

Superfund

American Airlines Center Before

- Produces Results
- Promotes Collaboration
- Prompts Redevelopment



Front Cover Pictures

Background: Central Wood Preserving Superfund Site

Slaughter, Louisiana

Upper left: El Paso Metals Site

El Paso, Texas

Upper right: Oklahoma Refining Superfund Site

Cyril, Oklahoma

Lower left: Victory Brownfields Site

Dallas, Texas - Before Redevelopment

Lower right: American Airlines Center at Victory

Brownfields Site - After Redevelopment

Dallas, Texas

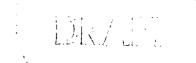
Prepared By
Superfund Division

U.S. Environmental Protection Agency, Region 6
Samuel Coleman, P.E., Director
1445 Ross Avenue
Dallas, Texas 75202

(214) 665-6701 or toll free (800) 533-3508

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CONTENTS



Introduction

Highlight on Region 6 Site Assessment

Long-Term (Remedial) Superfund Cleanups

Superfund Short-Term Emergency Removals

Region 6 Oil, Response and Preparedness Programs

The Brownfields Program: Returning Sites to Productive Use

Region 6 At A Glance						
	32,065,437 in Population		2000-Mile International Border With Mexico			
	547,598 in Square Miles					
	87 NPL Sites		Over 200,000 Chemical Usage Facilities			
	Five States and 65 sovereign Indian Nations		Over 1,600 High Oil Storage Facilities			
	1 st in Total Pipeline miles		3 rd in Total Rail Lines			
	2 nd in Total Highway Miles		Over 70% of Total Petrochemical Industry			
	Over 50% of All Oil Storage		•			
	Capacity		70% of Superfund cleanups funded by potentially responsible parties			

We in EPA Region 6 are pleased to have this opportunity to tell you about Superfund, which is the Federal Government's program to clean up the Nation's uncontrolled or abandoned hazardous waste sites. For more than 20 years, EPA has located and analyzed tens of thousands of hazardous waste sites, protected people and the environment from contamination at the worst sites, and involved others in the cleanup. We are continuing this work as quickly as possible because we are committed to ensuring that hazardous waste sites are cleaned up to protect the environment and the health of everyone in the five states that make up EPA Region 6. We are also striving to see that those responsible for the pollution are also held responsible for the cleanup. At approximately 70% of sites in Region 6, the potentially responsible party pays for the cleanup.

Years ago, people were less aware of how dumping chemical wastes might affect public health and the environment. On thousands of properties where such practices were intensive or continuous, the result was uncontrolled or abandoned hazardous waste sites, such as abandoned warehouses and landfills. Citizen concern over the extent of this problem led Congress to establish the Superfund program in 1980 to locate, investigate and clean up the worst sites nationwide. The law which authorizes EPA to clean up hazardous wastes sites is called the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), but is better known as Superfund. We work closely with our State and Tribal partners, who also want to protect public health and the environment and have their own laws about cleaning up hazardous waste sites.

The EPA Superfund cleanup process begins with the discovery of a site or notification to the EPA of possible releases of hazardous substances. We discover sites in several ways such as from a citizen notifying EPA or by State or EPA investigations. Once discovered, we evaluate the potential for a release of hazardous substances from the site through several steps in the Superfund cleanup process. In the following pages, you will discover more information about the site assessment process, the Superfund emergency removal process, the Superfund long-term remedial cleanup and the EPA oil program.

We have made great strides in cleaning up sites across our five-state Region. But we believe it is equally important to return sites to productive reuse in communities. The Brownfields Program is a mechanism EPA uses to empower states and local governments to return sites to productive use after the sites are cleaned up. We have included information on this program as well.

To round out our presentation, we have included information on our Superfund emergency response, oil pollution prevention and preparedness programs, which also help EPA protect public health and the environment.

We will continue to focus on results, making our air, water and land cleaner. We will employ the best science and data to make informed decisions as we encourage innovation and the development of new, cleaner technologies. We will work in hand-in-hand with our State, local and Tribal partners as we continue to build on America's ethic of stewardship and personal responsibility for a safer, cleaner and healthier future.

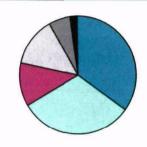
Highlight on Region 6 Site Assessment

The Region 6 Site Assessment program is a dynamic program that works in conjunction with its state and tribal partners to address and prioritize hazardous waste sites. The site assessment program is the starting line for all sites being assessed through the Region 6 Superfund Program. Sites are assessed to determine if federal action is warranted. Actions could include clean-ups through the EPA removal or remedial programs or deferral to the appropriate state or federal programs. The goal of the site assessment program is to identify those sites requiring long-term remedial action, to determine whether there is a need for immediate removal action, and to remove sites requiring no clean-up action from the Superfund inventory to help encourage economic redevelopment.

Region 6 is on the forefront of meeting the needs of a changing program through the use of integrated assessments, dynamic sampling techniques and work sharing with our state and tribal partners. At the El Paso County Metals Site, the Region 6 Site Assessment Team assessed over 3600 homes, use of the integrated team identified residents exposed to the highest risk as well as conserving agency resources. Region 6 piloted a tribal dip-vat clean-up program, to address Tribal concerns at Pueblos in New Mexico, which resulted in the development of tribal capabilities to remediate this type of site. At the Eagle-Picher-Carefree Battery Site, Region 6 utilized dynamic sampling techniques to identify possible sources of TCE and to aid in the identification of potential responsible parties.

Region 6
Site Assessment Program
Evolving to meet the challenges of a
Changing Program

Region 6 Site Assessment Pipeline



Discovery

Pre-CERCLIS

■Preliminary
Assessments
□Site
Inspections
■Integrated
Assessments
■ESI/HRS

Region 6 Final NPL Sites



Lumber/Wood Preserving

Mining/Mineral Processing

Multiple

GWPlume

Other

■ Waste Management

Refining/Oil & Gas

□ Manufactoring/Processing/Maintenance

Tribal Dip-Vat Pilot Program New Mexico

To date 120 sites have been proposed, final or deleted from the NPL. Of that total 7 are currently proposed, 87 are final on the NPL and 26 have been deleted from the NPL.

EPA Region 6 assesses approximately 100 or more sites each year. These assessments make up approximately 75% of our workload. The remainder of our workload consists of handling large-scale integrated assessments such as the El Paso County Metals Site, Palestine Arsenic and Eagle Picher Carefree Batteries.



Integrated Assessment Activities El Paso, Texas



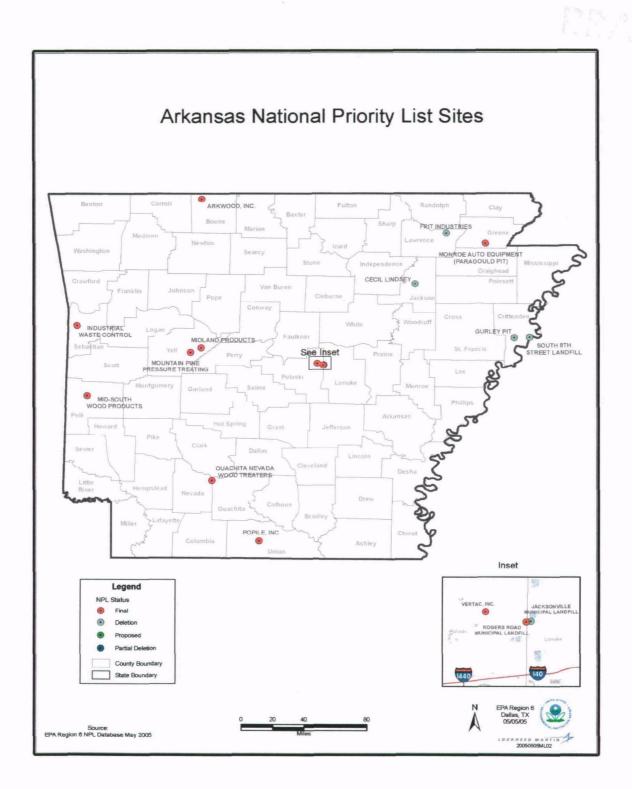
Field Analysis using Color-tec, Socorro, New Mexico

Long-Term (Remedial) Superfund Cleanups Arkansas

When a potential hazardous waste site is reported, EPA screens the site to determine what type of action is necessary to protect public health and the environment. If EPA determines that a long term, or remedial, cleanup is appropriate, the site is listed on the National Priorities List to be addressed under EPA's Superfund authorities.



Mountain Pine Pressure Treating Superfund Site, Plainview, Arkansas Cleaned Up and Ready for Reuse



The second

EPA STARTS CLEANUP ACTIVITIES AT THE MOUNTAIN PINE PRESSURE TREATING SUPERFUND SITE



EPA and its State partner, the Arkansas Department of Environmental Quality, are cleaning up the Mountain Pine Pressure Treating Superfund Site. More than 600 people live in nearby Plainview, Arkansas, and approximately 17,000 people live in the county. After the work is complete, the area will be available for reuse.

The Mountain Pine Site is an abandoned wood-treating facility located on the southwestern edge of Plainview. The 95-acre property is bordered on the north by State Highway 28, on the east by the City of Plainview, on the south by grass and woodlands, and on the west by Sunlight Bay Road. The former process area encompasses approximately 19.44 acres. Surface water runs off the site into nearby Nimrod Lake, a popular recreational area.

The Site consists of three abandoned facilities. (1) The Plainview Lumber Company was located in the northern area of the Site and operated from 1965 to 1986 as a raw and treated-wood lumber yard. (2) The Mountain Pine Pressure Treating facility operated from 1965 until 1981. The facility treated lumber with chromated copper arsenate (CCA) and pentachlorophenol and is located in the central area of the Superfund site. (3) The third



abandoned facility is known as the new CCA Treatment Plant. It is located in the eastern area of the site and operated from 1980 until 1986.

EPA added the site to the National Priorities List in 1999. The remedy EPA selected for the site includes:

- excavation of the contaminated soils and sediments exceeding the remedial goals;
- treatment of the contaminated soils and sediments through a stabilization/solidification mixing process; and
- return of the treated material to the excavated locations.

Institutional controls will be implemented to ensure future redevelopment of the Site is consistent with the long-term management of the treated waste and the acceptable risk levels remaining in the on-site soils.

EPA awarded a Superfund Redevelopment Grant to the city of Plainview so the city could develop a reuse plan consistent with the remedy.

OTHER ACTIVE NATIONAL PRIORITY LIST SITES ARKANSAS









Midland Products Site, Ola, Arkansas

DRAFT

ARKWOOD, OMAHA, AR - Approximately 650 people live within three miles of this 15-acre former wood preserving facility. Two residences are within 500 feet of the site and 174 homes within a one-mile radius. In addition, 54 springs have been identified with a 1.5- mile radius of the site. On-site structures were removed in 1994, and the ground water has been monitored for the nine years. The ground water remedy is continuing. During the summer of 2005, a pilot study for injecting ozonated water at the source (to speed up the reduction of PCP in the formation upstream from the New Cricket Spring) is expected to begin.

MIDLAND PRODUCTS, OLA, AR - Located ½ mile from Ola, this 37-acre site operated as a sawmill/wood preservative processing plant. The principal pollutants of concern included Pentachclorophenol (PCP), Polynuclear Aromatic Hydrocarbons and Chlorinated dibenzo -dioxins and -furans. The total fluid volume in the lagoons was estimated at 620,000 gallons and the estimated volume of contaminated ground water was 450,000 gallons. The extent of soil contamination was estimated to be up to 60,000 cubic yards. On-site incineration of waste materials was completed in 1993 with the treatment of 102,000 tons of creosote contaminated sludge and soil. Ground water pumping and treatment is currently operating. The Five-Year review determined that the remedy is protective of human health and the environment.

OUACHITA-NEVADA WOOD TREATER, READER, AR - This 5-acre former wood treating facility is located just north of Reader. Thirty-three people live within one mile of the site. Contaminants of concern included PCP, arsenic and chromium. An April 3, 2000, time critical removal of contaminated on-site soils, abandoned drums and surface impoundments significantly reduced the potential for contamination to migrate from the site into a nearby intermittent stream and into off-site wetlands. More than 4,000 tons of excavated contaminated soil, classified as hazardous solid waste, was disposed off site for incineration. Approximately 18,000 gallons of water from an on-site well was pumped into a mobile storage unit and treated through a sand and carbon filtration. Wood debris from a wooden office building was removed and disposed of off-site as nonhazardous material. Metal debris and scrap metal was removed and recycled. Studies are underway to determine the extent of ground water contamination.

POPILE, INC., EL DORADO, AR - The Site is a 40-acre former wood treating facility less than one mile from the city of El Dorado. A 1991 Superfund removal action included stabilizing contaminated soils and sludge, grading and shaping the site surface for erosion control, capping a temporary impoundment area, installing steel culverts in a drainage area, topsoil and seed the entire site, as well as installing security fence and post warnings. The principal pollutants included creosote and pentachlorophenol (PCP). More than 66,000 cubic yards of contaminated soil were place in a temporary on-site holding cell for biological land treatment. In 2003, a monitoring program was implemented to ensure that no contaminants were leaving the site. Preliminary results of samples collected in January 2004 showed no evidence that the ground water plume was beyond the site boundary. EPA has concluded that further remedial action is unnecessary. Ground water will continue to be monitored.

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ROGERS ROAD MUNICIPAL LANDFILL, LITTLE ROCK, AR - This municipal landfill is located .5 mile east of Little Rock. Approximately 10,000 people live within 3 miles of the Site. During remediation of the site, 200 cubic yards of contaminated soil and 38 drums of hazardous material were excavated. Contaminants included 2,3,7,8TCDD, herbicides (2,4,5-T, 2,4,5-TP and 2,4-D) and the pesticide, dieldrin. There is no off-site contamination. As a prelude to deleting this site from the NPL, the City has to determine ownership in order to put a deed restriction in place. After the site is deleted from the NPL, the city intends to use the land, possibly for community purposes.

SOUTH 8TH STREET SITE, WEST MEMPHIS, AR - This former landfill was deleted from the National Priorities List in 2004. Ground water is no longer contaminated and a total of 19,376 cubic yards of oily sludge and 22,372 cubic yards of ancillary soil were neutralized and treated. This 16-acre former landfill has a natural soil cover with a minimum thickness of 2 feet and is available for site reuse consistent with the property restrictions or to provide a natural habitat for use by mammals and birds. The central 6 acres of the site are currently being redeveloped for future barge terminal unloading operations.

VERTAC SITE, JACKSONVILLE, AR - This site located 15 miles northeast of Little Rock, has been owned by various chemical companies which produced many contaminants, including dioxin, chlorinated phenols, and herbicides, between 1948 and 1986. As a result of inadequate waste disposal and production control methods, soil and ground water were contaminated and the surrounding communities were at risk of direct contact with the ingestion of the contaminated soils. The cleanup of the Vertac site reduced the environmental risks to the Jacksonville community and the threats posed by dioxin-contaminated media were eliminated. At least 30,000 drums of dioxin waste from the production of Agent Orange used during the Vietnam War were incinerated. Contaminated soils on the site were either incinerated or disposed of and some portions of the site are now available for re-use

DRAT

EPA'S GOAL IS TO DELETE CLEANED UP SITES FROM THE NPL

When EPA determines that no further response is required to protect human health or the environment, EPA may delete the site from the National Priorities List (NPL) of Superfund sites. Sites that have been deleted from the NPL remain eligible for further Superfund-financed remedial action in the unlikely event that future conditions warrant such action. EPA can also delete portions of a site.

Since the inception of the NPL 1,540 sites have been added to the NPL. Of these, 295 have been deleted. EPA Region 6 has cleaned up and deleted 26 sites from the NPL. Since 1998, EPA Region 6 has deleted 14 sites from the NPL.

Region 6 Sites Deleted from the National Priorities List Since 1998

AT & SF (Clovis) - New Mexico	Jacksonville Municipal Landfill - Arkansas
Cleveland Mill - New Mexico	Odessa Chromium #2 - Texas
Compass Industries - Oklahoma	Pab Oil & Chemical Service - Louisiana
D.L. Mud, Inc Louisiana	Sand Springs Petro Chem - Oklahoma
Dutchtown Treatment Plant - Louisiana	South 8 th Street Landfill - Arkansas
Gulf Coast Vacuum Services - Louisiana	Southern Shipbuilding - Louisiana
Gurley Pit - Arkansas	Tenth Street Dump/Junkyard - Oklahoma



Superfund Short-Term Emergency Removals

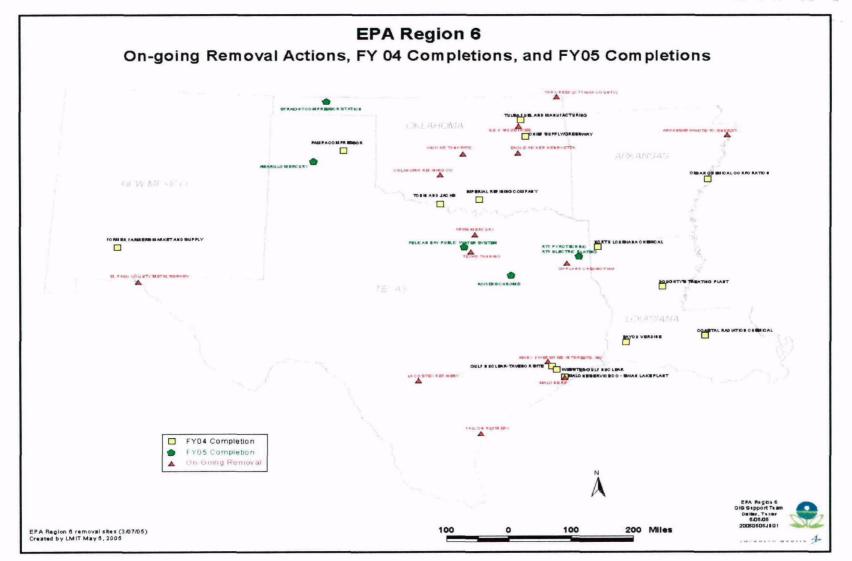
When a site presents an immediate rather than a long-term threat to public health or the environment, the EPA Region 6 Superfund Emergency Removal Program plays a key role in protecting citizens. Superfund staff respond to these critical environmental and health threats from hazardous substances, wherever and whenever they occur, 24 hours a day. Fires, explosions, contaminated drinking water and toxic fumes – these are just some of the time-critical situations the Superfund Removal Program confronts every day.

The strength of the program lies in its ability to mobilize expertise and resources immediately to respond to environmental and public health threats. By moving quickly to clean up or remove the threats, lives are protected, the environment is protected and there is greater opportunity for sites to returned to the community for redevelopment.





U.S. Environmental Protection Agency, Region 6, Dallas, Texas July 2005



Region 6 Oil, Response and Preparedness Programs

Under the provisions of the Clean Water Act and the Oil Pollution Act, EPA is charged with the responsibility of ensuring that oil production facilities take appropriate measures to prevent oil spills from reaching waters of the United States. EPA addresses this responsibility through an aggressive outreach, inspection, response and enforcement program. The Region 6 Emergency Response and Preparedness programs provide quick response to immediate threats from hazardous substances as well as outreach to communities to plan responses to such emergencies.



U.S. Environmental Protection Agency, Region 6, Dallas, Texas July 2005

EMERGENCY RESPONSE, PREPAREDNESS AND REMOVAL

There is a large diverse industry base in Region 6. Combining this industry base with the Region's large population creates the need for an effective program that responds to environmental emergencies.

The Region 6 Emergency Response and Preparedness program provides this quick response to immediate threats from hazardous substances, wherever and whenever they occur in the Region.

EPA Region 6 works with its State, Tribal, local authorities, and other federal agencies to assess and mitigate an accident or deliberate release of oil or

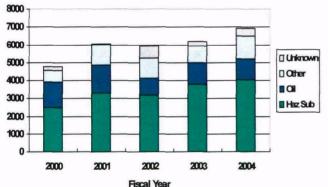
hazardous substances, including suspected terrorist incidents. The program's first priority is to minimize any danger to human health and the environment.

When spills occur, Region 6 is notified through the National Response Center. Region 6 receives approximately 38% of all notifications nationally. The figure below reflects the number and types of notifications Region 6 has received from FY 2000 through FY 2004.



Incinerator Explosion

Release Reports to Region 6 by Type



These notifications are evaluated to determine if a Federal response is necessary. Quantity and type of release, as well as location to population are some of the factors considered. Based on this evaluation, Region 6 responds to approximately 50 to 100 of these notifications each year. These responses involve sending a Region 6 representative to the incident to monitor and ensure appropriate actions are taken.

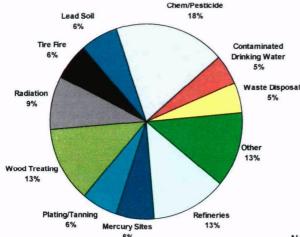
If necessary, EPA will take the lead at a response and conduct a removal action. During a removal

action, Region 6, working with our State and local partners, takes the lead to mitigate any danger to the public and/or the environment. In addition to conducting removals at response actions, Region 6 also works with its States to identify sites which will require a removal action.

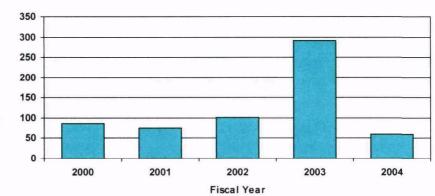
These removal actions have protected tens of thousands of the general public as well as the environment from immediate threats posed by the uncontrolled release or discharge of hazardous and toxic substances. The removal actions taken also improved property values and returned many

properties to a useful stream of commerce. These actions have resulted in 518,282 cubic yards of hazardous soils and debris as well as 5,896,980 gallons of hazardous liquids being removed from the environment and disposed of in a safe, effective manner.

Types of Region 6 Removals from FY 2000 - FY 2004

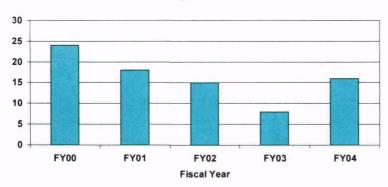


Number of Emergency Responses in Region 6



Note: In 2003, EPA had 199 responses to the Columbia Shuttle Disaster.

Number of Region 6 Removal Actions



U.S. Environmental Protection Agency, Region 6, Dallas, Texas July 2005

Preparedness and Response to Catastrophic Events

In addition to responding to routine oil and hazardous substance releases, EPA must be prepared to respond to complex, large-scale catastrophic events that threaten domestic security such as acts of terrorism. In an effort to prepare for these larger events, Region 6 has developed an integrated response network. This network includes other federal, state and local agencies, industry, and in incidents along the US/Mexico border, the nation of Mexico. To build preparedness, Region 6 conducts several conferences, training courses, and exercises with this response network.

If a catastrophic event occurs, Region 6 employs it existing response capabilities to assist and support the overall federal response under the National Response Plan (NRP). Specifically, Region 6 will dispatch resources to the scene to monitor, assist, or lead response efforts. These resources can include direct funding of response efforts, additional contractors, and specialized scientific and technical support. Two specialized

tools are the Trace Atmospheric Gas

Analyzer (TAGA) mobile laboratory and the Airborne Spectral Photometric Environmental Collection Technology (ASPECT) aircraft.

The TAGA is a self-contained mobile laboratory capable of real-time outdoor and indoor air sampling and analysis in the low parts per billion concentrations from various environmental sources and concerns.

The ASPECT aircraft carries sensors that can detect chemicals and several different radiological materials. ASPECT is also capable of collecting high-resolution digital photography and video and can take thermal and night images. And if necessary, Region 6 can also access and bring to bear additional expertise or logistical support from other EPA regions and Headquarters.

All these resources combine to give EPA a scalable and flexible integrated response capability available around the clock to respond to events that threaten domestic security.



TAGA



Aspect

SOUTH ARKANSAS OIL PROJECT IMPROVES THE ENVIRONMENT



Open Oil Pit Before Closure

EPA and its State and Federal partners recently joined hands to address problem oil production pits in a 600-square mile area of southern Arkansas where the sites threatened public health and the environment.

As a result of the efforts of EPA and its partners, more than 40 oil production sites and abandoned oil pits have been cleaned up and brought into voluntary compliance by owners or operators. These sites no longer present a health or environmental threat.

EPA partnered with the U.S. Fish and Wildlife Service, the Arkansas Oil and Gas Commission, the Arkansas Department of Environmental Quality, the Arkansas Game and Fish Commission and the Oil Producers of Arkansas to develop a strategy to deal with problems at more than 1,900 oil production sites across nine counties. Not only did these sites pose significant environmental threats, but they were also out of compliance with Federal oil pollution prevention regulations.

In conducting prior aerial reconnaissance, EPA discovered that the oil pits were just one



Oil Pit After Successful Closure and Restoration

of the many concerns in the area. Problem production sites were found to be both active and inactive facilities. To address these facilities and sites, the partners developed a set of goals and objectives. These included: 1) addressing current spill prevention practices at active facilities; 2) addressing waste management practices; 3) cleaning up past and present spills; and, 4) finally, attempting to reduce the likelihood of future reoccurrences of such incidences.

The strategy to accomplish the goals and objectives included a combination of community outreach, combined Federal and state compliance inspections, voluntary cleanup initiatives and agency-led cleanup efforts.

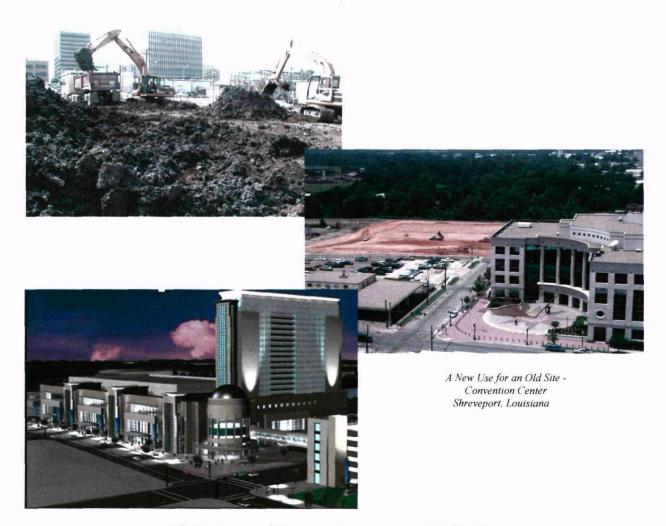
This project required an information management system that could monitor the progress of the project. EPA developed a data management system known as Site Assessment Resonance Tracking System that allows the users to collect data, inventory site information, classify/prioritize information, track site status, and establish accountability.

THE BROWNFIELDS PROGRAM RETURNING SITES TO PRODUCTIVE USE

One of the Region's highest goals is to return sites to productive use in the community. Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

As part of EPA's initiative to reuse and revitalize contaminated property, the Brownfields program provides funds and technical assistance to states, communities and other stakeholders interested in redevelopment to work together to prevent, assess, safely clean up, and sustainably reuse brownfields.

Since the program's inception in 1996, Region 6 grantees have been awarded more than \$35 million in brownfields grants. Region 6 is proud to have assessed more than 275 sites, created 10,000 jobs and leveraged \$1.8 billion in redevelopment.

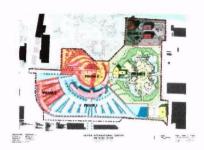


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ARKANSAS BROWNFIELDS RETURNED TO PRODUCTIVE USE

In the State of Arkansas, four entities will receive a total of \$3,450,880 in new Brownfields grant funding by October 2005. Pulaski County will receive \$3,000,000 to establish a Brownfields Cleanup Revolving Loan Fund to loan money for environmental cleanup. From September 1995 to October 2004, EPA awarded a total of \$1.3 million to Arkansas communities to assist with efforts to return brownfields properties to productive reuse.

The State of Arkansas established a State Voluntary Cleanup Program in 2000. The Arkansas Department of Environmental Quality (ADEQ) manages the State Voluntary Cleanup Program in Arkansas. Since 1995, the ADEQ has received more than \$4.6 million in EPA grant funds to support the State Brownfields Programs



Heifer International Center

In downtown Little Rock, a 28-acre site with a 100 year history of industrial use is on its way to becoming home to the Heifer International Center. Heifer International is a non-profit which provides livestock to families worldwide to serve as sources of food and income. The site history included operations of a rail yard, warehousing, light industry, and trucking companies. The Heifer International Center will be a "green" facility, creating more than 200 full-time jobs in Little Rock.

The town of Camden enjoyed decades of prosperity as a cotton shipping terminal, a timber and paper industry hub, and a home for personnel working at nearby military



Adams Street Project

installations. As a result of various blows to the local economy (defense industry lavoffs, cutbacks in timber-related jobs) the area along the river front had long been plagued by a steady, chronic decline. Faced with the prospect of continued deterioration, Camden developed the Adams Street Brownfield Redevelopment plan to capitalize on the value of a navigable waterway and adjacent railroad facilities to resuscitate a failing part of town. The plan involves the acquisition, demolition, cleanup, and redevelopment of a tract of land with numerous parcels into a regional intermodal transportation center with an expanded Port of Camden and a downtown business incubator as the centerpieces. The plan also includes a marina and a trail greenspace project.



Notes	
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WUROWNED STATES, YOUNGER, AL PROTECTION PROTECTION