

82

Pb

Lead

207.2

EPA Reduces Lead Exposures Through Cleanup Enforcement 2021

EPA's cleanup enforcement programs help get the lead out of American communities

EPA enforces the national hazardous substances and hazardous waste cleanup programs under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund) and the Resource Conservation and Recovery Act (RCRA). EPA's Superfund and RCRA corrective action enforcement groups identify parties responsible for releases or threatened releases of hazardous substances and wastes and compel them to take the actions necessary to address the contamination.

EPA administers the Superfund program to clean up contaminated sites where hazardous substances, such as lead, have been released into the environment. Lead is one of the most common contaminants found at Superfund sites; there are presently over 900 Superfund sites with lead as a contaminant of concern. Where there are financially viable parties that are responsible for the contamination, Superfund authority is used to compel those parties to either perform or pay for the cleanup.

RCRA cleanup authority may be used at RCRA permitted facilities that treat, store or dispose of hazardous waste, or anywhere that a release of solid or hazardous wastes may cause an imminent and substantial endangerment to human health and the environment.

Cleanup enforcement programs help reduce lead exposure

The Superfund program cleans up hazardous substances such as lead to protect human health and the environment. A [2019 study](#) of two decades of children's blood lead levels (BLLs) in six states indicated that Superfund cleanups lowered the risk of elevated BLL for children living within 2 km (1.24 miles) of lead-contaminated sites by 8 to 18 percent.

The Superfund and RCRA corrective action enforcement programs make many cleanups possible by identifying the parties responsible for the contamination and using enforcement authorities to compel them to clean it up. Superfund enforcement actions save taxpayers from having to pay the costs of cleanup and get some cleanups started sooner than

Lead is a neurotoxin and exposure can permanently damage the brain as well as injure other soft tissues and organs, cause permanent nerve damage, and interfere with blood formation. High levels of lead exposure can lead to seizures, coma, and death. More information on lead and human health is available on EPA's Learn About Lead web page.

Lead is still used in numerous products including paints, batteries, computer components, aviation fuel, and ammunition. Metal smelters and refineries discharge lead into the air and leave waste piles that contaminate soil and groundwater. Despite efforts to phase out lead, its extensive historical use has left a legacy of persistent contamination in communities throughout the country.

Lead is found in yards, playgrounds, homes, soils, sediments, and surface and groundwater. Lead-based paint is often found in homes built before the 1978 ban on household use of lead paint. Some communities still have lead-based or lead-soldered water pipes which may pose a hazard to drinking water.

they would if they had to wait for federal funds to become available. Facility owners and operators operating under a RCRA permit or RCRA interim status are obligated to take “corrective action” (cleanup action) when necessary; failure to do so prompts enforcement action.

Enforcement actions include administrative settlement agreements and orders on consent (ASAOCs), unilateral administrative orders (UAOs), and consent decrees (CDs). Orders and CDs can require investigation and cleanup and compel access to contaminated property, repayment of money spent by EPA (under Superfund), implementation and monitoring of institutional controls and other measures.

Some examples of lead-related cleanup enforcement actions in Fiscal Year 2021 are highlighted here.

WESTSIDE LEAD: Local nonprofit helping to restore the community

In December 2020, EPA reached an agreement with the nonprofit Westside Future Fund, Inc. (WFF) for WFF to perform a removal action at the Westside Lead Superfund Site in Atlanta, Fulton County, Georgia. Under the agreement, WFF planned to clean up lead contamination at 16 residential properties in two communities with



environmental justice concerns adjacent to Atlanta’s downtown business district. To date, WFF has expanded their cleanup work to 25 properties. WFF is a 501(c)(3) charitable organization whose mission includes preserving and expanding affordable housing in the two communities. The removal work entails excavating, hauling away, and backfilling lead-contaminated soil from the residential properties at a cost of over \$1 million.

From the 1880s to mid-20th century, heavy industries operated near the site, and EPA’s investigation indicates that lead-containing slag from those operations may have been used as fill material in the communities and caused or contributed to the present-day lead contamination in soil. EPA is now conducting a cleanup to abate the threat posed by the lead from historic fill material in residential soil and continues to sample properties in a study area comprising more than 2000 properties. More information about the site is available on the Westside Lead Superfund Site profile web page at <https://cumulis.epa.gov/supercpad/CurSites/csitinfo.cfm?id=0407160>.

DEPUE / NEW JERSEY ZINC / MOBIL CHEMICAL: Leveraging PRPs for remedial investigation

In November 2020, EPA and TCI Pacific Communications, LLC (TCI) and ExxonMobil Oil Corporation reached an agreement for the companies to perform a remedial investigation/feasibility study (RI/FS) for most of the Depue/New Jersey Zinc/Mobil Chemical Superfund Site (Depue Site) in Depue, Illinois.

Blood Lead Level (BLL) As understanding of the impact of lead on human health has increased, “acceptable” levels of lead in blood have steadily dropped.

In 2012 the Center for Disease Control, recognizing there is no safe BLL in children, recommended monitoring children with a BLL greater than 5 µg/dL.

EPA efforts to reduce lead exposure have contributed to a steady drop in BLL in children over the past four decades, but lead exposure persists in communities throughout the country.

An RI/FS, performed before a cleanup plan is developed, assesses the nature of contamination and risk to human health and the environment at a site, and considers alternative cleanup actions to address the contamination.

The contaminants of concern at the DePue Site, found primarily in the soil, are lead, arsenic, cadmium, and manganese. From approximately 1903 to 1989, these hazardous substances were released through various manufacturing operations, which left a 570,000-ton slag pile of heavy metals in the middle of town when the plants closed.

After approximately 25 years of Illinois leading the response effort, the DePue Site was transferred to EPA on October 16, 2019. EPA has prioritized cleanup of residential properties at the Site. On

January 23, 2020, EPA issued an order to TCI to clean up residential properties at the Site at an estimated cost of \$13 million. TCI is currently performing the cleanup work required by the order.

Under the November 2020 agreement, in addition to completing an RI/FS for most of the Site, the companies will pay EPA's costs of overseeing the RI/FS work and provide financial assurance for the required work. The value of the settlement agreement is \$600,000.

Learn more about enforcement actions at the Site at <https://www.epa.gov/enforcement/enforcement-actions-2020-address-public-and-residential-property-soil-cleanup-illinois>. More information on the Site is available on the Depue/New Jersey Zinc/Mobil Chemical Superfund site profile web page at <https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0500396>.

U.S. TECHNOLOGY CORPORATION: PRPs to remove majority of hazardous waste from community with environmental justice concerns

In July 2021, EPA settled with 10 potentially responsible parties (PRPs) to address the removal of over five million pounds of hazardous waste containing lead and other pollutants from the US Technology facility in Fort Smith, Arkansas. The facility sits on the banks of the Arkansas River, less than half a mile from a residential community with environmental justice concerns.



Map of U.S. Technology Corp. facility in Fort Smith, AR. Source: [USGS](https://www.usgs.gov/)

Since 2016, waste at the facility was not recycled but continued to be illegally stored without the permit required under RCRA. EPA identified parties responsible for 84 percent of the total amount of waste on site (almost 7 million pounds of material) and confirmed through testing that the waste contained lead and other hazardous metals.

Under RCRA, hazardous waste generators are responsible for their waste from "cradle to grave,"



Slag pile at DePue Site, left from years of manufacturing. Photo credit: [Lee Strubinger](#)

and to ensure that the waste is recycled or disposed of as required. The settlement alleges that the PRPs failed to ship hazardous waste to a permitted treatment, storage, and/or disposal facility. The PRPs will remove their allocated share of the waste plus a percentage of the orphan share at this abandoned/inactive facility.

This removal effort will cost the PRPs over \$1 million, and almost 80 percent of the waste removal will be completed by the end of September 2021. EPA continues to work with other parties to remove the remainder of the waste.

Learn more about the settlement at the US Technology Corporation facility at <https://www.epa.gov/newsreleases/epa-settlement-addresses-alleged-hazardous-waste-violations-us-technology-site-fort>.

GOVERNOR BACON HEALTH CENTER: Recovering site costs from federal and state parties

In December 2020, EPA reached a settlement with the U.S. Army Corps of Engineers and the State of Delaware to recover EPA's cleanup costs at the Governor Bacon Health Center Superfund Site (Site) in Delaware City, Delaware. From April 2014 to March 2015, EPA incurred almost \$4 million in cleanup costs to remove approximately 3700 tons of lead-contaminated fill material and soil to mitigate the release of lead from the Site into the Delaware River.

The state is the current owner of the 380-acre Site. The U.S. Army Corps of Engineers represents the U.S. Department of the Army, which owned and operated the Site as a landfill at Fort Dupont from the 1860s to 1947. Fort DuPont served as a Civil War gun battery, a World War I era field training, proving ground, and target practice site, and a World War II artillery base and prisoner of war camp. The Army also operated an incinerator adjacent to the landfill.

Under the settlement, the state has agreed to pay to EPA \$1,889,992 and the U.S. Army Corps has agreed to pay to EPA \$1,700,993 for a total recovery of 95% of the costs incurred at the Site.

Learn more about the settlement at <https://www.epa.gov/newsreleases/us-department-defense-delaware-pay-36-million-cleanup-former-landfill-near-governor>.

MADISON COUNTY MINES: Cooperating with PRPs to achieve more efficient cleanup

In March 2021, EPA and Delta Asphalt, Inc. reached an agreement to resolve the company's liability for operable unit 5 (OU5) at the Madison County Mines Superfund Site (Site), also known as the Catherine Mines and Skaggs Tailings Subsite. The Madison County Mines Site encompasses all of Madison County, Missouri, including Fredericktown (population approximately 4000), and the portion of a historical mine tract that extends northward into southern St. Francois County, Missouri. Mining operations, beginning in the early 1700s and ending in the mid-1900s, resulted in 13 major tailings and chat deposit areas from mineral processing operations. The settlement gives Delta Asphalt a release of liability for OU5 and includes a requirement that Delta Asphalt put an environmental covenant in place to ensure that the repository is managed in perpetuity to protect human health and the environment.

Beginning in 2003, Delta Asphalt allowed EPA to use its property as a repository to consolidate existing tailings on the property with residential yard lead-contaminated soil from other parts of the Madison County Mines Site, saving the United States an estimated \$5.4 million in avoided costs from taking the contaminated soil to the nearest off-site disposal location. Nearly the entirety of Delta Asphalt's 12.57-acre property is now covered by the EPA-constructed repository. From Delta Asphalt's first involvement at the Subsite in 1978 to the present, it has not contributed to the contamination at the Subsite.



Erosion of the tailings resulted in heavy metals contamination—primarily lead—of soils, sediments, surface water and groundwater. The contaminated soil, tailings, and chat were transported to residential properties for use as foundation bases, driveways, and fill and topsoil.

EPA performed an environmental justice mapping and screening tool (EJSCREEN) analysis for the Fredericktown area and found that all the indicators of potential environmental justice concerns were around or above the 80th percentile, compared to the rest of the state.

EPA removal and remedial actions have addressed lead contamination at approximately 2,095

residential properties at the Site to date, cleaning up

over 650,000 cubic yards of contaminated soil in addition to more than 160 acres of mine waste. A Health Education Program and a Voluntary Institutional Program have been implemented through cooperative agreements with the Missouri Department of Health and Senior Services and managed through the Madison County Health Department to raise public awareness of the presence of lead and its impact to human health and the environment.

Read the settlement between EPA and Delta Asphalt here: https://elr.info/sites/default/files/doj-consent-decrees/delta_asphalt_inc.pdf. More information on the Site is available on the Madison County Mines Superfund site profile web page at <https://www.epa.gov/superfund/madisoncountymines>.

The Office of Site Remediation Enforcement (OSRE) manages the enforcement of EPA's national hazardous waste cleanup programs. This publication is the third annual OSRE Lead Bulletin addressing enforcement efforts to clean up lead-contaminated Superfund sites and RCRA facilities. The previous bulletins are available at <https://www.epa.gov/enforcement/bulletin-epa-reduces-lead-exposure-through-cleanup-enforcement>.

For more information about lead poisoning prevention visit the Agency's lead website at <https://www.epa.gov/lead>

This summary of work by EPA's cleanup enforcement program, which addresses reducing lead exposures, is a targeted, limited summary and provided strictly for informational purposes. This information is not intended for use in establishing liability or calculating cost recovery or statutes of limitations, and cannot be relied upon to create any rights, substantive or procedural, enforceable by any party in litigation with the United States or third parties.