3. *Record of Decision or ROD*: decide which remedy to use

4. *Remedial Design*: plan the remedy

5. *Remedial Action*: carry out the remedy

This remedial response process is a long-term effort to provide a permanent solution to an environmental problem that presents a serious 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 the 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. However, 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 of the remedial investigation is information that allows the EPA to select the cleanup strategy that is best suited to a particular site or to determine that no cleanup is needed.

Placing a site on the NPL does not necessarily mean that cleanup is needed. It is possible for

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



How are cleanup alternatives identified and evaluated?

The 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 compared carefully. 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 must use treatment technologies to destroy principal site contaminants. Remedies such as containing the waste on site or removing the source of the problem (like leaking barrels) often are 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 considered carefully 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. The 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. Local information repositories, such as libraries or other public buildings, are established in cities and towns near each NPL site to ensure that the public has an opportunity to review all relevant information and the proposed cleanup plans. Locations of information repositories for each NPL site described in this volume are given in Appendix B.

The public has a minimum of 30 days to comment on the proposed cleanup plan after it is published. These comments can be written or given verbally at public meetings that the EPA or the State are required to hold. Neither the 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 the 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


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

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

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


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

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

The time and cost for performing the site cleanup, called the *remedial action*, are as varied as the remedies themselves. In a few

cases, the only action needed may be to remove drums of hazardous waste and to decontaminate them, an action that takes limited time and money. In most cases, however, a remedial action may involve different and expensive cleanup 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, each remedial cleanup action takes an average of 18 months to complete and ultimately costs an average of \$26 million to complete all necessary cleanup actions at a site.

 **Once the cleanup action is completed, is the site automatically “deleted” from the NPL?**

No. The deletion of a site from the NPL is anything but automatic. For example, cleanup of contaminated groundwater may take up to 20 years or longer. Also, in some cases, *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 complete.”

It's not until a site cleanup meets all the goals and monitoring requirements of the selected

remedy that the 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 actually can be deleted from the NPL. All sites deleted from the NPL and sites with completed construction are included in the progress report found later in this book.



Can a site be taken off the NPL if no cleanup has taken place?

Yes. But only if further site investigation reveals that there are no threats present at the site and that cleanup activities are not necessary. In these cases, the EPA will select a "no action" remedy and may move to delete the site when monitoring confirms that the site does not pose a threat to human health or the environment.

In other cases, sites may be "removed" from the NPL if new information concerning site cleanup or threats show that the site does not warrant Superfund activities.

A site may be removed if a revised HRS scoring, based on updated information, results in a score below the minimum for NPL sites. A site also may be removed from the NPL by transferring it to other appropriate Federal cleanup authorities, such as RCRA, for further cleanup actions.

Removing sites for technical reasons or transferring sites to other cleanup programs preserves Superfund monies for the Nation's most pressing hazardous waste problems where no other cleanup authority is applicable.



Can the EPA make parties responsible for the contamination pay?

Yes. Based on the belief that "the polluters should pay," after a site is placed on the NPL, the EPA makes a thorough effort to identify

and find those responsible for causing contamination problems at a site. Although the 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 the EPA and must meet the same standards required for actions financed through the Superfund.

Because these enforcement actions can be lengthy, the 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 (CERCLA) for repaying the money the EPA spends in cleaning up the site.

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

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 NPL and their locations, as well as the conditions leading to their listing ("Site Description"). The summaries 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 in 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 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 always is being made at NPL sites, and the EPA periodically will update the site fact sheets to reflect recent actions and will publish updated State volumes. The following two pages show a generic fact sheet and briefly describe the information under each section.

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. The EPA is committed to involving the public in the decision making 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 clean-

How to Use the State Book

ups 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 the 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 you need to know what the community can realistically expect once the cleanup is complete.

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

[illegible]

NPL LISTING HISTORY

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

SITE RESPONSIBILITY

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

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

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.

A

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.

B

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 also are described.

C

CLEANUP APPROACH

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

D

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 often are 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.

E

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

THE VOLUME

The “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 at the site.

Icons in the Threats and Contaminants Section



Contaminated *Groundwater* resources in the Contaminated *Groundwater* 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. (Air pollution usually is periodic and involves contaminated dust particles or hazardous gas emissions.)



Contaminated *Soil and Sludges* on or near the site. (This contamination category may include bulk or other surface hazardous wastes found on the site.)



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

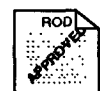
Icons in the Response Action Status Section



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



Site Studies at the site to determine the nature and extent of contamination are planned or underway.



Remedy Selected indicates that site investigations have been concluded, and the 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.



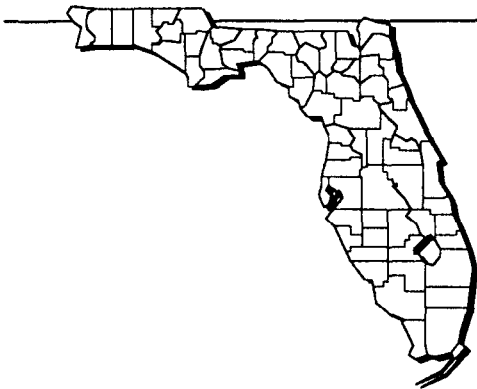
Cleanup Ongoing indicates that the selected cleanup remedies for the contaminated site, or part of the site, currently are underway.



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



Environmental Progress summarizes the activities taken to date to protect human health and to clean up site contamination.



The State of Florida

The State of Florida, located in the southeast corner of the United States within EPA Region 4, covers 58,664 square miles consisting primarily of flat limestone peninsula. Florida experienced a 33% increase in population between 1980 and 1990 and currently has approximately 12,938,000 residents, ranking 4th in U.S. populations. Principal state industries are services, trade, government, manufacturing, tourism, agriculture, and commercial fishing. Florida products include electronic/electrical equipment, transportation equipment, and machinery for printing and publishing.

How Many NPL Sites Are in the State of Florida ?

Proposed	0
Final	51
Deleted	<u>3</u>
	54

Where Are the NPL Sites Located?

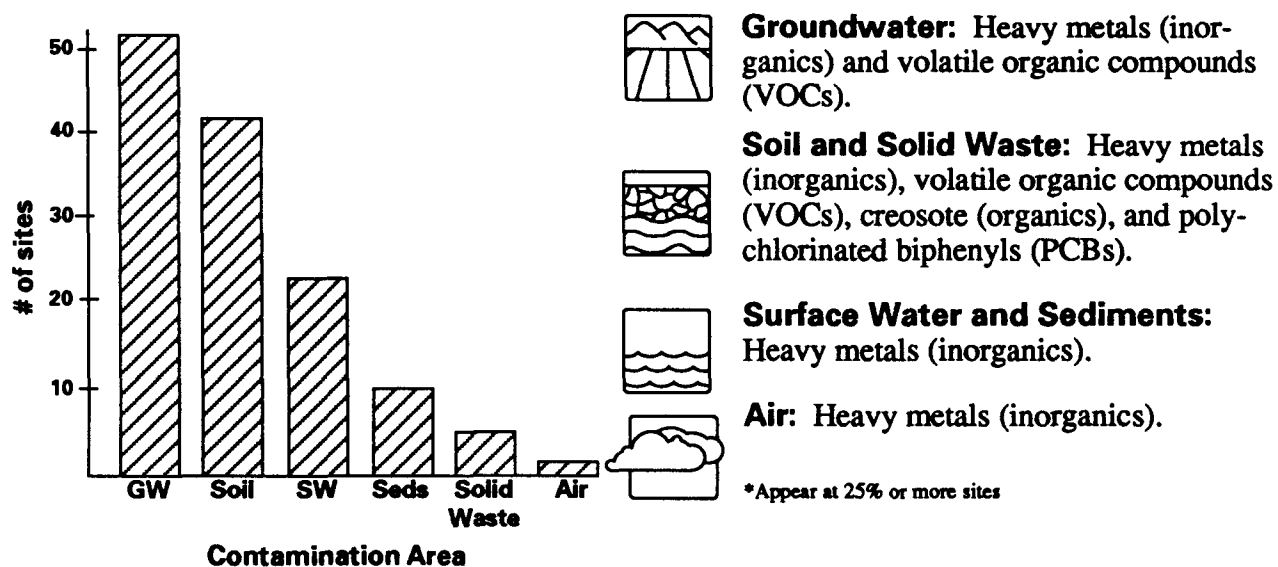
Congressional Districts 4, 9, 6	1 sites
Congressional Districts 5, 11, 12, 15, 19	2 sites
Congressional District 10, 14, 16, 18	3 sites
Congressional District 2	4 sites
Congressional District 17	5 sites
Congressional District 1	6 sites
Congressional Districts 3, 7	7 sites

What Type of Sites Are on the NPL in the State of Florida?

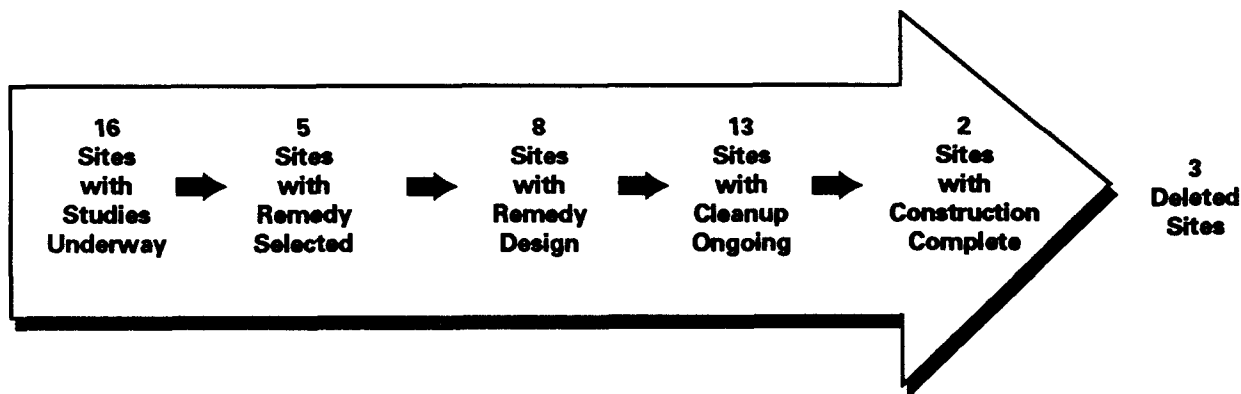
# of sites	type of sites
10	Recyclers
10	Municipal & Industrial Landfills
5	Chemicals & Allied Products
4	Federal Facilities
4	Electroplating
4	Lumber & Wood Products
4	Metals & Allied Products
3	Petroleum Refining
10	Other (manufacturing, lithographs/silk screening, electronics & electrical equipment)

NPL SITES

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



Where Are the Sites in the Superfund Cleanup Process?†



In addition to the activities described above, initial actions have been taken at 31 sites as interim cleanup measures.

†Cleanup status reflects phases of site activities rather than administrative accomplishments.

Progress To Date

The following Progress Report lists all 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 (⇒) indicating the current stage of cleanup.

Large and complex sites often are 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 currently is 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.
- A final arrow in the "Site Studies" category indicates that an investigation to determine the nature and extent of the contamination at the site currently is ongoing.
- A final 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 are discontinued at the "Remedy Selection" step and resume in the "Construction Complete" category.

- A final arrow at the "Remedial Design" stage indicates that engineers currently are designing the technical specifications for the selected cleanup remedies and technologies.
- A final arrow in the "Cleanup Ongoing" column means that final cleanup actions have been started at the site and currently are underway.
- A final 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 currently may be undergoing long-term operation and maintenance or monitoring to ensure that the cleanup actions continue to protect human health and the environment.
- A check in the "Deleted" category indicates that the site cleanup has met all human health and environmental goals and that the EPA has deleted the site from the NPL.

Further information on the activities and progress at each site is given in the site "Fact Sheets" published in this volume.

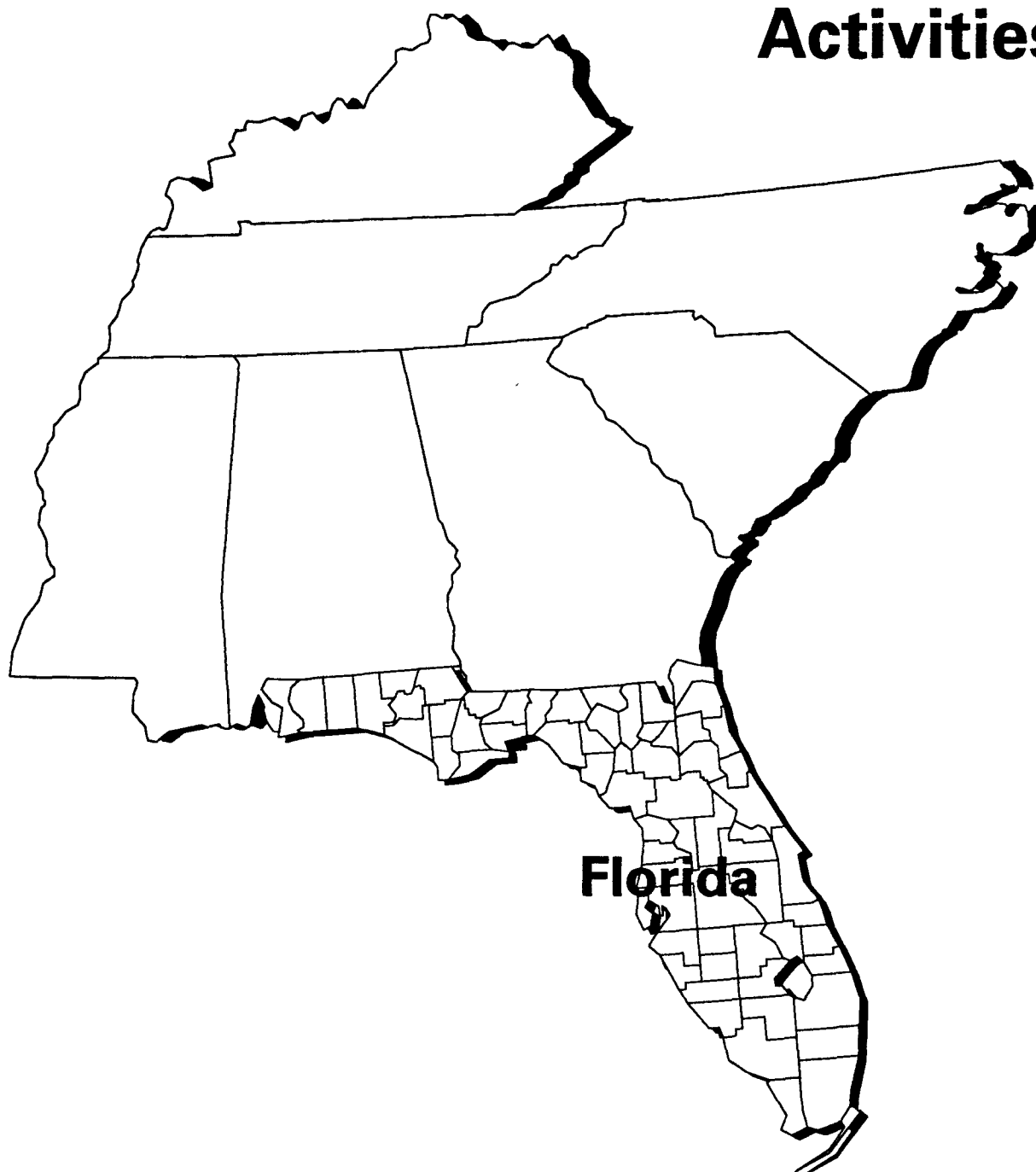
Progress Toward Cleanup at NPL Sites in the State of Florida

Page	Site Name	County	NPL	Date	Initial Response	Site Studies	Remedy Selected	Remedy Design	Cleanup Ongoing	Construction Complete	Deleted
25	AGRICO CHEMICAL	ESCAMBIA	Final	10/04/89		↑					
27	AIRCO PLATING CO.	DADE	Final	02/21/90		↑					
29	ALPHA CHEMICAL CORP.	POLK	Final	09/08/83		↑	↑	↑	↑	↑	
31	AMERICAN CREOSOTE WORKS, INC. (PENSACOLA PLANT)	ESCAMBIA	Final	09/08/83	↑	↑	↑	↑	↑		
33	ANACONDA ALUMINUM CO./MILGO ELECTRONICS CORP.	DADE	Final	08/30/90							
35	ANODYNE, INC.	DADE	Final	02/21/90		↑					
37	B & B CHEMICAL COMPANY, INC.	DADE	Final	08/30/90	↑	↑					
39	BEULAH LANDFILL	ESCAMBIA	Final	02/21/90							
41	BMI-TEXTRON	PALM BEACH	Final	08/30/90	↑						
43	BROWN WOOD PRESERVING	SUWANNEE	Final	09/08/83	↑	↑	↑	↑	↑	↑	
45	CABOT/KOPPERS	ALACHUA	Final	09/24/84	↑	↑	↑				
47	CECIL FIELD NAVAL AIR STATION	DUVAL	Final	11/21/89		↑					
49	CHEM FORM, INC.	BROWARD	Final	10/04/89	↑	↑					
51	CITY INDUSTRIES, INC.	ORANGE	Final	10/04/89	↑	↑	↑	↑			
53	COLEMAN-EVANS WOOD PRESERVING	DUVAL	Final	09/01/83	↑	↑	↑	↑			
55	DAVIE LANDFILL	BROWARD	Final	09/08/83		↑	↑	↑	↑		
57	DUBOSE OIL PRODUCTS COMPANY	ESCAMBIA	Final	06/10/86	↑	↑	↑				
59	FLORIDA STEEL CORPORATION	MARTIN	Final	09/08/83	↑	↑					
61	GOLD COAST OIL CORPORATION	DADE	Final	09/08/83	↑	↑	↑	↑	↑	↑	
63	HARRIS CORP. (PALM BAY PLANT)	BREVARD	Final	07/22/87	↑	↑	↑	↑	↑	↑	
65	HIPPS ROAD LANDFILL	DUVAL	Final	09/21/84	↑	↑	↑	↑	↑	↑	
67	HOLLINGSWORTH SOLDERLESS TERMINAL	BROWARD	Final	09/08/83	↑	↑	↑	↑	↑	↑	

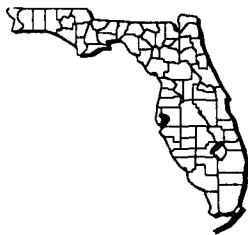
Page	Site Name	County	NPL	Date	Initial Response	Site Studies	Remedy Selected	Remedy Design	Cleanup Ongoing	Construction Complete	Deleted
69	HOMESTEAD AIR FORCE BASE	DADE	Final	08/30/90		↑					
71	JACKSONVILLE NAVAL AIR STATION	DUVAL	Final	11/21/89		↑					
73	KASSAUF-KIMERLING BATTERY	HILLSBOROUGH	Final	09/08/83		↑	↑				
75	MADISON COUNTY SANITARY LANDFILL	MADISON	Final	08/30/90	↑	↑	↑				
77	MIAMI DRUM SERVICES	DADE	Final	09/08/83		↑	↑		↑		
79	MUNISPORT LANDFILL	DADE	Final	09/08/83		↑	↑				
81	NORTHWEST 58TH STREET LANDFILL	DADE	Final	09/08/83		↑	↑		↑		
83	PARRAMORE SURPLUS	GADSDEN	Deleted	02/21/89		↑	↑		↑		✓
85	PEAK OIL COMPANY/BAY DRUM CO.	HILLSBOROUGH	Final	06/10/86	↑	↑					
87	PENSACOLA NAVAL AIR STATION	ESCAMBIA	Final	11/21/89		↑					
89	PEPPER STEEL & ALLOYS, INC.	DADE	Final	09/01/84	↑	↑	↑		↑		
91	PETROLEUM PRODUCTS CORP.	BROWARD	Final	07/01/87	↑	↑	↑				
93	PICKETT VILLAGE ROAD LANDFILL	DUVAL	Final	09/01/83	↑	↑	↑				
95	PIONEER SAND COMPANY	ESCAMBIA	Final	09/01/83	↑	↑	↑		↑		
97	PIPER AIRCRAFT/VERO BEACH WATER & SEWER DEPT.	INDIAN RIVER	Final	02/21/90	↑						
99	REEVES SOUTHEAST GALVANIZING	HILLSBOROUGH	Final	09/08/83		↑					
101	SAPP BATTERY SALVAGE	JACKSON	Final	09/08/83	↑	↑	↑		↑		
103	SCHUYLKILL METAL CORP.	HILLSBOROUGH	Final	09/08/83		↑	↑				
105	SHERWOOD MEDICAL INDUSTRIES	VOLUSIA	Final	09/08/83		↑	↑				
107	SIXTY-SECOND STREET DUMP	HILLSBOROUGH	Final	09/08/83		↑	↑				
109	STANDARD AUTO BUMPER CORP.	DADE	Final	10/04/89	↑	↑					
111	SYDNEY MINE SLUDGE PONDS	HILLSBOROUGH	Final	10/04/89	↑	↑	↑		↑		
113	TAYLOR ROAD LANDFILL	HILLSBOROUGH	Final	09/08/83	↑	↑					
115	TOWER CHEMICAL COMPANY	LAKE	Final	09/08/83	↑	↑	↑		↑		✓
117	TRI-CITY OIL CONSERVATIONIST CORP.	HILLSBOROUGH	Deleted	01/19/88	↑	↑	↑		↑		✓
119	VARSOL SPILL SITE	DADE	Deleted	09/01/88		↑	↑		↑		✓

Page	Site Name	County	NPL	Date	Initial Response	Site Studies	Remedy Selected	Remedy Design	Cleanup Ongoing	Construction Complete	Deleted
121	WHITEHOUSE OIL PITS	DUVAL	Final	09/08/83	↑	↑	↑	↑			
123	WILSON CONCEPTS OF FLORIDA, INC.	BROWARD	Final	03/31/89		↑					
125	WINGATE RD. MUNI. INCINERATOR DUMP	BROWARD	Final	10/04/89							
127	WOODBURY CHEMICAL CO. (PRINCETON PLANT)	DADE	Final	08/30/90	↑	↑					
129	YELLOW WATER ROAD DUMP	DUVAL	Final	06/10/86	↑	↑	↑	↑			
131	ZELLWOOD GROUND WATER CONTAMINATION	ORANGE	Final	09/08/83	↑	↑	↑	↑			

Summary of Site Activities



EPA REGION 4



Who Do I Call with Questions?

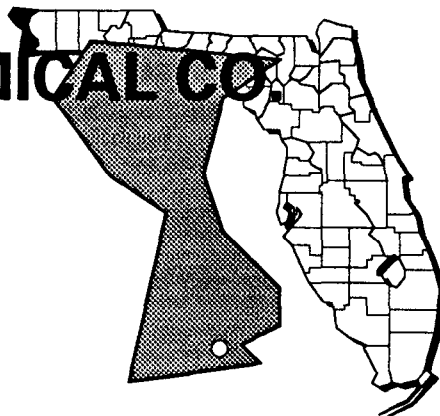
The following pages describe each NPL site in Florida, providing specific information on threats and contaminants, cleanup activities, and environmental progress. Should you have questions, please call the EPA's Region 4 Office in Atlanta, Georgia or one of the other offices listed below:

EPA Region 4 Superfund Community Relations Office	(404) 347-3454
EPA Region 4 Superfund Office	(404) 347-5065
EPA Superfund Hotline	(800) 424-9346
EPA Headquarters Public Information Center	(202) 260-2080
Florida Superfund Office	(904) 488-0190

AGRICO CHEMICAL CO.

FLORIDA

EPA ID# FLD980221857



EPA REGION 4 CONGRESSIONAL DIST. 01

Escambia County
2 miles southwest of
Pensacola Municipal Airport

Site Description

The 30-acre Agrico Chemical Co. site is bordered on the north by undeveloped land that is used for recreational purposes, on the east by interstate 110, on the south by Fairfield Drive, and on the west by CSX Transportation tracks. Industrial activity on the site began in 1889, when a company started producing sulfuric acid from iron pyrite. Around 1920, the American Agriculture Chemical Company began making fertilizer from phosphate rock. The plant underwent numerous ownership changes and its name was changed to Agrico. In 1975, Agrico stopped production, tore down the buildings, and sold the land. All that remains on the site are the foundations of five buildings, including a plant where phosphate was processed. Four ponds that were used to store liquid manufacturing wastes lie to the north and east of the ruins. In 1958, a municipal water well 1 1/4 miles from the site was closed due to high acidity and fluoride concentrations. The primary aquifer under the site is highly permeable, which facilitates the movement of contaminants into the groundwater. Given the direction of the flow, any contamination could enter Bayou Texar or Pensacola Bay. Thirteen county wells serving approximately 114,000 people lie within 3 miles of the site. Few residents live in the immediate vicinity of the site.

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

NPL LISTING HISTORY

Proposed Date: 06/24/88

Final Date: 10/04/89

Threats and Contaminants



The groundwater, soil, and surface water are contaminated with lead and sulfuric acid. There is a potential for the well water to become contaminated because of groundwater migration, which would pose a threat to individuals who use the wells for their water supply. However, residences in the immediate vicinity of the site are hooked up to a city water supply.

Cleanup Approach

This site is being addressed in a single long-term remedial phase focusing on water pollution at the site.

Response Action Status



Water Pollution: Under EPA monitoring, the parties potentially responsible for site contamination began an intensive study of site problems in 1989. This investigation will determine the nature and extent of water pollution and will recommend the best strategies for final cleanup. A draft report on the investigation is under review. Analysis of cleanup alternatives is underway. A proposal to be submitted for public review is slated for completion in late 1991.

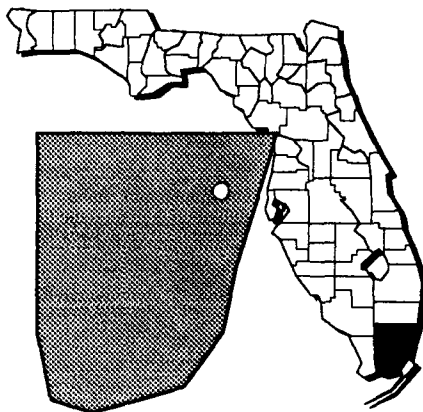
Environmental Progress



After adding this site to the NPL, the EPA performed preliminary investigations and determined that no immediate actions were needed at the Agrico Chemical Co. site since the contaminated well was already closed. Further investigations into cleanup strategies are taking place and planned to be completed in 1991.

AIRCO PLATING CO. FLORIDA

EPA ID# FLD004145140



EPA REGION 4
CONGRESSIONAL DIST. 18
Dade County
Miami

Site Description

The 1 1/2-acre Airco Plating Co. site has operated as an electroplating shop since 1957. Nickel, cadmium, chromium, copper, and zinc plating are the chief processes. Before 1973, operators disposed of plating wastes, including sludge, in three on-site seepage ponds. Since 1973, treated wastes have been released to the Miami sewage system. Since 1982, workers have separated out the sludges and shipped them to an EPA-approved hazardous waste facility. During a 1985 investigation, the EPA discovered that one of the former seepage ponds had been covered with asphalt pavement and a lawn. Soil and groundwater near the ponds contained contaminants associated with electroplating. The site lies over the recharge zone for the Biscayne Aquifer, which supplies drinking water for all of Dade County. Four municipal well fields supplying water to approximately 750,000 people are within 3 miles of the site. These wells are retrofitted with air strippers, because of contamination from a variety of sources. The site is located in a primarily industrial area about a mile north of the Miami International Airport. An estimated 6,500 people live within a 1-mile radius of the site. The Miami Canal, which flows into the Miami River, is located about 1/2 mile from the site.

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

NPL LISTING HISTORY

Proposed Date: 06/24/88

Final Date: 02/21/90

Threats and Contaminants



Shallow groundwater in the areas of the ponds, surface and sub-surface soil near the ponds, and the lawn area between the ponds are contaminated with heavy metals including cadmium, chromium, copper, and nickel from former electroplating operations. The individuals who are most at risk of contact with contaminated soils are workers conducting cleanup activities at the site. People who use the groundwater in this area could be exposed to heavy metals.



Cleanup Approach _____

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

Response Action Status _____



Entire Site: The parties potentially responsible for the contamination of the site began an intensive study of soil and water contamination in 1989. This investigation will explore the nature and extent of pollution of the soil and groundwater, and will recommend the best strategies for final cleanup. It is slated for completion in 1993.

Site Facts: The site investigation was being performed by the parties potentially responsible for site contamination under an order issued by Dade County. The EPA entered into a separate agreement with the parties to complete site sampling and to evaluate cleanup technologies.

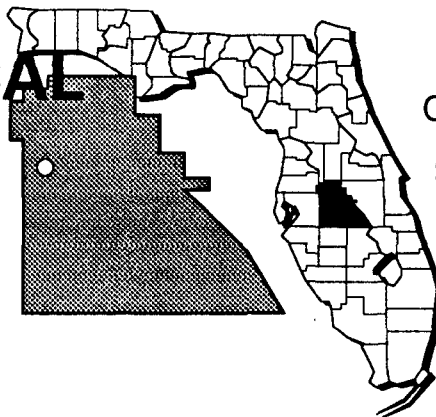
Environmental Progress _____



The EPA performed preliminary site investigations and determined that, with the air strippers on municipal wells, there are no immediate threats at the Airco Plating Co. site while the potentially responsible parties complete further investigations leading to the selection of final cleanup activities.

ALPHA CHEMICAL CORPORATION FLORIDA

EPA ID# FLD041495441



EPA REGION 4
CONGRESSIONAL DIST. 10
Polk County
Kathleen, 3 miles north of Lakeland

Other Names:
Alpha Resins Corporation

Site Description

The Alpha Resins Corporation (ARC), formerly known as Alpha Chemical Corporation, is a wholly-owned subsidiary of the Alpha Corporation of Tennessee and has produced unsaturated polyester resin for fiberglass manufacturers at this 32-acre site since 1967. The process yields wastewater containing small amounts of volatile organic compounds (VOCs). Under a State permit, the company disposed of this waste in two unlined surface ponds (Pond #4 and #3-2), relying on natural biological processes to break down the organics. In 1976, ARC began incinerating the wastewater instead. Pond #4 dried up, and workers used the area as a solid waste landfill for a year, covering it with soil in 1977. In 1977, Pond #3-2 was divided, and sludge waters were pumped from #2 to #3. Pond #2 was lined with concrete to receive wastewater. No waste was discharged from Pond #2, and this pond was covered with soil in 1988. In 1982, when ARC sought to line Pond #3 with concrete for caustic wash water disposal, the Florida Department of Environmental Regulations (FDER) requested groundwater monitoring information. New monitoring wells revealed contamination of the surficial aquifer. Of the 23 organic compounds detected, ethyl benzene occurred most often and in the highest concentrations. The area around the site is residential and commercial. Approximately 650 people live within 1/2 mile of the site. Twenty feet of clay shield the Floridian Aquifer from contaminated groundwater; this aquifer, which provides drinking water for area residents, is not polluted. Surface water from the site drains into a vegetated, low-lying wetland.

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

NPL LISTING HISTORY

Proposed Date: 10/01/81

Final Date: 09/08/83

Threats and Contaminants



The groundwater, sediments, and soil were found to be contaminated with VOCs, mainly ethyl benzene and xylene from former process wastes. There is no health threat at this time, since the surficial aquifer is not used for drinking water, and no contamination has been detected in the deeper Floridian aquifer.

Cleanup Approach

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

Response Action Status



Entire Site: The EPA selected a cleanup remedy for this site in 1988, which features capping the small, unlined, Pond #3 to keep rainwater and runoff from spreading contaminants and long-term monitoring of groundwater and surface water to assure the effectiveness of cleanup. The parties potentially responsible for contamination at the site conducted the engineering design and began cleanup activities in 1989. Construction of the cap was completed later that year and sampling of the groundwater and surface water is ongoing. Monitoring of groundwater and surface water samples will continue every 3 months, and have been showing a decreasing trend in contamination.

Site Facts: A Consent Decree was signed in 1989 by the State and the parties potentially responsible for the contamination to clean up the site.

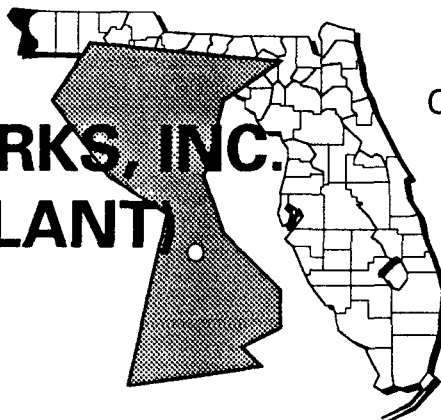
Environmental Progress



Cleanup activities are completed at the Alpha Chemical site and monitoring of groundwater and surface water will continue to ensure the effectiveness of the remedy and safe conditions for nearby residents and the environment. To date, monitoring has revealed decreasing levels of contamination at the site as a result of the remedy implemented.

AMERICAN CREOSOTE WORKS, INC. (PENSACOLA PLANT) FLORIDA

EPA ID# FLD008161994



EPA REGION 4
CONGRESSIONAL DIST. 01
Escambia County
Pensacola

Site Description

The 18-acre American Creosote Works, Inc. (Pensacola Plant) site is an inactive wood-treating facility in Pensacola, located about 1/4 mile north of the confluence of Bayou Chico and Pensacola Bay. It operated from the early 1900s until 1981, when the company filed for bankruptcy. Workers treated poles with creosote before 1950, when they began using pentachlorophenol (PCP) with increasing regularity. Operators discharged liquid process wastes into two unlined, 80,000-gallon percolation ponds. Before 1970, these wastewaters were allowed to overflow through a spillway and follow a drainage course into Bayou Chico and Pensacola Bay. Later, workers drew wastewaters off the ponds periodically and discharged them into designated "spillage areas" on site. Additional discharges occurred when heavy rainfall flooded the ponds, which then overflowed their dikes. The site lies in a commercial and residential area. Withdrawal wells may serve as a conduit between the shallow and deeper aquifer. No drinking water wells lie within the area of known contamination.

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

NPL LISTING HISTORY

Proposed Date: 10/23/81

Final Date: 09/08/83

Threats and Contaminants



Major contaminants in the soil and groundwater are volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), PCP, and dioxin from the former wood-treating processes. PAHs also were found in one sample of sediments from the drainage ditch. Additional bay and biota sampling are needed to assess the impact on organisms living in the bay sediments. The most significant transport route for contaminants is by groundwater from the sludge lagoons to Pensacola Bay. Minor exposure routes for people include inhaling dust on the site and accidentally ingesting or coming into direct contact with contaminated soils.

Cleanup Approach

This site is being addressed in three stages: emergency actions and two long-term remedial phases focusing on soil cleanup and groundwater, sludge, and underlying soils cleanup.

Response Action Status



Emergency Actions: The EPA undertook several emergency actions at this site. In 1983, workers drained, treated, and discharged contaminated water in the on-site ponds, solidifying the remaining sludge and temporarily capping this solidified material with a layer of clay to keep rainfall and runoff from spreading contaminants. In 1984, the drums on the site were staged and a fence was built around them. In 1985 and 1986, the cap was repaired and workers installed a fence around the capped area.



Surface Cleanup: The EPA's remedies for soil cleanup include: (1) excavating, screening, and stockpiling the contaminated surface soil; (2) treating the contamination with slurry bioremediation; (3) replacing the excavated and treated soils on site; (4) removing debris; (5) repairing the fence; (6) properly disposing of drilling muds; and (7) repairing the existing clay cap. The EPA began the engineering design for soil biotreatment in 1989. The design of the treatment is scheduled for completion in late 1991. Treatment of the contaminated soils is expected to begin in 1992. Other cleanup activities including repair of the cap, disposal of drilling muds, and fence repair are underway and scheduled for completion in mid-1991.



Groundwater, Solidified Sludges, and Underlying Subsurface Soils: Selection of remedies for this phase is scheduled for 1991. Cleanup will begin following completion of the engineering design of the selected remedies.

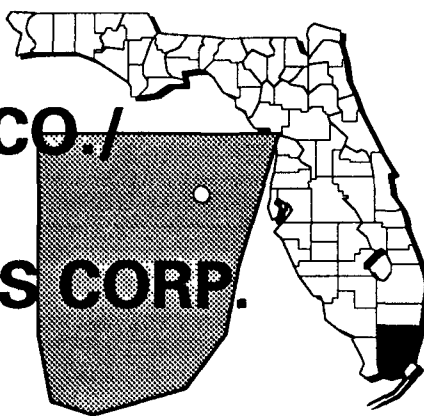
Environmental Progress



The soil excavations, capping, the installation of a fence, and other emergency actions performed by the EPA have reduced the potential for exposure to contaminants at the American Creosote Works, Inc. (Pensacola Plant) site while further investigations and soil cleanup remedies are being completed.

ANACONDA ALUMINUM CO./ MILGO ELECTRONICS CORP. FLORIDA

EPA ID# FLD020536538



EPA REGION 4
CONGRESSIONAL DIST. 17
Dade County
Miami

Other Names:
Anaconda Aluminum
Applied Technologies and Engineering
Milgo Electronics Corporation

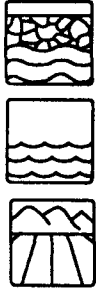
Site Description

The Anaconda Aluminum Co./Milgo Electronics Corp. site is composed of two facilities located directly across the street from each other and covers 1 1/2 acres. The two facilities are Anaconda Aluminum and Milgo Electronics; the Anaconda portion of the site covers approximately 1 acre. Operations began in 1957 and consisted of an electrochemical process using acids and an aluminum-laden caustic base to produce a film of protective coating on aluminum. Raw materials used in the process included sulfuric acid, sodium hydroxide, caustic soda, detergents, and dyes. Waste anodizing sludge was pumped to a cement neutralizing pit where sulfuric acid or caustic soda was added to balance the pH levels. Air was used for mixing, and then solids were left to settle on the bottom. The clear liquid was pumped to a soakage pit for disposal to the groundwater. The sludge subsequently was disposed of at the County dump. The soakage pit had a holding capacity of approximately 1,900 gallons and was licensed by the County. In 1979, the County required Anaconda to install a groundwater monitoring well southeast of the pit. Anaconda ceased operations in early 1983. Operations began at the Milgo portion of the site in 1961 and consisted of chrome, nickel, and copper electroplating of data processing equipment and the manufacturing of cabinets for electronic components. A chrome reduction treatment system discharged treated wastewater to a 360-square-foot drainfield on the premises. The system was designed to treat an average daily flow of 7,200 gallons. Samples collected from the effluent in 1973 by the County contained iron, chromium, zinc, and lead. Approximately 1,200 gallons of sludge generated yearly by the treatment system were removed by tanker truck and hauled off site. Operations at Milgo ceased in summer 1984. Both companies disposed of liquid wastes via on-site drainfields. Sampling conducted in 1987 indicated heavy metal contamination in the groundwater. The contaminated groundwater reaches the Biscayne Aquifer, the source of drinking water for approximately 750,000 residents of the Miami area. The site is located in an industrialized area northeast of Miami International Airport.

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

NPL LISTING HISTORY
Proposed Date: 11/14/89
Final Date: 08/30/90

Threats and Contaminants



The groundwater contains cyanide and heavy metals such as cadmium, lead, zinc, iron, selenium, chromium, and copper from the former manufacturing and process waste disposal practices. Sediment, surface water, and soils contain heavy metals such as mercury, selenium, and arsenic. There is a potential health threat if people come into direct contact with the contaminated groundwater, soil, sediments, or surface water. However, sampling has indicated there are no immediate human health threats from this site.

Cleanup Approach

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

Response Action Status



Entire Site: The EPA conducted an initial investigation of the site in 1989 and determined that the site does not appear to pose an immediate threat to public health or the environment. However, the EPA is planning to conduct a thorough investigation to explore the nature and extent of contamination in 1992.

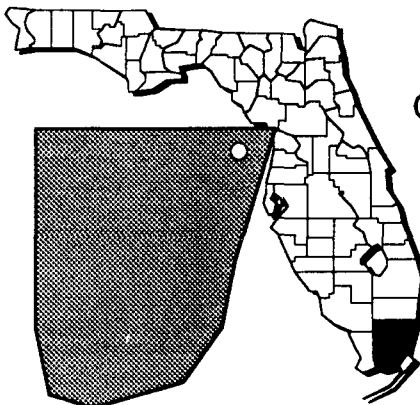
Environmental Progress



After adding the Anaconda Aluminum Co./Milgro Electronics Corp. site to the NPL, the EPA determined that the site does not pose an immediate threat to public health or the environment while further investigations are being planned.

ANODYNE, INC. FLORIDA

EPA ID# FLD981014368



EPA REGION 4
CONGRESSIONAL DIST. 17
Dade County
Sunshine State Industrial Park
in North Miami Beach

Site Description

The Anodyne, Inc. site is a building in North Miami Beach that covers less than an acre. The building periodically is leased to various service-oriented businesses. From the early 1960s until 1975, however, Anodyne, Inc. produced lithographs and silkscreen prints on the site. Workers reportedly disposed of wastes in an injection well near the building as early as 1960. In a 1973 inspection, Dade County discovered that the waste also was being dumped directly onto the ground. Groundwater contamination was discovered in 1986 as a result of an EPA inspection of the site. The Biscayne Aquifer, which supplies drinking water for all of Dade County, is directly beneath the site. The site is located in an industrial park. The W.A. Oeffler and Westside well fields are within 3 miles of the site; they provide drinking water to approximately 148,000 people.

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

NPL LISTING HISTORY

Proposed Date: 06/24/88

Final Date: 02/21/90

Threats and Contaminants



Samples indicated elevated levels of several heavy metals from former site operations in the shallow on-site groundwater. Relatively low concentrations of volatile organic compounds (VOCs) were also detected in a groundwater sample. On-site soil samples contained elevated levels of several heavy metals and VOCs. People may be at risk by coming into direct contact with or accidentally ingesting contaminated soil or groundwater.

Cleanup Approach

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

Response Action Status



Entire Site: One of the parties potentially responsible for contamination at this site began a study to define the extent of contamination and to determine possible cleanup methods in 1990. This study will determine the nature and extent of soil and groundwater pollution and will recommend the best cleanup alternatives. It is slated for completion in 1992.

Site Facts: The EPA started meeting with the parties potentially responsible for the contamination of the site in 1989 to discuss funding for the cleanup. 745 Property Investments, one of the potentially responsible parties, signed an Administrative Order on Consent in 1990 to conduct a study of the nature and extent of contamination at the site.

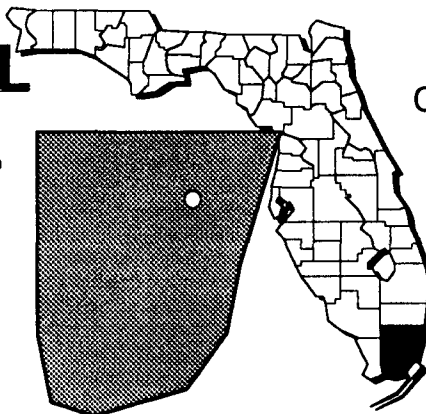
Environmental Progress



After adding the Anodyne, Inc. site to the NPL, the EPA determined that the site does not currently pose an immediate threat to public health or the environment while the studies into permanent cleanup strategies are underway.

B & B CHEMICAL COMPANY, INC. FLORIDA

EPA ID# FLD004574190



EPA REGION 4
CONGRESSIONAL DIST. 17
Dade County
Hialeah

Site Description

The B & B Chemical Company, Inc. has manufactured industrial cleaning compounds on this 2-acre site in Hialeah since 1962. The company prepares its products in mixing vats, which, along with the company's tank trucks, are washed down once a year. Before 1976, the wash water was put into unlined lagoons. Since then, the company has run it through a treatment system before discharging it to the Hialeah sewers. Officials have been concerned about the impact of the lagoons on groundwater quality since 1975. The underlying Biscayne Aquifer supplies drinking water for all of Dade County. This site is in a highly industrialized area. Four public well fields are within 3 miles of the site and serve approximately 750,000 people. One well is within 3,000 feet of the site. Production from the well fields has been curtailed due to groundwater contamination. The Miami Canal is 800 feet to the southwest of the site.

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

NPL LISTING HISTORY

Proposed Date: 06/24/88

Final Date: 08/30/90

Threats and Contaminants



In 1985, the EPA found volatile organic compounds (VOCs) including chlorobenzenes and dichloroethylene from former manufacturing operations in monitoring wells on and off the site; they also found chromium in on-site wells. Health threats include drinking or coming into direct contact with polluted groundwater.

Cleanup Approach

This site is being addressed in an initial action and a long-term remedial phase focusing on cleanup of the entire site.

Response Action Status



Initial Action: B & B Chemical Company, under an agreement with Dade County, operated the groundwater recovery and treatment system at the site until July 1989, when they unilaterally stopped recovery of the groundwater. Groundwater recovery was restarted in November 1989.



Entire Site: More information on the extent of contamination from the site is needed before the EPA can select a cleanup remedy. The EPA is conducting an investigation, which started in 1989, that will determine the nature and extent of groundwater contamination. The study is slated for completion in 1992.

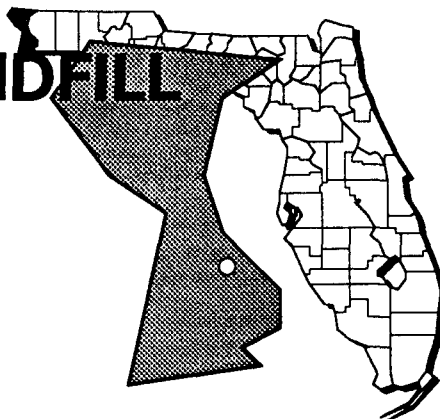
Environmental Progress



The earlier groundwater treatment performed by the potentially responsible parties and the shut-down of affected wells have reduced the potential for exposure to contaminants from the B&B Chemical Company, Inc. site while investigations are taking place.

BEULAH LANDFILL FLORIDA

EPA ID# FLD980494660



EPA REGION 4
CONGRESSIONAL DIST. 01
Escambia County
Pensacola

Site Description

The 80-acre Beulah Landfill site was operated by Escambia County from 1950 to 1984. Its northern and southern sections were run independently. The northern landfill, used from 1950 to 1960, accepted mostly municipal trash. The southern sludge disposal pit began receiving domestic septic tank wastes in 1968 and continued to take municipal trash, industrial waste, demolition debris, and municipal sludges until 1984, when the State ordered a halt to operations at the pit. From 1980 to 1986, the landfill operated under State order, accepting only specified wastes. Several residences within 3 miles of the landfill draw drinking water from the upper 150 feet of the local sand and gravel aquifer. The nearest well is 700 feet from the site. Eleven Mile Creek, at the downstream edge of the site, is used for recreational activities.

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

NPL LISTING HISTORY
Proposed Date: 06/24/88
Final Date: 02/21/90

Threats and Contaminants



EPA tests showed that wastes on the site contain anthracene, naphthalene, fluoranthene, pyrene, pentachlorophenol (PCP), polychlorinated biphenyls (PCBs), and zinc. The groundwater and surface water also are contaminated with zinc. People trespassing on the site could be exposed to contaminants in the wastes. People ingesting contaminated groundwater may be at risk.

Cleanup Approach

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

Response Action Status



Soil and Groundwater: The EPA will undertake an intensive study of soil and groundwater contamination at the site in 1991. This investigation also will recommend the best strategies for final cleanup. It is slated for completion in 1993. Once the investigation is completed, a final selection of a remedy will be made.

Site Facts: From 1980 to 1986, the landfill operated under a Consent Order with the Florida Department of Environmental Regulation (FDER) to accept only specified wastes.

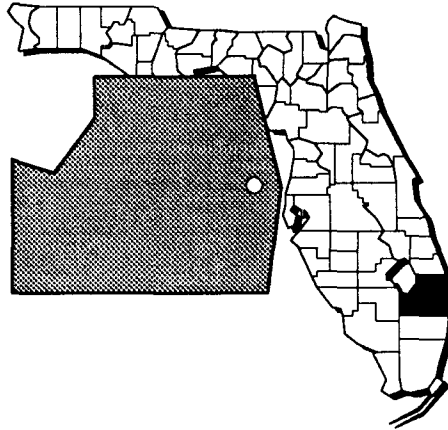
Environmental Progress



After proposing this site to the NPL, the EPA performed preliminary investigations and determined that there were no immediate actions needed at the Beulah Landfill site while investigations into cleanup strategies are taking place.

BMI-TEXTRON FLORIDA

EPA ID# FLD052172954



EPA REGION 4
CONGRESSIONAL DIST. 12
Palm Beach County
Lake Park

Other Names:
Basic Microelectronics, Inc.

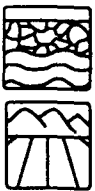
Site Description

From 1969 until 1986, operators of the 3 1/2-acre BMI-Textron facility made chrome-backed glass plates used in producing electronic components. Workers used cyanide to etch the glass. The facility discharged liquid wastes to percolation ponds and drain fields for four years under an industrial wastewater permit issued by the Florida Department of Environmental Regulation (FDER). Four wells at the facility monitored compliance with the terms of the permit. In 1983, operators received a Notice of Violation from the State, and subsequently reported that the site's soil and groundwater were contaminated with cyanide. Two municipal water systems draw from wells within 3 miles of the site. They serve approximately 106,000 people in Lake Park, Riviera Beach, North Palm Beach, Palm Beach Shores, and Palm Beach Gardens.

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

NPL LISTING HISTORY
Proposed Date: 06/24/88
Final Date: 08/30/90

Threats and Contaminants



The groundwater and soil are contaminated with cyanide and fluoride from former production processes. Shallow groundwater also is contaminated with barium, chromium, and nitrates. Contaminated groundwater used for a water supply source on the site poses potential health threats or could enter downgradient wells. A fence surrounding the site limits threats from exposure through direct contact or inhalation of the contaminated dust.

Cleanup Approach

This site is being addressed in two stages: immediate actions and a long-term remedial phase focusing on soil and groundwater contamination.

Response Action Status



Immediate Actions: Under State order, the owner removed about 680 cubic yards of cyanide-contaminated soil and transported it to an EPA-approved hazardous waste facility in 1984. In 1986, the EPA discovered cyanide and fluoride in on-site groundwater and soil. In 1986, again under State order, the owner agreed to develop a plan to clean up contaminated groundwater. Approximately 200 cubic yards of contaminated soils were removed from the landfill. In addition, a third area was capped with asphalt. A fence was installed to restrict access to the site.



Soil and Groundwater: Under EPA monitoring, the owner will undertake an intensive study of the nature and extent of soil and groundwater contamination at the site. This investigation also will recommend the best alternatives for final cleanup. It is slated to start in 1992 and conclude in 1994.

Site Facts: In 1984, BMI and the State of Florida entered into an agreement requiring the company to remove contaminated soils at the site and to submit a detailed monitoring program for determining the nature and extent of groundwater contamination at the site. BMI agreed to comply with another State Consent Order in 1986 to develop a plan to clean up contaminated groundwater. In response, the company implemented an Interim Remedial Action Plan (IRAP), a Containment Assessment Plan (CAP), and a Soil Removal Plan. An evaluation of potential risks to human health was completed. As a result, contaminated soils were removed from the landfill, and another area of contaminated soil was capped with asphalt. Employees notified officials in 1988 of concerns about the water safety.

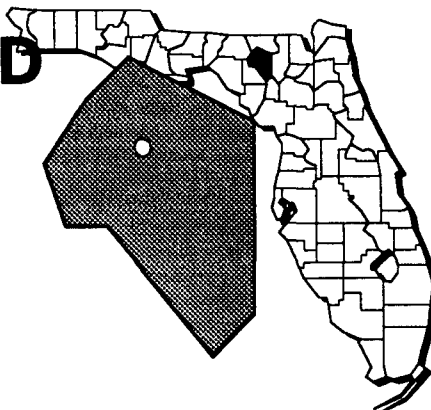
Environmental Progress



The removal of contaminated soils and capping of other areas have greatly reduced the potential for exposure to hazardous materials at the BMI-Textron site. Approximately 900 cubic yards of contaminated soil have been removed, and a fence was installed to restrict access to the site. These actions have protected the public health and the environment while investigations are being conducted and cleanup activities are being planned.

BROWN WOOD PRESERVING FLORIDA

EPA ID# FLD980728935



EPA REGION 4
CONGRESSIONAL DIST. 02

Suwannee County
2 miles west of Live Oak

Other Names:
Live Oak Perry
South Georgia Railway/Wood Plant

Site Description

From 1946 until 1978, the Brown Wood Preserving site was operated as a wood-treatment facility on this 55-acre site in Live Oak. Several different companies ran the facility over its 30-year lifespan; the plant burned and was rebuilt in 1974. Operators used creosote and pentachlorophenol (PCP) in pressure treatment processes and discharged wastewater into an open ditch, where it flowed into a 5-acre unlined impoundment. A 3-acre upgradient lagoon contained 3,000 cubic yards of creosote materials. The area surrounding the site is rural and light agricultural. Homes, businesses, light industry, a trailer park, a private airport, and a County storage yard are all located within 1/2 mile of the site. The trailer park houses approximately 450 residents. Sinkholes and public and private wells lie within 2 miles of the site, but the aquifer is not currently threatened, because contamination has not reached it.

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

NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

Threats and Contaminants



Testing during cleanup studies in 1985 and 1986 showed soils in the disposal lagoon and drainage ditch to be contaminated with carcinogenic polycyclic aromatic hydrocarbons (PAHs) from the wood-treatment processes. Sediments in the disposal lagoon and drainage ditch also were found to be contaminated with PAHs. Direct contact with or accidental ingestion of contaminated soil or dust could endanger human health.

Cleanup Approach

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

Response Action Status



Immediate Actions: Initial actions were performed at the site in 1988. Activities included: (1) treatment and discharge of approximately 200,000 gallons of lagoon and pit water; (2) demolition, salvage, and removal of facilities and process equipment on site; (3) excavation and solidification of 15,000 tons of contaminated sludges; and (4) backfilling of the retort pit. These actions reduced the levels of contaminants in the soil. The site was fenced, and warning signs were posted in 1988.



Entire Site: The EPA selected the following cleanup remedy for the site: (1) removing the lagoon water, treating it (if necessary) and discharging it to a sewage treatment plant; (2) excavating and treating the most severely contaminated soil and sludge and disposing of it off site; (3) breaking down contaminants in the remaining soils biologically in a 14-acre treatment area constructed with a liner and an internal drainage and spray irrigation system; (4) covering this treatment area with clean fill after it served its purpose; and (5) monitoring groundwater and the biological cleanup system for three years. The parties potentially responsible for site contamination finished the cleanup actions outlined in the remedy to the EPA's satisfaction in 1989. In conducting the cleanup activities, workers also: (1) cleared 6 acres; (2) removed an abandoned railroad track; (3) installed a clay liner; (4) built containment berms around the perimeter; (5) installed a treatment area surface drainage network and run-on drainage swales; (6) shaped the runoff retention road; (7) placed contaminated soil in the treatment and stockpile area; and (8) installed an irrigation system. Operation and maintenance will consist of quarterly sampling of the biologically degraded soils and groundwater for three more years.

Site Facts: The Consent Decree between the EPA and the parties responsible for the contamination was entered into on October 24, 1988 for performance of the engineering design and actual cleanup activities, as well as the operations and maintenance functions for the site. Under EPA monitoring, the parties responsible for site contamination have finished cleaning up the site.

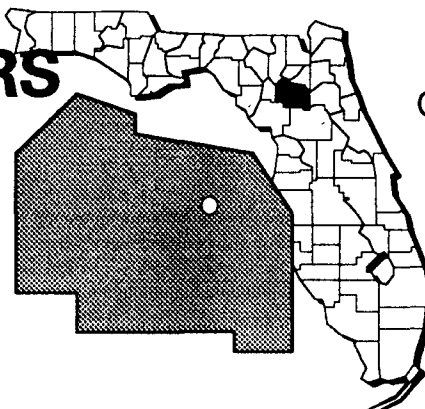
Environmental Progress



The Brown Wood Preserving site has been cleaned up and meets all Federal and State standards. The site will be monitored for three additional years to ensure that the cleanup methods are effective and continue to protect human health and the environment, at which time the site will be deleted from the NPL.

CABOT/KOPPERS FLORIDA

EPA ID# FLD980709356



EPA REGION 4
CONGRESSIONAL DIST. 10
Alachua County
Gainesville

Other Names:
K-Mart Site
Cabot Carbon

Site Description

The Cabot/Koppers site covers 170 acres bridging two properties in Gainesville, near the intersection of N. 23rd Avenue and N. Main Street. Koppers, a wood-treating operation, owns the western part of the site and still operates on 82 acres of the site. Cabot Carbon formerly operated on the eastern portion of the site, on its own 49 acres, making naval stores and charcoal from pine stumps. Koppers preserves wood utility poles and timbers using creosote and chromated copper arsenate. Pentachlorophenol (PCP) was used in the past. Koppers currently recycles its process wastes and disposes of residues in an environmentally sound manner. The contamination on the site may be attributable to the past use of wastewater holding ponds. The old pond areas since have been filled with clean dirt and now are used as wood storage areas. During the years that Cabot Carbon operated (1945-1965), the plant generated about 6,000 gallons of crude wood oil and pitch each day. Workers discharged process wastewater containing pine tar into unlined surface impoundments. A local developer purchased the land in 1966 and drained the contaminated ponds into a nearby wetland and into Hogtown Creek. The land was sold again in 1977 to a different developer, who began building a shopping complex. Construction workers mixed the remaining pine tar sludges from the pond areas into the topsoil and built an unlined stormwater retention pond over the old contamination site. Citizens soon noticed a dark-stained, foul-smelling liquid seeping into an uncovered drainage ditch along N. Main Street. Gainesville's population is 151,300, and about 2/3 of the city is drained by Hogtown Creek. Approximately 2,000 people live within a 1/2-mile radius of the site, and there are 11 schools within a 1-mile radius of 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: 09/08/83
Final Date: 09/24/84

Threats and Contaminants



Groundwater is contaminated with arsenic; groundwater near the land surface contains volatile organic compounds (VOCs) and creosote compounds from the former process waste disposal practices. The soil also is contaminated with creosote products; however, contaminants were below levels that would pose adverse health effects. A trailer park lies next to the contaminated ditch, and children play in that area. People coming into direct contact with contaminated groundwater may be at risk. Nearby wetlands also may be affected by contaminants from the site.

Cleanup Approach

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

Response Action Status



Initial Actions: The initial actions provide for the collection of up to 150,000 gallons of leachate per day from the N. Main Street ditch. This water is pumped by the State from a lift station on the ditch to the Kanapha Sewage Treatment Plant for treatment. Water quality data indicate that the leachate collection and removal system has been effective in significantly removing contamination from Hogtown Creek.



Entire Site: The Florida Department of Environmental Regulation (FDER) began an intensive study of soil and groundwater contamination at the site in 1984. In 1987, when the FDER ran out of funds, the EPA entered into a Consent Order with the parties potentially responsible for the site contamination to conduct an investigation of the site. The selected cleanup strategy includes soil washing and solidification, with other source soils undergoing in-situ biotreatment. Groundwater will be pumped, treated, and discharged to a publicly owned treatment works.

Site Facts: The FDER requested civil penalties, injunctive relief, and cost recovery in its 1983 complaint against Cabot Corporation, but the court struck all motions except cost recovery in 1984. The parties potentially responsible, Beazer Materials & Services (formerly Koppers) and Cabot Corporation, are working under a Consent Order and have completed site studies of the contamination and evaluated cleanup options. There is much public concern about the extent of contamination, public exposure, and present and future development of the site and surrounding property.

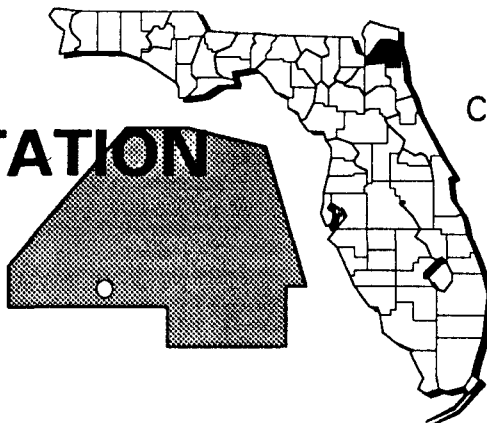
Environmental Progress



The leachate pumping system operated by the State has been effective in removing much of the contamination from Hogtown Creek and the N. Main Street ditch, thereby reducing the potential for exposure to hazardous materials for the surrounding population while final cleanup strategies are being planned at the Cabot/Koppers site.

CECIL FIELD NAVAL AIR STATION FLORIDA

EPA ID# FLD517002244



EPA REGION 4
CONGRESSIONAL DIST. 03
Duval County
12 miles southwest of
downtown Jacksonville

Site Description

The Cecil Field Naval Air Station (NAS) site is divided into three areas: NAS Cecil Field (proper), the Yellow Water Weapons Department, and the Whitehouse Outlying Landing Field. Work in support of the base mission includes fuel storage and transportation systems and intermediate maintenance and repair of aircraft and engines. Maintenance activities over the years generated a variety of materials that were disposed of on the facility. These include: materials resulting from construction activities; municipal solid waste and municipal wastewater treatment plant sludge; and miscellaneous industrial wastes including waste oils or solvents, paints, and spilled fuels. Current disposal practices are surveyed regularly for conformance with local, State, and Federal regulations. Approximately 3,500 people live on base and 2,200 people live within a 1-mile radius of the base. Water is supplied to base residents from wells that tap the Floridian Aquifer. Off-base residents receive water from private wells that tap into the secondary artesian aquifer. The area surrounding the base contains wetlands, rivers, streams, and agricultural land. All surface waters within 3 miles downstream of Cecil Field NAS waste sites are classified by the Florida Department of Environmental Regulation (FDER) as Class III waters, which are suitable for recreational use and for the propagation and management of fish and wildlife. Lake Fretwell is stocked with bass for sport fishing, and a recreational complex has been developed along its northeastern shore.

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

NPL LISTING HISTORY

Proposed Date: 07/14/89

Final Date: 11/21/89

Threats and Contaminants



On-site groundwater near seven of the sources of contamination has been found to have concentrations of heavy metals, solvents, paint wastes, and trichloroethylene (TCE) from former waste disposal practices. Solvents have been identified in surface and subsurface soils near the known sources of contamination. Sediments from Rowell Creek, which is dammed to form Lake Fretwell, contain methylene chloride and heavy metals. Shallow groundwater is used for irrigation and firefighting. The potential exists for on-site contaminants to migrate into the groundwater in both aquifers and into off-base private wells. If contaminated groundwater should move off site, local residents also could be exposed to contaminants that have bioaccumulated in produce or aquatic life. Surface water located on the site that has shown contamination includes: Yellow Water Creek and its tributaries, Caldwell Branch, Sal Taylor Creek, Rowell Creek, and Lake Fretwell.

Cleanup Approach

The site is being addressed in eight long-term remedial phases focusing on cleanup of various areas of the entire site.

Response Action Status



Entire Site: The Navy has submitted work plans for site studies to the EPA; others are expected in 1991. The Navy plans to further investigate the potential sources of contamination and the migration of hazardous contaminants at the base landfills, oil/sludge disposal areas, fire fighting training areas, rubble disposal area, ordnance disposal area, pesticide disposal area and the seepage pit. Upon completion of these investigations, the Navy will begin cleanup activities.

Site Facts: The Cecil Field NAS is participating in the Installation Restoration Program, a specially funded program established by the Department of Defense (DoD) in 1978 to identify, investigate, and control the migration of hazardous contaminants at military and other DoD facilities.

Environmental Progress

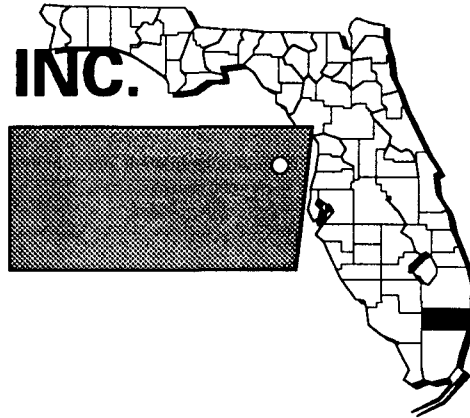


After proposing the Cecil Field NAS site to the NPL, the EPA conducted studies that determined no immediate risks to public health or the environment presently exist while studies into cleanup technologies are being conducted by the Navy.

CHEMFORM, INC.

FLORIDA

EPA ID# FLD080174402



EPA REGION 4
CONGRESSIONAL DIST. 14
Broward County
Pompano Beach

Site Description

Jet engine parts were manufactured at the 4-acre Chemform, Inc. site from 1962 to 1985. The operations included the manufacturing of a high-tech drilling machine, which involved the use of acids. In 1977, the Broward County Pollution Control Board found the company in violation of regulations for the discharge of industrial wastes onto the ground. In 1985, the EPA found the soil and groundwater to be contaminated with heavy metals and other contaminants. The Biscayne Aquifer is underneath the site and supplies all municipal water to Broward County. Four municipal wells are located within 3 miles of the site and serve approximately 93,000 people.

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

<p>NPL LISTING HISTORY Proposed Date: 06/24/88 Final Date: 10/04/89</p>
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Threats and Contaminants



The groundwater and soil are contaminated with heavy metals including chromium, nickel, and copper from former manufacturing processes. People who are exposed to contaminated groundwater or soil through accidentally ingesting or coming in direct contact with them may be at risk. Numerous cavities in the limestone underlying the site facilitate movement of contaminants into the groundwater.



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 1990, removal of several drums took place. Additional actions to remove soils may occur if sampling data currently being reviewed show leachate contamination from the drums.



Entire Site: The parties potentially responsible for site contamination are conducting a study to determine the type and extent of soil and groundwater contamination. Once the study is completed, planned for in 1991, alternatives for the cleanup will be recommended.

Site Facts: In 1989, the EPA and the parties potentially responsible for the site contamination signed an Administrative Order, requiring them to conduct a study of the site. Chem-Form, Inc. is adjacent to Wilson Concepts of Florida, which also is on the NPL.

Environmental Progress

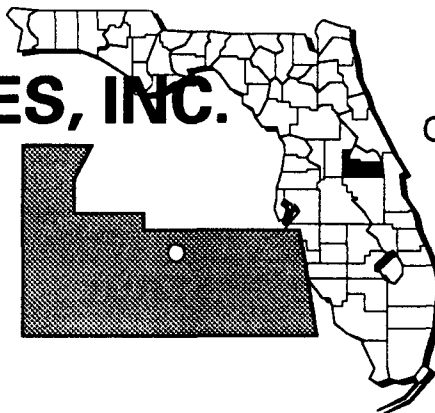


After adding this site to the NPL, the EPA performed preliminary investigations and determined that immediate actions were needed at the Chemform, Inc. site while further investigations are continued. The removal of drums from the site and the sampling and analysis of soils to evaluate the short-term threat to groundwater were conducted in 1990.

CITY INDUSTRIES, INC.

FLORIDA

EPA ID# FLD055945653



EPA REGION 4
CONGRESSIONAL DIST. 05

Orange County
Winter Park

Other Names:
City Chemical

Site Description

The City Industries, Inc. site operated from 1971 to 1983 on a 1-acre parcel of land and was involved in the receipt, handling, storage, reclamation, and disposal of a wide variety of waste chemicals including solvents, paint/varnish wastes, plating wastes, polychlorinated biphenyls (PCBs), and inks. The company abandoned the site in 1983, informing the State that it lacked the resources to continue operations and leaving approximately 1,200 drums and 12,000 gallons of unknown liquids and sludges in large tanks. Volatile organic compounds (VOCs) were found in the shallow aquifer beneath the site. Approximately 120,000 people live within 3 miles of the site. The nearest residence is a mile away from the site. Within 3 miles of the site are schools, nursing homes, and hospitals. Municipal wells are located 1/4 mile upgradient of the site in the deeper Floridian aquifer.

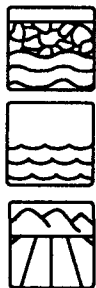
Site Responsibility: This site is being addressed through Federal and State actions.

NPL LISTING HISTORY

Proposed Date: 10/01/84

Final Date: 10/04/89

Threats and Contaminants



The groundwater and surface water are contaminated with VOCs from former waste disposal practices. The soils were contaminated with VOCs, phthalates, and various heavy metals. People who come in direct contact with or drink contaminated surface water or groundwater may be at risk, although the groundwater is not now used for drinking water. The shallow aquifer beneath the site is contaminated, and the contaminant plume could migrate to the Floridian aquifer. The risk posed by the contaminated soil has been reduced as a result of soil removal activity.

Cleanup Approach

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

Response Action Status



Immediate Actions: In 1983, the State crushed and removed 41 tons of drums and disposed of 65 truck and tanker loads of contaminants at an EPA-approved facility. In 1984, the EPA emptied, cut open, and cleaned the holding tanks. Approximately 1,700 tons of contaminated soil were incinerated to remove the contaminants. The treated soil remains on the site.



Entire Site: The EPA has selected a remedy that includes treating the extracted groundwater by aeration, filtration, precipitation, carbon adsorption, and possibly, biological treatment, followed by surface water discharge. The EPA began designing the cleanup in 1990.

Site Facts: In 1984, the EPA issued an Administrative Order to City Industries requiring cleanup of the site; the company ignored the Order. Also in 1984, the State filed a civil complaint against the land owner, operator, and four companies associated with the operator. The EPA completed negotiations with the potentially responsible parties to fund the activities necessary for cleaning up the site.

Environmental Progress

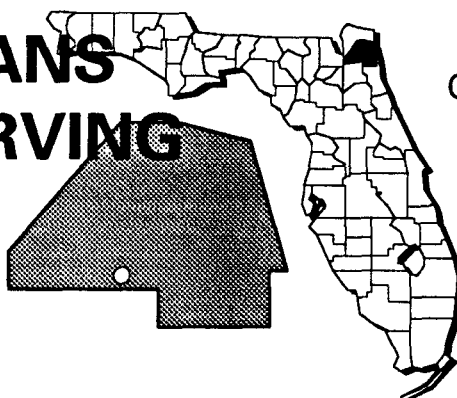


The removal of solid waste and treatment of soil have eliminated all direct contact threats from hazardous materials at the City Industries, Inc. site while cleanup activities are being planned.

COLEMAN-EVANS WOOD PRESERVING CO.

FLORIDA

EPA ID# FLD991279894



EPA REGION 4
CONGRESSIONAL DIST. 03

Duval County
Whitehouse,
8 miles west of Jacksonville

Site Description

The Coleman-Evans Wood Preserving Company site is a former wood-preserving facility located in a residential and light industrial area of Whitehouse. The site covers 11 acres and consists of two distinct areas: the western portion, which contained a wood treating facility, and the eastern portion, which consisted of a landfill and had been used to dispose of wood chips and other wastes. Since 1954, Coleman-Evans produced wood products that contained pentachlorophenol (PCP). Wastes from this process were discharged into an on-site drainage ditch and into two unlined sludge disposal pits. Contamination was discovered in the groundwater in the area in 1980. As a result, the facility constructed a wastewater treatment system to clean the groundwater. Approximately 1,000 people reside within a 1-mile radius of the site. This heavily populated residential area is not connected to a municipal water supply; therefore, the area residents depend on private wells for their drinking water. There are approximately 180 wells within a 1-mile radius of the site.

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

NPL LISTING HISTORY

Proposed Date: 10/01/81

Final Date: 09/01/83

Threats and Contaminants



Shallow groundwater in the residential area adjacent to the site is contaminated with PCP, volatile organic compounds (VOCs) including phenol and toluene, and heavy metals including chromium and lead from former process wastes. Sediments are contaminated with PCP, and the soil is contaminated with heavy metals, PCP, oil, and grease. Area residents are at risk if direct contact is made with contaminated soil or if contaminated groundwater from the shallow aquifer is accidentally ingested.

Cleanup Approach

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

Response Action Status



Immediate Actions: The soils in the on-site waste pits were sampled, excavated, and disposed. The water and oil that have been filtering into the excavated pits were sampled and treated, and the pit was backfilled to the original grade with clean fill dirt.



Entire Site: The soils and sediments in which the PCP levels exceed human health standards will be treated by excavation, soil washing, biotreatment, and solidification/stabilization. The soil that is not contaminated with PCP will be backfilled on site.

Groundwater recovery will be performed during the dewatering process. Recovered groundwater will be stored and analyzed. If the PCP levels exceed the determined amount, groundwater will be treated on site by carbon adsorption before being discharged to the surface water by way of the on-site drainage ditch. Design of these technologies began in 1990 and is planned to be completed in 1992.

Site Facts: On October 15, 1984, the State of Florida issued an Administrative Consent Order to Coleman-Evans Wood Co. to clean up the site. In 1980, complaints of taste and odor problems in nearby private water wells led to investigations by State and local officials.

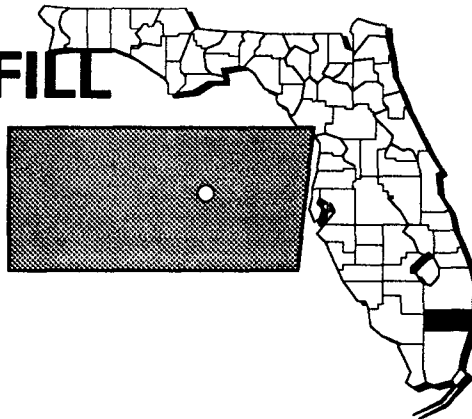
Environmental Progress



The removal of contaminated soils has reduced the potential for exposure to contaminated materials at the Coleman-Evans Wood Preservation Co. site while permanent cleanup activities are being designed.

DAVIE LANDFILL FLORIDA

EPA ID# FLD980602288



EPA REGION 4
CONGRESSIONAL DIST. 16
Broward County
10 miles southwest of Fort Lauderdale

Other Names:
**Broward County Solid Waste
Disposal Facility**

Site Description

The Davie Landfill site, consisting of an 80-acre trash landfill, a 30-acre sanitary landfill, and a 10-acre sludge lagoon near the intersection of Orange Drive and Boy Scout Road, began operation in 1964, accepting trash and ash from the County's adjacent garbage incinerator. Landfilling activities ceased in 1987, when the facility reached its design capacity. The solid waste landfill was used to dispose of the municipal solid waste being burned at the on-site incinerator. Construction debris, tires, and other wastes that could not be incinerated also were placed in the solid waste landfill. The sludge lagoon was constructed in 1971 in an unlined natural depression on site to accept grease trap pump-outs and septic tank and treated municipal sludges. The lagoon overflowed on several occasions, resulting in surface water discharges to an adjacent borrow pit. The sludge lagoon was closed in 1981. The incinerator was closed in 1975, because the excessive particulate emissions failed to meet new air regulations. The sanitary landfill was opened to replace the closed incinerator. Dairy farms, ranches, and horse stables are located in the vicinity of the site. Approximately 50 homes are located to the south of the site; the nearest residence is 1/2 mile away. There are five wells within 500 feet of the site and 21 within 1/4 mile. All municipal water supplies in the area receive water drawn from the Biscayne Aquifer. The aquifer is the sole source of potable water for about 10,000 residents in the area.

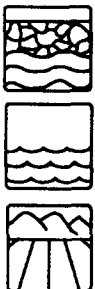
Site Responsibility: This site is being addressed through a combination of Federal, State, and County actions.

NPL LISTING HISTORY

Proposed Date: 10/23/81

Final Date: 09/08/83

Threats and Contaminants



The groundwater and the water in the borrow pits on site and downgradient of the site show elevated levels of sulfate, chloride, lead, and ammonia. Benzene, vinyl chloride, and other compounds have been detected in monitoring wells and private wells south of the landfill. Sludge from the lagoon was found to contain cyanide and sulfides. Potential health threats include accidental ingestion, inhalation, and direct contact with contaminated soil, groundwater, surface water, and sediments. The site is fenced, and access to the site is restricted.

Cleanup Approach

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

Response Action Status



Entire Site: The State required the County to provide service connections to the municipal water supply system for each affected residence near the site. The County offered affected residents bottled water until the water lines were functional. The alternate water supply now is in place. Cleanup technologies chosen to address sludge lagoon contamination include dewatering and stabilization of the sludge lagoon contents, placement of treated sludge lagoon contents in a lined sanitary landfill cell, and installation of an approved cover on the cell. The County initiated site construction on the sludge lagoon in 1989, and cleanup activities are completed. Studies are continuing, to determine whether the actions taken were sufficient to clean up the groundwater.

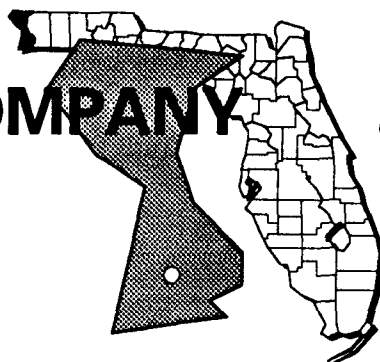
Environmental Progress



The provision of an alternate water supply and completion of the cleanup activities have reduced the danger of exposure to contamination while the County and the EPA are conducting further studies into the effectiveness of the cleanup technologies at the Davie Landfill site.

DUBOSE OIL PRODUCTS COMPANY FLORIDA

EPA ID# FLD000833368



EPA REGION 4
CONGRESSIONAL DIST. 01
Escambia County
Cantonment, 10 miles north of Pensacola

Site Description

The 20-acre Dubose Oil Products site consists of a process facility and three bermed ponds. The site was an oil recovery facility that operated from 1979 through 1981. Waste materials handled on the site included waste oils, petroleum refining waste, wood-treatment process waste, spent solvents, spent "pickle liquors," and various paint wastes. These materials initially came to the site in bulk tanker trailers and drums and then were stored in a treatment tank prior to processing. Spent solvent and process wastes from petroleum refining and wood treatment operations were transported to the facility in 55-gallon drums. Analysis of samples taken from the site indicated the presence of numerous volatile organic compounds (VOCs). The site ceased operations in 1982. Dubose sold some drums and crushed, stacked, and then buried a number of these drums on the site. This is a rural residential area with some agricultural and forest land nearby. Approximately 2,400 people live within 3 miles. The nearest residents live adjacent to the site. A low-lying area that forms the headwaters of Jack Branch, a tributary of the Perdido River, is located along the northern edge of the site.

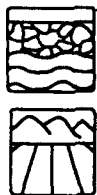
Site Responsibility: This site is being addressed through Federal, State, and potentially responsible parties' actions.

NPL LISTING HISTORY

Proposed Date: 10/01/84

Final Date: 06/10/86

Threats and Contaminants



The groundwater and soils are contaminated with low levels of VOCs and heavy metals including manganese, iron, and aluminum from former process wastes. Iron naturally occurs in the water in the area. Residents in the immediate area are provided with city water supplies, which are not threatened by contaminated groundwater. However, in the future, contaminants could leach into the groundwater, which could then migrate to a nearby sand and gravel aquifer that is the source of drinking water in the area.

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 1984 and 1985, the Florida Department of Environmental Regulation (FDER) excavated 40,000 cubic yards of contaminated soil and placed it in a lined vault on site to prevent further contamination of the groundwater. Contaminated leachate from the vault is being treated and discharged into the North Pond.



Entire Site: In 1990, the EPA selected a final remedy for site cleanup, which includes: excavation and bioremediation of contaminated soils, drainage and filling of the on-site ponds, placement of a topsoil layer over the ravine and former pond area followed by grading and vegetation, installation of surface water runoff controls, groundwater monitoring, and deed restrictions to prevent inappropriate future use of the site. The engineering design of the cleanup remedy is expected to begin in 1991.

Site Facts: The State and the parties potentially responsible for site contamination signed a Consent Decree, whereby these parties performed the studies to determine the extent of site contamination and the alternative technologies for cleaning up the site. The public is concerned that the dam holding the North Pond, which is not well built, will break and that the pond will subsequently flood the downstream areas.

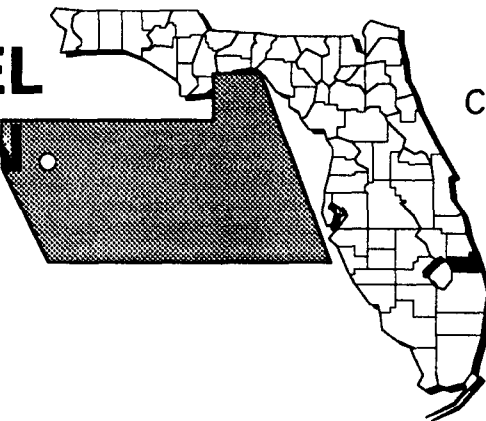
Environmental Progress



Provision of an alternate water supply and the containment of soil have reduced the potential for exposure to contaminants and the further spread of these contaminants at the Dubose Oil Products Company site while cleanup activities are designed.

FLORIDA STEEL CORPORATION FLORIDA

EPA ID# FLD050432251



EPA REGION 4
CONGRESSIONAL DIST. 12
Martin County
2 miles northwest of Indiantown

Site Description

The 150-acre Florida Steel Corporation site is a former steel mill that operated from 1970 to 1982, when it closed for economic reasons. During its operation, casting and rolling were performed at extremely high temperatures. Subsequently, equipment and motors were cooled by water, which picked up iron oxide and small particles from the hot steel and collected excess lubricating oils and hydraulic fluid. The cooling water was captured by concrete drains and sumps and then piped to a Concrete Recirculating Reservoir (CRR), where the iron oxide particles and dense oils settled out. The floating oil that resulted from this process subsequently was removed by an oil skimmer. In addition to the steel products, three types of by-products were associated with the Indiantown Mill: (1) mill scale, the oxidized iron that separated from the hot steel as it was cooled with water sprays, (2) slag, low-grade ore formed when lime was introduced as a flux into the furnace to remove impurities, and (3) Emission Control (EC) dust, the fine particles generated as the high temperatures of the electric arc furnace drove off and oxidized some of the iron and most of the other volatile metals contained in the scrap. Some of the EC dust was spread over the facility's roads, and 75,000 cubic yards were deposited on the southern portion of the site in waste piles. Florida Steel began to collect EC dust in three baghouses and transported it to a chemical plant in South Carolina for recovery of lead and zinc in 1980. The site was placed on the NPL in 1982, when the EPA found arsenic, cadmium, and lead in the EC dust and groundwater. In addition, polychlorinated biphenyls (PCBs) were found at various locations on the site. Approximately 4,800 people live within a 2-mile radius of the site. The Indiantown public water supply comes from a group of shallow wells located within 3 miles of the site. Swamp and unimproved land owned by the Seaboard Coast Line Railroad adjoins three sides of the property.

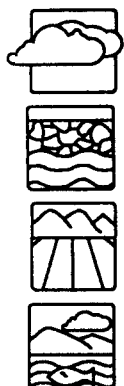
Site Responsibility: This site is being addressed through Federal and potentially responsible parties' actions.

NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

Threats and Contaminants



Heavy metals including arsenic, cadmium, and lead from former plant processes exist in the on-site EC dust that has become airborne. The groundwater is contaminated with sodium chloride; heavy metals including lead, cadmium, and iron; and radioactive materials including radium and barium. Radium is a naturally occurring radioactive element found in the soil at and around the site. Limited amounts of on-site surface soils are contaminated by PCBs, a majority of which were cleaned up. Area residents could be exposed, in the future, to metals and radium contaminants in their drinking water. Other potential health threats include inhaling and coming into direct contact with airborne EC dust. Swamps located adjacent to the site are threatened by contamination migrating from the site.

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: The parties potentially responsible for site contamination removed an area of on-site soil containing EC dust that was contaminated with PCBs in 1985. The PCB-contaminated soils were treated by incineration on site.



Entire Site: In 1987, the potentially responsible parties began an investigation to determine the best ways to clean up the site. The parties are conducting additional groundwater and soil sampling, which is planned to be completed in 1992. The EPA currently is waiting for the analytical results of these additional tests and will recommend the best cleanup technology. In addition to the soil and groundwater investigations, the EPA currently is examining two wetlands adjacent to the site. This investigation is planned to be completed in 1992.

Site Facts: Negotiations with the parties potentially responsible for site contamination were concluded in 1987. As a result, these parties initiated an investigation to characterize site contamination.

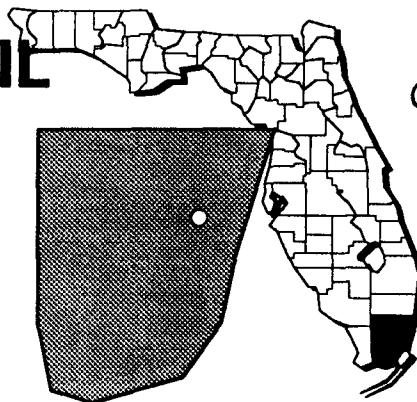
Environmental Progress



The removal and treatment of soil have greatly reduced the potential for exposure to hazardous materials and has controlled the migration of contaminants from the site while further investigations and cleanup activities take place at the Florida Steel Company site.

GOLD COAST OIL CORPORATION FLORIDA

EPA ID# FLD071307680



EPA REGION 4
CONGRESSIONAL DIST. 16
Dade County
Miami

Site Description

Gold Coast Oil Corporation operated a solvent reclaiming facility and bulk storage area on a 2-acre site leased from the Seaboard Coast Line Railroad from 1971 to 1982. Wastes generated by the recovery process were sprayed directly on the ground or stored in drums on site. In 1982, Seaboard removed approximately 2,500 drums, 5 tanker loads of liquid waste from bulk storage tanks, and 40 loads of contaminated soil from the site to an approved facility. The groundwater is contaminated and is part of the Biscayne Aquifer, the principal drinking water source for this part of Florida. The area surrounding the facility is primarily industrial. The majority of the residents within a 3-mile radius of the site are served by two public water supply wells fields that are not affected by the contamination at the site. The site currently is inactive and is fenced with a locking gate.

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

NPL LISTING HISTORY

Proposed Date: 10/01/81

Final Date: 09/08/83

Threats and Contaminants



The groundwater is contaminated with volatile organic compounds (VOCs) including methylene chloride from the former solvent recovery activities. The soil is contaminated with VOCs, as well as lead. Trespassers who came in direct contact with or accidentally ingested contaminated groundwater or soil on the site may have been at risk. The residents in the area obtain drinking water from municipal wells not affected by this site; however, the groundwater plume may migrate to these wells. This site is one of many contributors to the overall contamination of the Biscayne Aquifer. A treatment system has been installed at the public water supply plants to remove heavy metals and VOCs before water enters the distribution system.

Cleanup Approach

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

Response Action Status



Initial Actions: Early actions, undertaken by Seaboard in 1982, removed contaminated materials and surface soils from the site.



Entire site: In 1987, the EPA selected a remedy to clean up the site that included excavating and removing soil and sludges to a federally approved facility; recovering the contaminated groundwater and treating it before discharging it; and removing and disposing of storage tanks and various structures and debris on the site. The majority of contaminated soils and sludges have been removed. An air stripping system for treating the contaminated groundwater has been installed. All cleanup activities are expected to be completed in 1993.

Site Facts: In 1982, Seaboard Coast Line Railroad evicted Gold Coast Oil from the property and volunteered to perform initial removal activities.

Environmental Progress



By removing contaminated soil and other materials and installing a groundwater treatment system, the EPA and the parties potentially responsible for the site contamination have made substantial progress toward final cleanup of the Gold Coast Oil Corporation site. All direct contact threats from the contaminated land have been eliminated. Ongoing groundwater treatment continue to reduce contamination levels at the site.

HARRIS CORPORATION/ PALM BAY FACILITY FLORIDA

EPA ID# FLD000602334



EPA REGION 4
CONGRESSIONAL DIST. 11
Brevard County
Palm Bay

Other Names:
Harris Semiconductor
Harris Building 100
Harris Government
(Electronics) Systems
Harris Corp./
General Development Utilities

Site Description

The Harris Corporation site covers 345 acres, and General Development Utilities, Inc. (GDU) occupies part of the site. Harris manufactures a wide variety of electronic devices and components, while GDU provides drinking water and manages the wastewater collection, treatment, and disposal system for much of Palm Bay. GDU's well field consists of 25 producing wells and is located adjacent to and downgradient from the Harris facility. The EPA found the wells to be contaminated, although the precise origin and cause of the contamination is not known. GDU provides approximately 33,000 residents of Palm Bay with drinking water. Approximately 27,500 people live within 3 miles of the site. Also included within the 3-mile radius are schools, nursing homes, hospitals, and a park.

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

NPL LISTING HISTORY

Proposed Date: 04/01/85

Final Date: 07/01/87

Threats and Contaminants



The groundwater is contaminated with various volatile organic compounds (VOCs) and heavy metals including chromium and lead from former process waste disposal practices. People who are exposed to the contaminated groundwater may be at risk.

Cleanup Approach

This site is being addressed in three stages: immediate actions and two long-term remedial phases focusing on groundwater treatment and surface water and sediments treatment.

Response Action Status



Immediate Actions: One well at GDU has been taken out of service. Harris operates an extraction/treatment system, with the effluent used as process water. This process water is treated and then injected into a deep well. Harris also paid for an air stripper at GDU for the treatment of water from seven production wells.



Groundwater Treatment: The remedy selected by the EPA to clean the groundwater includes continuing to pump the water and removing contaminants by air stripping. The contaminants removed will be further treated before being released into the atmosphere. Harris installed a groundwater system in 1985. According to tests conducted in 1988, groundwater contamination levels have already been reduced, and this treatment is expected to continue until 1995.



Surface Water and Sediments Treatment: The EPA will monitor a study of the type and extent of surface water and sediment contamination. Once the study is finished in 1993, alternatives for cleanup will be recommended.

Site Facts: In 1983, the State and Harris Corporation signed a Consent Agreement for Harris to develop a groundwater restoration system.

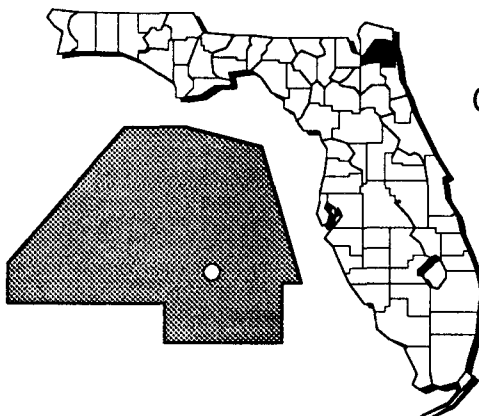
Environmental Progress



The groundwater treatment facility continues to reduce the potential for exposure to hazardous substances at the Harris Corp. (Palm Bay Plant) and is protecting the public water supply while further investigations take place.

HIPPS ROAD LANDFILL FLORIDA

EPA ID# FLD980709802



EPA REGION 4
CONGRESSIONAL DIST. 03
Duval County
Jacksonville Heights

Site Description

The Hipps Road Landfill site covers 7 acres in what was once a cypress swamp. The site area includes the landfill and an adjacent pond. During the 1960s, the facility accepted municipal and industrial wastes including cans of trichloroethylene (TCE) and artillery rounds from U.S. Navy facilities. The landfill ceased operations in 1970, was covered with a layer of soil, and was sold in residential lots. Concerns first were reported in the early 1970s, when a pond adjacent to the landfill developed a thick, smelly film, and fish and nearby vegetation died. The area residents depended exclusively on private wells for water until tests in 1983 showed contamination. Residents were given bottled water until the City extended the municipal water system. A residential area of about 150 homes surrounds the site. In the spring and summer of 1988, the potentially responsible party purchased and removed five homes from the site. The landfill is situated above the flood plain. Surface water is used for swimming, boating, and fishing.

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

NPL LISTING HISTORY
Proposed Date: 09/08/83
Final Date: 09/21/84

Threats and Contaminants



The groundwater is contaminated with volatile organic compounds (VOCs) including vinyl chloride and benzene. Fish and vegetation at a nearby pond have been threatened by contaminants originating from the landfill. People who come in direct contact with or accidentally ingest contaminated water may suffer adverse health effects.

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 1985, the EPA connected affected residences in the area to the municipal water line. In 1986, the potentially responsible party purchased and removed five houses from the site.



Entire Site: In 1986, the EPA selected a remedy to clean up the site. This remedy was amended in 1990 and includes recovering the groundwater and air stripping it to remove the contaminants and properly closing the landfill. The second aspect of the site cleanup plan, the landfill cover system, was completed in 1990 by Wastecontrol, Inc., the potentially responsible party. Wastecontrol, Inc. has completed the technical specifications and design for groundwater cleanup. Treatment of the groundwater is expected to begin in mid-1991 and end in 1992. Monitoring activities to ensure that the remedies have cleaned the site effectively are scheduled to continue for 20 years, using funds provided by the State of Florida.

Site Facts: In 1989, Wastecontrol, Inc. and the EPA entered into a Consent Decree. Wastecontrol, Inc. agreed to design the landfill cover system and the groundwater recovery system; they have completed the landfill closure.

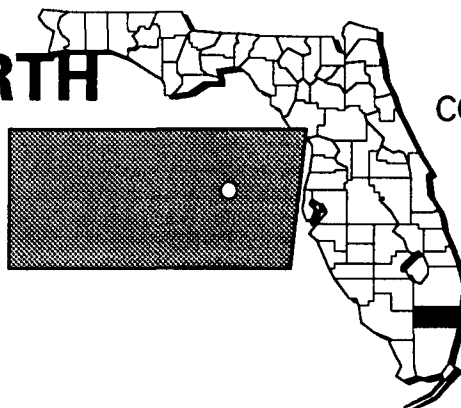
Environmental Progress



By providing an alternate water supply to nearby residents, removing houses from the site, and covering the landfill, the EPA and the potentially responsible party have eliminated immediate hazards at the Hipps Road Landfill site while cleanup activities continue. The completed landfill cover also has reduced the potential for exposure to hazardous materials and has prevented the further spread of contaminants to the groundwater.

HOLLINGSWORTH SOLDERLESS TERMINAL FLORIDA

EPA ID# FLD004119681



EPA REGION 4
CONGRESSIONAL DIST. 15
Broward County
Fort Lauderdale

Site Description

The Hollingsworth Solderless Terminal site is located on 3 1/2 acres in an industrial and residential area of Fort Lauderdale. The plant was in operation from 1968 to 1982 as a solderless terminal manufacturing facility. The manufacturing process included using molten salt baths, degreasing parts, and electroplating. The wash and process waters, which contained varying concentrations of trichloroethylene (TCE) and heavy metals, were disposed of in on-site drainfields, by surface discharges, and in a 100-foot-deep injection well. In addition, wastes periodically entered the ground through spillage or other smaller drainfields. Several communities in the vicinity of the site draw water from the shallow Biscayne Aquifer. The nearest residential area is located approximately 200 yards southeast of the site.

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

NPL LISTING HISTORY

Proposed Date: 10/23/81

Final Date: 09/08/83

Threats and Contaminants



Volatile organic compounds (VOCs), including vinyl chloride from former process wastes, have been detected in some of the monitoring wells on the site. VOCs and heavy metals including copper and tin have been detected in the soil. Potential health risks may exist for individuals who ingest, come into direct contact with, or inhale VOCs from the contaminated groundwater or soil.



Cleanup Approach

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

Response Action Status _____



Immediate Actions: In 1982, Hollingsworth took several steps to determine the extent of contamination at the site. The company pumped the injection well, installed 16 on-site monitoring wells, sampled soil, conducted a groundwater gradient study, and sampled public wells. In 1987, the EPA excavated the old drainfields, exposed contaminated soil to air to allow contaminants to evaporate, and replaced the cleaned soil in the drainfields.



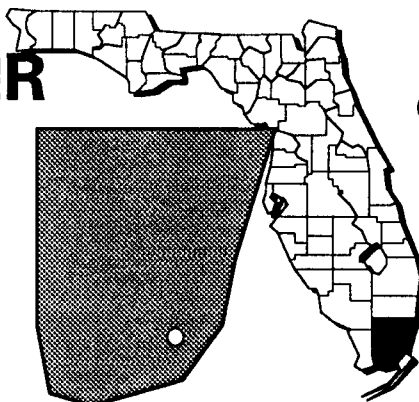
Entire Site: The approved cleanup plan for the site includes: excavation, aeration, and on-site replacement of VOC-contaminated soils and recovery of contaminated groundwater from the sand zones of the aquifer, with treatment and reinjection into the aquifer. Aeration of the soils is nearly completed; construction for the groundwater treatment also is completed, but the system is not operational yet. Cleanup activities for the entire site are scheduled to be completed by 1992.

Environmental Progress _____

The pumping of the well and evaporation of contaminants have reduced the potential for exposure to hazardous materials at the facility or through the public water supply while the planned cleanup activities are being negotiated.

HOMESTEAD AIR FORCE BASE FLORIDA

EPA ID# FL7570024037



EPA REGION 4
CONGRESSIONAL DIST. 19
Dade County
25 miles southwest of Miami

Site Description

The Homestead Air Force Base (AFB) site lies approximately 2 miles west of Biscayne Bay. The surrounding area is semi-rural, and most of the base borders on agricultural land. Work to support the base mission includes fuel storage (JP-4, gasoline, diesel, heating oil), transportation systems, and various maintenance shops. These activities have resulted in waste materials being discharged into the environment, including petroleum hydrocarbon fuels, solvents, pesticides, and heavy metals. Current disposal practices are surveyed regularly for conformance with local, State, and Federal regulations. The base is surrounded by a canal that discharges into Military Canal and, ultimately, into Biscayne Bay. An estimated 1,600 people obtain drinking water from the Biscayne Aquifer, and 18,000 acres of farmland within 3 miles of the site are irrigated from wells. The aquifer, which underlies the site, is the sole source of potable water in the area.

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

NPL LISTING HISTORY
Proposed Date: 07/14/89
Final Date: 08/30/90

Threats and Contaminants



The groundwater is contaminated with petroleum from former disposal practices. The canals surrounding Homestead AFB probably are hydraulically connected with the aquifer, and contaminants have discharged into surface waters. Health risks may exist for individuals who come in direct contact with or drink contaminated groundwater.

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 Air Force has been conducting various studies at the site, and is conducting cleanup actions at one petroleum site. A thorough study of the entire site began in 1990 to determine the extent of contamination on site and to identify alternative technologies for the cleanup. The work at the site has been grouped into 11 areas, for which separate cleanup decisions are expected. All studies are scheduled to be completed in 1992 or 1993, at which time cleanup remedies will be selected.

Site Facts: Homestead AFB is participating in the Installation Restoration Program, a specially funded program established by the Department of Defense (DoD) in 1978 to identify, investigate, and control the migration of hazardous contaminants at military and other DoD facilities.

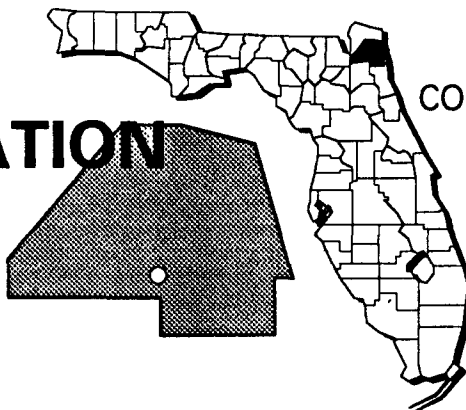
Environmental Progress _____



After proposing this site to the NPL, the EPA and the U.S. Air Force performed preliminary site investigations and determined that there were no immediate actions currently necessary at the Homestead Air Force Base while further investigations and cleanup activities are taking place.

JACKSONVILLE NAVAL AIR STATION FLORIDA

EPA ID# FL6170024412



EPA REGION 4
CONGRESSIONAL DIST. 03
Duval County
9 miles south of Jacksonville

Site Description

The Jacksonville Naval Air Station (NAS) site is located approximately 9 miles south of downtown Jacksonville. The mission of Jacksonville NAS is to provide facilities, services, and managerial support for the operation and maintenance of naval weapons and aircraft as designated by the Chief of Naval Operations. Work in support of the base mission includes fuel storage for the transportation systems and the overhaul, intermediate maintenance, and repair of aircraft and engines. Maintenance activities over the years generated a variety of materials, some of which were disposed of in a landfill on the base. These materials include wastes resulting from construction activities; municipal solid waste and municipal wastewater treatment plant sludge; and miscellaneous industrial wastes, including waste oils or solvents, paints, radium paint waste, wastewaters containing heavy metals, and spilled fuels. Current disposal practices are regulated for conformance with local, State, and Federal regulations. Three aquifers underlie the Jacksonville NAS site: the Surficial, the Intermediate, and the Floridian. Drinking water is supplied to the base via wells that tap the Floridian Aquifer. Off-base residents use the Intermediate aquifer as a drinking water source. Approximately 300 people draw drinking water from private wells in shallow groundwater within 3 miles of the Naval Air Station.

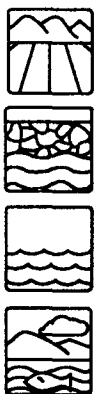
Site Responsibility: This site is being addressed through Federal and State actions.

NPL LISTING HISTORY

Proposed Date: 07/14/89

Final Date: 11/21/89

Threats and Contaminants



The Navy found volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and heavy metals including cadmium, chromium, and lead in soils and the shallow groundwater near the potential sources of contamination. The Navy also found lead, chromium, and cadmium in the St. Johns River. There is no potential for direct contact with contaminants because on-base housing is located adjacent to a capped landfill. Several creeks and two small lakes are on the site. The St. Johns River is classified by the Florida Department of Environmental Regulation as Class III waters; it is used for recreation and the propagation and management of fish and wildlife. The St. Johns River has a potential for contamination from glass beads used in aircraft paint stripping that were disposed of in the river. The station encompasses freshwater wetlands and critical habitats for the Florida manatee and the bald eagle, both designated as endangered species by the U.S. Fish and Wildlife Service.

Cleanup Approach

The site is being addressed in two long-term remedial phases directed at cleanup of the oil and solvent disposal pit area and the wastewater treatment and industrial areas.

Response Action Status



Oil and Solvent Disposal Pit Area: The Navy is conducting investigation into the nature and extent of contamination in the oil and solvent disposal area. Upon completion in 1993, a cleanup remedy will be selected.



Wastewater Treatment and Industrial Areas: The Navy had taken interim measures to control oil and solvents runoff from the old main dump into the St. Johns River; however, the system is no longer operating. The Navy plans further investigations of releases of hazardous substances and their migration from the wastewater treatment area, and the industrial area. Scheduled to begin in 1992, these investigations will reveal the nature and extent of the contamination problems at the station and will recommend the best strategies for final cleanup.

Site Facts: Jacksonville NAS is participating in the Installation Restoration Program, a specially funded program established by the Department of Defense (DoD) in 1978 to identify, investigate, and control the migration of hazardous contaminants at military and other DoD facilities.

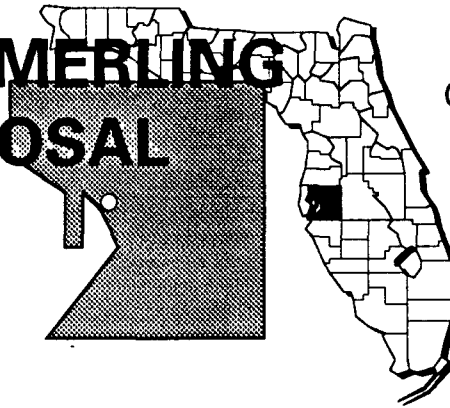
Environmental Progress



After adding the Jacksonville NAS site to the NPL, the EPA evaluated conditions at the site and determined that the contaminated areas do not present an immediate threat to human health or the environment while investigations into a permanent remedy are being conducted.

KASSOUF-KIMMERLING BATTERY DISPOSAL FLORIDA

EPA ID# FLD980727820



EPA REGION 4
CONGRESSIONAL DIST. 07
Hillsborough County
Tampa

Other Names:
Timberlake Battery Disposal
58th Street Landfill

Site Description

The Kassouf-Kimmerling Battery Disposal site includes a 1-acre landfill and a 4-acre wetland located in Tampa. Before 1978, this site was mined for peat, but in 1978, excavations in the marsh were filled 6 to 12 feet deep with lead battery casings and fill dirt that is now covered with a layer of soil. The site is bordered on the east and west by freshwater marshland. Water flows from the western to the eastern marsh via a canal across the landfill; a large lake lies to the north. The immediate area of the landfill is uninhabited and is bordered on three sides by dense plant growth. Approximately 1,500 wells are located within a 3-mile radius, although sampling has detected no well contamination off the site. The population of the surrounding neighborhood is about 5,500. The area to the south of the site is commercial and residential, with several churches, a school, restaurants, offices, and a currently inactive fish farm nearby.

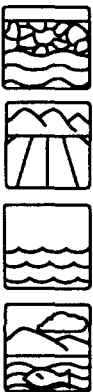
Site Responsibility: This site is being addressed through a combination of Federal and potentially responsible parties' actions.

NPL LISTING HISTORY

Proposed Date: 10/23/81

Final Date: 09/08/83

Threats and Contaminants



Groundwater, soil, and surface water on the site are contaminated with heavy metals including lead, cadmium, and arsenic from former waste disposal activities. Off-site contamination is restricted to some lead in surface water and sediments. People exposed to site contaminants over a long period of time could face health threats. The site is not completely fenced, and trespassing is evident.

Cleanup Approach

The site is being addressed in two long-term remedial phases focusing on source control and cleanup of the marsh area.

Response Action Status



Source Control: The EPA selected a remedy for source control at this site in 1989, which includes: (1) excavating the landfill wastes and contaminated underlying soils; (2) solidifying them and applying chemical fixation; (3) disposing of them on site in the landfill area. The design of the selected remedy began in 1990 and is expected to be completed in 1992.



Marsh: The EPA arrived at a decision for cleanup of the contaminated marsh in 1990. The EPA plans to remove the marsh sediment within 20 feet of the battery landfill to a depth of 2 feet below the sediment surface and to remove the sediments from the canal east of the site extending 150 feet from the battery landfill to a depth of 2 feet. Approximately 1,500 cubic yards of contaminated sediments will be excavated from the marsh. The excavated sediments will be treated using a solidification and stabilization technology and will be placed with the solidified landfill materials. The remainder of the marsh sediments will remain on site because removing the contaminated material may cause contaminants to migrate. In addition, the canal that currently allows the march to drain will be redesigned to allow the march to remain permanently flooded. Existing wetlands also will be enlarged to compensate for the adverse effects caused by site contaminants. The design for the marsh cleanup activities will be incorporated in the design for the source control.

Site Facts: In 1983, the EPA issued an order requiring the potentially responsible parties to monitor the groundwater and surface water, perform analysis of the battery fill material, and conduct general soil sampling.

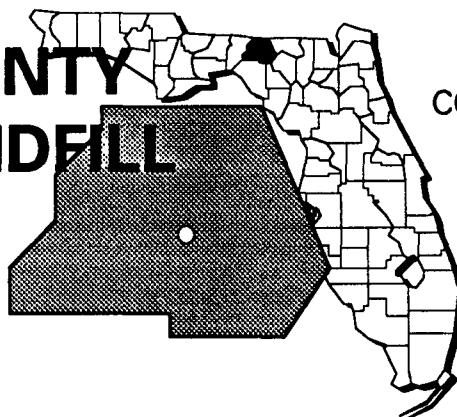
Environmental Progress



After preliminary investigations, the EPA determined that the Kassouf-Kimmerling Battery Disposal site does not pose an immediate threat to public health or the environment while engineering designs are being completed and the final cleanup activities are being planned.

MADISON COUNTY SANITARY LANDFILL FLORIDA

EPA ID# FLD981019235



EPA REGION 4
CONGRESSIONAL DIST. 02
Madison County
Northeast of Madison

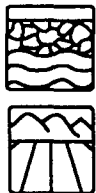
Site Description

The Madison County Landfill is a 133-acre site northeast of Madison that was owned and operated by the City of Madison from 1971 until 1980. Industrial waste generated by local industries reportedly was disposed of at the landfill, along with municipal waste, waste solvents, and waste buffing compounds. During that time, ITT Thompson Industries, Inc. disposed of drums and waste containing trichloroethene and other compounds. The County bought the landfill in 1980 and has been operating it since then. The landfill is licensed by the State to accept municipal solid waste. In 1984, the County found trichloroethene in monitoring wells on the site and in private wells nearby. An estimated 95 private wells and 3 city wells are within 3 miles of the site. Contamination of these wells threatens the drinking water supply of 4,400 people.

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

NPL LISTING HISTORY
Proposed Date: 06/24/88
Final Date: 08/30/90

Threats and Contaminants



Volatile organic compounds (VOCs), including trichloroethene from former waste disposal practices, were detected in on-site monitoring wells and private wells near the site. Similar contaminants have been identified in the soils surrounding the landfill area. Drinking contaminated groundwater poses a health risk to those using nearby wells.

Cleanup Approach

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

Response Action Status



Initial Actions: The Florida Department of Environmental Regulation (FDER) removed a number of drums from one location where ITT Thompson's drums had been buried. Drums were removed from a second area in 1985. All materials were transported to an EPA-approved hazardous waste facility. When private wells were found to be contaminated, the County, and later ITT Thompson, provided bottled water and ice to affected families. In addition, the City, County, and ITT Thompson installed water filtering systems and connected these homes to city water lines to further ensure a safe drinking water supply.



Entire Site: In 1990, under EPA guidance, the parties potentially responsible for the site contamination began an extensive study of the site's pollution problems. This investigation will analyze the nature and extent of groundwater and soil contamination and will suggest the best alternatives for final cleanup. It is scheduled for completion in 1992.

Site Facts: In February 1986, the FDER entered into a Consent Agreement with the City, County, and ITT Thompson, requiring them to investigate groundwater and soil contamination near the site.

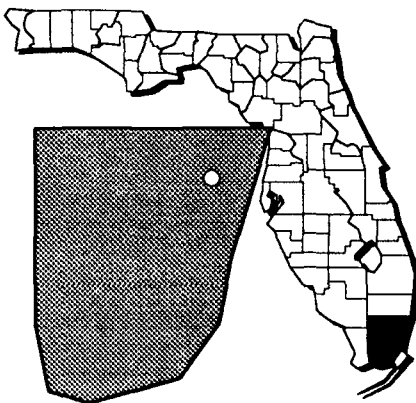
Environmental Progress



The drum removal and the provision of an alternate drinking water supply have reduced the potential for exposure to contaminated substances at the Madison County Landfill site or to contaminated groundwater while investigations into the final cleanup strategies are being conducted.

MIAMI DRUM SERVICES FLORIDA

EPA ID# FLD076027820



EPA REGION 4 CONGRESSIONAL DIST. 16

Dade County
Miami

Other Names:
Biscayne Aquifer

Site Description

Miami Drum Services recycled drums for 15 years on this 1-acre site in a predominantly industrial area of Miami. While the company was in operation, as many as 5,000 drums of various chemical wastes including corrosives, solvents, phenols, and toxic metals were observed on the site. Surface spills and percolation of contaminated wastewater saturated the soil at the facility. The Biscayne Aquifer, which underlies the site, is contaminated with various toxic organic solvents and heavy metals. The site is about 750 feet from the Medley Well Field, which extracts drinking water from the Biscayne Aquifer during peak demand periods. Groundwater is less than 3 feet below the surface. Dade County obtained a court order to close the facility in 1981. The property, now owned by the County, was to become part of its new mass transit system. The EPA gave Dade County the funds to clean up the site, and the County recommended excavation and off-site disposal of contaminated soil, timed to meet its construction schedule. This site, along with the Northwest 58th Street Landfill and the Varsol Spill Site, have been studied together as the "Biscayne Aquifer Sites." Proposed on the NPL as a unit, they were considered to be a serious potential threat to regional water supply. The three sites eventually were listed on the NPL as individual sites.

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

NPL LISTING HISTORY

Proposed Date: 10/23/81

Final Date: 09/08/83

Threats and Contaminants



Groundwater contains volatile organic compounds (VOCs), primarily vinyl chloride from former waste disposal activities. On-site soils were contaminated with phenols, heavy metals, oil and grease, pesticides, and other materials from the drum-cleaning operation. People who come in direct contact with or accidentally ingest contaminated groundwater may be at risk. No health threats exist for soils as a result of the cleanup activities.

Cleanup Approach

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

Response Action Status



Entire Site: The EPA formally selected the remedies for this site in 1982 and 1985.

Cleanup was separated into two phases: source control and groundwater cleanup. Source

Control: The EPA accepted the source control strategy proposed by Dade County in 1981.

The County mobilized its transportation funds to speed up cleanup activities, and by early 1982, 8,500 cubic yards of contaminated soil had been removed to an off-site disposal facility, and almost a million gallons of groundwater were pumped and treated. Later in 1982, the EPA funded the County's cleanup actions and a more intensive study of how contaminated groundwater was moving from the site. The 1982 cleanup activities were adequate to control the source of contaminants, and the site is now a railroad yard for the County Transit Authority. Groundwater: The remedy selected in 1985 was to add air strippers at two water treatment plants. This technology evaporates volatile contaminants out of the water. The State undertook the engineering design for groundwater cleanup and finished it in 1987. The actual cleanup activities were delayed because the State declined to conduct them, but the EPA negotiated a Cooperative Agreement with the local government and a contract for assurances with the State. Construction is expected to be completed by late 1991. Groundwater cleanup activities are scheduled to be completed by 1992.

Site Facts: Dade County filed suit against the former owner in 1981, seeking recovery of all funds spent for site cleanup, compensatory damages for harm to natural resources, and punitive damages. The EPA filed a cost recovery action. The parties potentially responsible for the contamination settled in 1988 on source control action. Historic preservationists were concerned that the air strippers proposed for cleaning up the groundwater would block the view of the historic Hialeah Water Treatment Plant, but a compromise solved the problem.

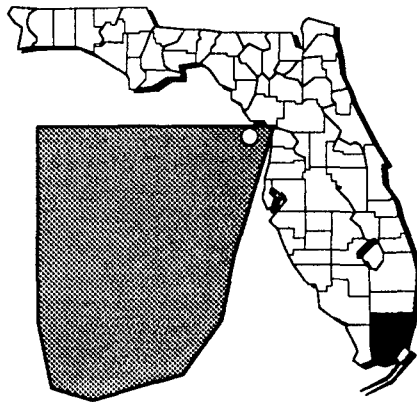
Environmental Progress



The cleanup activities at the Miami Drum Services site have been successful in controlling the source of contaminants, and efforts are being focused on treatment of the groundwater. The EPA determined that the site does not presently pose an immediate threat to public health or the environment while further actions are being planned to permanently clean up the contaminated groundwater.

MUNISPORT LANDFILL FLORIDA

EPA ID# FLD084535442



EPA REGION 4
CONGRESSIONAL DIST. 17
Dade County
North Miami

Site Description

The Munisport Landfill is a 291-acre, inactive facility. Landfilling activities took place on only 171 acres of the facility. A developer leased the land from the City of North Miami and filled low-lying areas with clean fill and construction debris. By 1974, the landfill was accepting municipal refuse. Between 1972 and 1981, its operators piled several million cubic yards of solid waste 40 feet high, and the facility was eventually shut down for improper disposal practices. The site's operators created eight deep lakes on the site when they excavated the refuse and used debris to cover the piles. Disposal records show that the site accepted domestic garbage, yard refuse, construction debris, and hospital pathological wastes. Three major sampling and monitoring efforts were mounted in the 1980s by the EPA and the City of North Miami. The site is bordered by major roads, Florida International University, and a mangrove swamp, which separates the site from Biscayne Bay. The Bay is classified as an outstanding Florida waterway and nature preserve and is a major recreational area. Mangrove wetlands, which are becoming increasingly rare, are valuable as wildlife habitat.

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

NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

Threats and Contaminants



Pollutants detected in groundwater, soil, and leachate samples include elevated levels of ammonia and low levels of heavy metals, pesticides, and volatile organic compounds (VOCs) from the former waste disposal activities. No public health risk exists under current uses because possible exposure routes contain relatively low levels of contaminants. A threat to the environment exists, however, due to the migration of leachate from the site into the Mangrove Preserve. Contamination of the preserve can be particularly serious because many pollutants, even at very low levels, can damage aquatic life and can bioaccumulate and concentrate in the food chain. Birds from the rookery in Greyolds Park feed in the Mangrove Swamp and are threatened by possible contaminants there.

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 began an intensive study of soil and water pollution at the site in 1987. A subsequent study of the Mangrove Preserve was conducted in 1989. In 1990, the EPA selected the cleanup remedy from the alternatives resulting from the investigation. Leachate will be treated for ammonia contamination in "air stripping ponds," after which it will be cycled back through the landfill. The design of the cleanup strategy is expected to begin in 1991. Closure of the landfill will be conducted under State authority.

Site Facts: Environmentalists and the State of Florida are concerned about the threat to aquatic organisms in the preserve and are working with the EPA to develop a cleanup plan for the site. Though no air pollution data are available, nuisance odors led to three citations while the site was active.

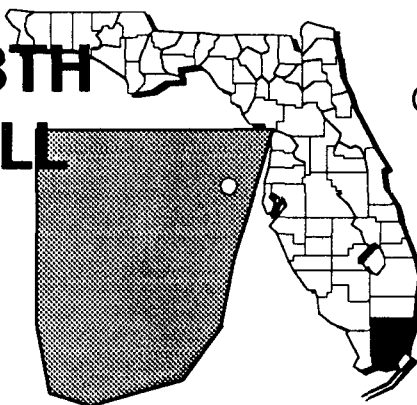
Environmental Progress



After adding this site to the NPL, the EPA performed preliminary investigations and determined that no immediate actions were needed to protect the public at the Munisport Landfill site while engineering designs are being planned.

NORTHWEST 58TH STREET LANDFILL FLORIDA

EPA ID# FLD980602643



EPA REGION 4
CONGRESSIONAL DIST. 10
Dade County
Near the Town of Medley

Other Names:
Biscayne Aquifer

Site Description

The Northwest 58th Street Landfill site, near the City of Miami Springs, is one of three NPL sites that comprise the Biscayne Aquifer Superfund Study. The landfill is a 1-square-mile site near Hialeah, along the eastern edge of the Everglades wetlands. From 1952 to 1982, the site operated as a municipal landfill, receiving approximately 60,000 tons of waste in 1952 and increasing annually over the 30 years of operation to over 1,000,000 tons per year. Small quantities of household hazardous materials, such as pesticides, paints, and solvents were considered to be municipal waste. In 1975, the landfill operation initiated a program of providing daily cover to the site; however, prior to this, the operation did not compact wastes or add daily cover. Since 1982, the landfill has received only quarry wastes of water-based paint sludges. The landfill is no longer receiving waste and is undergoing formal closure procedures. Two major groups of public water supply well fields are located downgradient within 2 miles of the site. These wells serve an estimated 750,000 people.

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

NPL LISTING HISTORY

Proposed Date: 10/23/81

Final Date: 09/08/83

Threats and Contaminants



Leachate from the landfill has contaminated groundwater with heavy metals including arsenic and lead, as well as volatile organic compounds (VOCs) such as vinyl chloride. Potential risks to individuals exist if they drink the contaminated groundwater. In 1986, the U.S. Geological Survey identified a leachate plume migrating westerly from the site. The County is selectively pumping well fields and has constructed hydraulic barriers to control the plume.

Cleanup Approach

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

Response Action Status



Entire Site: The cleanup plan to be completed by the potentially responsible parties includes: controlling leachate generation by a combination of grading, drainage control, and capping; providing a public water supply to replace approximately 60 wells; and landfill closure. The parties completed installing an alternate water supply in 1988 and a leachate interception system in 1989. Additional cover is being applied to the landfill. The design for closing the landfill was approved in 1990. This phase will include grading, capping, and construction of stormwater management systems. Closure of the landfill is scheduled to be completed by 1993.

Site Facts: The State of Florida has a civil suit pending against Dade County for failure to cease operations by August 1981. The State and County are working together to develop a final plan for closing the facility. The Department of Justice completed all notice requirements to the potentially responsible parties and filed the Consent Decree with the court in January 1989. The County has repaid EPA for past cleanup costs and is in compliance with the Consent Decree.

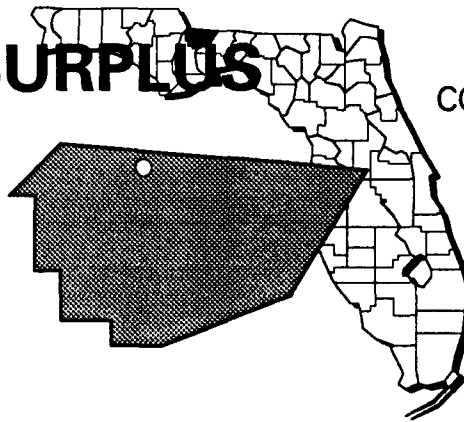
Environmental Progress



The provision of an alternate water supply and the installation of a leachate control system and additional cover at the Northwest 58th Street Landfill site have reduced the potential for exposure to hazardous materials while final cleanup activities are being completed.

PARRAMORE SURPLUS FLORIDA

EPA ID# FLD041140344



EPA REGION 4
CONGRESSIONAL DIST. 02
Gadsden County
Mount Pleasant

Site Description

The Parramore Surplus site is a 25-acre storage and resale company for Navy and Air Force surplus equipment. Beginning in 1972, Parramore began storing drums on the property. The Florida Department of Environmental Regulations (FDER) inspected the site and found 400 to 600 drums, some of which were leaking and killing the vegetation. The site is located in a low-density residential area with approximately 20 homes in the immediate vicinity of the site. Less than 100 people live within a 1-mile radius of the site. The area surrounding the site is primarily agricultural and forest land.

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

NPL LISTING HISTORY

Proposed Date: 12/01/82

Final Date: 09/01/83

Deleted Date: 02/21/89

Threats and Contaminants



The soil was contaminated with polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), and heavy metals including lead.

Cleanup Approach

This site was addressed in a long-term remedial phase focusing on source control at the site.

Response Action Status _____



Source Control: The EPA, the Florida Department of Environmental Regulations (FDER), and the owner of Parramore agreed that Parramore would remove the surface contamination. After the removal was completed, samples were taken of the soil and three new areas of contamination were located. Parramore cleaned these areas as well. Sampling after the second removal in 1983 indicated that the contamination had been removed. In 1985, a modified investigation was conducted by the EPA to determine whether all source materials had been removed and whether there was any groundwater contamination directly related to the site. The investigation determined that all sources of contamination had been successfully removed, with the exception of the three small areas that had been the target of the second cleanup. It was determined that the amount of the contamination present in these areas would not damage the environment or threaten public health. A groundwater quality assessment was recommended, however, to ensure that no groundwater contamination had occurred from past releases of hazardous substances at the site. Groundwater monitoring wells were installed, followed by two periods of groundwater sampling and analyses to ensure that the groundwater had not been adversely affected by past releases of hazardous substances. The monitoring was completed in 1987, and the site was found to be within safe standards and to pose no threat to human health or the environment. The site was deleted from the NPL on February 21, 1989.

Environmental Progress _____

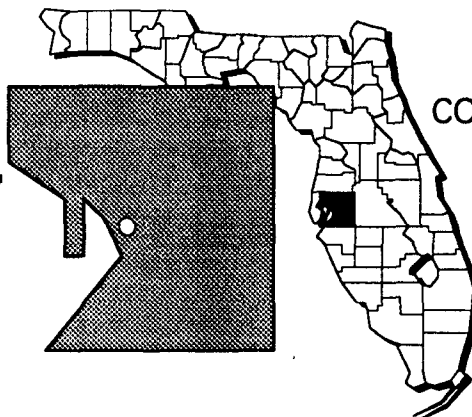


All cleanup activities, including groundwater monitoring, were completed, and the Parramore Surplus site was deleted from the NPL in 1989. The cleanup actions have achieved all established goals for surface contamination, and the site is now safe to nearby residents and the environment.

PEAK OIL CO./ BAY DRUM CO.

FLORIDA

EPA ID# FLD004091807



EPA REGION 4
CONGRESSIONAL DIST. 07

Hillsborough County
Tampa

Other Names:
Bay Drums

Site Description

The 15-acre Peak Oil/Bay Drum site was constructed and began operations in 1954. Peak Oil operations involved the use of a refining process to purify used oils and lubrication fluids. Major compounds accepted for recycling were used crank-case oil, hydraulic fluid, and some transformer fluids. An acid/clay purification and filtration process that generated sludge and oil-saturated clay was used from 1954 until 1977, and these substances were discharged to three unlined lagoons. Two of the lagoons have been backfilled. The Peak Oil site is located within 2 miles of the Brandon Well Field, which is part of the Hillsborough County water supply system. Surface water from the Peak Oil site drains to a wetland area to the southwest. Several private wells are located in the immediate vicinity of the contaminated site, including a 200-foot deep Floridian Aquifer well and a production well at the adjacent Reeves Southeastern Wire Corporation, also on the NPL. Residential neighborhoods, light manufacturing facilities, warehouses, a domestic wastewater plant, a wetland, and Hillsborough County's refuse-to-energy plant are located in the area around the site.

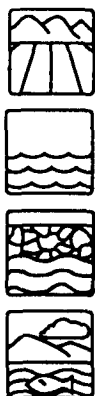
Site Responsibility: This site is being addressed through Federal and potentially responsible parties' actions.

NPL LISTING HISTORY

Proposed Date: 10/01/84

Final Date: 06/10/86

Threats and Contaminants



The soils, sludges, surface water, and sediments on site are contaminated with polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), and heavy metals including arsenic and lead from former process wastes. In addition, the groundwater is contaminated with PCBs. Potential health threats in the area may come from contact with contaminated on-site soils or surface water runoff and from inhaling contaminated dust in the air. There are several aquifers and a wetland in the area that may contain contaminants from the site.

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: Incineration of contaminants was approved, and, in 1986, contaminated soils were excavated and prepared for test burns in a mobile incinerator. As of 1987, more than 1,500 tons of contaminated soil had been incinerated. In 1989, tanks were cut up and disposed of off site. Used oil, contaminated with PCBs, and tank sludges also were disposed of off site. This cleanup action was completed in 1990. Mixed oil/water were removed and taken to an approved off-site facility.



Entire Site: The parties potentially responsible for site contamination are studying the nature and extent of pollution at the site. Field activities for an area-wide hydrogeological study began in 1989. Field activities to identify the source of the contamination also began in 1989. The investigation is planned for completion in 1992, at which time appropriate remedies for site cleanup will be selected.

Site Facts: An Administrative Order on Consent for the site source characterization and the area-wide hydrogeological cleanup investigation became effective in 1989.

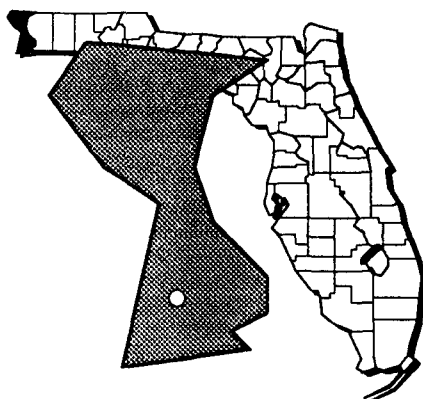
Environmental Progress



The treatment of soil and disposal of some liquid wastes have greatly reduced the potential for exposure to hazardous substances at the Peak Oil site. These actions have protected the public health and have prevented further environmental damage, while further cleanup activities are being completed.

PENSACOLA NAVAL AIR STATION FLORIDA

EPA ID# FL9170024567



EPA REGION 4
CONGRESSIONAL DIST. 01
Escambia County
6 miles southwest of Pensacola

Site Description

The Pensacola Naval Air Station (NAS) is located on approximately 5,900 acres and is the home of two major industrial tenant commands: the Naval Aviation Depot and the Public Works Center. Work in support of the base mission includes fuel storage and transportation systems and depot-level maintenance and repair of aircraft and engines. Maintenance activities over the years generated a variety of disposed materials including waste materials from construction activities, municipal solid waste, and municipal wastewater treatment plant sludge. Miscellaneous industrial wastes including waste oils or solvents, paints, electroplating wastes, radium paint wastes, and insecticides were discharged to storm sewers until 1973, when an industrial sewer and wastewater treatment system were installed. Current disposal practices are monitored regularly for conformance with local, State, and Federal regulations. The groundwater aquifer at Pensacola NAS extends to a depth of approximately 400 feet. There are three drinking water wells on the facility tapping the upper aquifer. An estimated 15,000 people on Pensacola NAS and 30,000 customers of Peoples' Water Co. obtain drinking water from wells within 3 miles of the hazardous substances on site. The surface water bodies surrounding the site include Pensacola Bay and a tidal creek known as Bayou Grande. These surface waters are classified by the Florida Department of Environmental Regulation as Class III water, for recreational use and the propagation and management of fish and wildlife.

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

NPL LISTING HISTORY

Proposed Date: 07/14/89

Final Date: 11/21/89

Threats and Contaminants



Volatile organic compounds (VOCs), including benzene and ethyl benzene from former waste disposal practices, were detected in the monitoring wells. Arsenic and pesticide compounds were found in soil samples taken at a pesticide mixing area. Heavy metals were detected in surface water sediment. Drinking water wells currently are assumed to be upgradient of the base. A large hazardous waste landfill is located next to the base golf course and a picnic area. The NAS Marina is located where a storm drain from the electroplating shops emptied into the bayou. Direct contact during recreation is a possibility for those on base and could pose a health risk.

Cleanup Approach

The site is being addressed through five long-term remedial phases directed at cleanup of the sanitary landfill, the industrial waste disposal/industrial supply storage areas, the industrial and hazardous waste discharge area, the pesticide waste disposal area, and the 13 remaining areas of the site.

Response Action Status



Sanitary Industrial Landfill: An investigation into the nature and extent of contamination at the sanitary industrial landfill is underway. The investigation is planned to be completed in 1992.



Industrial Waste Disposal Area/Industrial Supply Storage Area: These are two adjacent areas of contamination. Investigations into the extent of contamination of these areas began in 1990 and are planned for completion in 1993.



Industrial and Hazardous Waste Discharge Area: An investigation into the nature and extent of contamination of the industrial and hazardous waste discharge area began in 1990 and is scheduled for completion in 1993.



Pesticide Waste Disposal Area: An investigation into the extent of contamination at the pesticide disposal area began in 1990 and is expected to be completed by 1993, at which time an appropriate cleanup remedy will be selected.



Remaining Areas: The Navy plans to initiate investigations into the nature and extent of contamination of 13 other areas within the Pensacola Naval Air Station. These include the metal plating shops, radium paint sites, fuel burn pits, paint shops, several wastewater treatment sites, soil and groundwater contamination, refueler repair shop, PCB storage area, Bayou Grande area, wetlands, and the Pensacola Bay area. Upon completion of these investigations, the EPA will select the most appropriate cleanup remedy for each of these areas.

Site Facts: Pensacola Naval Air Station is participating in the Installation Restoration Program, a specially funded program established by the Department of Defense (DoD) in 1978 to identify, investigate, and control the migration of hazardous contaminants at military and other DoD facilities.

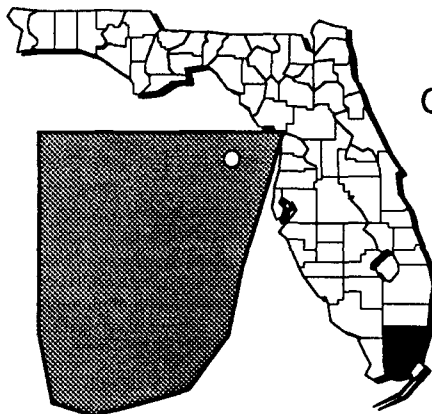
Environmental Progress



After adding the Pensacola Naval Air Station site to the NPL, the EPA evaluated conditions and determined that no immediate threat to human health or the environment exists. The ongoing investigations into the extent of contamination will determine the type of permanent remedy needed at the site.

PEPPER STEEL & ALLOYS, INC. FLORIDA

EPA ID# FLD032544587



EPA REGION 4
CONGRESSIONAL DIST. 18
Dade County
10 miles northwest of Miami

Site Description

The 30-acre Pepper Steel & Alloys, Inc. site is located in an industrial area with no sewage system and is near three other NPL sites. Since the mid-1960s, the site has been the location of several businesses. On-site activities included manufacturing of batteries, pre-cast concrete products, and fiberglass boats, as well as the repair and service of trucks and heavy equipment. Also, sandblasting and painting services, a concrete batching plant, and an automobile scrap operation are located on the site. Pepper Steel's activities included recycling of electrical transformers, where waste oil containing polychlorinated biphenyls (PCBs) was dumped in wetlands on the site. Various trash and waste products from these activities, including parts of rusted machinery, vehicles, aircraft, oil tanks, transformers, underground storage tanks, and batteries have been deposited at the site. Contamination has been identified in the soil, sediments, and groundwater in and around the site. The site area is flat, and in many places the groundwater is only 1 to 2 feet below the surface.

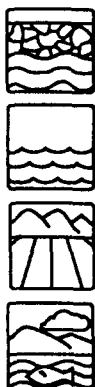
Site Responsibility: This site is being addressed through a combination of Federal, State, County, and potentially responsible parties' actions.

NPL LISTING HISTORY

Proposed Date: 09/01/83

Final Date: 09/01/84

Threats and Contaminants



PCBs, volatile organic compounds (VOCs), and heavy metals such as lead and arsenic from former site activities have been detected in the groundwater, sediments, and soil. Accidental ingestion of and direct contact with contaminated soil, groundwater, and sediments could pose a health hazard to nearby residents.

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



Initial Actions: Early in 1983, the EPA conducted a geophysical survey of the site and identified about a dozen zones requiring further investigation. Soil samples determined that PCBs were present in at least two zones. The EPA removed soil in these zones and floating oil from the shallow aquifer underlying the site. The EPA also drilled observation wells and sampled on-site wells and surface water in the immediate area.



Entire Site: The following actions were chosen by the EPA for the site cleanup: (1) collection and off-site disposal of all free oil; (2) excavation of soils containing PCBs, lead, and arsenic; (3) solidification of the contaminated soil with a cement-type mixture to prevent the migration of the contaminants; (4) institutional controls such as deed restrictions to ensure that future land use is compatible with the site; and (5) monitoring groundwater to ensure the effectiveness of the cleanup. Florida Power and Light started the cleanup of the site in 1987. The site cleanup is completed, and the EPA currently is drafting a closeout report. The EPA will monitor the site to ensure that the cleanup remedies are effective. The site is scheduled to be deleted from the NPL in 1994.

Site Facts: The EPA, the State of Florida, the County of Dade, and Florida Power and Light signed a Consent Decree in 1987. Based on this Decree, Florida Power and Light took responsibility for the design and implementation of the cleanup procedure. The site is planned to be deleted from the NPL after a five-year review.

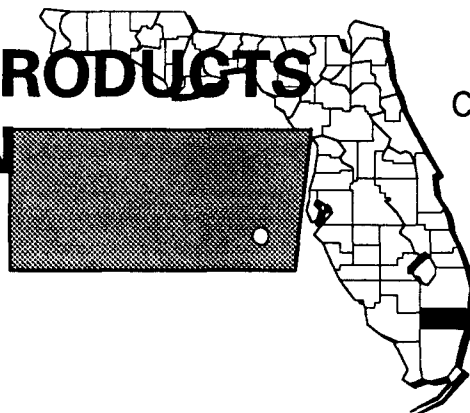
Environmental Progress



All cleanup activities, including the removal of soils and liquid waste, are completed at the Pepper Steel & Alloys, Inc. site. The site again is safe for nearby residents and the environment while the EPA conducts a final review before deleting the site from the NPL.

PETROLEUM PRODUCTS CORPORATION FLORIDA

EPA ID# FLD980798698



EPA REGION 4
CONGRESSIONAL DIST. 14

Broward County
Pembroke Park

Other Names:
Pembroke Road

Site Description

Petroleum Products Corporation refined, stored, and recycled oil on this 2-acre site from 1952 to 1972. Residents in a nearby trailer park became concerned when heavy rain triggered an overflow of a disposal pit and produced an oil slick on a lake on the trailer park grounds in 1970. The company initiated major changes in its operation and sold most of its property. The northern half of the property was cleared and the disposal pit was filled in, but a tank farm remained. In 1979, the State issued two warning notices to Petroleum Products because of oil discharges from the tank farm area. The company cleaned up two oil-soaked areas, rehabilitated the tank farm berm, and filled in low spots with clean fill. The site was converted to the Pembroke Park Mini Warehouses in 1985 and now houses small industrial and commercial businesses. The area surrounding the site is a rapidly developing and growing residential area that supports a variety of recreational and industrial activities. The population of Pembroke Park is 20,000. Approximately 150 people live in two trailer parks adjacent to the site. There are more than 200 homes using public wells within 1/4 mile of the site. The Hallandale municipal well field is 2 miles southeast of the site, and the Hollywood municipal well field lies 3 miles northwest of the site; these well fields serve 150,000 people. Located within the trailer park and a nearby golf course are a number of man-made lakes that are used for irrigation.

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

NPL LISTING HISTORY

Proposed Date: 04/01/85

Final Date: 07/01/87

Threats and Contaminants



Groundwater is contaminated with oil, heavy metals including lead and chromium, and low concentrations of volatile organic compounds (VOCs) including benzene from the former process wastes. The soil is contaminated with lead and arsenic, and sludges and surface water runoff are contaminated with lead. Soil, sludges, and runoff also contain petroleum hydrocarbons. The well fields near the site draw water from the Biscayne Aquifer. The aquifer beneath the site is connected to the Floridian Aquifer, which is affected by salt water intrusion. Because most of the contaminated soil at the site is underneath asphalt, there is little risk that people could come in direct contact with it until cleanup activities begin. The lakes at the nearby trailer park and golf course could pose a threat to people who accidentally drink the contaminated water.

Cleanup Approach

The site is being addressed in three stages: immediate actions and two long-term remedial phases focusing on groundwater containment and soil and groundwater cleanup.

Response Action Status



Immediate Actions: In 1985, Petroleum Products removed the drums, storage tanks, and contaminated sludge from the site and transported the materials to a federally approved disposal facility. An oil recovery system was installed for a month in 1985 to facilitate the removal of contaminants. The State installed a recovery system in 1987, and approximately 2,400 gallons of oil waste were recovered from the aquifer below the site. The tank farm was dismantled and fenced to prevent trespassing.



Groundwater Containment: In 1990, the EPA selected a temporary groundwater treatment remedy, which includes enhancing the existing oil recovery system while a permanent cleanup remedy is being selected. Design of this interim remedy is scheduled to begin in late 1991.



Groundwater and Soil: The EPA is scheduled to conclude a study in 1992 to determine the type and extent of the contamination in the aquifer beneath the site. In the course of the study, various alternatives for cleaning the groundwater will be evaluated. Once the study has been completed and reviewed, the EPA will select a final cleanup remedy. The Florida Department of Environmental Regulation (FDER) is assessing an alternative called soil washing to clean up the contamination at the site. Soil washing is a process through which contaminants are extracted by injecting a water-based solution into the soil and then pumping the mixture. The study is expected to be completed in 1992, at which time a final selection of the cleanup technology will be made by the EPA and the FDER.

Site Facts: The EPA and Petroleum Products entered into a Consent Order in 1985. Under this Order, the company agreed to take immediate actions at the site to reduce threats to human health and the environment. A Consent Decree was signed March 26, 1991 related to the actions to contain groundwater contamination.

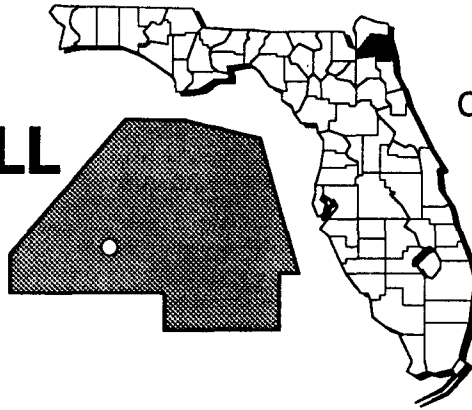
Environmental Progress



The removal of the major sources of contamination at the Petroleum Products site has reduced the potential for exposure to contaminants and has reduced the level of contaminants in groundwater while the investigations leading to a final cleanup remedy are taking place.

PICKETTVILLE ROAD LANDFILL FLORIDA

EPA ID# FLD980556351



EPA REGION 4
CONGRESSIONAL DIST. 03
Duval County
5 miles northwest of Jacksonville

Site Description

The Pickettville Road Landfill site covers 52 acres northwest of Jacksonville. The site began operations in the early 1940s on a limited basis; full-scale operations started in 1968, when the City of Jacksonville began using the site for a municipal dump. The site was dedicated to the disposal of hazardous and solid wastes in 1971. Wastes deposited at the landfill included waste oil, liquid acid waste from batteries, battery casings, and polychlorinated biphenyls (PCBs). All waste disposal ceased in 1977, and the site was backfilled, graded, and seeded. In 1981, the EPA detected contaminants in groundwater. Additional backfilling and regrading were completed in 1983 to curb on-site erosion and leachate draining into nearby Little Sixmile Creek. The site is located in a semi-rural area of mixed uses including residences, commercial establishments, and light industry. There are over 300 residences and two schools located within a 1-mile radius of the site.

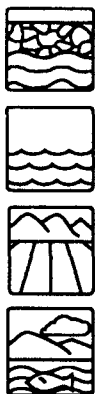
Site Responsibility: This site is being addressed through Federal and potentially responsible parties' actions.

NPL LISTING HISTORY

Proposed Date: 10/01/81

Final Date: 09/01/83

Threats and Contaminants



Groundwater is contaminated with heavy metals including arsenic and lead and volatile organic compounds (VOCs) including benzene and pyrene from former waste disposal activities. Private wells contain barium. Sediments from Little Sixmile Creek are contaminated with heavy metals, and the soil also is contaminated with heavy metals, as well as PCBs and VOCs. People who accidentally ingest contaminated water may be at risk. Well water is used for irrigating gardens, and contaminants may accumulate in fruits and vegetables. Fish from Little Sixmile Creek may contain bioaccumulated contaminants from the site leachate.

Cleanup Approach

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

Response Action Status



Initial Actions: As an initial measure to prevent potential exposure and spread of site contaminants, the site was backfilled, graded, and seeded in 1977 and again in 1983.



Entire Site: The remedy selected by the EPA includes implementing institutional controls that will regulate future development of the site and limit groundwater usage in the surficial aquifer in the area immediately north of the site; installing a protective cover over the landfill in accordance with State closure requirements; installing a security fence to restrict unauthorized site access; implementing a long-term monitoring program to continue the evaluation of groundwater water quality; extending the city water main to residents affected by the contaminated groundwater; and removing waste that has migrated from the site into Little Sixmile Creek.

Site Facts: In 1988, the EPA and the parties potentially responsible for contamination at the site signed an Administrative Order. Under this Order, the parties investigated the extent of contamination at the site.

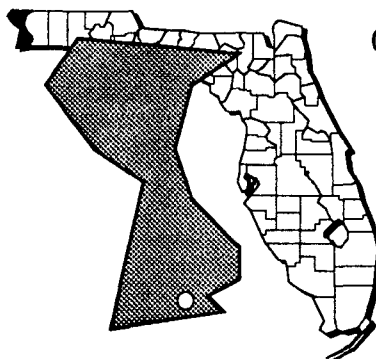
Environmental Progress



After adding the Pickettville Road Landfill site to the NPL, the EPA conducted an evaluation of site conditions and determined that the initial actions taken at the site have controlled the immediate threats to public health or the environment while the cleanup alternatives are being designed.

PIONEER SAND COMPANY FLORIDA

EPA ID# FLD056116965



EPA REGION 4
CONGRESSIONAL DIST. 01
Escambia County
5 miles west of Pensacola

Site Description

The 11-acre Pioneer Sand Company site is an inactive quarry that was licensed in 1974 to receive shredded auto parts, construction debris, and various industrial sludges. Between 1974 and 1978, phenols and resin compounds were deposited on the site by Newport Industries. Domestic and industrial wastes, including plating sludges, were received from the Pensacola Naval Air Station. Approximately 75% of the site is an excavation pit, while the remaining 25% is the fill area where the wastes were deposited. In 1981, the Florida Department of Environmental Regulation (FDER) did not renew the disposal permit and ordered the dumping to cease. The State and the EPA detected contaminants in the soil. A monitoring well installed by the company and one of the on-site disposal ponds also were found to be contaminated. A well field for the City of Pensacola, which has a population of approximately 67,000, is located within 3 miles of the site. Sampling of nearby private wells indicated no off-site groundwater contamination.

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

NPL LISTING HISTORY

Proposed Date: 10/01/81

Final Date: 09/01/83

Threats and Contaminants



A monitoring well and surface water in the sludge pond contain elevated levels of heavy metals including chromium and lead from the former waste disposal activities. Leachate is contaminated with various heavy metals, volatile organic compounds (VOCs), and pentachlorophenol (PCP). The soil is contaminated with polychlorinated biphenyls (PCBs) and heavy metals. Because the EPA took immediate action to remove the contaminated soil, and the parties potentially responsible for the contamination are currently monitoring the site, there is little threat to the area population.

Cleanup Approach

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

Response Action Status



Immediate Action: In 1986, the EPA excavated 20 tons of contaminated soil and transported it to a federally approved facility.



Entire Site: In 1986, the EPA selected a remedy to clean up the site, which includes: closing the landfill and sludge pond areas according to Federal and State procedures; collecting the leachate, treating it, and disposing of it on site; treating surface water and discharging it on site; and long-term maintenance activities. The parties potentially responsible for site contamination removed trash from the site and installed a security fence. During their investigation prior to the design of a method for cleaning up the site, the potentially responsible parties discovered a light non-aqueous phase liquid (LNAPL) in the landfilled area. They have completed treatment of the LNAPL. The cleanup activity began in 1991 and is more than half completed. To date, the leachate trench has been installed, treatment of water and LNAPL is completed, and groundwater monitoring wells have been installed. Upon installation of the geomembrane cap, the cleanup will be reviewed by the EPA to ensure its effectiveness.

Site Facts: The EPA and the potentially responsible parties entered into a Consent Decree in 1988. In this action, the parties agreed to clean up the site.

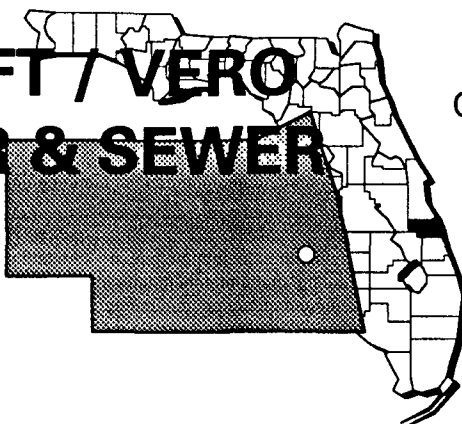
Environmental Progress



The removal of contaminated soils reduced the potential for exposure to hazardous materials at the Pioneer Sand site while cleanup activities are being completed. All direct contact threats from site contamination have been eliminated.

PIPER AIRCRAFT / VERO BEACH WATER & SEWER DEPARTMENT FLORIDA

EPA ID# FLD004054284



EPA REGION 4
CONGRESSIONAL DIST. 11
Indian River County
Vero Beach

Other Names:
Vero Beach Wellfield

Site Description

The Piper Aircraft/Vero Beach Water & Sewer Department site covers 90 acres in Vero Beach. The company began assembling and painting light aircraft in 1957 at the southern end of the Vero Beach Municipal Airport. Chemicals used in these operations are stored in underground storage tanks. During routine testing of the city water supply in 1978, the presence of contaminants was detected. An area search and tank testing revealed the source to be a leaky pipe-fitting on a Piper Aircraft storage tank. Well #15 of the City of Vero Beach well field subsequently was shut down due to contamination. Six months later, the City developed two other wells to replace the one that was closed. In 1981, the Florida Department of Environmental Regulation (FDER) took actions against the company, after which Piper repaired the faulty equipment and began pumping out contaminated groundwater. Approximately 10,000 people obtain drinking water from public wells located within a mile of 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: 06/10/86

Final Date: 02/21/90

Threats and Contaminants



Groundwater in the on-site shallow aquifer, surface water, and the water in the Main Canal on the site are contaminated with trichloroethylene (TCE) and other volatile organic compounds (VOCs) from the leaking underground storage tank. Although a number of people obtain drinking water from nearby municipal wells, the health concerns are minimal because the city wells were relocated and are being constantly monitored. Oysters and fish from the Main Canal are contaminated with low levels of TCE and present a health risk if they are eaten.

Cleanup Approach

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

Response Action Status



Initial Actions: Since 1981, when groundwater treatment began, an estimated 2,000 gallons of solvents have been removed by pumping the contaminated water from the site through closed conduits 1/2 mile to the Main Canal. The contaminated water is sprayed into the air to remove the contaminants and then discharged into the Main Canal.



Entire Site: Piper Aircraft is planning to study the type and extent of contamination at the site beginning in 1992. Once the study is completed, alternatives for cleaning up the site will be recommended. The EPA will then select cleanup technologies best suited to a final remedy for the site contamination.

Site Facts: In 1981, the State and Piper Aircraft entered into a Consent Agreement, requiring the company to perform repairs on equipment and to treat the contaminated groundwater.

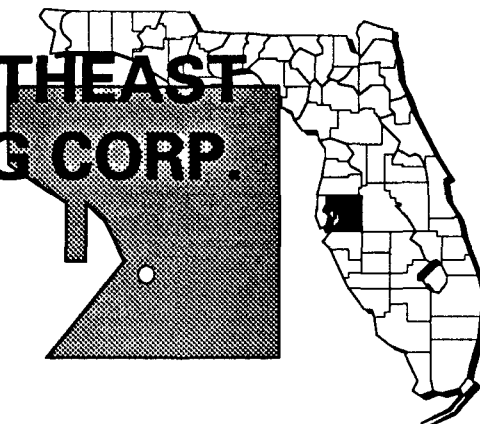
Environmental Progress



By moving municipal wells and by pumping and air-treating the contaminated groundwater from the Piper Aircraft/Vero Beach Water & Sewer Department site, the potential for exposure to hazardous substances has been significantly reduced. These actions have protected the public water supply while the investigations into a permanent cleanup remedy are taking place.

REEVES SOUTHEAST GALVANIZING CORP. FLORIDA

EPA ID# FLD000824896



EPA REGION 4
CONGRESSIONAL DIST. 07
Hillsborough County
Highway 574, east of Tampa

Site Description

The Reeves Southeast Galvanizing Corp. site encompasses two areas on 28 acres and includes the Reeves Southeastern Galvanizing Site (RSEG) covering 17 acres and the Reeves Southeastern Wire Site (RSEW) covering 11 acres. Beginning in the 1960s, spent caustic, rinse, and acid process wastes generated at RSEG and RSEW were neutralized and discharged to storage ponds. It is believed that plating wastes were discharged in the same manner. These practices have caused contamination of groundwater and surface water. When Hillsborough County issued a notice of violation to the company in 1974, the company responded by upgrading its existing wastewater treatment facility to an advanced system to neutralize the acid and to remove 90% of the heavy metals. One pond at RSEW has been backfilled; two have not, but they are not used. Two ponds exist at the RSEG area, but are not presently used. Residential neighborhoods, light manufacturing facilities, warehouses, and a refuse-to-energy plant are located in the area surrounding the site. County-owned water supply wells are located about a mile upgradient of the site. There are approximately 56,000 people residing within 3 miles of the site.

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

NPL LISTING HISTORY

Proposed Date: 10/23/81

Final Date: 09/08/83

Threats and Contaminants



Groundwater is contaminated with heavy metals such as zinc from former process wastes. The soil and surface water also are contaminated with heavy metals, primarily zinc. Sediments contain cyanide and heavy metals such as zinc and cadmium. Although sampling has shown that municipal wells are not contaminated, private wells have not been sampled. Since the groundwater is contaminated, it could affect the drinking water wells. In addition to drinking polluted water, people who come in direct contact with or accidentally ingest contaminated surface water or soils may be at risk.

Cleanup Approach

This site is being addressed in two long-term remedial phases focusing on cleanup of the soil and surface water and of the groundwater.

Response Action Status



Soil and Surface Water: Under EPA guidance, the parties potentially responsible for the site contamination are investigating the site. This investigation will determine the exact contaminants and the extent of damage to the soil and surface water. The second phase of field work is underway. Once the investigation is completed in 1992, various alternatives will be recommended to clean up the site. The EPA then will select the most appropriate remedies for site cleanup.



Groundwater: The parties potentially responsible for the site contamination are investigating the nature and extent of groundwater contamination at the site. Upon completion of this investigation, expected in 1991, the EPA will select a remedy for cleanup of the contaminated groundwater.

Site Facts: In 1989, the EPA and the parties potentially responsible for contamination at the site signed an Administrative Order on Consent. Under this Order, the parties will conduct a study of the site with EPA monitoring.

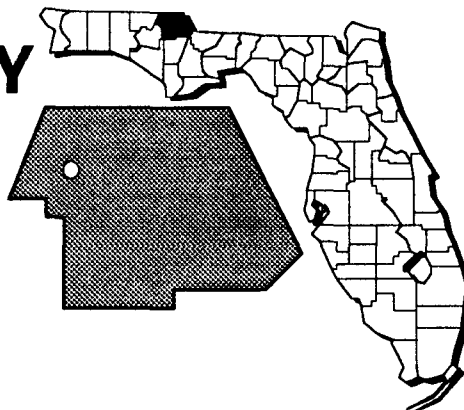
Environmental Progress



After adding this site to the NPL, the EPA performed preliminary investigations and determined that there was no need for immediate actions while investigations leading to a final remedy selection are taking place.

SAPP BATTERY SALVAGE FLORIDA

EPA ID# FLD980602882



EPA REGION 4
CONGRESSIONAL DIST. 02
Jackson County
Alford

Site Description

The 45-acre Sapp Battery site contains three swamps connected by small channels. In 1970, Sapp Battery Service, Inc. began an operation to recover lead from used batteries, dumping the acid outside the plant, recovering the lead, and disposing of the broken battery casings in an on-site man-made fishing pond. By 1977, the acid discharge began killing nearby cypress trees. Dead and discolored vegetation, as well as strong sulfurous odors, have been noted along the drainage route from the site. Sapp Battery undertook several steps to alleviate the problem; however, none of them were effective. The owner stopped operations and abandoned the site in 1980. The site currently is contaminating the Floridian Aquifer, which provides drinking water for most of the area residents who depend on private wells. There are approximately 3,000 people living within a 3-mile radius of the site.

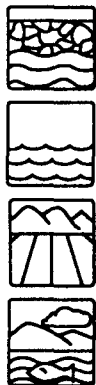
Site Responsibility: This site is being addressed through Federal and State actions.

NPL LISTING HISTORY

Proposed Date: 10/23/81

Final Date: 09/08/83

Threats and Contaminants



The groundwater and surface water are contaminated with lead from battery wastes. Soil contaminants include heavy metals such as lead, antimony, and cadmium. People may be exposed to heavy metals from drinking contaminated water or accidentally ingesting contaminated soil.

Cleanup Approach

This site is being addressed in three stages: emergency actions and two long-term remedial phases focusing on cleanup of the entire site and the Steele Bay/off-site wetlands.

Response Action Status



Emergency Actions: In 1980, the EPA undertook an emergency cleanup action, which resulted in a temporary restoration of pH levels similar to background levels downstream from the site. In 1984, the EPA constructed a berm to contain surface water and moved contaminated soil and sludges to a chemical management facility. In the same year, the Florida Department of Environmental Resources excavated and removed roughly 9,000 cubic yards of highly contaminated soil from the site.



Entire Site: In 1986, the EPA selected cleanup plans for the site that include: (1) excavating soils and sediments; (2) stabilizing excavated soils and sediments; (3) on-site disposal of the solidified materials into a cell built to sanitary landfill standards; (4) removal and treatment of groundwater in the aquifers under the site; (5) treatment and discharge of contaminated surface water from the on-site swamp and off-site Steele City Bay; and (6) a monitoring program for drinking water wells within a 1-mile radius. In 1988, the EPA began cleaning up the sources of site contamination. However, sampling indicated that more soil than had been expected was contaminated, and the effort was suspended until the design phase is completed. The engineering design of the approved cleanup activities for the source area is expected to be completed in 1991. The design of the groundwater cleanup remedy is planned to begin in 1991. Upon completion of the cleanup design for each portion of the site, cleanup activities will be started.



Steele City Bay/Off-site Wetlands: The cleanup remedy for the Steele City Bay and the off-site wetlands was selected by the EPA in 1986. More information was required to perform the design of the cleanup, so additional studies currently are underway. The planned completion date for this investigation is 1992.

Site Facts: The cleanup plan for sediment excavation from Steele City Bay is being re-evaluated, as excavation may reintroduce contaminants into surface waters. It may be more ecologically sound to leave the sediments in place. Special Notice letters have been sent to potentially responsible parties, requiring them to assist in the design and cleanup of the site.

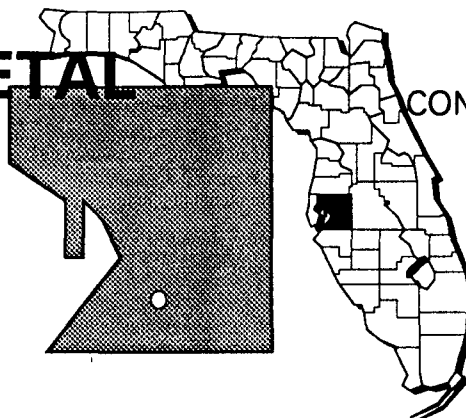
Environmental Progress



The containment and removal of contaminated materials have greatly reduced the potential for exposure to hazardous materials while further investigations are taking place and cleanup alternatives are being designed for the Sapp Battery Salvage site.

SCHUYLKILL METAL CORPORATION FLORIDA

EPA ID# FLD062794003



EPA REGION 4
CONGRESSIONAL DIST. 09
Hillsborough County
Plant City

Site Description

Schuykill Metals Corporation (SMC) recovered lead from storage batteries on this 17 1/2-acre site from 1972 through 1986. Before 1981, acid washdown from wastewater was stored in a 2-acre unlined wastewater holding pond. Initially, lime was used to adjust the pH of the wastewater in the holding pond, and later, ammonia was used for this purpose. The wastewater treatment system was upgraded in 1981, and all wastewater was treated with sodium hydroxide for pH adjustment and was discharged under permit to the publicly owned treatment works. Leachate containing heavy metals and sulfuric acid is migrating from the unlined impoundments into an adjacent drainage ditch that empties into Pemberton Creek. Heavy metals and ammonia contaminate the groundwater on site. High levels of lead were found in the drainage ditch on site. The site is bounded by agricultural land and a housing development. Approximately 20,000 residents live within 3 miles. A junior high school, an elementary school, and a hospital are located within a mile of the site.

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: 09/08/83

Threats and Contaminants



Groundwater contains contamination from heavy metals including lead and chromium, as well as sulfate. Very high levels of lead also were found in the subsoil, surface water, and sediments in a ditch on site that drains to Pemberton Creek and Marsh, an environmentally sensitive area. People could be exposed to heavy metals in the contaminated groundwater. Direct contact with or accidental ingestion of lead in the soil is unlikely because the area is fenced, but trespassers could be exposed.

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 State of Florida and SMC, the party potentially responsible for contamination at the site, have completed a study of the nature and extent of site contamination and have evaluated the various technologies available for cleanup. Further studies on the adjoining marshes have been conducted, as well as treatability studies for the soils. In 1990, the EPA decided on the best cleanup alternatives. They include excavation and solidification of contaminated soils and treatment of surface water and groundwater. Contaminated wetlands threaten the groundwater when they become dry, so one of the selected remedies is to keep the East Marsh flooded. Fencing of the marshes and the creation of additional wetlands to compensate for the continued exposure to contamination for some wildlife were two additional remedies chosen by the EPA. The design of the remedies is scheduled to be completed in 1991.

Site Facts: A Consent Order between SMC and the Florida Department of Environmental Regulation was signed in 1986 to study site contamination and the various methods to clean it up. In March 1991, the EPA and Arrow Electronics, Inc., the parent company of SMC, signed a Consent Decree to design and implement the selected cleanup actions.

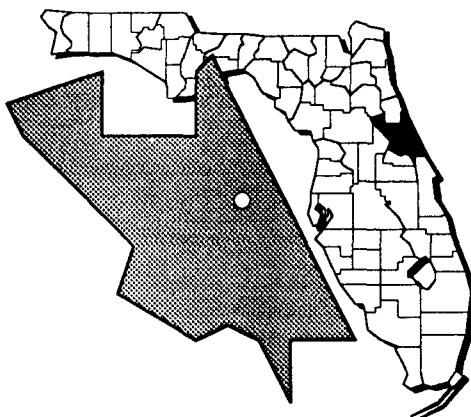
Environmental Progress



After adding this site to the NPL, the EPA constructed a fence and performed preliminary site investigations and determined that there were no immediate threats to public health or the environment at the Schuylkill Metal site while cleanup activities are being designed.

SHERWOOD MEDICAL INDUSTRIES FLORIDA

EPA ID# FLD043861392



EPA REGION 4
CONGRESSIONAL DIST. 04
Volusia County
3 miles north of Deland

Other Names:
Sherwood Medical Industries

Site Description

The 42-acre Sherwood Medical Industries site currently is occupied by several manufacturing buildings, a biological laboratory, sizeable parking areas, and additional structures, including a wastewater treatment facility built in 1983. Sherwood Medical Industries has used the property since 1959 for the manufacturing of medical supplies, primarily hypodermic needles. Industrial operations currently include grinding, cleaning, hub processing, and de-coring of stainless steel and aluminum parts used to manufacture hypodermic syringes. Sherwood also molds plastic syringes and conducts in-house laboratory work. The Sherwood facility pumps approximately 175,000 gallons of water per day from the underlying Floridian Aquifer. Water drawn for industrial needs is used for cleaning, manufacturing, and cooling/evaporation processes. Several manufacturing steps result in wastewater that must be treated. The industrial wastewater facility on the site is licensed by the Florida Department of Environmental Resources (FDER) to receive and treat wastewater from the plant and to discharge the resulting effluent. The treated effluent currently is disposed of by percolation and evaporation. In 1985, Sherwood Medical Industries installed an air stripper to treat production water used in the facility's operations. Between 1971 and 1980, the company disposed of about two tons of liquid and sludge waste into two unlined percolation ponds. During this time, solids were removed from the ponds and placed into on-site, unlined impoundments. In 1982, the Sherwood site was placed on the NPL at the request of the State of Florida because of the threat of contamination from wastes stored in the holding ponds and impoundments. Subsequent testing conducted by Sherwood Medical and the State revealed groundwater contamination in on-site wells. Fifteen residences are in the immediate area of the site. Lake Mill borders the site.

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

NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

Threats and Contaminants



The groundwater is contaminated with volatile organic compounds (VOCs) from former process wastes. The upper aquifer is contaminated, but is not currently used as a source of drinking water. Contaminated groundwater could move off site or migrate downward into the Floridian Aquifer.

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: In 1985, Sherwood Medical notified the EPA that they would perform a focused investigation at the site. During the investigation, Florida Health and Rehabilitation Services received health-related complaints concerning private wells from nearby residents. Chlorinated solvents were detected in samples from the on-site domestic water supply well, but no violations of drinking water standards were found in samples from nearby private wells. In 1987, the FDER asked Sherwood to sample the on-site water wells and a downgradient residential well to assess the extent of contamination and to evaluate the need for immediate cleanup activities to control and treat the contamination of the Floridian Aquifer. Currently, Sherwood Medical is testing all private wells immediately adjacent to the site, along Kepler Road, every 6 months. In 1991, the EPA selected a temporary remedy to prevent the migration of contaminated groundwater off site. The remedy includes the installation of a system of recovery wells in the surficial aquifer on site, installation of an on-site air stripper to treat recovered groundwater, and discharge of treated groundwater into the on-site lake. Subsequent cleanup actions for the surficial aquifer are planned to ensure that no migration of contaminants occurs. The potentially responsible parties are designing this cleanup action and are scheduled to begin implementing it in 1991.

Site Facts: The EPA and Sherwood Medical signed an Administrative Order on Consent for Sherwood to study contamination at the site.

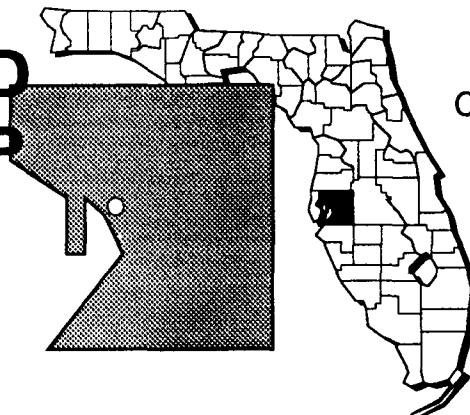
Environmental Progress



The monitoring activities being performed at the Sherwood Medical site ensure that nearby residents are not exposed to hazardous materials while cleanup activities are being designed and implemented.

SIXTY-SECOND STREET DUMP FLORIDA

EPA ID# FLD980728877



EPA REGION 4
CONGRESSIONAL DIST. 07
Hillsborough County
Tampa

Site Description

The Sixty-Second Street Dump is a 5-acre abandoned industrial waste dump in Tampa. The site originally was used to mine sand. The areas excavated for sand subsequently were used by several companies to dispose of various waste materials including shredded automobile parts, batteries, waste cement, kiln dust, and kiln liners. The site came to the attention of the Hillsborough County Environmental Protection Commission in 1976, when several fish kills occurred in the Peninsular Fisheries breeding ponds on the western side of the dump. The site has been closed since 1976, but unauthorized dumping of household garbage persisted for several years after the site closed. A fence around the property presently prevents dumping. The site is located in the East Lake/Orient Park neighborhood, which has a population of approximately 5,500 people. The residents in the vicinity of the site use wells drawing on the Floridian Aquifer for their water supply. An 80-acre marshland that drains into a nearby lake is located adjacent to the fish farm.

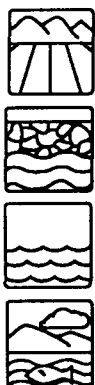
Site Responsibility: This site is being addressed through Federal, State, and potentially responsible parties' actions.

NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

Threats and Contaminants



The disposal of wastes at the site has resulted in the release of heavy metals including antimony, arsenic, cadmium, chromium, copper and lead, as well as polychlorinated biphenyls (PCBs), in the soil. The surficial aquifer both on site and off site also is contaminated with cadmium, chromium, and lead above health-based levels. During heavy rain, water tends to accumulate in portions of the site, and the runoff may spread contaminants in the soil and sediments to other areas. People may be at risk from coming into direct contact with or accidentally ingesting the contaminated groundwater or soil. Several fish kills have occurred, and a nearby marshland and fish farm are threatened.

Cleanup Approach

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

Response Action Status



Entire Site: The State of Florida has completed investigating the extent of contamination at the site. The remedy selected by the EPA in 1990 for the Sixty-Second Street Dump site involves solidifying and stabilizing shredded auto parts and battery wastes and capping the entire landfill. Groundwater in the shallow aquifer exceeding the drinking water standards for lead and chromium will be recovered and treated, with discharge to either a local wastewater treatment plant or to the Palm River. The design of the selected remedy is scheduled to begin in late 1991.

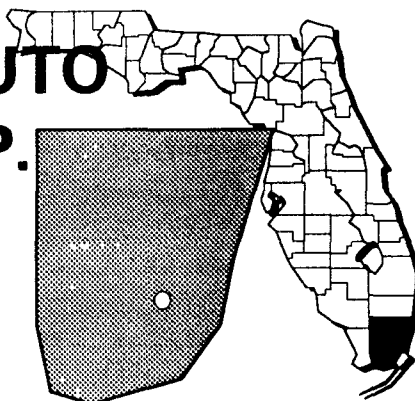
Environmental Progress



After adding the Sixty-Second Street Dump site to the NPL, the EPA determined that the site does not currently pose an immediate threat to the public or the environment while engineering designs for the selected remedy are being developed.

STANDARD AUTO BUMPER CORP. FLORIDA

EPA ID# FLD004126520



EPA REGION 4
CONGRESSIONAL DIST. 17
Dade County
Hialeah, north of
Miami International Airport

Site Description

The Standard Auto Bumper Corporation has electroplated automobile bumpers, furniture, and other metal objects with chrome on this 3/4-acre site since 1959. Before 1972, wastewater from the electroplating and stripping process was discharged into a ditch between the process building and railroad tracks. It was allowed to drain to the north, eventually percolating into the ground. In 1972, the company began treating the plating waste before discharging it into a septic tank/percolation pit and drain field system. Since 1979, treated wastewater has been discharged into the Hialeah sewer system. The metal-containing sludge from the treatment is transported to an EPA-approved hazardous waste facility. Currently, approximately 2,000 to 3,000 gallons per day of wastewater are sent to a concrete diked area, where it is treated to convert hexavalent chromium to the less toxic trivalent state before being discharged into the Hialeah sewer system. In 1985 and 1987, the EPA detected heavy metals in surface soil, subsurface soil, and groundwater on the site. The most extensive contamination was near the drainage pathway. The site is in the recharge zone of the Biscayne Aquifer, which is a sole source supply of drinking water for all of Dade County. High concentrations of contaminants also were found in the drain field system and percolation pits used prior to 1972. It is unclear exactly what was placed in the pits. Four municipal well fields that supply drinking water to approximately 750,000 people are within 3 miles of the site. One well is within 4,200 feet of the site. Wells in the contaminated area have been taken out of service.

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

NPL LISTING HISTORY

Proposed Date: 06/24/88

Final Date: 10/04/89

Threats and Contaminants



Heavy metals including lead, cadmium, copper, chromium, and nickel from former waste disposal practices contaminate the on-site groundwater, surface soil, and subsurface soil. Potential risks to public health exist from direct contact with on-site industrial well water. Risks also exist, especially for employees, from accidentally ingesting, inhaling, or coming in direct contact with the contaminated soil and dust. The site is partially fenced and guarded by dogs to reduce access to the site. Private drinking water wells located downgradient of the site also may pose a health concern. Potential threats to the environment include the migration of contaminants through groundwater flow, dust and vapor particles traveling in the air, runoff from rainfall, and biota that may accumulate contaminants from the soil, surface water, or groundwater.

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 1989, Standard Auto Bumper began excavating non-hazardous waste soils and transporting them to solid waste landfills. They also excavated the sludge pit and disposed of waste in a federally approved hazardous waste disposal facility.

Contaminated soil was taken either to an appropriate solid waste landfill or a hazardous waste facility. Remaining soils above cleanup levels will be investigated and addressed during site cleanup activities.



Entire Site: The EPA will use the Expanded Site Investigation done in 1987 and additional studies to determine the nature and extent of heavy metal contamination at the site and will study the feasibility of the alternative cleanup strategies. These studies are scheduled to be completed in 1992, with design of the EPA's selected remedy to begin that same year. The cleanup activities will focus on the groundwater contamination.

Site Facts: Standard Auto Bumper and the EPA signed an Administrative Order for the removal of contaminants in 1989, which enforces a plan for remedial action agreed upon between Dade County and Standard Auto. In 1990, an Administrative Order was signed requiring Standard Auto to conduct site studies.

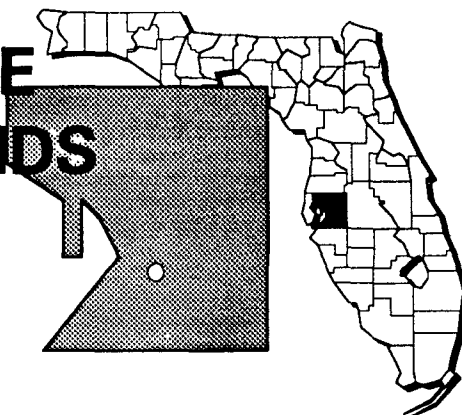
Environmental Progress



The removal of contaminated sludges and soils has reduced the potential for exposure to contamination at the Standard Auto Bumper Corp. site. This action has helped to protect the public health and the environment while studies are ongoing.

SYDNEY MINE SLUDGE PONDS FLORIDA

EPA ID# FLD000648055



EPA REGION 4
CONGRESSIONAL DIST. 07
Hillsborough County
Brandon

Other Names:
Hillsborough County Sydney Mine

Site Description

The Sydney Mine Sludge Ponds site is a 9 1/2-acre former disposal site that was strip-mined for phosphate rock from the 1930s through the 1950s. In late 1973, Hillsborough County leased a portion of the Sydney Mine site from American Cyanamid and constructed a sludge disposal pond. The pond received wastes from grease traps, septage waste, and waste oil. In 1979, the waste disposal site was expanded and modified. At that time, the operation consisted of two primary impoundments: a 1 1/2-acre septage pond and a 1/2-acre waste oil pond. About 16 million gallons of waste including sludge, grease trappings, cutting oil, and other types of waste oil were placed in the two ponds by haulers serving homes, schools, hospitals, and manufacturing and commercial facilities in the area. A third impoundment was located adjacent to the eastern dike of the septage pond and reportedly was used for disposal only on a few occasions. Waste disposal activities ended in 1981, and Waste Management, Inc. purchased the property that same year. EPA tests in 1979 found contaminants in the ponds and in groundwater under the site. Approximately 4,000 people within 3 miles of the site draw water from the underlying Floridian Aquifer.

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

NPL LISTING HISTORY

Proposed Date: 06/10/88

Final Date: 10/04/89

Threats and Contaminants



The groundwater is contaminated with volatile organic chemicals (VOCs). Site workers and trespassers could be exposed to contaminated water, as well as to chemicals that enter the air during the treatment process.

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: The County constructed an underground slurry wall around the ponds to prevent contaminants from escaping and groundwater from entering.

Contaminated groundwater within the wall is being extracted, treated, and sprayed on the surface. Surface cleaning consisted of excavation and incineration of more than 12,000 cubic yards of contaminated materials. By 1989, the groundwater system treated more than 41 million gallons of water. The sludge from the site has been burned, under controlled conditions, to break down the contaminants.



Entire Site: The EPA will be monitoring the effectiveness of the existing pump and treat system as well as undertaking modifications to the system, if necessary, and will ensure that the system operates until sampling indicates that concentration levels of contaminants have been reduced and remain at acceptable levels. The existing pump and treatment system is being re-evaluated because the contamination plume has migrated beyond its reach. New pumping wells may be needed.

Site Facts: Some of the parties potentially responsible for the contamination of the site were issued an order to operate the groundwater treatment system and evaluate the performance of the recovery and treatment system since they had not voluntarily agreed to do so. These parties have been operating the system since 1989, and operation of the groundwater treatment system is ongoing. Evaluation of the effectiveness of the existing system is to be completed in 1991.

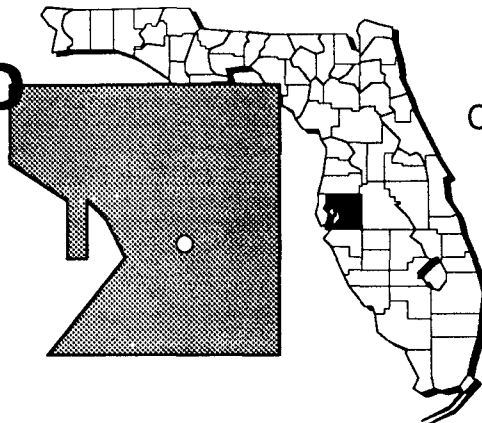
Environmental Progress



The construction of a slurry wall and the treatment of contaminated soils, sludges, and groundwater have reduced the potential for exposure to hazardous substances at the Sydney Mine Sludge Ponds site. These actions have helped to protect the public health and the environment while further investigations and groundwater treatment take place.

TAYLOR ROAD LANDFILL FLORIDA

EPA ID# FLD980494959



EPA REGION 4
CONGRESSIONAL DIST. 07
Hillsborough County
1/8 mile north of Seffner

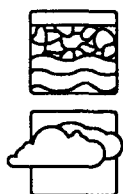
Site Description

The Taylor Road Landfill site consists of 40 acres. It is next to two other municipal landfills: the Department of Transportation (DOT) Borrow Pit Landfill and the Hillsborough Heights Landfill. These three landfills occupy a total of 200 acres. The Taylor Road Landfill operated from 1975 to 1980, and the DOT Borrow Pit Landfill and Hillsborough Heights Landfill both operated from 1980 to 1984. The three landfills were used for the disposal of municipal refuse, but unknown quantities of industrial wastes may have been dumped at the sites as well. The community around the site is mainly residential and agricultural. The closest residence is less than 1/8 mile from the site, and the estimated population of the Seffner area is 27,000. Two schools are located within 1/2 mile of the site. Approximately 580 wells are within 1 mile of the facility, and a community well system that serves 2,500 people is located 1 mile downgradient from the landfill. The community to the northeast of Seffner includes dairy farms, two of which are located between 1/4 and 1/2 mile downgradient from the landfills.

Site Responsibility: This site is being addressed through a combination of Federal and County actions.

NPL LISTING HISTORY
Proposed Date: 10/23/81
Final Date: 09/08/83

Threats and Contaminants



Private wells in the area are contaminated with volatile organic compounds (VOCs) including benzene and vinyl chloride and heavy metals including lead from the former waste disposal activities at the site. Consuming contaminated groundwater and dairy products could pose a health hazard to people. At one time, methane gas from the landfill was detected at concentrations above the lower explosive limit near residences adjacent to the site; the County installed a gas collection system in an attempt to correct this problem. The Floridian Aquifer is the main source of potable water in the area, and extensive sampling confirms that it is contaminated.

Cleanup Approach

The site is being addressed in two stages: immediate actions and a long-term remedial phase designed to clean up the entire site.

Response Action Status



Immediate Actions: In 1983, the Hillsborough County Utilities Department installed a cap, drainage ditches, and methane gas control systems around each of the landfills. The County also extended the water supply system to affected residences in the contaminated area south of the landfill. At this time, the landfills have been capped and closed, and access to the three landfills is restricted, because each is fenced and locked.



Entire Site: The EPA is planning to investigate the site to evaluate the full nature and extent of the contamination. This effort is scheduled to be started in 1992. Because the three large landfills are located adjacent to each other, it currently is impossible to determine which one is responsible for contaminating the groundwater.

Site Facts: The EPA and the County have signed a Consent Decree with the Hillsborough County Utilities Department. The Decree requires the County to install a public water supply to residences with contaminated well water. It also requires the County to carry out a 30-year groundwater monitoring program for the entire landfill.

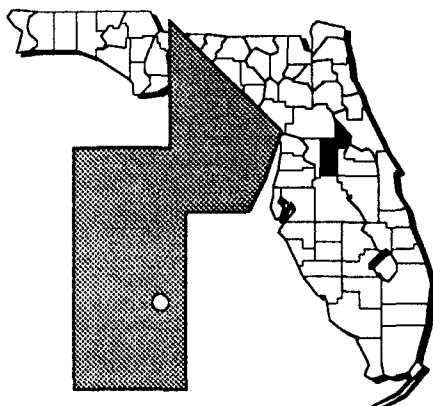
Environmental Progress



The County's actions to cap and control the methane gas accumulation at the Taylor Road Landfill have significantly reduced the threat of exposure to contaminants while the site is undergoing investigations into the source of the contamination and the best technologies for permanent cleanup.

TOWER CHEMICAL COMPANY FLORIDA

EPA ID# FLD004065546



EPA REGION 4
CONGRESSIONAL DIST. 06
Lake County
Clermont, 15 miles west of Orlando

Site Description

The 30-acre Tower Chemical Company (TCC) site is an abandoned chemical manufacturing facility. During its operation, TCC owned and used two separate parcels of land; a main facility and an irrigation field. From 1957 to 1981, TCC manufactured, produced, and stored various pesticides. TCC discharged acidic wastewaters produced in the main facility into a 1/2-acre, unlined percolation/evaporation pond where contaminants were solidified. TCC burned and buried the wastes on a 1 1/2-acre plot located at the main facility. In 1980, the wastewater pond at the main facility overflowed into an adjacent swamp and entered an unnamed stream north of the site. The acidic wastewater migrated into Gourd Neck of Lake Apopka, where vegetation and aquatic animals were affected. After two court orders, TCC stopped all discharges into the pond. High levels of DDT and associated chemicals were detected at the main facility, and low fish populations were noticed in the unnamed stream off site. The land of the former TCC plant was purchased by a group of real estate investors who later resold it in 1981 to local farmers and various small manufacturing firms. Approximately 1,000 people live near the site. The site is located in an area of mixed agricultural, residential, and industrial uses.

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

NPL LISTING HISTORY

Proposed Date: 10/23/81

Final Date: 09/08/83

Threats and Contaminants



Copper and pesticides, including DDT, have contaminated on-site surface and subsurface soils, the shallow groundwater, and surface waters. Pesticides also contaminate on- and off-site sediments. Volatile organic compounds (VOCs) including ethyl benzene are present in on-site soils. Potential health threats include accidentally ingesting and coming in direct contact with contaminated surface water, groundwater, and soil. The main concern is that contaminants in the shallow aquifer may move into the deeper Floridian Aquifer, which is the only source of drinking water to people in this area.

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 1983, 2,275 square feet of contaminated soil, 1,545 cubic yards of sediment, and 72 drums were excavated and disposed of off site. In addition, a million gallons of wastewater were pumped from the pond, treated, and then discharged to the unnamed stream. The EPA used clean fill to replace soil that was removed. The EPA built a system to divert surface water runoff and also fenced the area. These actions were conducted to prevent contaminants in the wastewater pond, on-site soil, and sediments from further migrating off site.



Entire Site: The EPA's remedies for cleanup of the site include: (1) removing and treating on site approximately 100,000,000 gallons of contaminated groundwater, storing it temporarily on site, followed by discharge to surface water; (2) excavating and burning approximately 9,000 cubic yards of contaminated surface soil from both the overflow area and portions of the burn/burial area of the site; (3) removing any drums that should have been excavated during the previous removal activities, if any are found; (4) decontaminating the two storage tanks and nearby concrete pads; and (5) diverting contaminated runoff. In 1987, the design for the water treatment system for the former percolation/evacuation pond was completed. To date, the following cleanup activities have been completed: installation of a private resident drinking water well to the deep aquifer, plugging and abandonment of several monitoring wells, and transport and disposal of 5,000 gallons of contaminated water, which had been stored in site in a pool formed during previous actions on the site.

Site Facts: In 1983, the EPA issued an order to Tower Chemical Company to clean up the site. The EPA began cleanup activities at the site because the company did not respond.

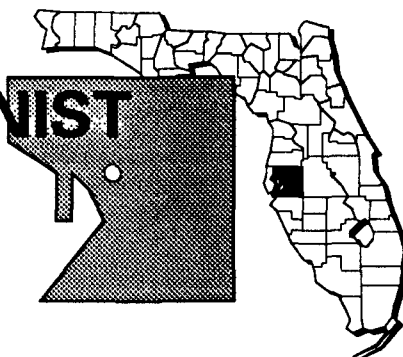
Environmental Progress



The removal of contaminated soil, treatment of contaminated groundwater, and installation of a drinking water well have reduced the potential for exposure to and the further spread of hazardous materials at the Tower Chemical Company site while further cleanup activities take place.

TRI-CITY OIL CONSERVATIONIST CORP. FLORIDA

EPA ID# FLD070864541



EPA REGION 4
CONGRESSIONAL DIST. 07
Hillsborough County
Temple Terrace, near Tampa

Site Description

The Tri-City Oil Conservationist Corporation property, occupying about 1/4 of an acre, housed a heating oil business from 1960 to 1975. From 1978 to 1983, the facility acted as a waste oil and distribution center. Three aboveground storage tanks and one known underground storage tank were on site. While it operated, people complained to the State about the odor and sloppy practices at the facility. In 1982, 3,000 gallons of oil were spilled. When the owner failed to clean up the site at the request of the Florida Department of Environmental Regulation (FDER), the EPA removed the bulk of the oil and later removed contaminated soil. Tri-City was dissolved involuntarily in 1983, and the owners are in bankruptcy. An estimated 35 people are served by 9 private wells and live within a block of the site. The site is about 3,000 feet from the Hillsborough River and within 3 miles of the public well field serving the community's 16,000 residents.

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

NPL LISTING HISTORY

Proposed Date: 09/01/83

Final Date: 09/01/84

Deleted Date: 01/19/88

Threats and Contaminants



Elevated levels of lead were found in initial sampling of the groundwater, but none were found in later samples. Soil excavated from the area was heavily contaminated with volatile organic compounds (VOCs) and heavy metals from former site activities.



Removal of contaminated soils and sludges in 1984, and again in 1986, has adequately protected human health.

Cleanup Approach

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

Response Action Status _____



Initial Actions: The EPA cleaned up the 3,000-gallon oil spill in 1984 and excavated 850 cubic yards of contaminated soil and sludges, which were disposed of off site. The excavated areas were brought back to their original grade using clean fill, and the EPA planted grass to prevent erosion. Tests of soil, groundwater, and sediment in 1986 showed that the source of contamination was removed.



Entire Site: After detailed site analyses, the EPA chose to perform no further action at the site, since current contaminant levels do not exceed State or Federal drinking water standards. The EPA deleted the site from the NPL in 1988.

Site Facts: The EPA issued an Administrative Order to the parties potentially responsible for contamination at the site in 1984, informing them that their activities represented an imminent and substantial danger to public health and the environment, and that they must promptly stop these activities.

Environmental Progress _____

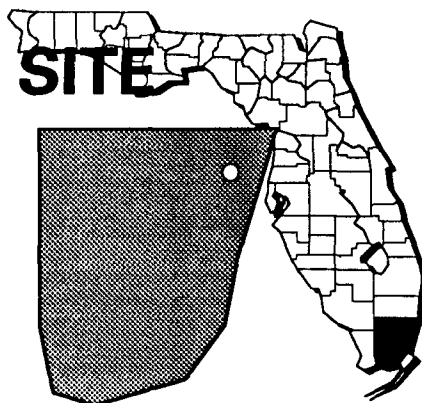


The removal of contaminated soil and sludge has restored the site to the environmental standards established by the State and the EPA. Therefore, no further cleanup actions were necessary at the site. The completed actions have protected the public health and the environment. The Tri-City Oil Conservationist Corp. site has been deleted from the NPL.

VARSOL SPILL SITE

FLORIDA

EPA ID# FLD980602346



EPA REGION 4
CONGRESSIONAL DIST. 18
Dade County
Miami International Airport

Other Names:
Biscayne Aquifer Site

Site Description

The Varsol Spill Site is located under a portion of the Miami International Airport. This site and two others, the Miami Drum Services site and the Northwest 58th Street Landfill, are being collectively considered as one management unit for the cleanup investigation and selection of cleanup activities. They are related, in that they all lie on the Biscayne Aquifer, which is the sole source of drinking water for the residents of southeastern Florida. Since 1966, there have been approximately 15 spills and leaks at the site totaling 2 million gallons. This included an underground pipeline leak resulting in the discharge of about 1,600,000 gallons of a petroleum solvent at the Miami International Airport. An investigative study determined in 1985 that there was no trace of the solvent at or around the airport. Several factors probably contributed to the dissipation of the contaminants in the aquifer: some of the solvent was recovered; biodegradation is believed to have taken place; and the hydrology of the area indicates that some of the solvent contributed to, and became part of, the "background" contamination in the aquifer. The area surrounding the site is highly populated, with 10,000 people living within 3 miles. The Miami Springs Well Field, which provides drinking water for a significant portion of Dade County, is located 2,000 feet from the walls of the airport.

Site Responsibility: This site was addressed through Federal actions.

NPL LISTING HISTORY

Proposed Date: 10/01/81

Final Date: 09/01/83

Deleted Date: 09/01/88

Threats and Contaminants



The surface water and groundwater were contaminated with polycyclic aromatic hydrocarbons (PAHs). The Varsol site is not a public health concern, as the contaminants from the spill can no longer be identified in the groundwater.

Cleanup Approach _____

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

Response Action Status _____



Entire Site: After detailed site analyses, the EPA signed a decision in 1985, mandating that no action needed to take place at this site because the Varsol site, itself, was not a public or environmental threat. The site was deleted from the NPL in 1988.

Site Facts: Dade County brought enforcement action against Eastern Airlines, the owner of the solvents that spilled. A Consent Agreement was signed to assess and clean up, if necessary, several maintenance areas and tank farms.

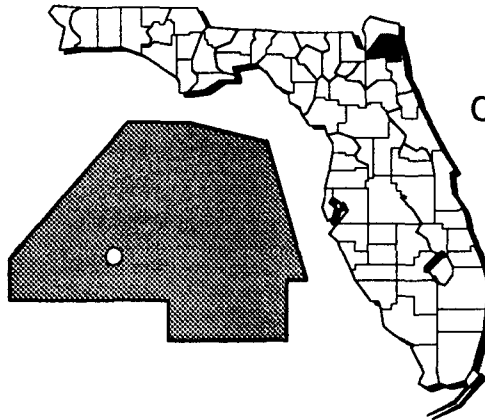
Environmental Progress _____



No actions were needed at the Varsol Spill Site, as contaminants that were spilled at the site were no longer detected in the area. Therefore, the possibility of exposure to hazardous substances at the site is no longer a concern. The EPA performed final investigations and deleted the site from the NPL in 1988.

WHITEHOUSE OIL PITS FLORIDA

EPA ID# FLD980602767



EPA REGION 4
CONGRESSIONAL DIST. 03
Duval County
10 miles south of Jacksonville

Site Description

The Whitehouse Oil Pits site occupies approximately 7 acres of an upland area immediately adjacent to a cypress swamp. The site itself consists of seven unlined pits, constructed by Allied Petroleum, where waste oil sludge, acid, and contaminated waste oil from an oil reclaiming process were disposed. The first pits were constructed in 1958, and, by 1986, the company had constructed and filled the pits with approximately 127,000 cubic yards of waste. Allied Petroleum then went bankrupt. After assuming ownership of the property by tax default, the City of Jacksonville installed and operated a treatment and dewatering system at the oil pits. In 1976, the dike around one of the pits ruptured, spilling 200,000 gallons of wastes into wetlands along McGirts Creek. The pit was backfilled after the incident. A second pit released its contents in 1976. Contamination has been detected in all of the zones of the surficial aquifer. The site is located near the Whitehouse community, which has a population of approximately 6,000 people. Most of the residents use private wells for their drinking water source.

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

NPL LISTING HISTORY
Proposed Date: 10/23/81
Final Date: 09/08/83

Threats and Contaminants



The groundwater is contaminated with various heavy metals and volatile organic compounds (VOCs), including benzene, from the wastes disposed of at the site. The soil is contaminated with lead, and arsenic has been found in the leachate. Accidental releases of wastes have contaminated the nearby wetlands areas. Residents in the area could be exposed to contaminated groundwater; however, at present, little contamination has been detected.

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: The EPA conducted several initial cleanup actions in 1986 to stabilize site conditions and to prevent the spread of contamination. A water treatment system was developed and activated to drain the contaminated liquids from the pits. After the pits were drained, they were filled with construction debris, scrap lumber, trees, wood chips, and other non-degradable wastes to stabilize the pits. A 3-inch layer of automobile shredder waste was placed over the fill, and a mixture of dirt and oil was placed over the shredder waste as a sealer. It was then covered with 12 inches of sand and planted with local grasses. Ditches were constructed to control runoff. Final monitoring of the test wells and drainage effluents showed remaining low levels of chlorinated organics, heavy metals, and acids.



Entire Site: In 1985, the EPA selected a cleanup remedy that includes construction of a slurry wall around the entire site to prevent migration of contaminants; recovery, treatment, and removal of contaminated groundwater; removal of the contaminated sediments from the northeastern tributary of McGirts Creek; and capping the entire site. A treatability study to determine the effectiveness of selected alternative remedies for site cleanup has been initiated. Preliminary results have indicated that some preferable cleanup alternatives may exist, including bioremediation and solidification/stabilization. A final remedy will be chosen once these studies are completed.

Environmental Progress _____

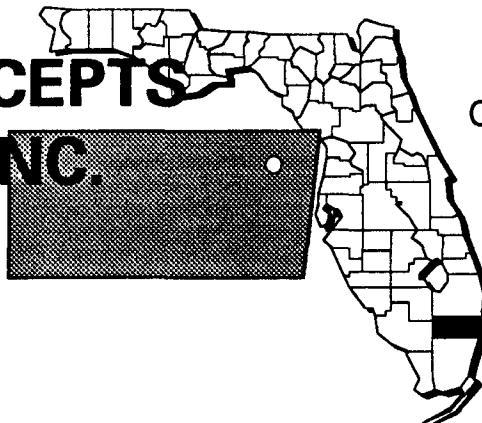


The treatment and stabilization of wastes have greatly reduced the potential for exposure to hazardous substances at the Whitehouse Oil Pits site while further investigations and cleanup activities are being completed.

WILSON CONCEPTS OF FLORIDA, INC.

FLORIDA

EPA ID# FLD041184383



EPA REGION 4
CONGRESSIONAL DIST. 14
Broward County
Pompano Beach

Site Description

Wilson Concepts of Florida, Inc. is a 2-acre site located in an industrial area of Pompano Beach. This site is an active plant that has been manufacturing precision-machine parts since 1974. The facility was leased from 1967 until 1974 by Southeast Tool and Die, Inc. (STD). In 1974, STD was purchased by Wilson Concepts, Inc. The types of activities performed here include machining, drilling, and milling of metal parts, along with vibrating, deburring, degreasing, steam cleaning, and spray-coating of parts. On several occasions, Wilson has been cited for violations of County regulations pertaining to the discharge of industrial wastes onto the ground and the overflow of wastes from two 1,200-gallon underground tanks into a storm drain, which eventually also dripped onto the ground. In 1986, the EPA discovered contamination on the ground, in groundwater samples from monitoring wells, and in a water sample from the storm drain. An investigation in 1987 found that Wilson was in violation of operating a hazardous materials facility without a license. The Wilson Concepts site is located adjacent to Chemform, Inc., another NPL site. Approximately 93,000 people depend on drinking water from at least 4 municipal wells field located within 3 miles of the site.

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

NPL LISTING HISTORY

Proposed Date: 06/24/88

Final Date: 03/31/89

Threats and Contaminants



On-site groundwater and surface water located in the storm drain are contaminated with heavy metals and volatile organic compounds (VOCs) from the site spills and overflows. On-site soils located near the storm drain are contaminated with heavy metals and VOCs.



The Biscayne Aquifer, a water-bearing rock foundation, underlies the site. It is a sole source of drinking water for all the residents in Broward County. Numerous cavities in the quartz sand that overlies the limestone of this rock foundation facilitate the movement of contaminants into the groundwater, as well as the movement of contaminated groundwater into drinking supplies. Should the Biscayne Aquifer become contaminated, area residents using this resource would be at risk. In addition, direct contact with or accidental ingestion of contaminated surface water or soil may present health risks.



Cleanup Approach

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

Response Action Status



Soil and Groundwater: The potentially responsible parties for site contamination will conduct investigations into the type and extent of contaminated soils and groundwater at the site and will identify alternative cleanup actions. The work plan for the study currently is under review by the EPA, and the field work for the study began in 1990.

Site Facts: The EPA sent Notice Letters to the potentially responsible parties in 1989, requesting that these parties accept responsibility for conducting an investigation of site contamination and cleanup methods. Later that year, the EPA and two parties signed an Administrative Order on Consent to conduct the investigative study. One of the parties, CenTrust Bank, has been taken over by Federal regulators and now is administered by the Resolution Trust Corporation. So far, this takeover has slowed the process for cleaning the site, and the regulators have indicated that they will not comply with the Administrative Order. Therefore, the EPA may need to take over responsibility for cleaning the site. It is anticipated that the studies for the two adjacent sites, Wilson and Chem-Form, will take place concurrently.

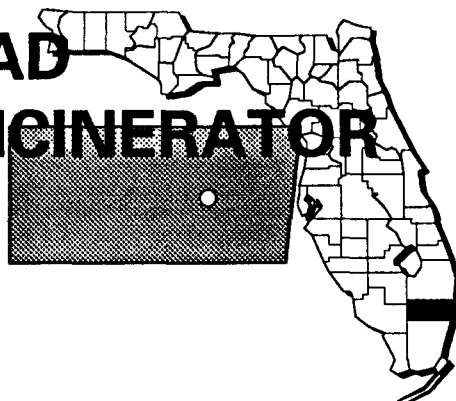
Environmental Progress



After adding this site to the NPL, the EPA performed preliminary investigations and determined that there are no immediate threats to the surrounding community while investigations and cleanup activities are taking place at the Wilson Concepts of Florida, Inc. site.

WINGATE ROAD MUNICIPAL INCINERATOR DUMP FLORIDA

EPA ID# FLD981021470



EPA REGION 4
CONGRESSIONAL DIST. 15
Broward County
Fort Lauderdale

Site Description

The Wingate Road Municipal Incinerator Dump covers 61 acres in Fort Lauderdale. The site includes an incinerator, offices, and a 40-acre disposal area, all owned and operated by the City of Fort Lauderdale. The incinerator and disposal areas were used from 1955 to 1978. Residential wastes, commercial wastes, and incinerator residue were disposed of at the dump. The facility received 480 tons of waste a day and operated 7 days a week. Cooling water was pumped into the incinerator from on-site wells and then was discharged into an unlined lagoon in the southeastern corner of the facility. Ash residues mixed with sludge material from the lagoon were spread onto the ground in the disposal area. According to a resident of the area, hazardous waste may have been dumped on the site. In 1981, a resident reported to the Broward County Health Department that 100 steel drums had been buried from 1955 to 1958 under a dirt road. The EPA conducted tests in 1985 in the area and found pesticides in the surface and subsurface soil in the dump area. Approximately 44,000 people reside within a mile of the site, and an estimated 353,000 people draw drinking water from 4 municipal well fields within 3 miles of the site. Land use in the area is a combination of residential, commercial, and industrial.

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

NPL LISTING HISTORY

Proposed Date: 06/24/88

Final Date: 10/04/89

Threats and Contaminants



The soil and subsurface soil are contaminated with pesticides including DDT, aldrin, and chlordane from former waste disposal practices at the site. Direct contact with or accidental ingestion of the contaminated soil from the area of the hazardous substances pose a potential health threat. The site is only partially fenced, making it possible for people and animals to come into direct contact with hazardous substances. Elevated pesticide concentrations also were reported in sediments from Rock Pit Lake, which is used for recreational activities. The lake intersects the Biscayne Aquifer, presenting a threat of contaminants entering the drinking water supply.

Cleanup Approach

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

Response Action Status



Entire Site: In preparation for initiating site cleanup activities, the EPA currently is conducting a search for potentially responsible parties that have contributed to site contamination. The EPA expects to begin a comprehensive investigation in 1991 of site activities and will study various cleanup strategies. Once the study is completed, a final remedy selection will be made.

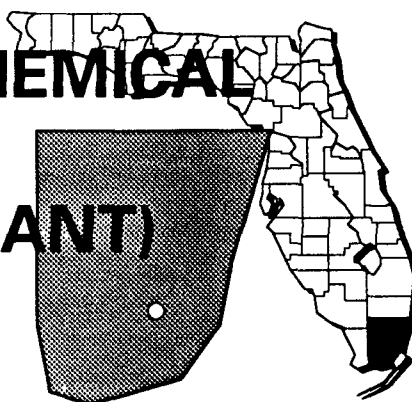
Environmental Progress



After placing the Wingate Road Municipal Incinerator Dump site on the NPL, the EPA determined that the site does not pose an immediate threat to public health or the environment while the site is undergoing intensive investigations into permanent cleanup strategies.

WOODBURY CHEMICAL COMPANY (PRINCETON PLANT) FLORIDA

EPA ID# FLD004146346



EPA REGION 4
CONGRESSIONAL DIST. 19
Dade County
1/2 mile southwest of Princeton

Site Description

Since 1975, the 3-acre Woodbury Chemical Company has blended technical-grade materials in 50-gallon vats to produce pesticides and fertilizers. The site consists of six buildings including an office, warehouses, and production buildings, as well as several aboveground storage tanks, the majority of which are diked. Most of the facility grounds are paved, and the entire site is fenced. In 1985, the EPA identified various pesticides in four surface soil samples from the site. An estimated 17,600 people live within 3 miles of the site. These residents depend on the Biscayne Aquifer underlying the site for their drinking water. The EPA has designated the aquifer as the sole source of drinking water for Dade County. Three well fields and several private wells are within 3 miles of the site, and one private well is 570 feet from the site. A canal that flows into Biscayne Bay is approximately 2,350 feet to the northeast of the site.

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

NPL LISTING HISTORY

Proposed Date: 06/24/88

Final Date: 08/30/90

Threats and Contaminants



The soil is contaminated with pesticides including aldrin, dieldrin, and chlordane from former site operations. Direct contact with the contaminated soil may be a health threat. Due to the proximity of the Biscayne Aquifer, there is the potential for off-site groundwater contamination. According to the Florida Marine Patrol, manatees, which are designated as an endangered species by the U.S. Fish and Wildlife Service, are frequently seen near the site.



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: Contaminated soil was removed from the site by the parties potentially responsible for site contamination in 1990. The soil was taken to an off-site facility for proper disposal.



Entire Site: The EPA currently is investigating the site to determine the nature and extent of contamination. Field work was completed early in 1991. The investigation is planned for completion in 1992, at which time the best cleanup alternatives will be determined.

Site Facts: Notice Letters were sent in 1990 to the parties potentially responsible for the contamination of the site. The EPA has decided to complete site investigations on its own after receiving an unacceptable offer to investigate site contamination from the potentially responsible parties.

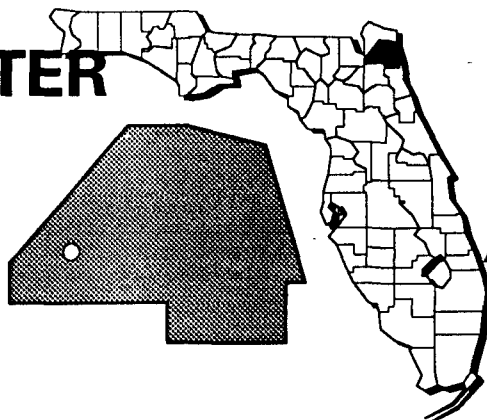
Environmental Progress _____



The removal of contaminated soil has reduced the potential for exposure to hazardous materials at the Woodbury Chemical Company site and has reduced the potential for spread of contaminants. These actions have helped to protect the public and the environment while investigations are taking place.

YELLOW WATER ROAD DUMP FLORIDA

EPA ID# FLD980844179



EPA REGION 4
CONGRESSIONAL DIST. 03

Duval County
1 mile south of Baldwin

Other Names:
American Environmental Energy Co.

Site Description

Prior to commercial development, the 14-acre Yellow Water Road Dump site was part of a dairy farm. The site was purchased in the late 1940s; however, it was not until 1981, with the formation of American Environmental Energy Corporation (AEEC), that the site was developed for commercial uses. The AEEC was formed on the premise that insulation fluids contaminated with polychlorinated biphenyls (PCBs) could be removed from transformers, and the transformers could then be salvaged. AEEC planned, through a joint venture with American Electric Corporation (AEC), to dispose of the PCB-contaminated fluids in an on-site incinerator. From 1981 to 1984, transformers, tanks, and drums filled with PCBs, waste oils, and solvents were transported to the site for disposal. Incineration of PCBs never occurred, as neither AEEC nor AEC were issued permits to conduct on-site incineration. The operation ended when the property was rezoned. By that time, approximately 63,000 gallons of oil and transformer fluid containing PCBs had leaked from containers, drums, and tanks, according to the EPA. Two residences with private wells are located on the Yellow Water Road site property. A trailer park with 100 residents using private wells is located approximately 1/4 mile to the east of the site.

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

NPL LISTING HISTORY

Proposed Date: 09/18/85

Final Date: 06/10/86

Threats and Contaminants



PCBs, iron, and lead from former site operations have been found in the groundwater both on and off site. PCBs, hexachlorobenzene, and arochlor were detected in the soil samples taken from the site. Accidental ingestion of contaminated groundwater and direct contact with contaminated soil and groundwater may pose health threats.

Cleanup Approach

The site is being addressed in three stages: immediate actions and two long-term remedial phases focusing on cleanup of soil and groundwater.

Response Action Status



Immediate Actions: In 1984, the EPA removed drums from the site, empty drums were crushed, and full drums were staged for sampling. Six tanks and a nearby pond were sampled. Transformers were sampled, opened, decontaminated, and removed from the site; the contaminated soil from the area was excavated. In 1985, a water treatment system was set up for the water used in the cleanup and for the water in the pond. After the cleanup was completed, the site was closed and public access was denied. In 1988, an on-site warehouse was demolished and disposed of, contaminated soil was stockpiled off site, approximately 79,000 gallons of PCB-contaminated liquids were incinerated and 700 transformers and 18,700 pounds of capacitors were disposed of off site.



Soil: In 1990, the EPA selected a remedy for cleanup of the soil, which includes the excavation of PCB-contaminated soil and sediments, treatment by stabilization/solidification, and the placement of these soils in the former operations area. Excavated areas will be backfilled and revegetated. In addition, the site will be fenced to restrict access, and groundwater monitoring will continue, and a treatability study will be performed to verify the effectiveness of the stabilization and solidification process. Design of the selected cleanup alternatives began in 1991.



Groundwater: In early 1991, the EPA began additional investigations into the nature and extent of groundwater contamination at the site. These studies will help determine the full extent of migration of PCB contamination in the upper water table and will determine if the lower water table has been affected by the contamination.

Site Facts: In 1985, the EPA secured a court order that prevented the owner of the site from removing transformers from the site without the EPA's approval. The potentially responsible parties are developing the designs of the selected soil cleanup under a Unilateral Administrative Order issued in March 1991.

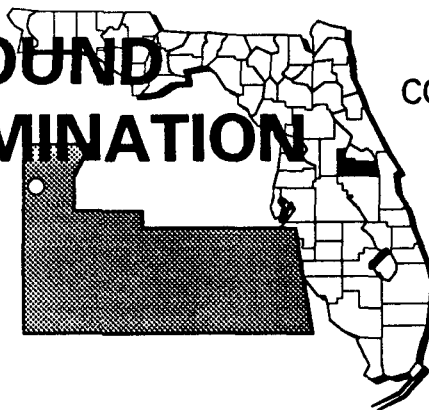
Environmental Progress



The immediate actions taken to remove contaminated drums and to decommission transformers on the site have significantly reduced the potential for exposure to hazardous materials at the Yellow Water Road Dump site while the investigation into a permanent cleanup solution is taking place.

ZELLWOOD GROUND WATER CONTAMINATION FLORIDA

EPA ID# FLD049985302



EPA REGION 4
CONGRESSIONAL DIST. 05

Orange County
1/2 mile west of the
Town of Zellwood

Other Names:
Drum Service
Company of Florida

Site Description

The Zellwood Ground Water Contamination site covers 57 acres near Zellwood and is occupied by four industries. Between 1963 and 1971, Drum Service Company of Florida, a drum recycling facility, operated a wastewater disposal system without a regulatory permit, treating and disposing of wastewater in two unlined on-site ponds. In 1980, the company eliminated the use of these ponds and drained and removed contaminated sediments from them. Douglas Fertilizer and Chemical Company and Southern Liquid Fertilizer discharged wastewater from their production process into three unlined lagoons. Additionally, from 1960 to 1983, the Zellwin Farms Company facility, a vegetable washing and packing plant, discharged wastewater from the vegetable washing process into a ditch. Approximately 300 homes are located within a 1-mile radius of the site and depend on private wells as their sole source of drinking water. The Town of Zellwood is 1/2 mile away, and about 5,000 of its residents use groundwater for drinking water. A portion of the site is a marshy wetland.

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

NPL LISTING HISTORY

Proposed Date: 10/23/81

Final Date: 09/08/83

Threats and Contaminants



The groundwater, sediments, soil, and sludges are contaminated with organics including polycyclic aromatic hydrocarbons (PAHs), pesticides, and heavy metals including arsenic, cadmium, chromium, and lead from former waste disposal practices at the site. People who use contaminated groundwater as their source of drinking water may be at risk. Those who come in direct contact with or accidentally ingest contaminated soil, sludges, or sediments may be harmed. If contaminants have leached from the lagoon areas into the on-site wetland, wildlife may be adversely affected.

Cleanup Approach

This site is being addressed in three stages: immediate actions and two long-term remedial phases focusing on soil and groundwater cleanup.

Response Action Status



Immediate Actions: During an EPA inspection in 1982, an abandoned drum area was discovered. Under EPA supervision, the party potentially responsible for the drums, NAPA Properties, paid for their removal.



Soil: In 1987, the EPA had selected two remedies to clean up soil. In 1990, the EPA amended the earlier remedy to include excavation of contaminated soil, followed by solidification and fixation on site. If necessary, pond sediments will be similarly treated. The EPA is preparing the technical design for cleaning up the soil. Once the design phase is finished in 1991, soil cleanup activities will begin.



Groundwater: The EPA is planning to begin an investigation into the nature and extent of groundwater contamination in 1992. This investigation is expected to be completed in 1993, at which time the EPA will evaluate the alternatives for cleanup.

Environmental Progress



The removal of drums has eliminated immediate threats to the public at the Zellwood Ground Water Contamination site while further investigations and the design of cleanup activities continue.

**Glossary:
Terms Used
in the
Fact Sheets**

Terms Used in the NPL Book

This glossary defines terms used throughout the NPL Volumes. The terms and abbreviations contained in this glossary apply specifically to work performed under the Superfund program in the context of hazardous waste management. 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 possibly may 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 the EPA and the parties potentially responsible for site contamination. Under the terms of the Order, the potentially responsible parties (PRPs) agree to perform or pay for site studies or cleanups. It also describes the oversight rules, responsibilities, and enforcement options that the government may exercise in the event of non-compliance by potentially responsible parties. This Order is signed by PRPs and the government; it does not require approval by a judge.

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

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

Agency for Toxic Substances and Disease Registry (ATSDR): The Federal agency within the U.S. Public Health Service charged with carrying out the health-related responsibilities of CERCLA.

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

Ambient Air: Any unconfined part of the atmosphere. Refers to the air that may be inhaled by workers or residents in the vicinity of contaminated air sources.

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. A sole source aquifer supplies 50% or more of the drinking water of an area.

Artesian (Well): A well made by drilling into the earth until water is reached, which, from internal pressure, flows up like a fountain.

GLOSSARY

Attenuation: The naturally occurring process by which a compound is reduced in concentration over time through adsorption, degradation, dilution, and/or transformation.

Background Level: The amount of a substance typically found in the air, water, or soil from natural, as opposed to human, sources.

Baghouse Dust: Dust accumulated in removing particulates from the air by passing it through cloth bags in an enclosure.

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

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.

Biological Treatment: The use of bacteria or other microbial organisms to break down toxic organic materials into carbon dioxide and water.

Bioremediation: A cleanup process using naturally occurring or specially cultivated microorganisms to digest contaminants and break them down into non-hazardous components.

Bog: A type of wetland that is covered with peat moss deposits. Bogs depend primarily on moisture from the air for their water source, are usually acidic, and are rich in plant residue [see Wetland].

Boom: A floating device used to contain oil floating on a body of water or to restrict the potential overflow of waste liquids from containment structures.

Borehole: A hole that is drilled into the ground and used to sample soil or groundwater.

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

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

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

Carbon Disulfide: A degreasing agent formerly used extensively for parts washing. This compound has both inorganic and organic properties, which increase cleaning efficiency. However, these properties also cause chemical reactions that increase the hazard to human health and the environment.

Carbon Treatment: [see Carbon Adsorption].

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

CERCLA: [see Comprehensive Environmental Response, Compensation, and Liability Act].

Characterization: The sampling, monitoring, and analysis of a site to determine the

GLOSSARY

extent and nature of toxic releases. Characterization provides the basis for acquiring the necessary technical information to develop, screen, analyze, and select appropriate cleanup techniques.

Chemical Fixation: The use of chemicals to bind contaminants, thereby reducing the potential for leaching or other movement.

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

Cleanup: Actions taken to eliminate a release or threat of release of a hazardous substance. The term "cleanup" sometimes is used interchangeably with the terms remedial action, removal action, response action, or corrective action.

Closure: The process by which a landfill stops accepting wastes and is shut down, under Federal guidelines that ensure the protection of the public and the environment.

Comment Period: A specific interval during which the public can review and comment on various documents and EPA actions related to site cleanup. For example, a comment period is provided when the EPA proposes to add sites to the NPL. There is minimum 3-week comment period for community members to review and comment on the remedy proposed to clean up a site.

Community Relations: The EPA effort to establish and maintain two-way communication with the public. Goals of community relations programs include creating an understanding of EPA programs and related actions, assuring public input into decision-making processes related to affected commu-

nities, and making certain that the Agency is aware of, and responsive to, public concerns. Specific community relations activities are required in relation to Superfund cleanup actions [see Comment Period].

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): Congress enacted the CERCLA, known as Superfund, in 1980 to respond directly to hazardous waste problems that may pose a threat to the public health and the environment. The EPA administers the Superfund program.

Confluence: The place where two bodies of water, such as streams or rivers, come together.

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

Consent Order: [see Administrative Order on Consent].

Containment: The process of enclosing or containing hazardous substances in a structure, typically in a pond or a lagoon, to prevent the migration of contaminants into the environment.

GLOSSARY

Contaminant: Any physical, chemical, biological, or radiological material or substance whose quantity, location, or nature produces undesirable health or environmental effects.

Contingency Plan: A document setting out an organized, planned, and coordinated course of action to be followed in case of a fire, explosion, or other accident that releases toxic chemicals, hazardous wastes, or radioactive materials into the environment.

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

Cost Recovery: A legal process by which potentially responsible parties can be required to pay back the Superfund program for money it spends on any cleanup actions [see Potentially Responsible Parties].

Cover: Vegetation or other material placed over a landfill or other waste material. It can be designed to reduce movement of water into the waste and to prevent erosion that could cause the movement of contaminants.

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

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

Decommission: To revoke a license to operate and take out of service.

Degradation: The process by which a chemical is reduced to a less complex form.

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

De minimis: This legal phrase pertains to settlements with parties who contributed small amounts of hazardous waste to a site. This process allows the EPA to settle with small, or *de minimis* contributors, as a single group rather than as individuals, saving time, money, and effort.

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

Dike: A low wall that can act as a barrier to prevent a spill from spreading.

Disposal: Final placement or destruction of toxic, radioactive, or other wastes; surplus or banned pesticides or other chemicals; polluted soils; and drums containing hazardous materials. Disposal may be accomplished through the use of approved secure landfills, surface impoundments, land farming, deep well injection, or incineration.

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

Effluent: Wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall. Generally refers to wastes discharged into surface waters.

Emission: Pollution discharged into the atmosphere from smokestacks, other vents, and surface areas of commercial or industrial facilities.

Emulsifiers: Substances that help in mixing materials that do not normally mix; e.g., oil and water.

GLOSSARY

Endangerment Assessment: A study conducted to determine the risks posed to public health or the environment by contamination at NPL sites. The EPA or the State conducts the study when a legal action is to be taken to direct the potentially responsible parties to clean up a site or pay for the cleanup. An endangerment assessment supplements an investigation of the site hazards.

Enforcement: EPA, State, or local legal actions taken against parties to facilitate settlements; to compel compliance with laws, rules, regulations, or agreements; and/or to obtain penalties or criminal sanctions for violations. Enforcement procedures may vary, depending on the specific requirements of different environmental laws and related regulatory requirements. Under CERCLA, for example, the EPA will seek to require potentially responsible parties to clean up a Superfund site or pay for the cleanup [see Cost Recovery].

Erosion: The wearing away of land surface by wind or water. Erosion occurs naturally from weather or surface runoff, but can be intensified by such land-related practices as farming, residential or industrial development, road building, or timber-cutting. Erosion may spread surface contamination to off-site locations.

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

Evaporation Ponds: Areas where sewage sludge or other watery wastes are dumped and allowed to dry out.

Feasibility Study: The analysis of the potential cleanup alternatives for a site. The feasibility study usually starts as soon as the remedial investigation is underway; together, they are commonly referred to as the RI/FS [see Remedial Investigation].

Filtration: A treatment process for removing solid (particulate) matter from water by passing the water through sand, activated carbon, or a man-made filter. The process is often used to remove particles that contain contaminants.

Flood Plain: An area along a river, formed from sediment deposited by floods. Flood plains periodically are inundated by natural floods, which can spread contamination.

Flue Gas: The air that is emitted from a chimney after combustion in the burner occurs. The gas can include nitrogen oxides, carbon oxides, water vapor, sulfur oxides, particles, and many chemical pollutants.

Fly Ash: Non-combustible residue that results from the combustion of flue gases. It can include nitrogen oxides, carbon oxides, water vapor, sulfur oxides, as well as many other chemical pollutants.

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

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

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

Good Faith Offer: A voluntary offer, generally in response to a Special Notice letter, made by a potentially responsible party, consisting of a written proposal demonstrating a potentially responsible party's qualifications

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and willingness to perform a site study or cleanup.

Groundwater: Underground water that fills pores in soils or openings in rocks to the point of saturation. In aquifers, groundwater occurs in sufficient quantities for use as drinking and irrigation water and other purposes.

Groundwater Quality Assessment: The process of analyzing the chemical characteristics of groundwater to determine whether any hazardous materials exist.

Halogens: Reactive non-metals, such as chlorine and bromine. Halogens are very good oxidizing agents and, therefore, have many industrial uses. They are rarely found by themselves; however, many chemicals such as polychlorinated biphenyls (PCBs), some volatile organic compounds (VOCs), and dioxin are reactive because of the presence of halogens.

Hazard Ranking System (HRS): The principal screening tool used by the EPA to evaluate relative risks to public health and the environment associated with abandoned or uncontrolled hazardous waste sites. The HRS calculates a score based on the potential of hazardous substances spreading from the site through the air, surface water, or groundwater and on other factors such as nearby population. The HRS score is the primary factor in deciding if the site should be on the NPL.

Hazardous Waste: By-products of society that can pose a substantial present or potential hazard to human health and the environment when improperly managed. It possesses at least one of four characteristics (ignitability, corrosivity, reactivity, or toxicity), or appears on special EPA lists.

Hot Spot: An area or vicinity of a site containing exceptionally high levels of contamination.

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

Impoundment: A body of water or sludge confined by a dam, dike, floodgate, or other barrier.

Incineration: A group of treatment technologies involving destruction of waste by controlled burning at high temperatures, e.g., burning sludge to reduce the remaining residues to a non-burnable ash that can be disposed of safely on land, in some waters, or in underground locations.

Infiltration: The movement of water or other liquid down through soil from precipitation (rain or snow) or from application of wastewater to the land surface.

Influent: Water, wastewater, or other liquid flowing into a reservoir, basin, or treatment plant.

Injection Well: A well into which waste fluids are placed, under pressure, for purposes of disposal.

Inorganic Chemicals: Chemical substances of mineral origin, not of basic carbon structure.

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

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

Interagency Agreement: A written agreement between the EPA and a Federal agency that has the lead for site cleanup activities,

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setting forth the roles and responsibilities of the agencies for performing and overseeing the activities. States often are parties to interagency agreements.

Interim (Permit) Status: Conditions under which hazardous waste treatment, storage, and disposal facilities, that were operating when regulations under the RCRA became final in 1980, are temporarily allowed by the EPA to continue to operate while awaiting denial or issuance of a permanent permit. The facility must comply with certain regulations to maintain interim status.

Lagoon: A shallow pond or liquid waste containment structure. Lagoons typically are used for the storage of wastewaters, sludges, liquid wastes, or spent nuclear fuel.

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

Landfill: A disposal facility where waste is placed in or on land. *Sanitary* landfills are disposal sites for non-hazardous solid wastes. The waste is spread in layers, compacted to the smallest practical volume, and covered with soil at the end of each operating day. Secure *chemical* landfills are disposal sites for hazardous waste. They are designed to minimize the chance of release of hazardous substances into the environment [see Resource Conservation and Recovery Act].

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

Leachate Collection System: A system that gathers liquid that has leaked into a landfill or other waste disposal area and pumps it to the surface for treatment.

Liner: A relatively impermeable barrier designed to prevent leachate (waste residue) from leaking from a landfill. Liner materials include plastic and dense clay.

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

Marsh: A type of wetland that does not contain peat moss deposits and is dominated by vegetation. Marshes may be either fresh or saltwater and tidal or non-tidal [see Wetland].

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

Mill Tailings: [See Mine Tailings].

Mine Tailings: A fine, sandy residue left from mining operations. Tailings often contain high concentrations of lead, uranium, and arsenic or other heavy metals.

Mitigation: Actions taken to improve site conditions by limiting, reducing, or controlling toxicity and contamination sources.

Modeling: A technique using a mathematical or physical representation of a system or theory that tests the effects that changes on system components have on the overall performance of the system.

Monitoring Wells: Special wells drilled at specific locations within, or surrounding, a hazardous waste site where groundwater can be sampled at selected depths and studied to obtain such information as the direction in

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which groundwater flows and the types and amounts of contaminants present.

National Priorities List (NPL): The EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term cleanup under Superfund. The EPA is required to update the NPL at least once a year.

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

Nitroaromatics: Common components of explosive materials, which will explode if activated by very high temperatures or pressures; 2,4,6-Trinitrotoluene (TNT) is a nitroaromatic.

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

On-Scene Coordinator (OSC): The predesignated EPA, Coast Guard, or Department of Defense official who coordinates and directs Superfund removal actions or Clean Water Act oil- or hazardous-spill corrective actions.

Operation and Maintenance: Activities conducted at a site after a cleanup action is completed to ensure that the cleanup or containment system is functioning properly.

Organic Chemicals/Compounds: Chemical substances containing mainly carbon, hydrogen, and oxygen.

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

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

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

Perched (groundwater): Groundwater separated from another underlying body of groundwater by a confining layer, often clay or rock.

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

Petrochemicals: Chemical substances produced from petroleum in refinery operations and as fuel oil residues. These include fluoranthene, chrysene, mineral spirits, and refined oils. Petrochemicals are the bases from which volatile organic compounds (VOCs), plastics, and many pesticides are made. These chemical substances often are toxic to humans and the environment.

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

Physical Chemical Separation: The treatment process of adding a chemical to a substance to separate the compounds for further treatment or disposal.

Pilot Testing: A small-scale test of a proposed treatment system in the field to determine its ability to clean up specific contaminants.

Plugging: The process of stopping the flow of water, oil, or gas into or out of the ground through a borehole or well penetrating the ground.

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

Pollution: Generally, the presence of matter or energy whose nature, location, or quantity produces undesired health or environmental effects.

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

Polychlorinated Biphenyls (PCBs): A group of toxic chemicals used for a variety of purposes including electrical applications, carbonless copy paper, adhesives, hydraulic fluids, microscope immersion oils, and caulking compounds. PCBs also are produced in certain combustion processes. PCBs are extremely persistent in the environment because they are very stable, non-reactive, and highly heat resistant. Chronic exposure to PCBs is believed to cause liver damage. It also is known to bioaccumulate in fatty

tissues. PCB use and sale was banned in 1979 with the passage of the Toxic Substances Control Act.

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

Polyvinyl Chloride (PVC): A plastic made from the gaseous substance vinyl chloride. PVC is used to make pipes, records, raincoats, and floor tiles. Health risks from high concentrations of vinyl chloride include liver cancer and lung cancer, as well as cancer of the lymphatic and nervous systems.

Potable Water: Water that is safe for drinking and cooking.

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

Precipitation: The removal of solids from liquid waste so that the solid and liquid portions can be disposed of safely; the removal of particles from airborne emissions. Electrochemical precipitation is the use of an anode or cathode to remove the hazardous chemicals. Chemical precipitation involves the addition of some substance to cause the solid portion to separate.

Preliminary Assessment: The process of collecting and reviewing available information about a known or suspected waste site or release to determine if a threat or potential threat exists.

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Pump and Treat: A groundwater cleanup technique involving the extracting of contaminated groundwater from the subsurface and the removal of contaminants, using one of several treatment technologies.

Radionuclides: Elements, including radium and uranium-235 and -238, which break down and produce radioactive substances due to their unstable atomic structure. Some are man-made, and others are naturally occurring in the environment. Radon, the gaseous form of radium, decays to form alpha particle radiation, which cannot be absorbed through skin. However, it can be inhaled, which allows alpha particles to affect unprotected tissues directly and thus cause cancer. Radiation also occurs naturally through the breakdown of granite stones.

RCRA: [See Resource Conservation and Recovery Act].

Recharge Area: A land area where rainwater saturates the ground and soaks through the earth to reach an aquifer.

Record of Decision (ROD): A public document that explains which cleanup alternative(s) will be used to clean up sites listed on the NPL. It is based on information generated during the remedial investigation and feasibility study and consideration of public comments and community concerns.

Recovery Wells: Wells used to withdraw contaminants or contaminated groundwater.

Recycle: The process of minimizing waste generation by recovering usable products that might otherwise become waste.

Remedial Action (RA): The actual construction or implementation phase of a Superfund site cleanup following the remedial design [see Cleanup].

Remedial Design: A phase of site cleanup, where engineers design the technical specifications for cleanup remedies and technologies.

Remedial Investigation: An in-depth study designed to gather the data necessary to determine the nature and extent of contamination at a Superfund site, establish the criteria for cleaning up the site, identify the preliminary alternatives for cleanup actions, and support the technical and cost analyses of the alternatives. The remedial investigation is usually done with the feasibility study. Together they are customarily referred to as the RI/FS [see Feasibility Study].

Remedial Project Manager (RPM): The EPA or State official responsible for overseeing cleanup actions at a site.

Remedy Selection: The selection of 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 [see Record of Decision].

Removal Action: Short-term immediate actions taken to address releases of hazardous substances [see Cleanup].

Residual: The amount of a pollutant remaining in the environment after a natural or technological process has taken place, e.g., the sludge remaining after initial wastewater treatment, or particulates remaining in air after the air passes through a scrubbing, or other, process.

Resource Conservation and Recovery Act (RCRA): A Federal law that established a regulatory system to track hazardous substances from the time of generation to disposal. The law requires safe and secure

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procedures to be used in treating, transporting, storing, and disposing of hazardous substances. RCRA is designed to prevent new, uncontrolled hazardous waste sites.

Retention Pond: A small body of liquid used for disposing of wastes and containing overflow from production facilities. Sometimes retention ponds are used to expand the capacity of such structures as lagoons to store waste.

Riparian Habitat: Areas adjacent to rivers and streams that have a high density, diversity, and productivity of plant and animal species relative to nearby uplands.

Runoff: The discharge of water over land into surface water. It can carry pollutants from the air and land and spread contamination from its source.

Scrubber: An air pollution device that uses a spray of water or reactant or a dry process to trap pollutants in emissions.

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

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

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

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

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

Site Characterization: The technical process used to evaluate the nature and extent of environmental contamination, which is necessary for choosing and designing cleanup measures and monitoring their effectiveness.

Site Inspection: The collection of information from a hazardous waste site to determine the extent and severity of hazards posed by the site. It follows, and is more extensive than, a preliminary assessment. The purpose is to gather information necessary to score the site, using the Hazard Ranking System, and to determine if the site presents an immediate threat that requires a prompt removal action.

Slag: The fused refuse or dross separated from a metal in the process of smelting.

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

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

Smelter: A facility that melts or fuses ore, often with an accompanying chemical change, to separate the metal. Emissions from smelters are known to cause pollution.

Soil Gas: Gaseous elements and compounds that occur in the small spaces between particles of soil. Such gases can move through

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or leave the soil or rock, depending on changes in pressure.

Soil Vapor Extraction: A treatment process that uses vacuum wells to remove hazardous gases from soil.

Soil Washing: A water-based process for mechanically scrubbing soils in-place to remove undesirable materials. There are two approaches: dissolving or suspending them in the wash solution for later treatment by conventional methods, and concentrating them into a smaller volume of soil through simple particle size separation techniques [see Solvent Extraction].

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

Solidification/Stabilization: A chemical or physical reduction of the mobility of hazardous constituents. Mobility is reduced through the binding of hazardous constituents into a solid mass with low permeability and resistance to leaching.

Solvent: A substance capable of dissolving another substance to form a solution. The primary uses of industrial solvents are as cleaners for degreasing, in paints, and in pharmaceuticals. Many solvents are flammable and toxic to varying degrees.

Solvent Extraction: A means of separating hazardous contaminants from soils, sludges, and sediment, thereby reducing the volume of the hazardous waste that must be treated. It generally is used as one in a series of unit operations. An organic chemical is used to dissolve contaminants as opposed to water-based compounds, which usually are used in soil washing.

Sorption: The action of soaking up or attracting substances. It is used in many pollution control systems.

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

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

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

Superfund: The program operated under the legislative authority of the CERCLA and Superfund Amendments and Reauthorization Act (SARA) to update and improve environmental laws. The program has the authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health, welfare, or the environment. The "Superfund" is a trust fund that finances cleanup actions at hazardous waste sites.

Surge Tanks: A holding structure used to absorb irregularities in flow of liquids, including liquid waste materials.

Swamp: A type of wetland that is dominated by woody vegetation and does not accumulate peat moss deposits. Swamps may be fresh or saltwater and tidal or non-tidal [see Wetlands].

Thermal Treatment: The use of heat to remove or destroy contaminants from soil.

Treatability Studies: Testing a treatment method on contaminated groundwater, soil, etc., to determine whether and how well the method will work.

Trichloroethylene (TCE): A stable, colorless liquid with a low boiling point. TCE has many industrial applications, including use as

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a solvent and as a metal degreasing agent. TCE may be toxic to people when inhaled, ingested, or through skin contact and can damage vital organs, especially the liver [see Volatile Organic Compounds].

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

Upgradient: An upward hydrologic slope; demarks areas that are higher than contaminated areas and, therefore, are not prone to contamination by the movement of polluted groundwater.

Vacuum Extraction: A technology used to remove volatile organic compounds (VOCs) from soils. Vacuum pumps are connected to a series of wells drilled to just above the water table. The wells are sealed tightly at the soil surface, and the vacuum established in the soil draws VOC-contaminated air from the soil pores into the well, as fresh air is drawn down from the surface of the soil.

Vegetated Soil Cap: A cap constructed with graded soils and seed for vegetative growth, to prevent erosion [see Cap].

Vitrification: The process of electrically melting wastes and soils or sludges to bind the waste in a glassy, solid material more durable than granite or marble and resistant to leaching.

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

widespread industrial use, they are commonly found in soil and groundwater.

Waste Treatment Plant: A facility that uses a series of tanks, screens, filters, and other treatment processes to remove pollutants from water.

Wastewater: The spent or used water from individual homes or industries.

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

Water Table: The upper surface of the groundwater.

Weir: A barrier to divert water or other liquids.

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

Wildlife Refuge: An area designated for the protection of wild animals, within which hunting and fishing are either prohibited or strictly controlled.

**Information
Repositories
for
NPL Sites
in Florida**

Information Repositories for NPL Sites in the State of Florida

Repositories are established for all NPL sites so that the public can obtain additional information related to site activities. Some sites may have more than one repository location, however, the primary site repository is listed below. All public access information pertaining to the site will be on file at these repositories. The quantity and nature of the documentation found in the repositories depends on the extent of activity and cleanup progress for each site and may include some or all of the following: community relations plans, announcements for public meetings, minutes from public meetings, fact sheets detailing activities at sites, documents relating to the selection of cleanup remedies, press releases, locations of other public information centers, and any other documents pertaining to site activities.

Site Name	Site Repository
AGRICO CHEMICAL	Pensacola Public Library, 200 West Gregory Street, Pensacola, FL 32501
AIRCO PLATING COMPANY, INC.	JFK Public Library, 190 West 49th Street, Hialeah, FL 33012
ALPHA CHEMICAL CORPORATION	Lakeland Public Library, 100 Lake Morton Drive, Lakeland, FL 33801
AMERICAN CREOSOTE WORKS, INC.	West Florida Regional Library, 21 South Baylen Street, Pensacola, FL 32501
ANACONDA/MILGO	Not Established
ANODYNE, INC.	North Dade Regional Library, 2455 NW 183rd Street, Miami, FL 33056
B & B CHEMICAL COMPANY, INC.	West Side Regional Library, 9445 Coral Way, Miami, FL 33165
BEULAH LANDFILL	Not Established
BMI-TEXTRON	Not Established
BROWN WOOD PRESERVING	Suwannee River Regional Library, 207 Pine Street, Live Oak, FL 32060
CABOT/KOPPERS	Alachua County Library, 222 East University Street, Gainesville, FL 32601
CECIL FIELD NAVAL AIR STATION	Charles D. Webb Wescomett Branch, Jacksonville Public Library, 6887 103rd Street, Jacksonville, FL 32210
CHEMFORM, INC./WILSON	Broward County Library, Main Branch-Gov't Document Dept., 100 South Andrews Av., Ft. Lauderdale, FL 33301
CITY INDUSTRIES, INC.	Winter Park Public Library, 460 East New England Avenue, Winter Park, FL 32789
COLEMAN-EVANS WOOD PRESERVING CO.	Whitehouse Elementary School, 11160 General Avenue, Whitehouse, FL 32220
DAVIE LANDFILL	Broward County Library, Main Branch-Gov't Document Dept., 100 South Andrews Ave., Ft. Lauderdale, FL 33301
DUBOSE OIL PRODUCTS COMPANY	J.M. Tate High School, Tate High School Road, Gonzalez, FL 32560
FLORIDA STEEL CORPORATION	Martin County Property Appraiser, 16550 S.W. Warfield Boulevard, Indiantown, FL 34956
GOLD COAST OIL CORPORATION	West Dade Regional Library, 9445 Coral Way, Miami, FL 33165
HARRIS CORPORATION/PALM BAY PLANT	Palm Bay Public Library, 1520 Port Malabar Boulevard, N.E. Palm Bay, FL 32905
HIPPS ROAD LANDFILL	Jacksonville Public Library, Webb Wiscomett Branch, 6881 103rd Street, Jacksonville, FL 32210
HOLLINGSWORTH SOLDERLESS TERMINAL	Broward County Library System, Ft. Lauderdale Branch, 100 South Andrews Avenue, Ft. Lauderdale, FL 33301
HOMESTEAD AIR FORCE BASE	Homestead Branch Public Library, 700 North Homestead Boulevard, Homestead, FL 33032
JACKSONVILLE NAVAL AIR STATION (DELISTED)	Information No Longer Available
KASSOUF-KIMERLING BATTERY DISPOSAL	Tampa-Hillsborough Public Library, 900 North Ashley Drive, Tampa, FL 33602

Information Repositories for NPL Sites in the State of Florida (Continued)

Site Name	Site Repository
MADISON COUNTY SANITARY LANDFILL	North Florida Junior College Library, Turner Davis Drive, Madison, FL 32340
MIAMI DRUM SERVICES	Miami-Dade County Public Library, 101 West Flagler Street, Miami, FL 33130
MUNISPORT LANDFILL	Florida International University Library, North Miami Campus Library, North Miami, FL 33181
NORTHWEST 58TH STREET LANDFILL	Miami-Dade County Public Library, 101 West Flagler Street., Miami, FL 33130
PARAMORE SURPLUS (DELISTED)	Information No Longer Available
PEAK OIL COMPANY/BAY DRUM CO.	Brandon Branch Public Library, 135 West Robertson Street, Brandon, FL 33511
PENSACOLA NAVAL AIR STATION	Pensacola Regional Library, 200 West Gregory Street, Pensacola, FL 32501
PEPPER STEEL & ALLOYS COMPANY	Miami-Dade Public Library, 101 West Flagler Street, Miami, FL 33130
PETROLEUM PRODUCTS CORPORATION	Broward County Library, Gov't Documents Division, 100 South Andrews Ave., Fort Lauderdale, FL 33301
PICKETTVILLE ROAD LANDFILL	Jacksonville Public Library, Highland Branch, 1826 Dunn Avenue, Jacksonville, FL 32218
PIONEER SAND COMPANY	John C. Pace Library, University of West Florida, 11000 University Parkway, Pensacola, FL 32514
PIPER AIRCRAFT CORPORATION	Not Established
REEVES SOUTHEAST GALVANIZING	Brandon Branch Public Library, 135 West Robertson Street, Brandon, FL 33511
SAPP BATTERY SALVAGE	Jackson County Public Library, 413 North Green Street, Marianna, FL 32446
SCHUYLKILL METAL CORPORATION	Plant City Public Library, 501 North Wheeler Street, Plant City, FL 33566
SHERWOOD MEDICAL INDUSTRIES	Deland Public Library, 212 West Rich Avenue, Deland, FL 32720
SIXTY-SECOND STREET DUMP	Tampa-Hillsborough County Public Library, Special Collections, 900 North Ashley Tampa, FL 33602
STANDARD AUTO BUMPER CORP.	J.F. Kennedy Memorial Library, 190 West 49th Street, Hialeah, FL 33012
SYDNEY MINE SLUDGE PONDS	Brandon Branch Public Library, 135 West Robinson Street, Brandon, FL 33511
TAYLOR ROAD LANDFILL	Not Established
TOWER CHEMICAL COMPANY	Cooper Memorial Library, 620 West Montrose Street, Clermont, FL 32711
TRI-CITY OIL CONSERVATIONIST (DELISTED)	Information No Longer Available
VARSOL SPILL SITE (DELISTED)	Miami-Dade County Public Library, 101 West Flagler Street, Miami, FL 33130
WHITEHOUSE OIL PITS	Whitehouse Elementary School, 11160 General Avenue, Whitehouse, FL 32220
WILSON CONCEPTS OF FLORIDA, INC.	Broward County Library, Govovernment Document Dept., 100 South Andrews Av., Fort Lauderdale, FL 33301
WINGATE ROAD MUNICIPAL INCINERATOR	Not Established
WOODBURY CHEMICAL COMPANY	South Dade Regional Library, 10750 SW 211th Street, Cutler Ridge, FL 33189
YELLOW WATER ROAD DUMP	Baldwin Town Hall, 10 U.S. Highway 90, West Baldwin, FL 32234
ZELLWOOD GROUNDWATER CONTAM.	Zellwood Elementary School, 3551 East Washington Street, Zellwood, FL 32798