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Agency

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May 1995

# SUPERFUND:

Progress at  
National  
Priority  
List Sites



# WEST VIRGINIA 1995 UPDATE



Printed on Recycled Paper

# How to Use the NPL Book

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 is always being made at NPL sites, and the EPA periodically will update the site fact sheets to reflect recent actions. The following two pages show a generic fact sheet and briefly describe the information under each section.

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## 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 cleanups take many forms and can affect communities in different ways. Local traffic may be rerouted, residents may be relocated, temporary water supplies may be necessary.

Definitive information on a site can help citizens sift through alternatives and make decisions. To make good choices, you must know what the threats are and how 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.

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**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.

# Guide to the NPL Book Icons

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 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, Immediate, or Emergency 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.



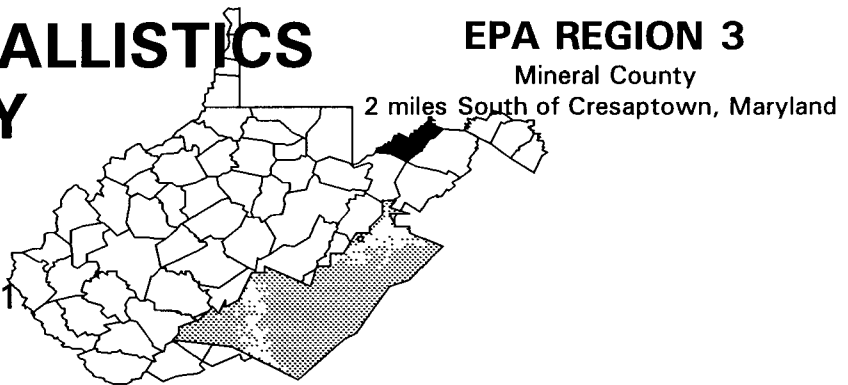
*Cleanup Complete* shows that all cleanup goals have been achieved for the contaminated site or part of the site.

<b>EPA ID Number</b>	<b>Site Name</b>
WV0170023691	ALLEGANY BALLISTICS LABORATORY (USNAVY)
WVD047989207	FIKE CHEMICAL, INC.
WVD004336749	FOLLANSBEE SITE
WVD980693402	LEETOWN PESTICIDE
WVD000850404	ORDNANCE WORKS DISPOSAL AREAS
WVD980713036	WEST VIRGINIA ORDNANCE (USARMY)

# ALLEGANY BALLISTICS LABORATORY (USNAVY)

WEST VIRGINIA

EPA ID# WV0170023691



## Site Description

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Allegany Ballistics Laboratory (ABL) is a 1,628-acre facility situated on the flood plain of the North Branch of the Potomac River, along the West Virginia-Maryland border. The land surrounding the site is primarily agricultural with some forestry. The facility, which began operations in 1942, is used for the research, development, and testing of solid propellants and motors for rockets, ammunition, and armaments for the Navy. There are two operating plants at ABL. Plant 1 is owned by the Navy and occupies 1,572 acres of the ABL facility. The remaining 56 acres are owned and operated by Hercules, Inc. Plant 2, also called the Hercopel Plant, was not included in the site by the EPA because no releases of hazardous materials are known to be associated with this facility. A variety of explosive and solvent wastes have been generated at ABL. Until 1978, the majority of these wastes were disposed of in on-site disposal areas. From 1970 to 1981, some of the waste was stored in a drum storage area. Due to waste disposal and handling practices at the facility, there are several source areas of concern. Seven of these areas were aggregated into one source known as the Northern Riverside Waste Disposal Area (NRWDA) due to their proximity and the similarity of the hazardous substances deposited in the sites. The seven sites that make up NRWDA are an ordnance burning ground, an inert burning ground, a former solvent waste disposal pit, three acid disposal pits, a hazardous waste drum storage area, and an incinerator landfill. Other contamination sources include two previous burning ground areas, an inert non-ordnance landfill, a spent photographic developing solutions disposal area, a sensitivity test area/surface water impoundment, and a beryllium landfill. Other sources of potential contamination exist at the site including a waste burning operation for the disposal of contaminated material. Contaminants associated with these sources and detected in groundwater and soil samples include explosives, volatile organic compounds (VOCs), acids, bases, laboratory and industrial wastes, bottom sludge from solvent recovery, metal plating pretreatment sludge, paints, and thinners. Some contaminants have moved off site and were detected in the North Branch of the Potomac River.

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

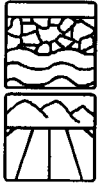
### NPL LISTING HISTORY

Proposed Date: 06/23/93

Final Date: 05/31/94

## Threats and Contaminants

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Contaminants found in the groundwater and soil at ABL include explosives, VOCs, acids, bases, laboratory and industrial wastes, bottom sludge from solvent recovery, metal plating pretreatment sludge, paints, and thinners. Several water supply wells have been found to be contaminated with VOCs and have consequently been shut down. Part of the ABL property is situated along the south bank of the North Branch of the Potomac River. Due to movement of some of the chemicals off site, contaminants have been found in this part of the river. Ingesting or coming into contact with contaminated groundwater or soil could be a public health risk.

## Cleanup Approach

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The site is being addressed in three stages: initial actions and two long-term remedial actions focusing on the cleanup of the Northern Riverside Waste Disposal Area and the Non-ordnance Landfill.

## Response Action Status

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**Initial Actions:** Two ABL water supply wells, which were found to contain VOCs, were temporarily taken out of service in 1981. The wells have only been used as backups during drought conditions and are not currently hooked up to the water supply system. Several additional water supply wells in the developed area of Plant 1 have been taken out of service. Recent testing of these wells, as well as numerous monitoring wells in the developed area, shows consistent VOC contamination in the groundwater.



the area.

**Northern Riverside Waste Disposal Area (NRDWA):** The EPA is planning to begin a study of the nature and extent of contamination at the NRDWA in 1994. Once this investigation is completed, the EPA will choose a remedy for cleanup of



**Non-ordnance Landfill:** The EPA is planning to undertake a study of the nature and extent of contamination of the inert non-ordnance landfill. Once this investigation is completed, the EPA will choose a remedy for cleanup of the area.

## Environmental Progress



The closing of drinking water wells has protected the public while site investigations are being planned.



# Site Repository

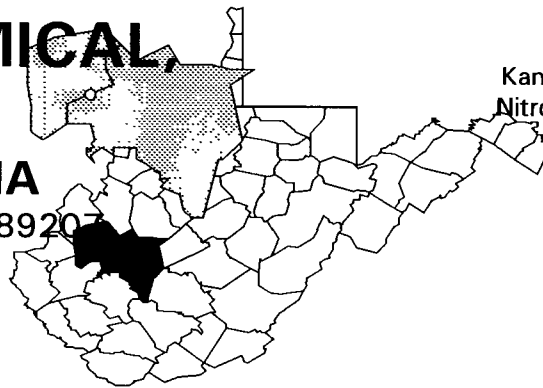


Not yet established.

# FIKE CHEMICAL, INC.

## WEST VIRGINIA

EPA ID# WVD047989207



### EPA REGION 3

Kanawha and Putnam Counties  
Nitro Industrial Complex in Nitro

Other Names:  
Fike Chemical/Artel  
Artel Site

## Site Description

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The 12-acre Fike Chemical, Inc. site consists of Fike Chemicals, Inc. (now Artel Chemicals) and the Cooperative Sewage Treatment, Inc. (CST) property, which is a facility designed to treat stormwater and wastewater generated at the Fike Chemical plant. The Fike Chemical plant was a small volume batch formulator that specialized in the development of over 60 chemicals, custom chemical processing, and specialty chemicals. The plant was purchased by Artel Chemical in 1986 and was subsequently abandoned in 1988. Site activities leading to contamination include improper storage of drums containing hazardous substances, on-site disposal of hazardous wastes through drum burial and unlined surface lagoons, and tank storage of various chemical stock, products, and wastes. Treated water from the CST property is discharged into the Kanawha River. Approximately 8,000 people live within a 1-mile radius of the site, and an estimated 25,000 people live within a 10-mile radius of the industrial complex.

**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

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The groundwater and soil are contaminated with various organic compounds from the chemical plant's process wastes. Dioxin has been detected in on-site soils. There is a potential for release of volatile chemicals into the air that would pose risks if inhaled. Potential human health threats exist if contaminated groundwater or soil is accidentally ingested. The Kanawha River, located 2,000 feet east of the site, is threatened by contaminated runoff from the plant.

## Cleanup Approach

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This site is being addressed in five stages: immediate actions and four long-term remedial phases focusing on cleanup of tanks, drums, and other materials; the process plant equipment and chemicals; buried containers; and the soil, sludge, and groundwater. Additional cleanup phases may be added as needed as the cleanup process continues.

## Response Action Status

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**Immediate Actions:** In June 1988, the EPA initiated an emergency cleanup action to address immediate threats posed by the site. The EPA began removing drums, cylinders, and tanks abandoned at the site. These activities were completed under the Tanks, Drums, and Other Materials response action listed below.



**Tanks, Drums, and Other Materials:** Activities to address on-site contaminated materials were completed in the spring of 1993. These activities included: removal, off-site incineration, and disposal of the contaminated contents of a tank; removal of drums and other containers to EPA-approved disposal facilities; operation of an on-site water treatment facility; and removal and disposal of cyanides. The parties potentially responsible for site contamination assisted in certain cleanup tasks.



**Process Plant Equipment and Chemicals:** Design measures to address process plant equipment and associated chemicals was completed in the fall of 1993. Cleanup activities, consisting of dismantling, decontamination, and removal of the facility, began in the spring of 1994 and are expected to be completed in late 1995.



**Buried Containers:** In 1992, a final remedy to clean up the buried containers at the site was selected. The buried containers will be excavated and their contents will be incinerated. Cleanup design and cleanup activities will be performed by potentially responsible parties under EPA supervision. Design of the cleanup activities began in winter 1993 and is scheduled to be completed in late 1995.



**Soil, Sludge, and Groundwater:** An investigation into the nature and extent of contamination and to identify alternatives for addressing contaminated soil, sludge, and groundwater is underway. The first phase of the investigation has been completed, including installation of wells and soil sampling. The second phase will be performed by the potentially responsible parties under EPA supervision. Once the investigation is completed, cleanup alternatives will be identified.

## Environmental Progress



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By removing surface drums, tank contents, and other containers, the EPA, with assistance from the potentially responsible parties, has eliminated immediate threats to the surrounding area while final studies and cleanup activities are underway at the Fike Chemical, Inc. site.

## Site Repository



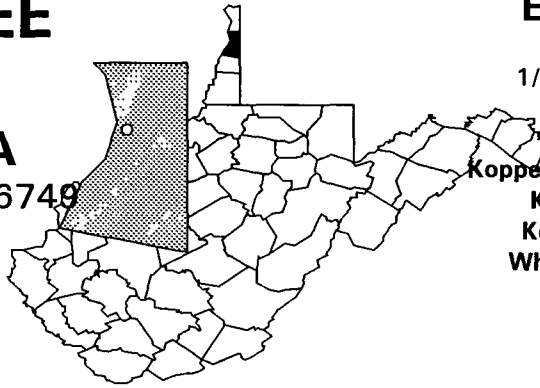
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Nitro Public Library, 1700 Park Avenue, Nitro, WV 25143

# FOLLANSBEE SITE

## WEST VIRGINIA

EPA ID# WVD004336749



### EPA REGION 3

Brooke County  
1/4 mile from Follansbee

#### Other Names:

Koppers Disposal Site Coketown  
Koppers Chemical Co.  
Koppers Industries, Inc.  
Wheeling Pittsburgh Steel

## Site Description

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The Follansbee site covers 26 1/2 acres next to the Ohio River in Follansbee. The site is an operating coal tar processing plant owned by Koppers Industries, Inc. and consists of process and storage facilities for the manufacture of coal tar by-products. Koppers acquired the site from American Tar Products, the operators of the facility from 1914 to 1926. In 1929, a tar pitch plant was built, and in the 1930s, a caustic plant was installed. A pencil pitch plant was built in 1962 to convert liquid pencil pitch to solid pitch. There also is a wastewater treatment plant on the site. Contamination at the site may have been caused by leaking tanks, spills, surface impoundments, and poor operation cleanup practices. Numerous springs and seeps are located in the area. There are an estimated 5,900 people living within a 3-mile radius of the site. Fifty private residential water supply wells are located within a 3-mile radius, and there are public wells located 5 miles downstream that may be affected by contamination flowing off site; however, limited data exists. The site is underlain by three aquifers, two of which are contaminated.

**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

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Two of the three aquifers are contaminated with polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs) such as benzene and toluene, and metals. Surface water springs and riverbank seeps are contaminated with phenols. Potential health risks exist from ingesting or coming into direct contact with contaminated groundwater and surface water. The Ohio River could be a threat to those who use it for recreational purposes or as a drinking water supply. However, the effects of contamination originating from the site on the Ohio River have not been assessed.

## Cleanup Approach

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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

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**Initial Actions:** In 1983, Koppers installed a trench to intercept contaminated groundwater. The groundwater is pumped to the company's wastewater treatment facility. The company installed a second pump in an attempt to prevent the contaminated groundwater from reaching the Ohio River, as well as to control groundwater flow.



**Entire Site:** Based on the results from the alluvial aquifer study conducted by Koppers, the EPA and Koppers agreed that an evaluation of the site was needed to determine the nature and extent of the contamination at the site and to identify alternative cleanup remedies. The investigation began in 1990, and EPA's Resource Conservation and Recovery Act (RCRA) program acquired the lead on the site because it is an active facility. Upon completion of the investigation, scheduled for late 1995, a final cleanup remedy is expected.

**Site Facts:** A Consent Decree was signed in August 1984, between EPA, Koppers, and Wheeling-Pittsburgh Steel, with the State of West Virginia as intervenor. The Consent Decree called for: paving of the Koppers property; installation of five recovery wells on Kopper's property to eliminate seepage from Koppers to the Wheeling-Pittsburgh Steel coal pits and to prevent future ground water contamination; and for Koppers to conduct an alluvial aquifer study. On September 27, 1990, Koppers and the EPA signed an Administrative Order on Consent, placing site cleanup responsibility under the RCRA program. In October 1992, EPA approved the RCRA Facility Investigation work plan. This plan will augment previous data, characterize site-wide conditions and migration routes, identify environmental and human health impacts, and provide data to help develop remedial alternatives. A RCRA investigation report was submitted to EPA for review in 1994 and should be available by late 1995.

## Environmental Progress



Installing a trench and pumping groundwater to a treatment facility has reduced the spread of contamination in the groundwater and into the Ohio River. The EPA has evaluated the Follansbee Site and determined that conditions at the site do not pose an immediate threat while investigations leading to the selection of a final cleanup remedy continue.

## Site Repository

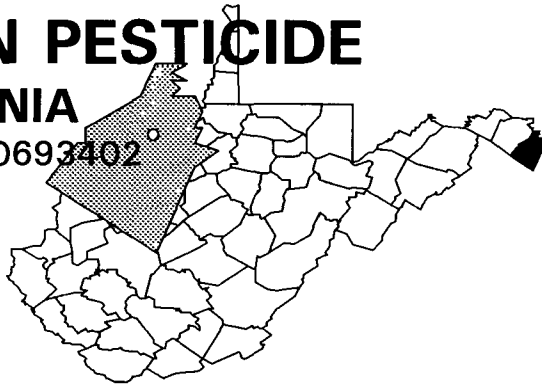


Follansbee City Building, Main and Penn Streets, Follansbee, WV 26037

# LEETOWN PESTICIDE

## WEST VIRGINIA

EPA ID# WVD980693402



### EPA REGION 3

Jefferson County  
8 miles south of Martinsburg

**Other Names:**  
**Robinson Property**

## Site Description

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Leetown Pesticide is a 1-acre site that contains three specific areas that have been contaminated by the agricultural use of pesticides, pesticide disposal, and landfilling. These three areas are the former Pesticide Pile Area, the former Jefferson Orchard Mixing Area, and the former Crimm Orchard Packing Shed. The former Pesticide Pile Area allegedly resulted from the disposal of pesticide-contaminated debris from a 1975 chemical plant fire. Debris from the fire had been donated to local farms as "soil conditioners" and landfarmed in pastures. The pasture is not currently in use. The Jefferson Orchard Mixing Area was used to prepare pesticides during active operation of the orchard. The orchard was abandoned during the late 1950s or early 1960s. When the Crimm Orchard was in operation, the packing shed was used to process the fruit crop and to mix pesticides. Portions of the recharge areas for the Bell Spring Run and Blue and Gray Spring Run exist on site. There are a number of private residences in the area that rely on groundwater wells for drinking water. Approximately 140 people live within a mile of the site. Land use in the area is predominantly agricultural, dedicated to pasture or forage crop production for dairy cattle operations.

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

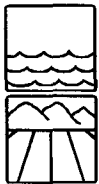
#### NPL LISTING HISTORY

Proposed Date: 12/30/82

Final Date: 09/08/83

## Threats and Contaminants

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Sediment from Bell Creek Run and Link Spring Run contained detectable concentrations of the pesticide DDT from former site activities. Soil in the pesticide pile area contained DDT, arsenic, and lead. The pesticide mixing area and Crimm Orchard Packing Shed soils also contained DDT, along with endosulfan, another pesticide. Since the removal of wastes and contaminated soils in 1983, the threats posed by DDT are within the EPA's acceptable risk range. The arsenic and lead contamination was caused by the spraying of lead arsenate during the active operations of the orchard and not from disposal operations.

## Cleanup Approach

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### Response Action Status

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**Immediate Actions:** In 1983, under EPA and State supervision, a party potentially responsible for the site contamination removed and disposed of a contaminated pile consisting of 160 cubic yards of waste and soil.



**Entire Site:** In 1986, final cleanup technologies were selected to address contamination including: dismantling and removing contaminated materials; excavating and consolidating of 3,600 cubic yards of contaminated soil from the former Pesticide Pile Area, the former Jefferson Orchard Mixing Area, and the former Crimm Packing Shed Area; placing contaminated soils in a specially constructed treatment bed; and constructing surface water diversion, sedimentation channels, and diversion dikes. In 1988, a packing shed containing broken bags of DDT was dismantled and contaminated flooring, a spray wagon, and drums of pesticide were removed. A soil cap was placed over the shed area after contaminants were disposed of in a licensed hazardous waste facility. In 1992, the EPA re-evaluated the site and determined that the soils no longer posed an unacceptable risk, and that no additional actions were necessary to clean up the site.

### Environmental Progress



Construction of all cleanup remedies is complete. The removal of contaminated materials from the site and the safe destruction and subsequent capping of a packing shed have reduced the potential for exposure to contaminants at the site. The Leetown Pesticide site is scheduled for deletion from the NPL by the end of 1995.

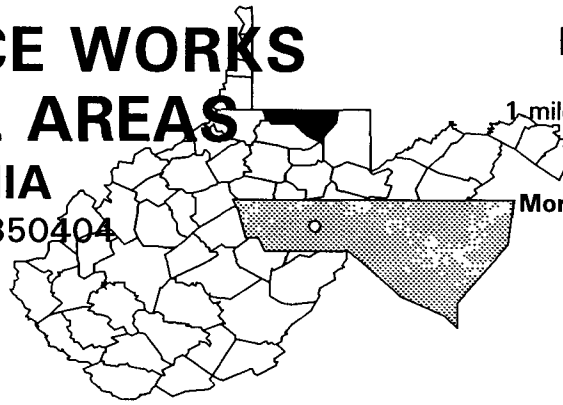
### Site Repository



Old Charles Town Library, 200 East Washington Street, Charles Town, WV 25414

# ORDNANCE WORKS DISPOSAL AREAS WEST VIRGINIA

EPA ID# WVD000850404



## EPA REGION 3

Monongalia County  
1 mile southeast of Morgantown

Other Names:

Morgantown Ordnance Works

## Site Description

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The 670-acre Ordnance Works Disposal Areas site is located on the west bank of the Monongahela River. Many private companies have operated chemical manufactories here since 1941, when E.I. Du Pont de Nemours began producing ammonia and methanol for the Department of War. Between 1946 and 1958, Sharon Steel operated a coke plant, Heyden Chemical operated an ammonia production facility, and Olin Mathieson produced various organic chemicals on the site. The site was sold in 1962 to Morgantown Ordnance Works and, in 1982, to Morgantown Industrial Park Associates (MIPA). Disposal of contaminated materials from the manufacturing process has been noted in several locations including a landfill, a scraped area, a former lagoon area, three streams traversing the site, and an industrial area in the northern portion of the site. Testing has shown contamination of these spots with heavy metals and polycyclic aromatic hydrocarbons (PAHs). The site is in the rural outskirts southwest of Morgantown; only 100 people live within 1 mile of the site. The Monongahela River supplies drinking water to approximately 60,000 residents, and the water intake is less than a mile downstream of the site.

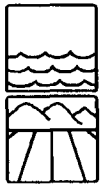
**Site Responsibility:** This site is being addressed through Federal and potentially responsible parties' actions.

### NPL LISTING HISTORY

Proposed Date: 10/15/84  
Final Date: 06/10/86

## Threats and Contaminants

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Three streams and sediments and soil adjacent to the landfill, scraped area, and the former lagoon area are contaminated with heavy metals and PAHs from surface runoff. Potential health hazards include accidentally ingesting or coming into direct contact with contaminants.



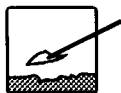
## Cleanup Approach

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This site is being addressed in three stages: immediate actions and two long-term remedial phases focusing on the cleanup of the landfill, scraped area, and the former lagoon sections of the site and the cleanup of the industrial complex areas.

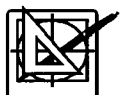
## Response Action Status

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facility.

**Immediate Actions:** In 1984, to alleviate the immediate threat at a portion of the site, the current owner removed drums containing polychlorinated biphenyls (PCBs) to a secured storage area within the site. They later were disposed of in an approved



**Landfill, Scraped Area, and Former Lagoons:** In 1989, the EPA selected the following remedies for site cleanup at these areas which entails consolidation of the existing landfill waste and construction of a multi-layer cap to keep rainfall and runoff from spreading contaminants; bioremediation of the former lagoons, scraped area soil, and contaminated stream sediments; solidification of soils with inorganic contamination; and post-treatment air monitoring to ensure the effectiveness of the cleanup. Treatability studies for bioremediation of PAH-contaminated soil are underway. Design of the remedies is expected to be completed in late 1996.



**Industrial Complex Areas:** The potentially responsible parties are conducting an investigation to determine the nature and extent of contamination and to identify alternatives for cleaning up at the industrial complex areas and coal residue storage areas in the northern and central portions of the site, respectively. Field work is underway and is expected to be completed in 1995. The studies are scheduled for completion in 1997.

**Site Facts:** The EPA and the potentially responsible parties signed a Consent Order on June 4, 1990 for conducting site studies.

## Environmental Progress



The removal of drums containing PCBs has eliminated immediate threats to the surroundings at the Ordnance Works Disposal Areas site while cleanup activities are being planned at the industrial complex areas, landfill, scraped area, and former lagoon sections of the site.

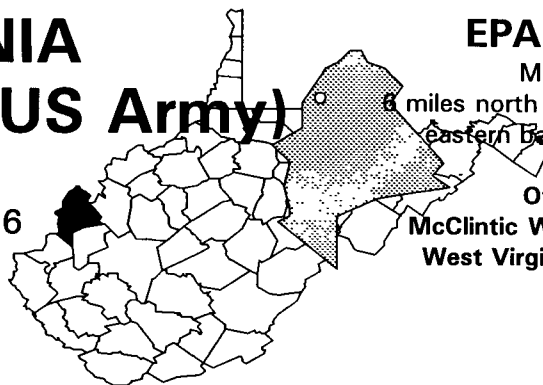
## Site Repository



Morgantown Public Library, 373 Spruce Street, Morgantown, WV 26505

# WEST VIRGINIA ORDNANCE (US Army) WEST VIRGINIA

EPA ID# WVD980713036



## EPA REGION 3

Mason County

6 miles north of Point Pleasant on the Eastern Bank of the Ohio River

Other Names:

McClintic Wildlife Refuge Station  
West Virginia Ordnance Works

## Site Description

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From 1942 to 1945, the Army produced TNT (trinitrotoluene) at West Virginia Ordnance, a 8,320-acre site. Soils around the operation's industrial area, process facilities, and industrial wastewater disposal system were contaminated with the TNT explosive, its by-products, and asbestos. When the site was decontaminated and decommissioned in 1945, the Army deeded the industrial portion to West Virginia, stipulating that it be used for wildlife management. The State created the McClintic State Wildlife Station on 2,785 acres, and the area now is used for public hunting, fishing, camping, and day-time recreational use. Other non-industrial portions of the original parcel are owned by the County or by private citizens. In 1981, redwater seepage (liquid waste produced during the TNT manufacturing process) was observed near Pond 13 on the wildlife station. EPA and State investigations revealed that the groundwater and surface water were contaminated with explosive nitroaromatics. Buried lines associated with TNT manufacturing contained some crystalline TNT. The ground was littered with residues and chunks of nitroaromatic compounds. About 11,000 people visit the McClintic Wildlife Station each year. Surrounding areas included within the site boundaries are the West Virginia University (WVU) Experimental Station, Mason County Airport, National Guard facilities, residential communities, the county fairgrounds, cropland, pastures, and forests.

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

### NPL LISTING HISTORY

Proposed Date: 10/01/81

Final Date: 09/01/83

## Threats and Contaminants

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Groundwater, seepage, soils, and the surface water on site are contaminated with explosive nitroaromatic compounds including TNT, trinitrobenzene, and dinitrotoluene from former site operations, and heavy metals, including arsenic, lead and beryllium. The shallow groundwater has been shown to be contaminated and is moving toward nearby private residences with wells. No nitroaromatic compounds have been detected in any of the 13 local drinking water supply wells, but sewer lines, pits, and open manholes may contain reactive wastes, which may pose a safety hazard to people entering the site. A portion of the site is a wildlife refuge. Visitors to the wildlife refuge may be exposed to contaminants by direct contact with or accidental ingestion of contaminated surface water or soils.

## Cleanup Approach

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The site is being addressed in numerous long-term remedial phases. The initial phases focus on source control, and additional phases focus on cleanup of Red Water Reservoir, Yellow Water Reservoir, groundwater contamination, Pond 13, wetlands mitigation, and remaining areas of concern.

## Response Action Status

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**Source Control:** The remedy selected to address the source of contamination was: in-place flaming of reactive TNT residue on soil surfaces and installation of a 2-foot soil cover over the highly-contaminated east and west burning grounds; disposal of asbestos off site; and excavation of reactive sewer lines, flashing of explosives, and back-filling of trenches from which lines were removed. These site cleanup activities were completed in 1989. After completing these cleanup activities, the Army conducted an investigation and determined that damage had occurred to the cap. The cap has since been repaired and the area has been re-tested to ensure the effectiveness of the remedy.



**Red Water Reservoir:** In 1991, cleanup activities began at the Red Water Reservoir. Remedies included relocating Ponds 1 and 2, filling and capping the original Ponds 1 and 2, and extracting and treating the groundwater. All cleanup activities except the groundwater treatment have been completed for the Red Water Reservoir.



**Yellow Water Reservoir:** Remedies selected for the Yellow Water Reservoir include: capping the contaminated areas and extracting and treating groundwater. Construction of the cap was completed in the spring of 1993. Groundwater treatment designs are underway for the reservoir area.



**Groundwater:** The EPA and the Army are addressing groundwater contamination at the Red Water Reservoir, Yellow Water Reservoir, and Pond 13. Design of the pump and treat system for cleaning up the groundwater began in 1991 and is expected to be completed in early 1995.



**Pond 13:** Based on the results of an Army field investigation in late 1993, the EPA decided to re-evaluate the earlier cleanup approach for Pond 13. The earlier decision was to place a cap over the contaminated soils at Pond 13. It now appears that this effort, while eliminating the threat of direct contact with contaminated soils, will not prevent groundwater contamination due to contact with contaminated soils and sediments. Sampling and treatability studies have begun to more fully evaluate the threat of groundwater contamination resulting from Pond 13 soils and sediments. When this additional sampling has been completed, a remedy for final cleanup will be selected.



**Wetlands Mitigation:** This action is addressing the wetlands loss that will occur during the capping of the Red and Yellow Water Reservoirs and possibly Pond 13. All wetlands are expected to be replaced by mid-1997.



**Remaining Areas:** Investigations into the nature and extent of contamination at the TNT Manufacturing Area soils and groundwater, the satellite plant, the Point Pleasant Landfill, the acids toluene storage and hops area, and the North and South Powerhouse Area are underway. These studies will lead to the selection of final cleanup remedies at these areas.

**Site Facts:** In 1984, the EPA concurred with the Army's request to assume responsibility for cleanup actions at the site. The West Virginia Ordnance site 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



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Initial cleanup activities, including in-place flaming of TNT residue, installing a cap over the highly contaminated east and west burning grounds, disposing of asbestos, and excavating reactive sewer lines, have reduced threats to the public and the environment while further investigations and cleanup actions are in progress.

## Site Repository



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Mason County Public Library, Sixth and Viand Streets, Point Pleasant, WV 25550