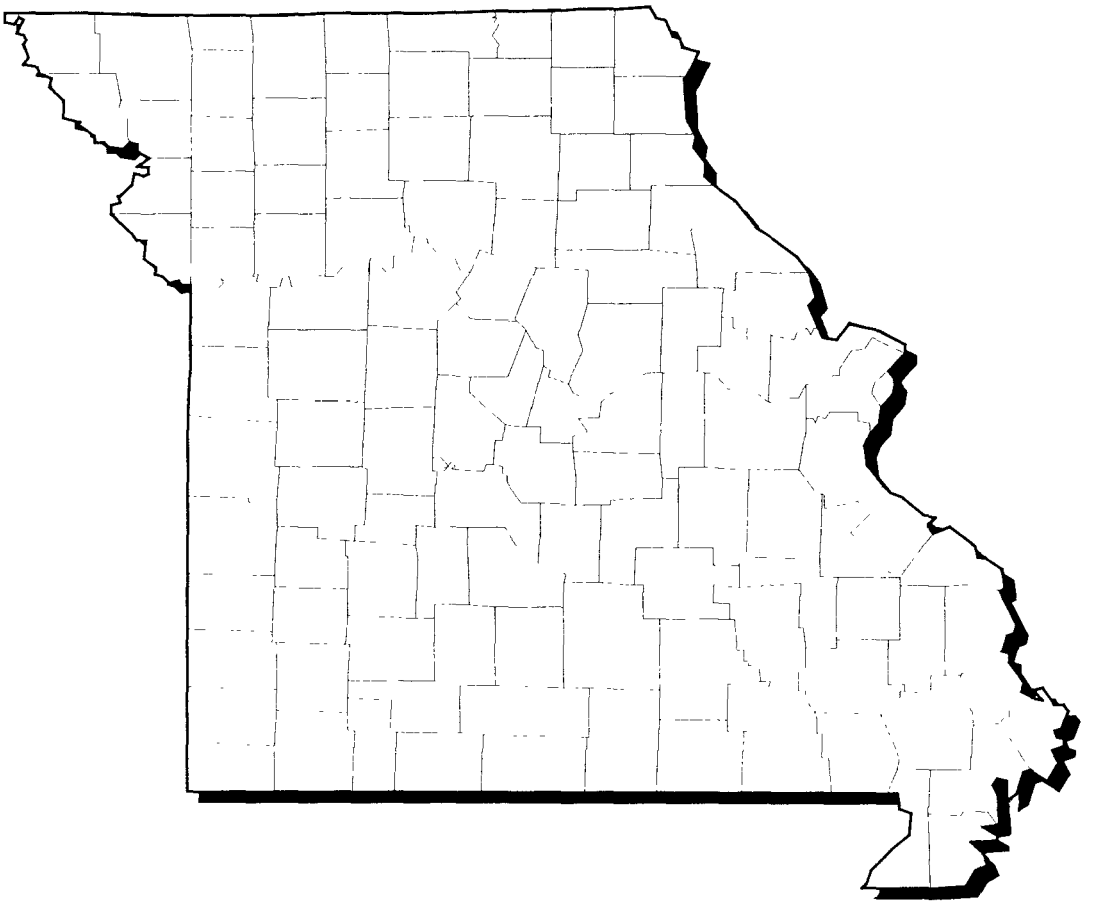
United States
Environmental Protection
Agency

Solid Waste And
Emergency Response
(5201 G)

EPA/540/R-95/096
PB95-962928
9200.5-726C
May 1995

SUPERFUND: Progress at National Priority List Sites



MISSOURI 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.

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.

NPL LISTING HISTORY

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

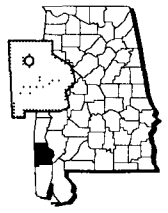
SITE RESPONSIBILITY

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

ENVIRONMENTAL PROGRESS

Summarizes the actions to reduce the threats to nearby residents and the surrounding environment and the progress towards cleaning up the site.

SITE NAME
STATE
EPA ID# ABC0000000



EPA REGION XX
COUNTY NAME
LOCATION

Other Names:

Site Description
A

Site Responsibility:

NPL Listing History
Proposed. XX/XX/XX
Final XX/XX/XX

Threats and Contaminants
B

Cleanup Approach
C

Response Action Status
D

Site Facts:
E

Environmental Progress

Site Repository

SITE REPOSITORY

Lists the location of the primary site repository. The site repository may include community relations plans, public meeting announcements and minutes, fact sheets, press releases, and other site-related documents.

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

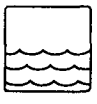
Additional information on activities and events at the site are included in this section. Often details on legal or administrative actions taken by the EPA to achieve site cleanup or other facts pertaining to community involvement with the site cleanup process are reported here.

Guide to the NPL Book Icons

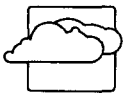
The "icons," or symbols, accompanying the text allow the reader to see at a glance which environmental resources are affected and the status of cleanup activities at the site.

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.

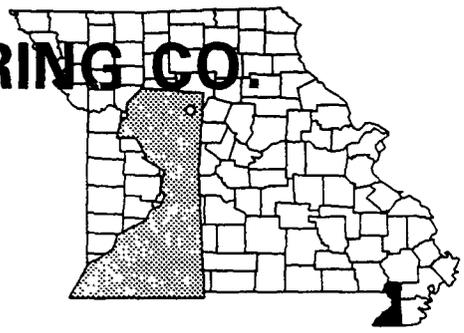
Cleanup Complete shows that all cleanup goals have been achieved for the contaminated site or part of the site.

EPA ID Number	Site Name
MOD980860522	BEE CEE MANUFACTURING CO.
MOD981126899	BIG RIVER MINE TAILINGS/ST. JOE MINERALS
MOD000829705	CONSERVATION CHEMICAL CO.
MOD980633010	ELLISVILLE SITE
MOD980631139	FULBRIGHT LANDFILL
MOD980631113	KEM-PEST LABORATORIES
MO3213890012	LAKE CITY ARMY AMMUNITION PLANT (NORTHWEST LAGOON)
MOD980853519	LEE CHEMICAL
MOD980741912	MINKER/STOUT/ROMAINE CREEK
MOD980965982	MISSOURI ELECTRIC WORKS
MOD007163108	NORTH-U DRIVE WELL CONTAMINATION
MOD980686281	ORONOGO-DUENWEG MINING BELT
MOD980860555	QUALITY PLATING
MOD980685838	SHENANDOAH STABLES
MOD980854111	SOLID STATE CIRCUITS, INC.
MOD980633176	ST LOUIS AIRPORT/HIS/FUTURA COATINGS CO.
MOD007452154	SYNTEX FACILITY
MOD980685226	TIMES BEACH SITE
MOD980968341	VALLEY PARK TCE
MO3210090004	WELDON SPRING QUARRY/PLANT/PITTS (USDOE)
MO5210021288	WELDON SPRING FORMER ARMY ORDNANCE WORKS
MOD079900932	WESTLAKE LANDFILL
MOD000830554	WHEELING DISPOSAL SERVICE CO. LANDFILL

BEE CEE MANUFACTURING CO.

MISSOURI

EPA ID# MOD980860522



EPA REGION 7

Dunklin County
City of Malden

Site Description

The former owners of the Bee Cee Manufacturing Co., a 2-acre site in Malden's industrial park, manufactured aluminum storm windows and doors from 1964 to 1983. Workers discharged chromium-contaminated wastewater directly onto the ground without any treatment or an EPA-approved permit. An area about 50 feet by 100 feet is visibly affected, possibly to a depth of 1 or 2 feet. In 1981, the State advised the owners that their disposal practices put them in violation of the Missouri Clean Water Law. Bankruptcy proceedings ended the State's efforts to have the owners install a wastewater treatment system. Another company now leases the building, and the City of Malden owns the contaminated land. Four shallow wells and two deep wells in Malden supply drinking water for 11,500 people; one shallow well is about 1,000 feet southwest of the site. Approximately 8,500 people live within a 3-mile radius of the site; 60 live within 1 mile. The closest residence is 1/4 mile away from the site. Fifteen wells lie within 1 mile of the site, and 150 wells are within 3 miles. A low-income nursing home project located 1/2 mile south of the site is of particular concern.

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

NPL LISTING HISTORY
Proposed Date: 10/15/84
Final Date: 06/10/86

Threats and Contaminants

Groundwater and on-site soils are contaminated with chromium and aluminum. Private wells in the vicinity used for watering livestock and irrigating crops have been contaminated since 1984. Groundwater contamination has been demonstrated in a shallow aquifer well about 1/2 mile from the site. The public wells, 2 miles downgradient from the site, may be connected to the contaminated aquifer. People who have direct contact with the contaminated soils or drink contaminated groundwater are at risk. Local soils are sandy, which makes it easier for contaminants to enter the groundwater.

Cleanup Approach

The site is being addressed in two stages: initial actions and a long-term phase addressing groundwater cleanup.

Response Action Status

Initial Action: In 1992, the EPA removed the contaminated soil from the site.

Groundwater: The State is conducting an investigation of the nature and extent of contaminated groundwater. These investigations, which will lead to the selection of a final cleanup remedy, are scheduled for completion in 1995.

Environmental Progress

The EPA has removed the contaminated soil from the site. State investigations have shown that contaminated groundwater has not moved off site and does not pose a threat to people or the environment, while further studies leading to the selection of a cleanup remedy for on-site groundwater are being conducted.

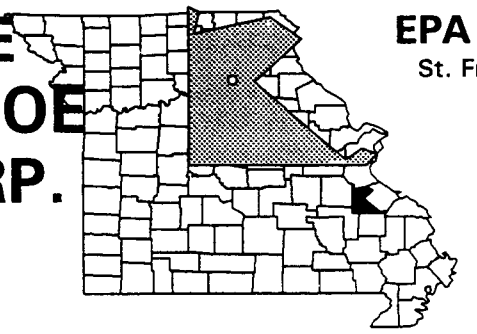
Site Repository

Malden Branch - Dunklin County Library, 113 N. Madison, Malden, MO 63863

BIG RIVER MINE TAILINGS/ST. JOE MINERALS CORP.

MISSOURI

EPA ID# MOD981126899



EPA REGION 7

St. Francois County
Desloge

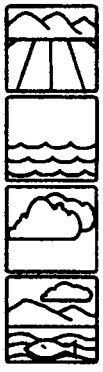
Site Description

The Big River Mine Tailings/St. Joe Minerals Corp. site is located in a former mining region known as the "Old Lead Belt", which is 70 miles south of St. Louis. Numerous tailings ponds and piles are found in this rural region, approximately 110 square miles in size. From 1929 to 1958, mine tailings rich with lead, cadmium, and zinc were disposed of at the 600-acre Big River Mine Tailings area by the St. Joe Minerals Corp. Three sides of this site are bounded by Big River. In 1972, St. Joe Minerals Corp. donated 502 acres of land in the area to St. Francois County. In 1973, St. Francois County Environmental Corp. (SFCEC) leased approximately 60 acres of the southern portion of the tailings pile from the county to operate a sanitary landfill; the landfill is no longer in operation. A transfer station and recycling center is now located on site. In 1977, heavy rains caused an estimated 50,000 cubic yards of tailings to slump into Big River. In 1981, St. Joe Minerals Corp. made an attempt to stabilize the tailings. Elevated levels of lead were first detected in bottom-feeding fish by the Missouri Department of Conservation, and then in 1982 in surface water by the Columbia National Fisheries Research Laboratory. Local residents were advised not to eat the fish. Big River is used for recreational purposes such as fishing, as well as for commercial activities such as watering livestock. Approximately 23,000 people reside within 4 miles of the site.

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

NPL LISTING HISTORY
Proposed Date: 02/07/92
Final Date: 10/14/92

Threats and Contaminants



Elevated levels of lead, cadmium, and zinc have been detected in the tailings pile. Surface water and various forms of biota in Big River contain elevated concentrations of lead. Wind erosion and airborne dust have contaminated the surrounding air and are a potential hazard to on-site workers, residents, and children at a nearby day care center. People on site risk being exposed to contaminants in the soil.

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 parties potentially responsible for site contamination have begun in place stabilization of the pile, designed to keep the pile from sloughing into the river. Other activities that will be performed include the revegetating of the area to control contaminant run-off, covering the site with a soil and clay cap, and vegetating the cap.

Entire Site: Investigations to determine the nature and extent of contamination are being conducted and are scheduled for completion in early 1996. Following the investigations, a remedy for final site cleanup will be selected.

Site Facts: An Administrative Order on Consent was signed in mid-1994 by the SFCEC and the Doe Run Company, requiring them to conduct removal activities at the site.

Environmental Progress

Stabilizing the pile, covering the site with a clay cap, and revegetating the area has reduced the potential for exposure to site contaminants at the Big River Mine Tailings/St. Joe Minerals Corp. site while investigations are underway and activities are being planned for cleanup of the site.

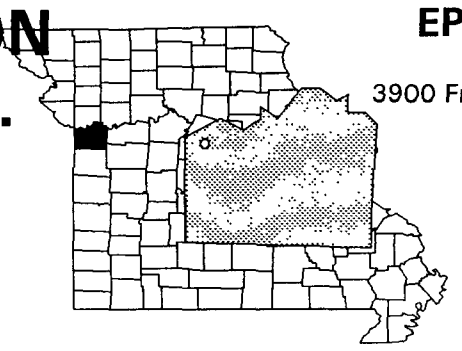
Site Repository

Desloge Public Library, 209 N. Desloge Drive, Desloge, MO 50613

CONSERVATION CHEMICAL CO.

MISSOURI

EPA ID# MOD000829705



EPA REGION 7

Jackson County
3900 Front Street, Kansas City

Other Names:
CCC

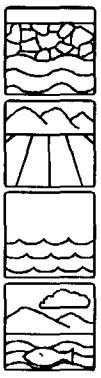
Site Description

The Conservation Chemical Company site, located in eastern Kansas City, operated as a chemical storage and disposal facility from 1960 until 1980. The owners began waste disposal operations almost immediately after building chemical treatment basins, a process area, and a roadway ramp. Waste disposal basins, which either were unlined or poorly lined, were used to store and receive wastes, and also served as drying beds and containers for by-product sludges. Many operating records were destroyed in a 1970 fire; those records that survived listed organic chemicals, solvents, acids, caustics, metal hydroxides, and cyanide compounds as some of the materials accepted for disposal at the site. Reports also indicate that pesticides, herbicides, waste oils, organic solvents, halogenated compounds, arsenic, and elemental phosphorus were handled by the facility, as well as pressurized cylinders and other metal containers placed in the lagoons. Information is incomplete, but it is estimated that the facility handled at least 48,000,000 gallons of liquids and sludges and 1,144 tons of solids. About 93,000 cubic yards of materials including drums, bulk liquids, sludges, and solids were buried at the site. By-products from any treatment processes used on the waste materials also were dumped on site. An attempt was made to neutralize hazardous chemicals by blending some wastes and to stabilize the upper waste layers on the site by mixing acidic metal finishing wastes with fly ash and certain sludges, which produced a mixture consisting largely of gypsum. In 1977, the Missouri Clean Water Commission ordered the site closed and covered, and the owner covered the soil caps with gypsum. The site is located in the 100-year flood plain of the Missouri River, about 500 feet away from its banks, and near its confluence with the Little Blue River. The site itself was raised about 10 feet above the surrounding area, but most of it would be immersed during a flood. Private wells provide drinking water to approximately 120 people within 3 miles of the property. The Courtney Bend well field is downstream from the site; it supplies drinking water to the City of Independence, which is 5 miles from the site.

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

NPL LISTING HISTORY
Proposed Date: 04/10/85
Final Date: 10/04/89

Threats and Contaminants



Groundwater both on and off the site contains heavy metals including arsenic, cadmium, chromium, and lead; cyanide; phenolic compounds; and volatile organic compounds (VOCs) including benzene, chloroform, and toluene. Surface and subsurface soil on the site contained all of the above, as well as dioxins and polychlorinated biphenyls (PCBs). Contaminants were entering the Missouri River via groundwater that feeds the river. The Missouri River is used locally and regionally for recreation, industry, irrigation, and as a municipal water supply. People on or near the site may have been exposed by coming in direct contact with contaminated soils or eating food grown in contaminated soil or game that feeds on contaminated plants before site cleanup.

Cleanup Approach

Response Action Status

Entire Site: The EPA selected a remedy for this site in 1987. It featured the following source control and groundwater cleanup measures: surface cleaning including demolition and disposal of existing buildings, tanks, and debris and placing them in an on-site cap; installing a withdrawal well system designed to keep groundwater from moving away from the site; building a groundwater extraction and treatment system to remove contaminants; and monitoring the quality and level of off-site groundwater. The surface cleanup began in early 1989 and was completed by August 1989. Installation of the well networks was started in 1989 and was completed in early 1990. Construction of the treatment plant began in 1989 and was completed in March 1990. The groundwater extraction system will be in operation for 30 years, after which the EPA will evaluate if cleanup goals have been met.

Site Facts: In November 1982, the United States filed suit against the parties it deemed responsible for the site contamination; these defendants in turn sued a host of other potentially responsible parties in 1984. By August 1985, the defendants had agreed to design and conduct a cleanup on the site that included the construction of a slurry wall and to reimburse the Government for its costs to date. However, new information about the expense and construction difficulty associated with the slurry wall caused a delay in actions. After additional negotiations, the potentially responsible parties agreed to perform a cleanup based on hydraulic control through extraction wells.

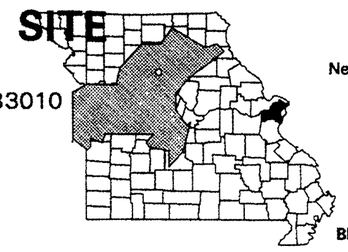
Environmental Progress

Construction of the remedies selected by the EPA to clean up the Conservation Chemical site has been completed. These actions have eliminated surface contamination and have halted further pollution of surface and groundwater resources. The EPA and the potentially responsible parties are actively monitoring the effectiveness of the continuing groundwater cleanup.

Site Repository

Mid-Continent Public Library, 317 W. Highway 24, Independence, MO 64050

ELLISVILLE SITE
MISSOURI
EPA ID# MOD980633010



EPA REGION 7
St. Louis County
Near Ellisville, 20 miles west of downtown St. Louis

Other Names:
Marlo Angelo Site
Rosalie Investment Co.
Mid-America Arena
Callahan Property
Bliss, Russell Site Bliss Ranch

Site Description

The Ellisville Site consists of three nearby non-contiguous subsites: the Bliss property, the Callahan property, and the Rosalie property. Initial investigations at the site focused on these three properties. During the investigations, an additional four contaminated properties were discovered adjacent to the Bliss Property and were added to that subsite. During the 1960s and 1970s, Russell Bliss owned and operated the Bliss Waste Oil Company, a business engaged in the transportation and disposal of waste oil products, industrial wastes, and chemical wastes. These wastes were disposed of in pits, drums, and on the surface of properties around the company's headquarters in Ellisville. The Bliss property subsite is located in western St. Louis County and covers approximately 11 acres of land. Developed portions of the subsite include the Mid-America Arena and associated buildings and stables. The property is drained by Caulks Creek, which empties into a tributary to the Missouri River. Pits were dug on the property and were used for industrial waste disposal. Drums of wastes had been buried, and liquid wastes had been dumped on the ground. The Callahan property is an 8-acre tract of land located approximately a mile from Ellisville. Drummed liquid and solid wastes were disposed of on the property during the 1970s. The Callahan subsite is situated on a steep-walled gully that drains into a tributary to the Missouri River. The Rosalie property is an 85-acre tract of land. Drummed liquid and solid wastes were disposed of on approximately 4 acres of the subsite. A housing development now is located on the Rosalie subsite. Approximately 1,000 people live within a 1-mile radius of the subsites; 5,000 live within 3 miles. Residents rely on drinking water drawn from private wells and the public distribution system. Roughly 265 wells exist within 1 mile, and 789 wells are within 3 miles of the sites.

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

Soil is contaminated with dioxin and volatile organic compounds (VOCs) at the Bliss properties. Soils at the Callahan and Rosalie properties contain VOCs. Potential health risks exist through the airborne migration of contaminated fugitive dusts and the potential for leachate migrating into the groundwater.

Cleanup Approach

The site is being addressed in three stages: immediate actions and two long-term remedial phases directed at cleanup of the Callahan and Rosalie subsites and the Bliss subsite, which includes four adjacent contaminated properties.

Response Action Status

Immediate Actions: In 1981, the State removed, covered, and overpacked drums; took samples; and staged the drums from the Callahan subsite. Workers posted signs and the State maintained 24-hour security at the site. Excavation activities revealed up to 1,000 drums buried on the site. In early 1982, EPA emergency workers performed the following activities: posted additional warning signs; drained and sealed the farm pond; built runoff control and leachate interception trenches; excavated and overpacked buried drums; sampled and sorted drums; built an on-site storage area; and removed and disposed of contaminated soil. In late 1984, drums and other wastes were delivered to an incinerator in Illinois for disposal. In 1990, the EPA steam-cleaned some drum fragments on the site and constructed a fence to restrict site access. In 1992, the EPA performed maintenance on the synthetic cover in the creek bank at the Bliss subsite.

Callahan and Rosalie Subsites: The EPA selected a remedy for the Callahan and Rosalie properties in 1985. The Callahan property cleanup remedy includes: controlling erosion and slippage of the fill area where drums had been excavated from 1980 to 1981 and removing what remained of that cleanup; removing and disposing of the plastic cover and hold-down blocks from the fill area; regrading the fill to a more stable slope, covering it with a compacted soil layer, and reseeding; and removing and salvaging fences and gravel from the former drum-storage areas. The Rosalie subsite cleanup remedy includes: excavating contaminated soil from two locations and removing it to an EPA-approved hazardous waste facility; placing debris in drums; excavating and overpacking buried drums and sampling and testing their contents; disposing of drums at an EPA-approved disposal facility; testing soil to verify the effectiveness of the cleanup; and backfilling excavated areas with clean soil and reseeding disturbed areas. Under State supervision, cleanup at the Rosalie property was completed. The design of the technical specifications for the cleanup of the Callahan property subsite was completed in early 1991, and cleanup activities are expected to be completed soon.

Bliss and Adjacent Properties: During the investigation of the Bliss property subsite, contamination was discovered on four neighboring parcels: the Dubman and Weingart property, Primm property, Wade and Mercantile Trust Company property, and the Russell, Evelyn, and Jerry Bliss property. The EPA selected a remedy for these properties in 1986. The first part of the cleanup focuses on dioxin-contaminated soils; the second entails excavation and off-site disposal of buried drums and materials contaminated with chemicals other than dioxin. The Bliss/contiguous properties soils cleanup remedy selected in 1986 includes: excavating dioxin-contaminated soils and containerizing them; storing the containers of waste temporarily in a metal building on the site; and maintaining security, controlling surface drainage at the site, and sampling the groundwater. The drum and other cleanup remedies include: excavating, sampling, and overpacking buried drums; excavating hazardous wastes and contaminated soils and materials; taking drums and waste mixtures suitable for land disposal to an appropriate EPA-approved facility; incinerating drums and waste mixtures unsuitable for land disposal off site at an EPA-approved facility; and disposing of non-hazardous material and debris at a permitted sanitary landfill. For both components of this remedy, site restoration activities will include backfilling, regrading, and seeding, where needed. In late 1991, the EPA issued an amended cleanup remedy for the dioxin-contaminated materials at the Bliss subsite. Under this remedy, interim storage of dioxin-contaminated material was eliminated. Instead, these materials will be excavated and transported directly to the nearby Times Beach site, where contaminated materials will be destroyed by thermal treatment. A permit application is currently being reviewed for operation of the temporary thermal treatment unit at Times Beach.

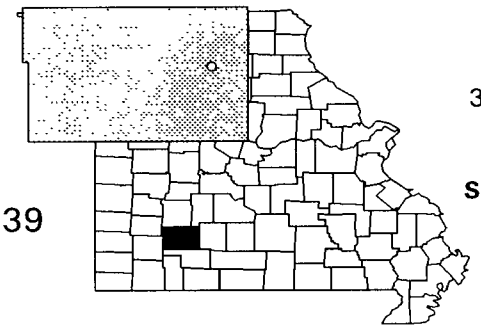
Environmental Progress

All contaminated materials have been removed from the Rosalie subsite. Cleanup of the Callahan subsite is underway. The perimeter fence installed at the Bliss subsite has controlled unauthorized access to this portion of the site, thereby reducing the potential for direct contact with contaminated soils while final cleanup activities are being planned.

Site Repository

EPA Information Trailer, I-44, Lewis Exit, Times Beach, MO 63025

FULBRIGHT LANDFILL
MISSOURI
EPA ID# MOD980631139



EPA REGION 7
Greene County
3 miles north of Springfield

Other Names:
Springfield Fulbright Landfill
Sac River Landfill
Murray Landfill
Highway 13 Landfill

Site Description

The 212-acre Fulbright Landfill site consists of the Fulbright and Sac River Landfills (formerly known as the Murray Landfill). The City of Springfield used these landfills, both of which now are closed, for the disposal of municipal and industrial wastes. The 98-acre Fulbright Landfill accepted waste from 1962 through 1968. The 114-acre Sac River Landfill operated from 1968 until 1974. Industrial wastes disposed of in these landfills included cyanides, acids, plating and paint sludges, pesticide residues, waste oil, and solvents. The contents of between 1,200 and 2,600 drums were dumped into pits at the site with the empty 55-gallon drums left in the pits or in the general landfill areas. In 1967, a waste hauler died from toxic fume inhalation when he inadvertently dumped a drum of acid into a pit containing cyanide. A sinkhole on the bluff above the Fulbright Landfill contained a few dozen drums and waste residues. An estimated 10,000 people live within a 3-mile radius of the site. The landfill lies in a semi-rural area in the flood plain of the Little Sac River. Surrounding land use includes a police shooting range, a dog pound, an active wastewater treatment plant, and an inactive wastewater treatment plant. The local drinking water supply is drawn from a municipal well and a lake upgradient of the site. Groundwater also is used for crop irrigation and industrial processes. The nearest population and well are 1,000 feet upgradient of the landfills.

Site Responsibility: This site has been 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 and drums on the site contained a wide variety of volatile organic compounds (VOCs) and other organic chemicals, as well as heavy metals and cyanide from former waste disposal practices. Chromium was found in sediments. Groundwater flows into the adjacent Sac River, which also receives treated municipal wastewater. Since the landfill is in the flood plain of the Little Sac River, high waters may have spread site contaminants.

Cleanup Approach

Response Action Status

Entire Site: Under EPA oversight, the parties potentially responsible for the site contamination completed an extensive study of the site in 1988. The following remedies were selected for the site: removing drums and drum remnants from the sinkhole and the associated trench east of the Fulbright Landfill; sampling drum contents to establish the hazardous nature of their contents; disposing of the removed contents at an off-site EPA-approved facility; performing groundwater and surface water monitoring for a 30-year maintenance period; monitoring the leachate that occasionally seeps from the landfill during this period to determine if future action is warranted to curtail it; and imposing deed restrictions to prevent future development on the site and groundwater use prohibitions. The cleanup activities began in 1990 and were completed in early 1992. Groundwater and surface water monitoring began in 1992 and will continue for 30 years to ensure the effectiveness of the remedies.

Site Facts: In March 1986, the EPA issued a Consent Order to the City of Springfield, Litton Industries, Inc., and Litton Business Systems, Inc., which had all been identified as potentially responsible parties. The Order required them to conduct an extensive site investigation under the EPA's oversight. In January 1990, the EPA issued a Consent Decree for the potentially responsible parties to design the selected remedies and to conduct cleanup activities at the site.

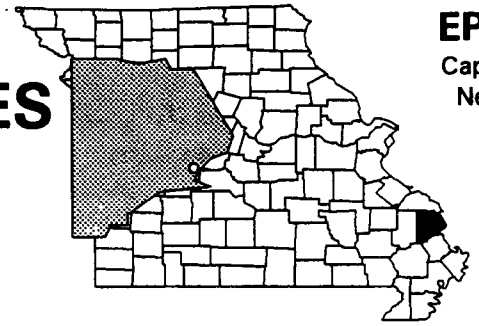
Environmental Progress

All construction at the site is complete. The removal and disposal of contaminated soils from the sinkhole and trench area has eliminated the threat of exposure to contamination at the Fulbright Landfill. Restrictions on land and groundwater use and continual groundwater and surface water monitoring will ensure that there is no potential future risk to human health or the environment.

Site Repository

Springfield/Greene County Library, 397 E. Central, Springfield, MO 65801

KEM-PEST LABORATORIES
MISSOURI
EPA ID# MOD980631113



EPA REGION 7
Cape Girardeau County
Near Cape Girardeau

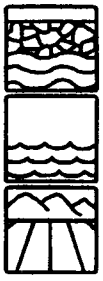
Site Description

The Kem-Pest Laboratories site covers 6 acres and is located near Cape Girardeau. Beginning in 1965, Kem-Pest formulated various pesticide products, including liquid pesticides, granular insecticides, granular herbicides, and pesticide dust. The company suspended operations in 1975. There have been no production, treatment, or disposal activities at the site since 1977. A building on site has been used to store equipment and materials. A 1,250-square-foot lagoon at the facility formerly was used to dispose of plant waste and sewage. When the company closed the lagoon in 1981, it was filled with compacted clay. An EPA inspection in 1983 revealed that the lagoon cover was eroding and that no vegetation existed on the clay cap. Cape Girardeau, with a population of 60,925, draws drinking water from the Mississippi River, located less than a mile downstream of the site. Approximately 200 people live within a mile of the site, and 1,284 live within 3 miles. The site is adjacent to the flood plain of the Mississippi River. A freshwater wetland is located within a mile of the site.

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

NPL LISTING HISTORY
Proposed Date: 01/22/87
Final Date: 10/04/89

Threats and Contaminants



Sampling in 1984 and 1989 detected pesticides including heptachlor, chlordane and endrin in the shallow aquifer. Drainage channel sediments contained pesticides including aldrin and dieldrin. Pesticides and various volatile organic compounds (VOCs) were detected in subsurface and surface soil samples. Potential risks may exist for those who come in direct contact with the contaminated building structures or the soil on the site.

Cleanup Approach

The site is being addressed in two long-term remedial phases focusing on cleanup of the soil and sediments, and cleanup of the groundwater and the contaminated on-site structure.

Response Action Status

Soil and Sediments: In 1984, the EPA installed five monitoring wells on site and collected groundwater, soil, and sediment samples. In 1988 and 1989, the EPA and the parties potentially responsible for site contamination conducted additional sampling. The EPA has excavated approximately 6,075 cubic yards of contaminated soil and sediment and has disposed of them at a federally approved off-site land disposal facility. Sampling was conducted to confirm that all soils contaminated above health based levels were removed. Clean soil has been placed in the excavated areas with vegetation to minimize erosion. These cleanup activities were completed in 1993.

Groundwater and On-Site Structure: In 1990, a remedy was selected to address this portion of the site. The EPA concluded that the groundwater did not require any cleanup activities, but monitoring would continue to ensure that the groundwater continues to meet safety standards. The remedy to address the contaminated building structure includes decontamination of the building and off-site incineration of the debris in a federally approved facility. In 1993, EPA amended the remedy to include demolition of the building. This remedy is currently on hold pending review of the decision.

Environmental Progress

The excavation and disposal of contaminated soil and sediment at the Kem-Pest Laboratories site has reduced the threat of exposure to hazardous materials to the nearby population while further cleanup activities are being planned.

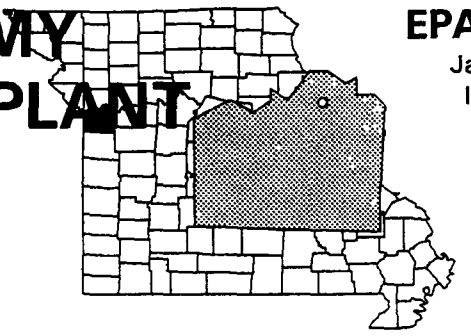
Site Repository

Cape Girardeau Public Library, 711 N. Clark Street, Cape Girardeau, MO 63701

LAKE CITY ARMY AMMUNITION PLANT (NORTHWEST LAGOON)

MISSOURI

EPA ID# MO3213890012



EPA REGION 7
Jackson County
Independence

Site Description

The Lake City Army Ammunition Plant (LCAAP) occupies approximately 4,000 acres. LCAAP has manufactured, stored, and tested small arms ammunition continuously since 1941, except for a five year period following World War II. Virtually all waste treatment and disposal has been on site. LCAAP has relied heavily on lagoons, landfills, and burn pits for waste disposal. Industrial operations have generated large quantities of potentially hazardous waste including oils, greases, solvents, explosives, and metals. There are 11 residences on the grounds served by LCAAP's water treatment plant. Adjacent to the northern boundary of the site is Lake City, with a population of approximately 50 people. Private residences off site use groundwater from private wells. There are 13 production wells that supply water for base personnel. The Missouri River and Little Blue River, located near the site, are used for recreational activities.

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

NPL LISTING HISTORY
Proposed Date: 10/15/84
Final Date: 07/22/87

Threats and Contaminants

Groundwater beneath the site, soil, and surface water are contaminated with volatile organic compounds (VOCs), various explosives, and heavy metals including lead, arsenic, and chromium from former waste disposal practices. Potential threats exist for those who accidentally have direct contact with or ingest contaminated groundwater, surface water, or soil. Water supplies for on-site personnel and on-site residences' are provides from a water treatment plant at the site.

Cleanup Approach

This site is being addressed in five stages: immediate actions and four long-term remedial phases focusing on cleanup of the installation-wide area, the northeast corner, Area 18 and Area 8.

Response Action Status

Immediate Actions: Four air strippers were installed in the plant's drinking water supply facilities to remove contaminants before reaching the water treatment plant. LCAAP also is continuing to monitor contaminant migration in accordance with the approved Groundwater Monitoring Plan.

Installation-Wide Area: The Army initiated an investigation in 1987 to determine the extent and type of contamination on site and to identify alternative technologies for the cleanup. The study confirmed contamination of the groundwater beneath the entire site and identified several source areas of concern with respect to potential environmental contamination. In 1991, the investigation was expanded and identified additional source areas. Additional fieldwork was completed in 1992, and final investigations are scheduled to be completed in early 1996.

Northeast Corner: The Army initiated an investigation in 1990 to determine the extent and type of contamination present in the northeastern corner. Following review of the preliminary data, the Army determined that additional field work was required. The final investigation is scheduled to be completed in 1996.

Area 18: Previous environmental data from the installation-wide site investigation indicate this site has contaminated the soil and groundwater at LCAAP. An investigation of Area 18, which will provide additional information needed to determine the magnitude and extent of contamination, was begun in 1992 and is scheduled for completion in 1996.

Area 8: Previous sampling activities have identified contamination of the soil and groundwater in Area 8. Additional information is needed to characterize the nature and extent of the contamination. Investigations are scheduled to continue until 1999.

Site Facts: The plant is participating in the Installation Restoration Program, a specially funded program established by the DOD in 1978 to identify, investigate, and control the migration of hazardous contaminants at military and other DOD facilities. An Interagency Agreement (IAG) between the EPA, the Army, and the State of Missouri was signed in 1989, covering the remaining investigative, design, and cleanup activities throughout the installation.

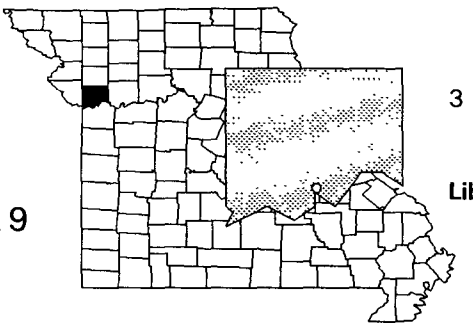
Environmental Progress

The installation of air strippers, closure of lagoons, and the LCAAP water treatment plant has greatly reduced the potential for exposure to hazardous substances at the Lake City Army Ammunition Plant (Northwest Lagoon) site while further investigations leading to final cleanup activities are taking place.

Site Repository

Mid-Continent Public Library-South, Blue Springs, MO
Lake City Army Ammunition Plant, Independence, MO

LEE CHEMICAL
MISSOURI
EPA ID# MOD980853519



EPA REGION 7
Clay County
3 miles southeast of Liberty

Other Names:
Liberty Public Water Supply

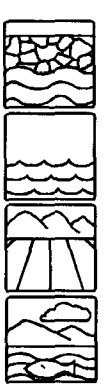
Site Description

The 1-acre Lee Chemical site was used for packaging a variety of chemicals from 1966 until 1974, when Lee Chemical abandoned the facility. City officials found several hundred drums of chemicals on site in 1976, most of which were removed by the City in 1977. Although the City, which owns the property, has removed the building and visible contamination from the site and taken soil samples, analyses indicate that trichloroethylene (TCE) is still present on the site. During a drinking water study in 1980, the EPA sampled the city's water wells and found TCE. Since then, the most contaminated wells have not been used for drinking water. The water from the remaining wells no longer contains detectable levels of TCE. There are approximately 24,000 people living within a 3-mile radius of the site. The nearest residence is approximately 1/4 mile from the site. The City's drinking water supply wells are 1/4 mile away from the site; abandoned, unplugged drinking water supply wells are also on the site. There are several irrigation wells near the site. Industrial and commercial facilities near the site use groundwater for cooling or process water.

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

NPL LISTING HISTORY
Proposed Date: 10/15/84
Final Date: 06/10/86

Threats and Contaminants



The groundwater, surface water, and soil are contaminated with TCE. Contaminated groundwater, surface water, and soil could adversely affect the health of individuals through direct contact or ingestion. In addition, bioaccumulation of contaminants in fish, water fowl, livestock, and commercial agricultural products may be another exposure pathway. The Town Branch of the Shoal Creek is located approximately 2,000 feet downslope from the site and receives contaminated water discharged from one city well and an on-site extraction well. The creek empties into the Missouri River about 1 mile downstream.

Cleanup Approach

Response Action Status

Immediate Actions: The City removed several hundred barrels of chemicals and arranged to clear the land surrounding the old treatment plant left by Lee Chemical. In 1983, a contractor working for the City demolished the plant, cleared the site, and disposed of the waste material. The City has monitored the well water and drinking water and has managed the use of supply wells to eliminate TCE in the drinking water. The City installed two new supply wells in 1982.

Entire Site: The City completed a study of the extent and nature of the contamination in 1990. Following a public comment period, the EPA selected a remedy, which includes installation of a more efficient purge well on site and continuation of the interim action requiring discharge of extracted groundwater to a nearby creek. In-situ aqueous soil flushing is being used through the installation of an infiltration field on site. Construction was completed in early 1994 and the system is in full operation.

Site Facts: The State of Missouri and the City of Liberty signed a Consent Order in March 1992. Under the terms of the order, the City will be responsible for the design and implementation of cleanup activities under State supervision.

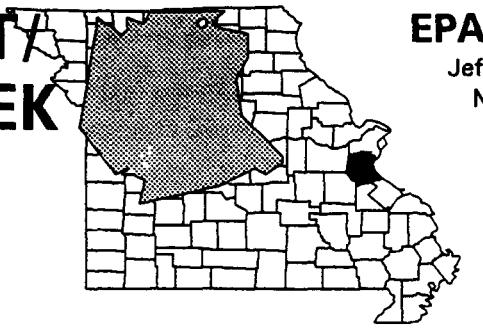
Environmental Progress

Construction at the site was completed in early 1994. Removing contaminated barrels from the site and monitoring well water have reduced the potential for exposure to hazardous substances at the Lee Chemical site while soil flushing activities are being completed.

Site Repository

Liberty Public Library, 1000 S. Kent, Liberty, MO 64048

MINKER/STOUT/ ROMAINE CREEK
MISSOURI
EPA ID# MOD980741912



EPA REGION 7
Jefferson County
Near Imperial

Site Description

The Minker/Stout/Romaine Creek site covers about 10 acres of non-contiguous properties near Imperial. In the early 1970's, the Bubbling Springs Ranch horse arena was sprayed with dioxin-contaminated oil for dust control. Afterward, several horses became ill, and seven died. The horse arena was excavated in 1972, and the dioxin-contaminated soil was used as fill material in residential areas, including the Minker, Stout, Cashel, and Sullins residences. Much of the fill from the Minker residence eroded into Romaine Creek. In 1983, the EPA detected dioxin in the soil on site and in sediments of Romaine Creek. Approximately 500 people live within 1 mile of the site. The sediments of Romaine Creek were contaminated as far as 6,000 feet downstream; however, the creek was not used as a drinking water source.

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

NPL LISTING HISTORY
Proposed Date: 12/30/82
Final Date: 09/08/83

Threats and Contaminants

The sediments and soil from Romaine Creek were contaminated with dioxin from the soil that was used as fill in the residential areas. People who came into direct contact with or accidentally ingested the contaminated soil or sediments were at risk. The fish of Romaine Creek may pose a health hazard if eaten.

Cleanup Approach

This site is being addressed in five stages: immediate actions and four long-term remedial phases focusing on final treatment of contaminated soil, cleanup of Romaine Creek, cleanup of the Stout area, and relocation activities.

Response Action Status

Immediate Actions: Between 1985 and 1989, the EPA excavated about 12,000 cubic yards of soil at the Minker area, the Sullins and Cashel residences, Romaine Creek, and the Stout area. The soil was placed in steel storage structures at the Minker area.

Soil: The EPA selected a remedy to clean up the soil, which includes thermally treating previously-excavated contaminated soils from this site at the Times Beach site, another dioxin-contaminated site. The soil will be incinerated, which permanently removes the contaminants. The ash from the incinerator will be disposed of on the Times Beach site. The design of the final remedy was completed in coordination with the remedy design for the Times Beach site. A permit application for thermal treatment activities at Times Beach is currently under review. Once approved, contaminated soil will be removed to the Times Beach site for final treatment.

Romaine Creek: In 1987, the EPA selected a remedy to clean Romaine Creek, which included excavating the contaminated soil and sediments and temporarily storing them in steel structures on site. The excavated areas were backfilled with clean material suitable for a natural creek. In 1989, the EPA completed the excavation and storage of contaminated materials.

Stout Area: In 1987, the EPA selected a remedy to clean the Stout property, which included excavating the contaminated soil and placing it in interim on-site storage. The EPA completed excavation and storage activities at the Stout property in 1988.

Relocation: In 1983, the EPA permanently relocated 12 families. Two other families temporarily were relocated by the State during excavation of the Minker area; they have been returned to their residences.

Site Facts: Under the terms of a Consent Decree entered in Federal Court in December 1990, several settling defendants were given the responsibility for operating a thermal treatment unit at the Times Beach site for treatment of all contaminated materials excavated from the Minker/Stout/Romaine Creek site. The EPA is responsible for transporting the soils from these areas to the Times Beach site for treatment.

Environmental Progress

The relocation of affected residents and the excavation and temporary storage of contaminated soils and sediments from all portions of the site have reduced the potential for exposure to hazardous materials at the Minker/Stout/Romaine Creek site while the EPA awaits removal of the wastes to the Times Beach site for final treatment.

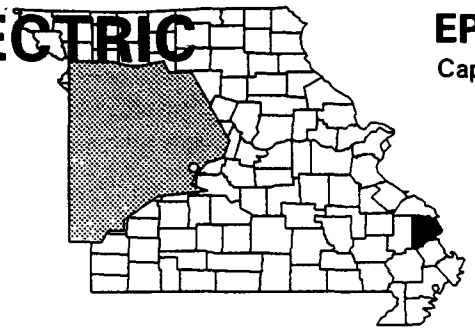
Site Repository

EPA Information Trailer, I-44, Lewis Exit, Times Beach, MO 63025

MISSOURI ELECTRIC WORKS

MISSOURI

EPA ID# MOD980965982



EPA REGION 7

Cape Girardeau County
Cape Girardeau

Site Description

Missouri Electric Works, located on this 6 1/2-acre site, has been in operation at its present location since 1953 and sells, services, and reconditions electric motors, transformers, and transformer controls. In addition, it recycles transformer oil and copper wire. The transformer oil was filtered and reused, with about 90 percent being salvaged. The remaining waste oil either was sold to local residents for dust control purposes, disposed of by a contractor, or simply was allowed to leak or spill onto the ground around the facility. Some waste oil reportedly was burned on site. The total amount of waste oil generated was about 28,000 gallons. The facility was issued an order in 1988, prohibiting the company from accepting electrical equipment containing oil with polychlorinated biphenyl (PCB) levels in excess of 1 part per million (ppm). Approximately 37,800 people live within 3 miles of the site, while 1,000 people live within a mile of the site. The land around the site is used for industrial and commercial purposes. Prime agricultural land is less than a mile away. The Mississippi River, 2 miles from the site, is used for fishing, recreational and commercial boating, and swimming. The Cape La Croix Creek, which flows into the Mississippi, receives runoff from the site through a series of drainage ditches. Most of the water needs of the City of Cape Girardeau are provided by the Mississippi River. However, groundwater from a public well 2 miles south of the site supplements river water during peak demand periods. A wetland area is located immediately to the south 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: 02/21/90

Threats and Contaminants

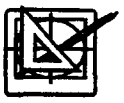
The EPA found PCBs from site operations in on- and off-site air sampling during 1987. The soils in the area are somewhat permeable, and the bedrock is highly fractured. These conditions have made it easier for PCBs and volatile organic compounds (VOCs) such as trichloroethylene (TCE) to flow into the groundwater. VOCs, chlorinated hydrocarbons and PCBs have been found in the groundwater below the site. Sediments in channels draining the site and areas off site contain PCBs. PCB contamination of the soil is widespread and occurs to a depth of at least 5 feet from leakage and disposal of contaminated transformer oil. Residents who eat produce from gardens at the site could be at risk from the contaminated soil. Breathing contaminated airborne dust near the site could affect the health of those on or 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: The site owner erected barriers to stop PCBs from migrating off site via drainage ditches and conducted sampling of a structure on site. When it was determined that the site owner did not adequately perform these activities, the EPA resampled the structure and erected new barriers across the drainage ditches to reduce the migration of PCB-contaminated soil off site.



Entire Site: In 1990, the EPA selected a remedy which includes on-site incineration of the PCB-contaminated soil and pumping and treatment of the groundwater via air stripping, followed by carbon adsorption. After the site soils have been incinerated, a further investigation of groundwater contamination is planned. The design for incinerating contaminated materials began in the fall of 1994 and is scheduled for completion in 1997.

Site Facts: Over 100 potentially responsible parties signed an Administrative Order on Consent to study site contamination and the feasibility of various cleanup technologies. In late 1991, a Consent Decree was signed between EPA and 175 potentially responsible parties to design the remedy and cleanup the soil under EPA supervision.

Environmental Progress

Erecting barriers across drainage ditches to reduce the migration of contaminated soil have reduced the potential for exposure to hazardous substances at the Missouri Electrical Works site while final remedies are being designed to clean up the soil and additional groundwater investigation is being conducted.

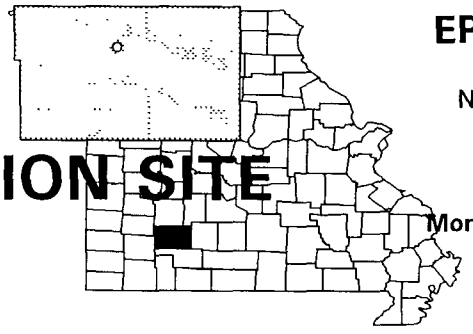
Site Repository

Cape Girardeau Public Library, 711 N. Clark Street, Cape Girardeau, MO 63701

NORTH-U DRIVE WELL CONTAMINATION SITE

MISSOURI

EPA ID# MOD007163108



EPA REGION 7

Greene County
North of Springfield

Other Names:
Montgomery Metal Craft

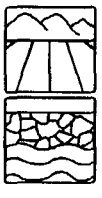
Site Description

In 1983, the residents near the North-U Drive Well Contamination site became concerned over the taste of their water. When the State investigated, it was discovered that seven private wells at five locations were contaminated with volatile organic compounds (VOCs). The EPA extended public water supply lines to the affected homes. The source of the contamination is unknown. Sinkholes in the area could have been used for waste disposal and might also have served as a conduit for migration of contaminants to the groundwater. There is no defined site boundary. This site is in a rural residential area with approximately 300 people living within a 1/4 mile radius. The contaminated wells are 1,500 feet west of Fulbright Spring, a major water source for the City of Springfield, which has a population of 133,000.

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

NPL LISTING HISTORY
Proposed Date: 10/15/84
Final Date: 06/10/86
Deleted Date: 9/08/94

Threats and Contaminants



Soil and groundwater in the private wells are contaminated with VOCs including toluene and benzene. The majority of the private wells have been plugged and, therefore, do not pose a health threat. However, a few owners have refused to have their wells plugged; people who use the contaminated drinking water may suffer adverse health effects. Recently, metals were found in some nearby private wells; however, there are no nearby sources of metal contamination. The metals found in groundwater may be a natural phenomenon resulting from metals in local soils or bedrock or could be attributed to plumbing. Because the bedrock is fractured, it may allow contaminants to migrate from the immediate area in directions and at speeds which would not otherwise be expected.

Cleanup Approach

Response Action Status

Immediate Actions: In 1985, the EPA extended the Springfield public water supply lines to North-U Drive. In addition, 67 private wells were plugged permanently to prevent their use and to prevent the well casings from serving as avenues of deep aquifer contamination.

Entire Site: The Missouri Department of Natural Resources conducted an investigation into the nature and extent of contamination at the site. Data from this investigation was used by the EPA to determine the releases were from petroleum products. In early 1993, a remedy was selected in which the EPA determined that it could not undertake response action to address the organic contaminants in the groundwater because the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) "Petroleum Exclusion" precludes Superfund response actions for the release of petroleum products. The site has been deleted from the National Priorities List (NPL), and will be addressed under other federal programs.

Environmental Progress

The immediate actions described above have eliminated the potential of exposure to hazardous substances in the drinking water and will continue to protect households around the North-U Drive Well Contamination site.

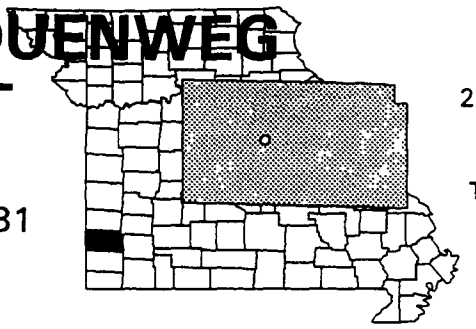
Site Repository

Kearny Branch Library, 630 W. Kearney, Springfield, MO 65801

ORONOGO-DUENWEG MINING BELT

MISSOURI

EPA ID# MOD980686281



EPA REGION 7

Jasper County
2 miles northeast of Joplin

Other Names:
Tar Creek-Jasper County
Tri-State Mining Area

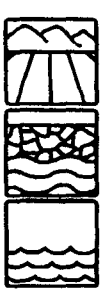
Site Description

The Oronogo-Duenweg Mining Belt site, which covers 6,400 acres, is considered to be part of the Tri-State Mining District of Missouri, Kansas, and Oklahoma. Two other sites in the district, Cherokee County in Kansas and Tar Creek in Oklahoma, were placed on the NPL in 1983. Lead and zinc ores, as well as some cadmium ores, were mined from 1848 to the late 1960s, with the greatest activity occurring in an area between Oronogo and Duenweg, northeast of Joplin. Mining efforts originally were performed by independent operations that, in later years, were organized by several area mining companies. The site is honeycombed with underground workings, pits, shafts (open, closed, and collapsed), mine tailings, waste piles, and ponds holding tailing waters. An estimated 10 million tons of wastes or tailings are on the site. Throughout the mining era, groundwater had to be pumped to prevent the flooding of mines. When mining ceased, the shafts and underground workings filled with water. Tailing piles have been left uncovered and unstabilized. Leachate and runoff from the piles can enter open shafts and pits. Approximately 1,500 people obtain drinking water from private wells within 3 miles of the site.

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

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

Threats and Contaminants



Tests conducted in 1977 by the U.S. Geological Survey, and by the potentially responsible parties in 1993 and 1994, found soil, on-site groundwater, and surface water to be contaminated with heavy metals including lead, zinc, and cadmium from the mining operations. Potential risks may exist through drinking contaminated surface water and groundwater or coming into direct contact with contaminated soil or mine wastes.

Cleanup Approach

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

Response Action Status

Initial Actions: The parties potentially responsible for site contamination are providing 100 affected residences with bottled water.

Entire Site: The EPA and potentially responsible parties began investigations in 1991 to determine the nature and extent of contamination at the site. Once the investigation is completed, scheduled for 1996, cleanup alternatives will be reviewed and a final remedy will be selected.

Site Facts: This mining site is potentially eligible for cleanup funds from the State of Missouri's approved program under the Surface Mining Control and Reclamation Act of 1977. The EPA is developing a policy for listing such sites. An Interagency Agreement was signed with the U.S. Geological Survey in April 1990 to provide technical assistance at this site.

Environmental Progress

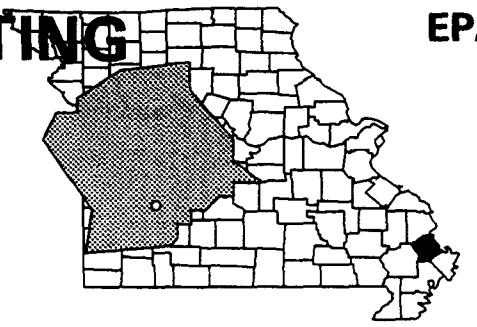
Providing bottled water to 100 nearby residences has reduced the threat of exposure to contamination while investigations leading to final cleanup remedies are being conducted.

Site Repository

Three site repositories have been established within Jasper County:

Webb City Public Library, 101 S. Liberty, Webb City, Missouri 64870
Joplin Public Library, 300 Main Street, Joplin, Missouri 64801
Carl Junction City Hall, 105 N. Main Street, Carl Junction, Missouri 64834

QUALITY PLATING
MISSOURI
EPA ID# MOD980860555



EPA REGION 7
Scott County
Sikeston

Site Description

The Quality Plating site covers approximately 5 acres in Sikeston. The site originally consisted of a 1-acre unlined lagoon and manufacturing plant. From 1978 until the facility was destroyed by fire in early 1983, Quality Plating was engaged in contract electroplating of common and precious metals. Untreated wastewater originating from the flow-through rinse tanks, as well as acid, alkaline, and metal-plating batch solutions, were continuously discharged into the lagoon at a rate of at least 10,000 gallons per day. The State detected elevated levels of chromium and lead in an on-site well. The area now is used for hay production. The population within a mile of the site is 120 people. Six residences within ¼ mile of the site obtain drinking water from shallow wells.

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

NPL LISTING HISTORY
Proposed Date: 10/15/84
Final Date: 06/10/86

Threats and Contaminants

The groundwater and on-site soils are contaminated with metals such as lead and chromium from the former electroplating operations. Drinking or bathing with the contaminated groundwater could cause adverse health effects.

Cleanup Approach

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

Response Action Status

Immediate Action: The EPA removed contaminated soil from the site in 1992.

Entire Site: Under monitoring by the EPA, the State began an investigation of the site and alternative cleanup methods in mid-1991. Soil sampling, installation of groundwater monitoring wells and groundwater sampling have been conducted. Initial studies have indicated the groundwater is contaminated with chromium and the plume is moving south of the site. The studies are scheduled for completion in late 1994, after which cleanup remedies will be selected.

Site Facts: The State repeatedly has cited the company for discharging untreated plating waste into subsurface waters. This was in violation of the company's permit under the National Pollutant Discharge Elimination System. The EPA and the State have entered into a Cooperative Agreement to perform a study at the site, led by the State.

Environmental Progress

The removal of contaminated soils from the Quality Plating site has reduced the potential for future contamination of local groundwater while further investigations leading to final cleanup activities are taking place.

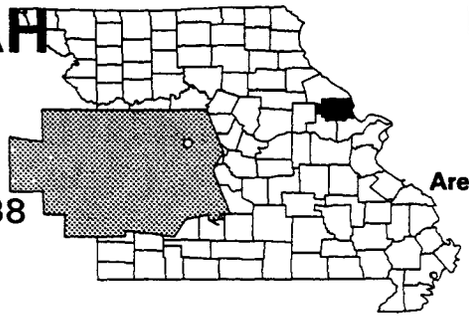
Site Repository

Sikeston Public Library, 221 N. Kings Highway, Sikeston, MO 63801

SHENANDOAH STABLES

MISSOURI

EPA ID# MOD980685838



EPA REGION 7

Lincoln County
Moscow Mills

Other Names:
Arena 1 - Shenandoah Stables
Highway 61 Fill
Slough Area

Site Description

The Shenandoah Stables site covers about 7 acres near Moscow Mills. In 1971, the horse arena became contaminated with dioxin when a St. Louis waste oil hauler sprayed it with approximately 2,000 gallons of contaminated oil for dust control. Afterward, numerous birds, rodents, and over 40 horses died. Several adults and children also became ill. In 1971, the top 6 to 8 inches of contaminated soil were excavated and used as fill material in a new highway. In 1972, more soil was removed from the arena and placed in a swampy area on site. The EPA sampling in 1982 indicated that the top 30 inches of soil in the arena and soil in the slough are contaminated with dioxin. Approximately nine houses are located in the rural area within a 1/4-mile radius of the Shenandoah Stables. The adjacent properties are mostly agricultural. The nearest residence is approximately 330 feet east of 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 soil in the arena and slough is contaminated with dioxin from the placement of contaminated oil on the site and from earlier cleanup attempts. Because cleanup activities have taken place, the site no longer poses a threat to public health or the environment.

Cleanup Approach

The site is being addressed in three stages: immediate actions and two long-term remedial phases directed at cleanup of the soil and solid waste and disposal of the soil.

Response Action Status

Immediate Actions: In 1988, the parties potentially responsible for the site contamination closed the stables, posted warning signs, and restricted access to the property. Sampling also was done at this time to determine the amount of contamination at the site.

Soil and Solid Waste: The EPA selected the methods for cleanup of the contaminated soil and solid waste in the summer of 1988. These cleanup activities included: excavating the soil to health-based standards; placing the soil in plastic bags and storing the bagged soil on site in an approved facility; decontaminating on-site structures; and fencing and posting the area. The EPA completed the cleanup in 1990, which included the excavation and on-site interim storage of dioxin-contaminated soils above the 1 part per billion (ppb) action level.

Soil Disposal: In the fall of 1990, the EPA selected a remedy to dispose of the soil, which will be completed in conjunction with the cleanup of the Times Beach site. The selected action is to transport the bags of dioxin-contaminated soil to Times Beach for incineration once the Times Beach incinerator is operable. A permit application is currently under review for the Times Beach thermal treatment unit.

Site Facts: Pursuant to an EPA Administrative Order, the parties potentially responsible for site contamination restricted public access to the site in 1983. The site initially was identified due to citizen complaints concerning illnesses in children who had visited the site.

Environmental Progress

By closing the stables, restricting access to the site, decontaminating on-site structures, and storing the contaminated soil on site in an approved facility, the EPA has eliminated immediate threats to the community and the environment at the Shenandoah Stables site. Contaminated soils from the site will be transported to the Times Beach facility for final destruction of dioxins by incineration, once the permit application is approved.

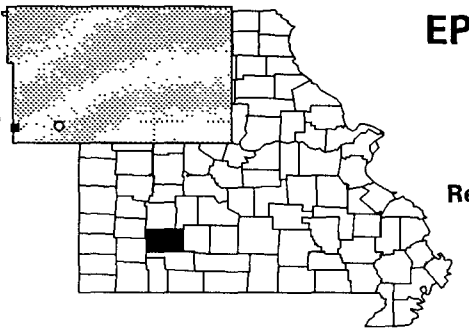
Site Repository

Moscow Mills City Hall, 500 Highway MM, Moscow Mills, MO 63362

SOLID STATE CIRCUITS, INC

MISSOURI

EPA ID# MOD980854111



EPA REGION 7

Greene County
Republic

Other Names:
Republic Plant, SSC

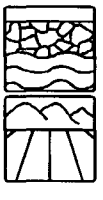
Site Description

The Solid State Circuits, Inc. (SSC) site covers 1 acre in Republic. During a 1980 drinking water study, trichloroethylene (TCE), a volatile organic compound (VOC), was detected in one of the City of Republic's public water supply wells. Further investigation by the State identified the site, at which SSC formerly manufactured printed circuit boards, as the source of the contamination. Allegedly, barrels of solvents, including TCE that was used as a copper residue stripper and plating wastes were stored in a sump pit in the basement of the facility. The State learned that after a fire destroyed the building, the new property owner (not SSC) buried the remaining structure and its contents in the basement, where there also was an unplugged well. SSC excavated material from the basement and installed three monitoring wells in response to an order from the State. The Town of Republic, with an estimated population of 5,535, potentially is endangered by contaminated groundwater. There are private wells and community wells within a 3-mile radius of the site. One community well was closed as a result of the contamination. Schuyler Creek is located downgradient from the site, approximately 2 miles away.

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

NPL LISTING HISTORY
Proposed Date: 10/15/84
Final Date: 06/10/86

Threats and Contaminants



Groundwater on and off site is contaminated with VOCs including TCE, methylene chloride, and chloroform from the former site operations. TCE was found in on-site soil prior to immediate response actions. Removal of contaminated surface and subsurface soils eliminated the risk of exposure. Sewer line and utility workers could be exposed to contaminated groundwater; however, standard safety procedures eliminate unacceptable risks.

Cleanup Approach

Response Action Status

Immediate Actions: In 1984, the EPA fenced the area where the building once stood. In 1985, following SSC's initial cleanup actions at the site, the EPA removed approximately 2,000 cubic yards of soil from the basement, the soil underneath the basement, and debris to further stabilize the site. The basement was sealed with a gravel and soil cover to bring it up to grade. The EPA plugged the abandoned well, and two wells were installed to extract contaminated groundwater.

Entire Site: Under the supervision of the State, SSC conducted an investigation at the site to determine the extent and nature of contamination and to identify alternative technologies for cleanup. As a result of the investigation, SSC will extract the contaminated groundwater by using new and existing wells; perform on-site treatment of extracted groundwater using two existing air strippers; discharge treated water to the city sewer system to receive further treatment at the publicly owned treatment works; and implement a city ordinance to prevent construction of drinking wells in or near the contaminated groundwater plumes. Monitoring of the groundwater will continue to ensure groundwater quality. SSC began designing the remedy in the spring of 1991. Installation of the automated data collection and controller system began in late 1991, replacing the original air stripper towers. The design was completed in late 1992. A groundwater pump and treatment system was installed in 1993, which is expected to operate for 40 years to meet established cleanup standards.

Site Facts: The EPA, the Missouri Department of Natural Resources, and Solid State Circuits signed a Consent Decree in July 1990, requiring SSC to conduct the remedy design, construction and operation activities, under the supervision of the State. The Consent Decree was entered by the Court in May, 1991.

Environmental Progress

After the initial cleanup actions undertaken by Solid State Circuits, Inc., the EPA reduced remaining risks to people and the environment by securing the site, removing contaminated soil and debris, sealing the basement area, and installing wells to extract and treat the contaminated groundwater. Construction of the groundwater pump and treatment system has been completed and is expected to operate for 40 years to meet established cleanup standards.

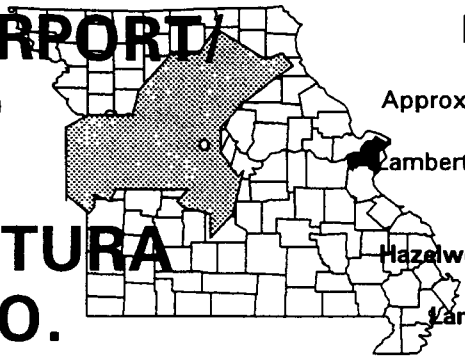
Site Repository

Springfield/Greene County Library, 393 E. Central, Springfield, MO 65801

ST. LOUIS AIRPORT/ HAZELWOOD INTERIM STORAGE/FUTURA COATINGS CO.

MISSOURI

EPA ID# MOD980633176



EPA REGION 7

St. Louis County
Approximately 15 miles northwest of downtown
Lambert/St. Louis International Airport

Other Names:
Hazelwood Interim Storage & Vicinity
Latty Avenue
Lambert-St Louis Intl. Airport

Site Description

The St. Louis Airport/Hazelwood Interim Storage/Futura Coatings Co. site consists of three areas covering approximately 32 acres. These areas were used for storing radioactive and other wastes resulting from uranium processing operations conducted in St. Louis. Radioactive scrap, drums of waste, and bulk waste were stored in the airport area in uncovered and unstabilized piles from 1947 to the mid-1960s, when they were transferred to the 9200 Latty Avenue area, later known as the Hazelwood Interim Storage (HIS) site. Buildings in the airport area were razed, buried, and covered with clean fill after 1967. In 1973, the land was conveyed to the St. Louis-Lambert Airport Authority. The HIS and the Futura Coatings Co. plant cover 11 acres adjacent to Coldwater Creek. In 1966, Continental Mining and Milling Co. acquired the property and recovered uranium from wastes purchased from the Atomic Energy Commission's (AEC) St. Louis operations. In 1967, the company sold the property, and by 1973 most processing residues had been removed. Under the direction of the Nuclear Regulatory Commission (NRC), the present owner excavated contaminated soil and is storing it in two large piles in the eastern portion of the 11 acres adjacent to Coldwater Creek. Since the 1970s, Futura Coatings, a manufacturer of plastic coatings, has leased the western portion of the site. A McDonnell Douglas office building housing 24,000 employees is within ½ mile of the airport area. An estimated 35,420 people reside within 3 miles of the site.

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

NPL LISTING HISTORY
Proposed Date: 04/28/89
Final Date: 10/04/89

Threats and Contaminants

Radon-222 was present in the air near the airport area in tests conducted by the U.S. Department of Energy (DOE) in 1986. Elevated levels of uranium, thorium, and radium are present in groundwater near the airport area and in surface and subsurface soils. Direct contact with or accidental ingestion of contaminated soils or groundwater on or near the sites may pose health risks to individuals.

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: In 1984, the DOE cleared the HIS and Futura Coatings areas, constructed a vehicle decontamination facility, installed a perimeter fence, excavated and backfilled the edges and shoulders of Latty Avenue, and consolidated the resulting contaminated soils into one secured storage pile. In 1986, during a city road improvement project, contaminated soil from roads leading to and from all three areas was excavated and placed into a secured storage pile.

Entire Site: The DOE has investigated the site under its Formerly Utilized Sites Remedial Action Program (FUSRAP). In 1982, the DOE conducted preliminary studies of radioactive contamination in the ditches along the sides of the roads leading to and from the areas. In 1986, boreholes were drilled to continue the contamination study and to collect geological information. The DOE is continuing studies of all the site areas, which will lead to additional cleanup actions. A more comprehensive investigation began in 1990 to determine the full extent of groundwater and soil contamination and to identify alternative technologies for the cleanup. Phase I of the investigation was completed in 1992. Remaining investigation phases are scheduled for completion in late 1995.

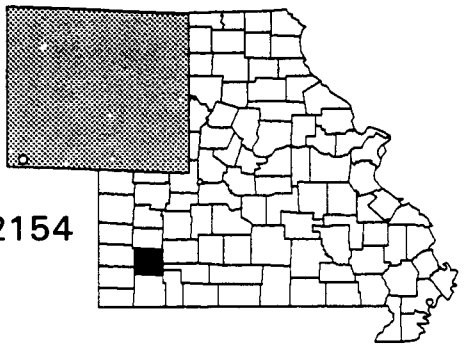
Environmental Progress

The DOE is conducting intensive investigations into the cleanup alternatives for the St. Louis Airport site. Until these investigations are completed, the immediate actions described above have reduced the potential for exposure to hazardous materials and further contamination of the site.

Site Repository

St. Louis Public Library, 1301 Olive Street, St. Louis, MO 63102

SYNTEX FACILITY
MISSOURI
EPA ID# MOD007452154



EPA REGION 7
Lawrence County
Verona, 30 miles southwest of Springfield

Other Names:
Spring River Basin
Syntex Tank Spill Area
Hoffman-Taff Lagoons-Former
Syntex Detoxification Area
Syntex Trenches
Slough Area-Hoffman/Taff Lagoons

Site Description

The Syntex Facility is a 180-acre site located in rural, predominantly agricultural Verona. Syntex Agribusiness, Inc. acquired the plant in 1969 from the Northeastern Pharmaceutical Chemical Company (NEPACCO) and has produced vitamins and prepared animal feeds and feed ingredients since 1971. From 1969 to 1971, NEPACCO leased a portion of the facility from Syntex and used it to manufacture hexachlorophene. The production of hexachlorophene generated the by-product dioxin. Dioxin residues were disposed of in five areas at the Verona facility. The major areas identified as being contaminated are: the slough area; lagoon area; spill area/irrigation area; burn area; and trench area. In 1989, Syntex excavated and transported the lagoon wastes to a mobile incinerator to destroy the dioxin. The incineration was completed in 1989. The population within 3 miles of the Syntex Facility site is approximately 650 people. The active portion of the facility is located within the Spring River 100-year flood plain.

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

NPL LISTING HISTORY
Proposed Date: 12/30/82
Final Date: 09/08/83

Threats and Contaminants

The fish in the Spring River were contaminated with dioxin up to 12 miles downstream. The soil, pools, puddles, and groundwater on the site also are contaminated with dioxin. However, groundwater contamination is only slightly higher than background levels. Exposure to dioxin-contaminated soil, drinking contaminated water, or eating fish that have been contaminated by dioxin could present a health threat.

Cleanup Approach

The site is being addressed in two long-term remedial phases focusing on cleanup of dioxin-contaminated soils and equipment and cleanup of the groundwater.

Response Action Status

Dioxin-Contaminated Soils and Equipment: Syntex and the EPA reached an agreement in 1988 on the cleanup methods to be used at the site. The selected cleanup methods include: excavating and off-site thermal treatment of dioxin-contaminated soil that exceeds a health-based criteria for an industrial site; dismantling and decontaminating equipment with a series of solutions and water rinses; and installing a clay cap with a vegetative cover over the trench area and portions of the slough area and revegetating areas contaminated with dioxin below the action level. Syntex removed contaminated soil and transported it off site for incineration. The ash residue was disposed of off site as well. This action also involved clay capping and revegetating over the trench area and all areas where waste levels were below 20 parts per billion (ppb). The final cleanup action also will include decontamination of the equipment at the site. Decontamination and dismantling of contaminated photolysis and old NEPACCO equipment was initiated in 1990. Completion of this cleanup action is contingent upon the availability of a Federally-approved disposal facility.

Groundwater: In early 1993, Syntex completed the groundwater studies, and a remedy decision was issued in 1993 that states that no further action is required at this time, since contamination is within established health-based standards. Groundwater monitoring will continue on a quarterly basis for two years.

Site Facts: In August 1982, Syntex signed a Consent Order with the EPA in which the company agreed to study the disposal sites and Spring River, under the authority of the Resource Conservation and Recovery Act (RCRA). In September 1983, Syntex Agribusiness and the EPA entered into a Consent Agreement, which outlined the plan for cleanup of the Syntex site.

Environmental Progress

Much of the cleanup work at the Syntex site has been completed. Contaminated soils have been removed and areas of former contamination have been capped and revegetated. These actions have reduced the potential for exposure to dioxin-contaminated soil or surface water at the site. Further monitoring of groundwater is taking place. Dioxin levels in Spring River fish populations have steadily decreased over the past several years.

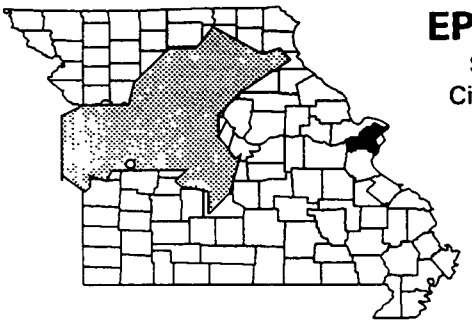
Site Repository

Varon Elementary School, 1011 Ella, Verona, MO 65769

TIMES BEACH SITE

MISSOURI

EPA ID# MOD980685226



EPA REGION 7

St. Louis County
City of Times Beach

Site Description

The Times Beach Site comprises an area of 1 square mile and is located 20 miles southwest of St. Louis. The site is a formerly incorporated city whose road system was sprayed annually with waste oil for dust control in the early 1970s. The oil later was found to be contaminated with dioxin during an investigation of the city's road systems by the EPA in 1982. During the same period, the nearby Meramec River flooded the city, and residents were forced to evacuate their homes. Subsequently, the Centers for Disease Control (CDC) recommended that the residents who had been evacuated, as well as those who had returned following the 1982 flood, be permanently relocated. The EPA transferred funds to the Federal Emergency Management Agency (FEMA) for the permanent relocation of residents and businesses in 1983. By the end of 1986, all residents were relocated permanently. Upon completion of the permanent relocation, title to the site was conveyed to the State of Missouri. Currently, the site is completely vacant and fenced. All roads leading into the city are blocked and posted with no trespassing signs. The site is patrolled by security guards on a 24-hour basis. Most of the former community lies within the 25-year flood plain of the Meramec River. The population within a ½-mile radius of the site is approximately 2,000, and includes the community of Crescent, and a portion of Eureka. The site is located in a mixed-use residential and agricultural area.

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

NPL LISTING HISTORY
Proposed Date: 03/04/83
Final Date: 09/08/83

Threats and Contaminants

The on-site surface soils along the roadways are contaminated with dioxin. Human exposure to dioxin has been limited by the evacuation of the residents, excavation of contaminated soils, and access restrictions to the Times Beach site. On-site workers, security guards, and trespassers could be exposed to dioxin through direct contact or accidental ingestion of dioxin-contaminated soil currently in interim storage. Fish in the Meramec River show elevated levels of dioxin. Area residents who consume these fish could be exposed to this contaminant. Data indicate that sources downstream of Times Beach are the primary contributors of dioxin into the Meramec River.

Cleanup Approach

The site is being addressed in three long-term remedial phases focusing on stabilization of Times Beach, excavation and treatment of the soil and other materials, and the permanent relocation of residents and businesses from the Times Beach area.

Response Action Status

Stabilization: The remedies selected by the EPA in 1984 to stabilize Times Beach and three nearby sites included: construction of an approximately 50,000-cubic-yard interim storage facility at Times Beach, and excavation of the dioxin-contaminated soil from Minker/Stout/Romaine Creek, Quail Run Mobile Manor, and the Castlewood Area sites. Construction of a series of spur levees also was selected in order to control water velocity during flooding and to limit erosion of contaminated soils. Due to State legislative and administrative actions, the interim storage facility that was planned to contain contaminated soils could not be constructed. Only the spur levee portion of the remedy could be implemented. In 1985, the EPA raised an existing levee constructed by the Missouri Highway Department as the first phase in the construction of a three-phase spur levee. In 1989, the second and third phases of the spur levee were completed, including relocation of roadways.

Soil, Structures, and Debris: This phase of the cleanup includes excavation and thermal treatment of contaminated soil and the final disposal of structures and debris. Cleanup activities include: demolition and disposal of uncontaminated structures and debris at Times Beach in a facility meeting solid waste disposal requirements; construction of a ring levee to protect a temporary thermal treatment unit from a 100-year flood; mobilization of a temporary transportable thermal treatment unit to Times Beach; excavation of all dioxin-contaminated soils at Times Beach exceeding the levels for protection of human health and the environment; thermal treatment of excavated soils to destroy contaminants; and on-site disposal of treatment residue (ash), after receiving EPA approval of its chemical content, in a facility meeting solid waste management requirements. The design and construction activities involved in the demolition and disposal of uncontaminated structures and debris were completed in 1992. Excavation and interim on-site storage of dioxin-contaminated soils pending final treatment was completed in the fall of 1994. The engineering design for the remaining cleanup activities, including the thermal treatment unit, was completed in 1992. A permit application is currently under review for the thermal treatment unit.

Relocation: This third cleanup phase addresses the permanent relocation of residents and businesses and the acquisition of all remaining properties. In 1983, the EPA provided $30 million to FEMA in a transfer allocation to conduct this phase of the cleanup. By the end of 1986, all residents were relocated permanently. FEMA has completed the purchase of all remaining properties. FEMA, the State of Missouri, the trustee for the former City of Times Beach, and St. Louis County entered into a four-party contract for permanent relocation. Ownership of the properties has been conveyed to the State, in accordance with the four-party agreement.

Site Facts: In 1990, the EPA, the State, and the potentially responsible parties signed a Consent Decree, under which cleanup activities would be conducted at the Times Beach site and 27 other dioxin sites in eastern Missouri. Under the terms of the Consent Decree, the EPA is responsible for excavation and transportation of dioxin-contaminated soils from the 27 eastern Missouri sites to Times Beach. The potentially responsible parties are responsible for the demolition and disposal of structures and debris, operation of the thermal treatment facility, and restoration of the site.

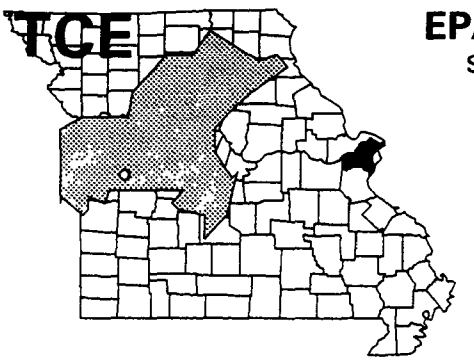
Environmental Progress

The Times Beach area has been stabilized, and numerous cleanup actions have been completed. A security fence was completed in 1992, controlling unauthorized access to the site. All residents and businesses have been permanently relocated, the purchase of the remaining parcels by FEMA has been completed, and the ownership of the parcels of land has been conveyed to the State of Missouri. The demolition and disposal of the structures at Times Beach has been completed. Excavation of dioxin-contaminated soils and placement in temporary on-site storage pending final treatment has been completed. Thermal treatment of dioxin-contaminated soils from Times Beach and other sites is scheduled to begin once the permit application is approved.

Site Repository

EPA Information Trailer, I-44, Lewis Exit, Times Beach, MO 63025

VALLEY PARK TCE
MISSOURI
EPA ID# MOD980968341



EPA REGION 7
St. Louis County
Valley Park

Other Names:
TCE Study

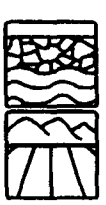
Site Description

The Valley Park TCE site is located within the city limits of Valley Park. The site is a plume of contaminated groundwater in the Meramec River alluvial aquifer. In 1982, the Missouri Department of Natural Resources (MDNR) detected a number of volatile organic chemicals (VOCs) including trichloroethylene (TCE), tetrachloroethene (PCE), and trichloroethane (TCA) in all three municipal water supply wells serving the community. Private wells within the vicinity of the site also are contaminated with VOCs. However, area private wells reportedly are used only for industrial purposes. Possible sources of contamination include the industries located in Valley Park. One source has been identified, but not all contaminants in the groundwater can be attributed to the responsible party. There are approximately 3,000 people in the community who obtained drinking water from the affected groundwater.

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

NPL LISTING HISTORY
Proposed Date: 04/10/85
Final Date: 06/10/86

Threats and Contaminants



The groundwater and soil located at the sources, are contaminated with VOCs including TCE, PCE and TCA. Drinking water from the contaminated aquifer poses a potential health threat to area residents using polluted groundwater resources.

Cleanup Approach

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

Response Action Status

Immediate Actions: In 1986, Valley Park installed aeration equipment at its water treatment plant to remove the VOCs that had been detected in the drinking water. In 1989, Valley Park was connected to the St. Louis County public water system, which now supplies its drinking water. Since Valley Park was connected to the County public water system, the residents no longer are using contaminated water for domestic purposes. In 1990, a potentially responsible party removed 331 cubic yards of PCE- and TCE-contaminated soil and backfilled the area. The predetermined cleanup levels were not attained; however, planned studies and future activities are expected to attain the cleanup levels.

Groundwater: Under supervision by the MDNR, one of the potentially responsible parties, Wainwright Industries, agreed to conduct a site investigation on their property. In the fall of 1994, EPA selected a remedy for cleanup of part of the site (Wainwright area). The remedy includes: limited soil extraction; soil vapor extraction and, after five years, additional soil excavation if needed; air sparging to accelerate the soil cleanup; groundwater extraction, treatment by airstripping, and discharge of treated groundwater into the public sewer system; and groundwater monitoring. The investigation for the remainder of the site is scheduled to be completed in 1996, at which point EPA will select a remedy for final cleanup.

Environmental Progress

By connecting the affected residences to the public water system and removing contaminated soil, the potential for exposure to contaminated drinking water or soil has been reduced at the Valley Park TCE site while final cleanup remedies are being planned.

Site Repository

Valley Park City Library, 320 Benton Street, Valley Park, MO 63088

WELDON SPRING QUARRY/PLANT/ PITTS (USDOE/ARMY)

MISSOURI

EPA ID# MO3210090004

EPA REGION 7

St. Charles County
25 miles west of St. Louis

Other Names:
Weldon Spring-Raffinate Pitts
Weldon Springs Chemical Plant

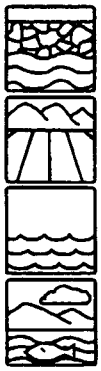
Site Description

The Weldon Spring Quarry/Plant/Pitts (USDOE/Army) site covers 230 acres and is located between the Missouri and Mississippi Rivers. This site is closely associated with the nearby Weldon Spring Former Army Ordnance Works NPL site. A series of land transfers in the 1950s gave the Atomic Energy Commission (AEC), later called the U.S. Department of Energy (DOE), 220 acres of the original Ordnance Works area. The DOE now is responsible for the contamination, both radioactive and non-radioactive, on the property. The site includes a 51-acre disposal area, a 169-acre abandoned uranium feed materials plant, various smaller properties and a 9-acre former limestone quarry located 4 miles from the plant. From 1941 to 1944, the Department of the Army operated an explosives production plant on the site. Due to frequent spills, wastewater containing sulfonate derivatives contaminated surface water and groundwater. The Ordnance Works area was closed at the end of World War II, and the processing structures were demolished. In 1955, the AEC acquired a portion of the Ordnance Works area for construction of a uranium feed materials plant. Mallinckrodt, Inc. operated the plant under a contract with the AEC from 1957 to 1966. The plant converted uranium concentrates to uranium tetrafluoride and uranium metal. Thorium ore, also a radioactive metal, was processed. The residues from the processing were disposed of in four large open pits. During that period, the plant, buildings, equipment, soil surface, sewer system, and the drainage into the Missouri River became contaminated with uranium, thorium, and their radioactive decay products. From 1943 until 1957, the U.S. Army used an abandoned limestone quarry located about 3 miles southwest of the plant site for the disposal of unknown quantities of materials contaminated with trinitrotoluene (TNT) and dinitrotoluene (DNT) residues. The AEC acquired the site in 1958 and used the quarry from 1959 to 1966 to dispose of uranium, thorium, and radium residues and contaminated materials and equipment. From 1966 to 1969, the Army deposited additional TNT-contaminated materials in the quarry. The quarry is located 3/4 of a mile from the St. Charles County well field, which is used as a drinking water source for approximately 70,000 people. The population living within 3 miles of the site is 5,000 people.

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

NPL LISTING HISTORY
Proposed Date: 10/15/84
Final Date: 07/22/87

Threats and Contaminants



Off-site groundwater is contaminated with TNT, DNT, and other explosive materials. The soil is contaminated with radionuclides, TNT, DNT, polycyclic aromatic hydrocarbons (PAHs), polychorinated biphenyls (PCBs) from transformers, and heavy metals. Off-site surface water is contaminated with uranium. Accidental ingestion of and direct contact with contaminated groundwater, surface water, or soil may cause a potential health hazard. Adjacent wildlife and recreational areas may be threatened due to off-site migration of the contaminants. Contaminant migration from the quarry to the adjacent Missouri River alluvium poses a potential threat to the County well field.

Cleanup Approach

This site is being addressed in four stages: immediate actions to stabilize the site and three long-term remedial phases focusing on source control in the chemical plant area, cleanup of the quarry bulk waste, and cleanup of the quarry residuals.

Response Action Status

Immediate Actions: The DOE began interim cleanup actions at this site in 1987, which to date have included removing overhead piping and asbestos, consolidating and storing containerized chemicals, removing electric lines and poles, cleaning up radioactive soil from Army Reserve properties, dismantling the chemical plant structures, removing PCB transformers, constructing a stormwater diversion dike to reduce off-site migration, and constructing two wastewater treatment plants. Approximately 13,000 gallons of PCB fluids and flushing solutions were removed and transported to an off-site incineration facility. As of the summer of 1994, all 40 buildings and other structures have been dismantled and placed in temporary storage. Treatment and discharge of storm water and impounded surface water will continue through the life of the project.

Source Control, Treatment, and Disposal: In 1986, the DOE began an investigation to determine the nature and extent of contamination of the air, lakes and streams, sludges, and 40 structures, and to identify cleanup alternatives. The studies were completed in 1993, and final cleanup strategies for contaminated areas were initiated to include removal of the building foundations, preparation of the subbase for the disposal cell, construction of the disposal cell, and construction of a pilot scale treatment facility.

Quarry Bulk Waste: In 1990, the EPA chose to excavate and to temporarily store quarry bulk wastes on site. Wastes are being transported over a haul road constructed solely for this purpose. As of the summer of 1994, roughly 2,000 truckloads of waste have been excavated and placed into temporary storage. Cleanup activities are scheduled for completion in late 1995.

Quarry Residuals: An investigation focusing on quarry residuals and groundwater contamination at the quarry is ongoing. The full scope of the investigation cannot be completed until bulk waste excavation is complete, which is scheduled for late 1995.

Site Facts: Under a 1992 Interagency Agreement with the EPA, the DOE will conduct cleanup actions at the quarry, as well as the plant area and nearby radioactive contaminated properties.

Environmental Progress

The removal of contaminated soil, materials, and structures, and the treatment of impounded surface water described above, have reduced the potential for exposure to hazardous substances at the Weldon Spring Quarry/Plant/Pitts site while further studies and cleanup activities are ongoing.

Site Repository

Spencer Creek Branch, St. Charles City-County Library, 425 Spencer Road,
St. Peters, MO 63376

WELDON SPRING FORMER ARMY ORDNANCE WORKS

MISSOURI

EPA ID# MO5210021288

EPA REGION 7

St. Charles County
25 miles west of St. Louis

Other Names:
Weldon Springs National Guard Facility
US Army Training Center
Weldon Springs-Ex Army Ordnance Plant
Ft. Leonard Wood

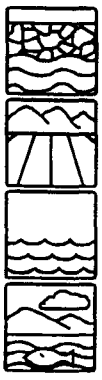
Site Description

The Weldon Spring Former Army Ordnance Works site occupied more than 17,000 acres and operated from 1941 to 1944. During its operation, the site produced explosives including trinitrotoluene (TNT) and dinitrotoluene (DNT) for the U.S. Armed Services. A series of land transfers left the Army with 1,655 acres, which it has operated since 1959 for the Army Reserve as the Weldon Spring Training Area. Contaminated areas are spread throughout the 17,000 acres of the site, with the greatest concentration in the Training Area. Some of the transferred land that covered two small areas of the original Ordnance Works area now are owned by the U.S. Department of Energy (DOE) and listed on the National Priorities List as Weldon Spring Quarry/Plant/Pits site. Investigations have identified a number of potentially contaminated areas, including seven unlined lagoons where TNT wastewater was stored, TNT production lines, two DNT production lines, drainage ditches below TNT production lines, and nine areas where explosive wastes were burned. Approximately 5,000 people live within 3 miles of the site, and approximately 70,000 people obtain drinking water from St. Charles County wells within 3 miles of the hazardous substances at the site. Surface water in the area flows either to the Mississippi River watershed to the north or the Missouri River watershed to the south. Surface waters within 3 miles are used for recreational activities.

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

NPL LISTING HISTORY
Proposed Date: 07/14/89
Final Date: 02/21/90

Threats and Contaminants



In 1987, a Department of Defense (DOD) investigator found explosives such as TNT and DNT in monitoring wells near the lagoons. TNT, DNT, and lead have been identified in soil in several areas at the site, and TNT was detected in 1987 in surface water downstream of the lagoons. The Mississippi watershed, which supports wetlands, wildlife, and recreational activities, may be threatened by runoff from the site. The TNT and DNT contamination on the site represent a physical hazard with some potential for explosion. Ingestion of polluted surface water, groundwater, or contaminated soil may pose a threat to human health. DNT is a probable human carcinogen and may be absorbed through direct contact.

Cleanup Approach

This 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: In late 1992, the U.S. Army Corps of Engineers removed the interior wooden boards of a storage room used by the Francis Howell School District. This storage room was a box factory during the operation of the former Ordnance Works during World War II. Explosive contaminants were discovered within the interior wooden boards after wipe samples from the building were taken. The interior wooden boards were removed and replaced with sheetrock. As part of a removal action, burning ground #1 was fenced to eliminate any potential exposures while investigative actions are ongoing. Surface chunks of TNT have also been removed from the burning grounds to eliminate any direct contact threat.

Entire Site: In 1987, the DOD identified a number of contaminated areas on the site. Under EPA direction, DOD began a complete investigation into the extent and type of contamination at the site in early 1990. The study will identify the nature and extent of contaminants and will recommend cleanup remedies for soils, pipelines, and groundwater. To date, samples from various lakes and springs have been collected as well as soil gas samples from an area known as Mechanical City. Groundwater will continue to be monitored to determine the impact of surface contamination on the groundwater.

Site Facts: This site is participating in the Installation Restoration Program, a specially funded program established by the DOD in 1978 to identify, investigate, and control the migration of hazardous contaminants at military and other DOD facilities.

Environmental Progress

The removal and replacement of interior wooden boards in a storage room at the site has reduced the potential for exposure to explosive contaminants while further investigations leading to a final cleanup remedy continue.

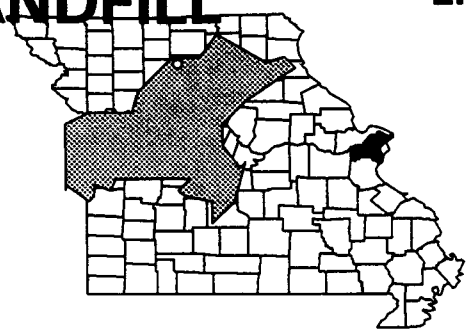
Site Repository

Weldon Training Area, 7301 Highway 94 South, St. Charles, MO 63304

WESTLAKE LANDFILL

MISSOURI

EPA ID# MOD079900932



EPA REGION 7

St. Louis County
Bridgeton

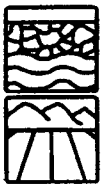
Site Description

The 200-acre Westlake Landfill site is adjacent to prime agricultural land and is in the flood plain of the Missouri River. From 1939 to 1985, limestone was quarried on the site. Beginning in 1962, portions of the property were used for landfilling of solid and liquid industrial wastes, municipal refuse, and construction debris. In 1973, Cotter Corp. disposed of over 47,000 tons of uranium ore processing residues mixed with soil in two areas covering a total of 16 acres of the site. A radiological survey conducted for the Nuclear Regulatory Commission (NRC) in 1981 and 1982 documented radioactive wastes on site. Property adjacent to the landfill was investigated in 1990, which identified radiological contamination that migrated from the landfill.

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

NPL LISTING HISTORY
Proposed Date: 10/26/89
Final Date: 08/30/90

Threats and Contaminants



Groundwater beneath the site and soil are contaminated with radioactive contaminants. Potential threats exist for people who have direct contact with or ingest contaminated groundwater or soil.

Cleanup Approach

This site is being addressed in two long-term remedial phases focusing on cleanup of radiological areas and the landfill.

Response Action Status

Radiological Waste Areas: An intensive investigation of contamination within the radiological areas began in 1994. This study, which is expected to be completion in 1996, is exploring the nature and extent of the contamination and will identify the best strategies for cleanup.

Landfill: In 1995, an investigation is scheduled to begin to explore the nature and extent of the contamination. This study will result in the selection of final cleanup strategies to address contamination from the landfill.

Environmental Progress

After listing the site on the NPL, the EPA completed a preliminary study and determined that no immediate actions were necessary at the Westlake Landfill site while site studies are underway.

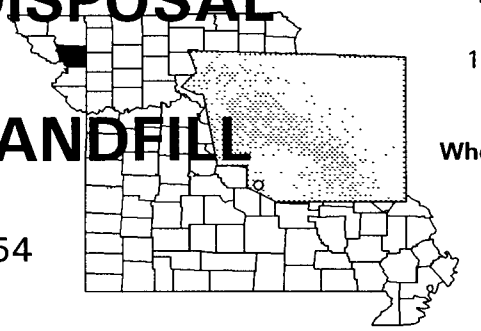
Site Repository

Contact the Region 7 Superfund Community Relations Office

WHEELING DISPOSAL SERVICE COMPANY LANDFILL

MISSOURI

EPA ID# MOD000830554



EPA REGION 7

Andrew County
1 mile south of Amazonia

Other Names:
Wheeling Waste Disposal Site

Site Description

The Wheeling Disposal Service Company operated a landfill that covers approximately 20 acres, centrally located on two adjacent areas totaling about 200 acres. The landfill was established in the early 1970s, and the facility received a State permit in 1975 to operate as an industrial waste disposal facility. Between 1980 and 1981, the company voluntarily ceased operations. The facility resumed operations under the authority of a special waste disposal permit issued by the State of Missouri until it voluntarily closed in 1986. The Missouri Department of Natural Resources (MDNR) periodically inspected the site and monitored groundwater when the landfill was in operation. Based on MDNR hazardous waste records, wastes containing pesticides, heavy metals, paint, solvents, and leather tanning sludge were disposed of in the landfill. In field investigations conducted by the EPA, contaminants were detected in monitoring wells and springs on the site. Drinking water is supplied to approximately 4,000 residents of Savannah through wells that are within 1 to 2 miles of the site. There are private wells within ¼ mile of the site. The shallow groundwater below the site supplies water to the aquifer, potentially contaminating it.

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

NPL LISTING HISTORY
Proposed Date: 12/22/87
Final Date: 10/04/89

Threats and Contaminants

The groundwater and soil on site was found to be contaminated with various volatile organic compounds (VOCs) and heavy metals including arsenic, chromium, nickel, and lead from the former waste disposal activities. Several seeps in Mace Creek also showed contamination, indicating that local surface water was potentially threatening. People could have been exposed to contaminants from eating crops grown in contaminated on-site soil.

Cleanup Approach

Response Action Status

Entire Site: In late 1990, the potentially responsible parties completed site studies. The EPA selected the site remedy, which includes well capping, surface water and groundwater monitoring, and upgrading the existing landfill cover to comply with State and Federal standards. The construction for the remedy was completed in the summer of 1994. Long-term maintenance and groundwater monitoring is being conducted by the parties potentially responsible for site contamination.

Site Facts: A Consent Decree was signed in 1991, requiring the responsible parties to conduct the remedy design and cleanup activities. The court approved the Consent Decree in 1992.

Environmental Progress

The cleanup of the Wheeling Disposal Service Company Landfill site was completed in 1994. Long-term groundwater monitoring will be part of the operation and maintenance activities at this site to ensure long-term protectiveness.

Site Repository

Rolling Hills Library, 514 W. Main Street, Savannah, MO 64458