



TAR CREEK

SUPERFUND SITE STRATEGIC PLAN

Cleanup Progress and
Plans for the Future

August 2025



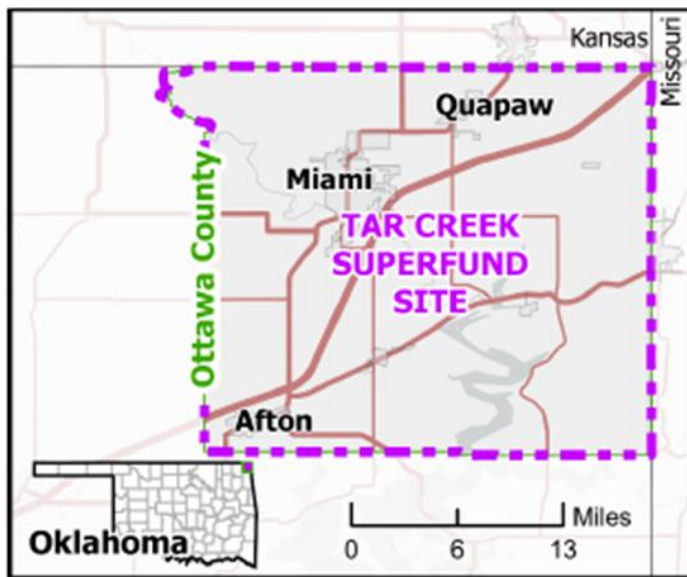
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Purpose

This Strategic Plan provides the public with an update on the substantial progress made at the Tar Creek Superfund Site since 2019, when EPA published the Site’s first plan, and recaps all progress made since EPA added the Site to the Superfund program’s National Priorities List (NPL) in 1983 and lays out a framework of action for the next five years and beyond.

The Tar Creek Superfund Site covers 485 square miles and is located in Ottawa County, Oklahoma. It is a former lead and zinc mining area that was mined from about 1891 to 1970. When mining operations ceased, hundreds of millions of tons of mining waste were left on the land surface in the form of chat piles, chat bases, and fine tailing ponds. These source areas have contributed to the contamination of the soil, surface water, and groundwater with metals. The primary contaminants of concern at the Site are cadmium, lead, and zinc.



Current site priorities include residential soil cleanups and removing mining waste that is located near or in streams. These priorities address the contamination that has the most significant impact on human health and the environment.

Due to the size and complexity of the Site, EPA divided it into five operable units (OUs) to manage investigations and cleanups. OUs address geographic areas of a site, specific site problems, or areas where a specific action is required.

The communities most impacted by mining-related waste have been relocated



Cleanups at nearly **4,000** residential and high-access area properties, such as daycare facilities and schoolyards, have been completed



Over **2,500 acres** of mining waste have been remediated.



5,529 acres have been reclaimed for reuse

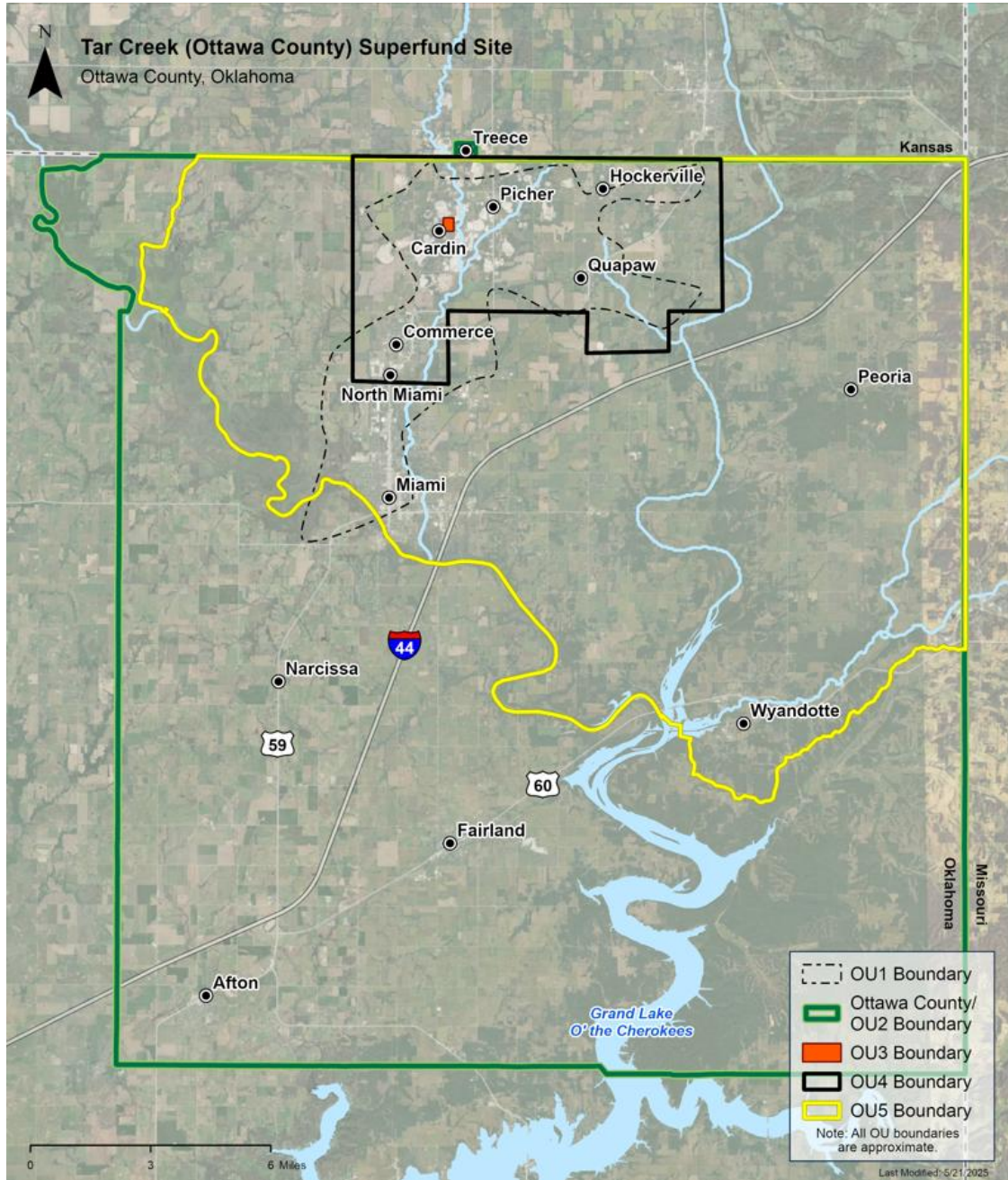
Over **10.4 million tons** of mining waste and affected transition zone soils have been remediated, which is equivalent to **100 U.S. Navy aircraft carriers**



Some chat piles are up to **200 feet tall**, the same height as a **20-story building**



Map of Tar Creek Operable Units (OUs)



Please note that in addition to the generalized boundary depicted above, OU4 includes areas where mine and mill waste and smelter waste has been moved by natural actions including erosion. See OU4 Section Overview below for more details. Please also note that a portion of the OU5 area is included for background/reference. See OU5 Map below for more details.

Operable Units (OUs)

- OU1** Mine Impacted Surface Water/Groundwater
- OU2** Residential and High-Access Areas
- OU3** Eagle-Picher Office Complex – Removal Action
- OU4** Chat Piles, Other Mine and Mill Waste, Smelter Wastes
- OU5** Sediment and Surface Water

Cleanup at the Site supports two pillars of EPA’s “Powering the Great American Comeback” Initiative: Pillar 1: Clean Air, Land, and Water for Every American; and Pillar 3: Permitting Reform, Cooperative Federalism, and Cross-Agency Partnership.

This Strategic Plan provides a look forward into EPA’s near and long-term plans for cleanup at the Tar Creek Superfund Site and an update on the substantial progress made at the Site since 2019, when EPA published the Site’s first Strategic Plan. This plan also provides a brief background, recaps all progress made since EPA added the Site to the Superfund program’s National Priorities List (NPL) in 1983, and describes the ongoing coordination and collaboration on site activities.

Substantial cleanup work remains and will take decades to complete due to the massive amount of mining waste left on the surface after nearly 100 years of mining. EPA will continue to address mining waste contamination via ongoing cleanup activities that also include operation, maintenance, and monitoring of existing remedy components. EPA will also work with our partners, including the Quapaw Nation and the Oklahoma Department of Environmental Quality (DEQ), on cleanup activities. Community engagement efforts at the Site are ongoing, including an update of the Site’s Community Involvement Plan and annual community events. The agency will also continue to release decision documents, complete five-year reviews, and put institutional controls in place to help eliminate, reduce, and manage risks to human health and the environment. EPA remains committed to supporting future beneficial uses at the Site.



Smelter site pond during source removal



Smelter site after source removal and during final grading

Table 1 summarizes the status of the primary goals identified in the 2019 Strategic Plan. Table 2 outlines near-term goals for cleanup.

Table 1. Primary Site Goals from 2019 Strategic Plan – Update	
Primary Goals	Status
Institutional Controls and Partial Deletions	
Enact Conservation Easements (institutional controls) on Tribal Land.	Ongoing. The Quapaw Conservation Easement Act was passed on September 10, 2019. There are seven projects with approved conservation easements as of July 2024.
Establish Quapaw Nation Land Use Controls.	Completed in August 2019.
Complete Partial NPL Deletions.	Not completed. Priority cleanup sites shifted and it was difficult and inefficient to aggregate enough remediated land to pursue partial deletions.
Site Cleanup Progress	
Control Ongoing Releases of Metals Found in Mining Waste in the Form of Chat Piles, Chat Bases, and Fine Tailing Ponds.	Ongoing. In total, over 10.5 million tons of mining waste have been cleaned up since work began in the late 1990s.
Clean Up Beaver Creek Chat Piles.	Completed (481,000 total tons removed).
Clean Up Elm Creek Chat Piles.	Completed (3.7 million total tons removed).
Decision Documents	
Issue Mining Waste (OU4) Record of Decision (ROD) Amendment.	EPA has determined it will not issue an amendment for the Mining Waste OU4 ROD because no change in cleanup values is anticipated. In addition to ongoing remedial actions, EPA is conducting interim measures to remove mining waste from streams as part of OU4 cleanup, prior to having a ROD for OU5. EPA will not issue an amendment for the Mining Waste OU4 ROD, as no change in cleanup values is anticipated.
Issue Watersheds (OU5) ROD.	Pending. The remedial investigation for the Lower Watershed Study Area was completed in 2021. The feasibility study is underway.

Table 2. 2025 Strategic Plan Five Year Outlook Goals
Continue work to control ongoing releases from mining waste located in and near streams.
Finalize and publish the 2025 Five-Year Review Report.
Continue cleanups of residential yards and high-access areas.
Consider EPA's 2024 lead guidance and evaluate its application to the OU2 residential cleanup.
Complete the feasibility study for OU5 watersheds to inform the future ROD.

Project Partners

Federal, state, Tribal, and local governments continue to assess and address site contamination and eliminate, reduce, and manage risks to human health and the environment

Federal Agencies – EPA Region 6, EPA Region 7, the U.S. Fish and Wildlife Service, the U.S. Geological Survey, and the Bureau of Indian Affairs (BIA)

State Agencies – Oklahoma DEQ, the Oklahoma State Department of Health, the Oklahoma Conservation Commission, the Kansas Department of Health and Environment, and the Missouri Department of Natural Resources

Tribes – the Quapaw Nation, the Peoria Tribe of Indians of Oklahoma, the Ottawa Tribe of Oklahoma, the Miami Tribe of Oklahoma, the Eastern Shawnee Tribe of Oklahoma, the Wyandotte Nation, the Seneca-Cayuga Nation, the Cherokee Nation, and the Modoc Tribe of Oklahoma

Communities – local governments, including the cities of Afton, Commerce, Fairland, Miami, North Miami, Peoria, Quapaw, and Wyandotte as well as the Ottawa County Health Department, Ottawa County Commissioner District #1, Local Environmental Action Demanded, Inc. (the L.E.A.D Agency), and local chat processors

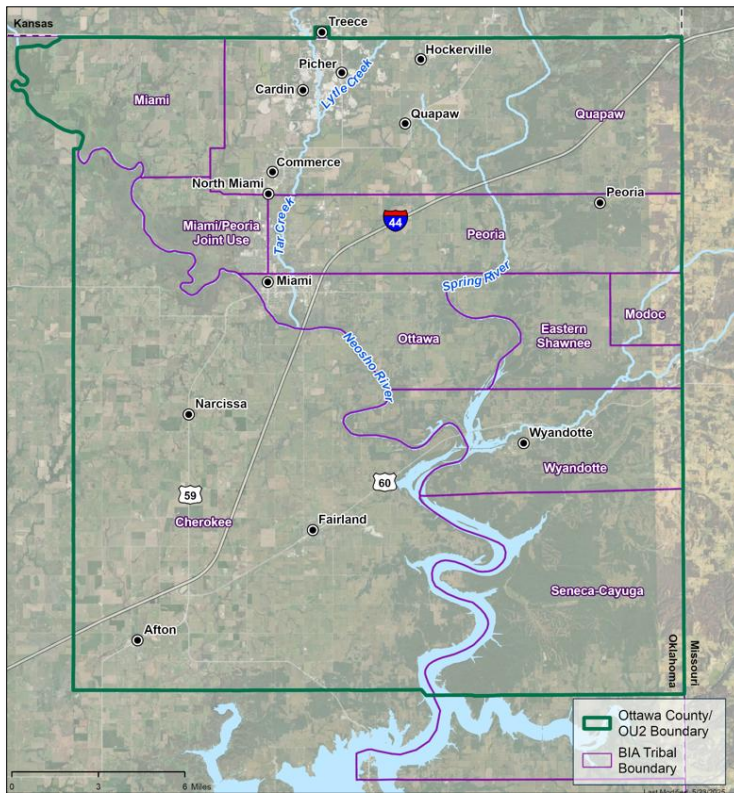
Colleges/Universities – the University of Oklahoma's Center for Restoration of Ecosystems and Watersheds (CREW), and Oklahoma State University

Remedial Action Partners

For the mining waste and residential yard cleanups, EPA's remedial action partners are the Quapaw Nation and Oklahoma DEQ. Oklahoma DEQ leads the residential cleanup in OU2. Oklahoma DEQ and the Quapaw Nation both lead the chat pile cleanup in OU4.



Site Background



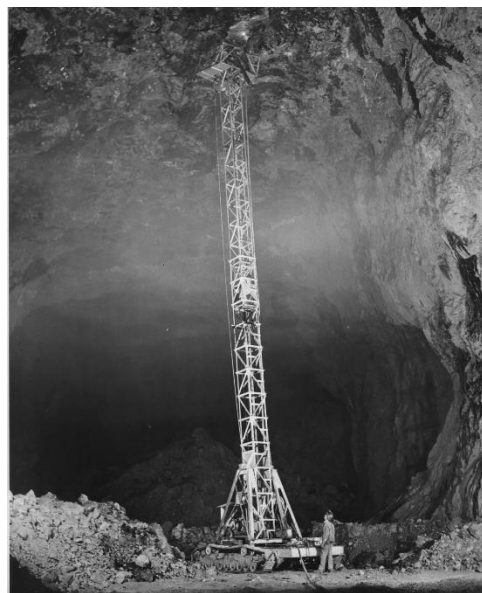
Map for the Tar Creek Superfund Site including Tribal lands

area in the TSMD, an estimated 181,000,000 tons of crude ore and 165,000,000 million tons of waste were produced during historic mining operations.¹ The mining era left a legacy of open mine shafts, acid mine water, large areas prone to subsidence, and large volumes of mining and milling wastes (known as chat) contaminated with lead, zinc, and cadmium.

The Site first came to the attention of the state of Oklahoma and EPA in 1979, when water began flowing to the surface near Commerce, Oklahoma, from the underground mine workings, through abandoned boreholes. This surface discharge flowed into Tar Creek. Soon, other discharge locations were observed near Tar Creek, Beaver Creek near Quapaw, Oklahoma, and the abandoned mining town of Douthat, Oklahoma. These discharges caused significant environmental impacts in Tar Creek, Lytle Creek, and Beaver Creek. Contamination has affected aquatic and terrestrial plants and animals. Sediment transport has also contributed to downstream contamination.

The Site does not have clearly defined boundaries; it consists of areas in Ottawa County impacted by historical mining wastes. The Site is also part of the Tri-State Mining District (TSMD), which spans parts of Oklahoma, Kansas, and Missouri. The Tar Creek Superfund Site is the Oklahoma portion of the TSMD and is located in the northeast corner of Oklahoma, in Ottawa County. There are nine federally recognized tribes in Ottawa County.

Beginning in the early 20th century, the district produced vast amounts of lead and zinc, mostly to support America's efforts in World War I and World War II. At the Tar Creek Superfund Site, which was the most heavily mined



Source: Baxter Springs Heritage Center and Museum, Kansas

¹ According to the U.S. Department of Interior's Bureau of Mines, the Oklahoma portion of the TSMD produced about 181,000,000 tons of crude ore and about 165,000,000 tons of mining waste as a result of historic lead and zinc mining operations.

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EPA added the Site to the NPL, the agency's list of top-priority hazardous waste sites, in 1983. The agency then led a series of targeted removal actions to ensure people could continue to live, work, and farm safely in the area. Over time, EPA has continued to lead extensive cleanup activities and remediation to address remaining environmental contamination.

To date, cleanup has included the relocation of four affected communities, the excavation of lead-contaminated soils from nearly 4,000 residential yards and high-access areas, and the remediation of nearly 10.5 million tons of mining waste and contaminated soil. Other efforts have included surface water management and the plugging of abandoned wells. These activities have significantly reduced the exposure of the population, and especially young children, to lead.



Distal 10a before remediation



Distal 10a after remediation



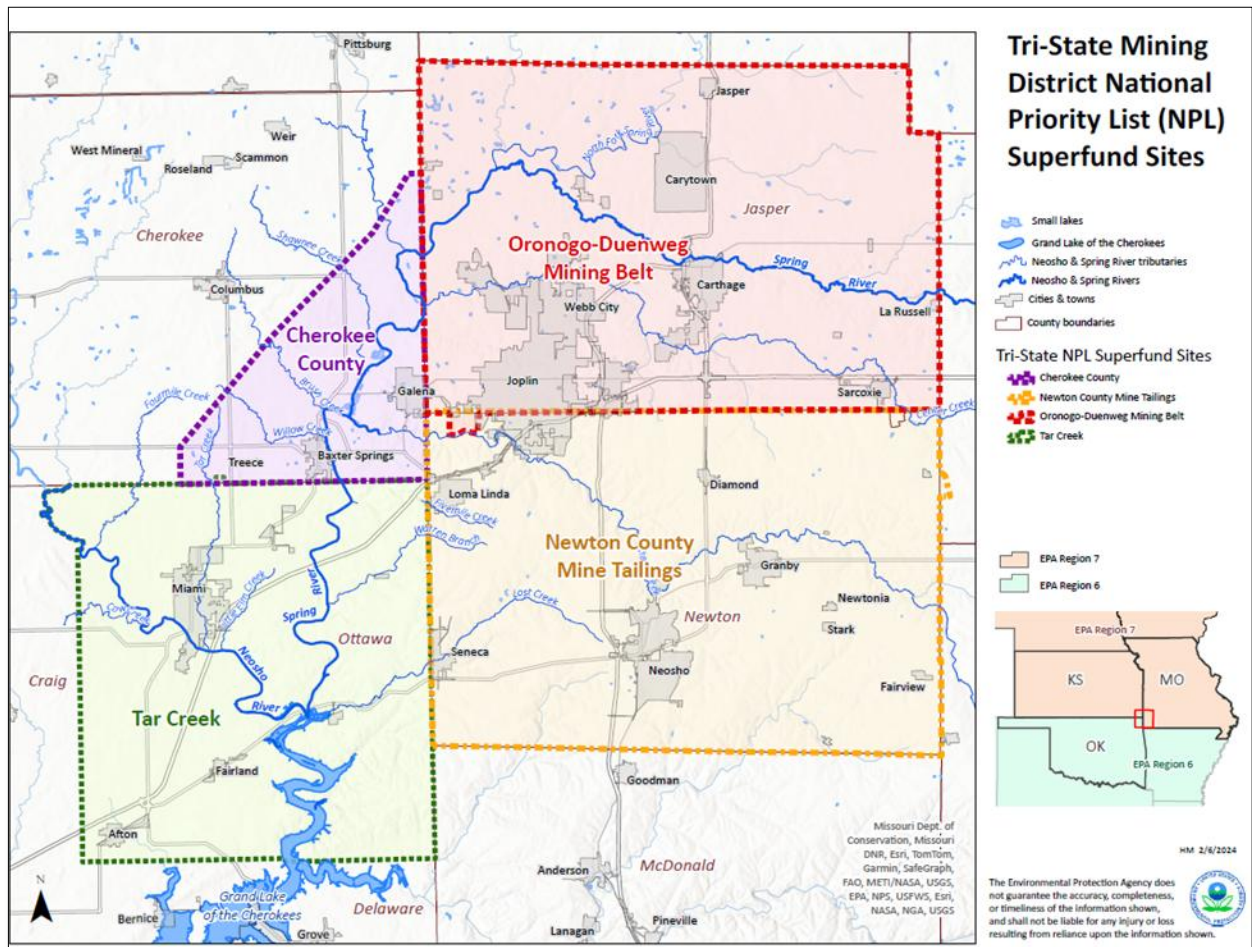
CB199 before remediation



CB199 after remediation

Coordination and Collaboration

As the Tar Creek Superfund Site is located on Tribal land and adjoins three other Superfund sites that are located in EPA Region 7 (the Cherokee County site in Kansas and the Oronogo-Duenweg Mining Belt and Newton County Mine Tailings sites in Missouri), EPA Region 7 works closely with American Indian Tribal stakeholders with an interest in the Site, the states of Oklahoma, Missouri, and Kansas, and other federal and local stakeholders to implement cleanup activities and plan for future investigations and remedial actions. EPA and its partners also work with local governments, universities, and community groups. Stakeholder and partner coordination and collaboration takes many forms, including regular meetings with agencies and Tribes, document sharing, comment requests and reviews, and working with other federal agencies to find ways to address issues.



Map of Tri-State Mining District National Priority List (NPL) Superfund Sites (Tar Creek depicted on lower left)

Oklahoma DEQ and the Quapaw Nation work directly with EPA under cooperative agreements to oversee cleanup and related activities across different parts of the Site. EPA Region 6, the Quapaw Nation, Oklahoma DEQ, and BIA meet monthly to share information and coordinate ongoing and planned cleanup actions at the Site. BIA plays an important federal role as a large part of the Site is Indian-owned land held in trust by the U.S. Department of Interior (DOI).

Because of the intensive site coordination required, remedial action partners conduct regular planning for remedial actions and investigations. Based on these discussions, EPA plans for site work in upcoming fiscal years and determines funding needs for multi-fiscal year planning. EPA Region 6’s goal is to keep a

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rolling priority list for a five-fiscal-year cycle. This rolling list allows the Region to identify more site projects or work that can be started quickly if more funding becomes available. EPA Region 6 plans to receive and fund about \$15 million of remedial action work each fiscal year. There is a limited amount of settlement funding (i.e., special account funds) for the Site paid to EPA by potentially responsible parties (mining companies). The funding can be used for site investigations and feasibility studies, remedial actions, five-year reviews, management assistance, remedial designs, and other site activities. The Region works diligently to balance funding priorities using remedial action funding, Superfund pipeline funding, and special account funding.

In 2021, the Site was among those selected by EPA to receive additional cleanup funding. The Site received about \$80 million. This funding enabled EPA Region 6, the Quapaw Nation, and Oklahoma DEQ to accelerate cleanup actions. About 2.34 million tons of waste material was removed from the Site in 2022 and 2023. EPA Region 6 received this additional funding through fiscal year 2024.

As part of its work, EPA continues regular coordination with the seven Downstream Tribes. In fiscal year 2023, EPA provided about \$1.8 million in funding through cooperative agreements to the seven Downstream Tribes as part of three-year management assistance grants to assist them in providing meaningful input at the Site.



Quapaw Nation celebrates 10 Years of Remediation during Commemoration

Major Accomplishment Highlights (1983 through 2024)



Blood lead levels of Ottawa County children significantly reduced



Public education and outreach efforts to protect children from exposure to lead ongoing



Over 2,500 acres of land made available for future use



Nearly 4,000 residential and high-access area properties cleaned up



Four communities relocated



Over 80 abandoned wells plugged



Groundwater monitored since 1987



Substantial work completed at four of the Site's five OUs



125 chat piles and bases remediated



9 fine tailings ponds remediated



183 mine shafts closed and 196 cased borings closed



10.5 million tons of mining waste and affected soils remediated



About 2.3 million tons of chat made available for sale



Remediation of more chat piles, chat bases and other mining features underway

Site Cleanup Management, Major Accomplishments, and Planning

EPA is the lead federal agency at the Site. Oklahoma DEQ leads the residential cleanup in OU2. Oklahoma DEQ and the Quapaw Nation share the lead agency role for the mining waste cleanup in OU4. These remedial action partners work closely with federal, state, and Tribal partners to manage ongoing activities at the Site and to plan for future remedial activities. The following pages provide more information on each of the Site's OUs, which are presented in order of highest to lowest risk – OU2, OU4, OU5, OU1, and OU3. The residential OU2 poses the greatest risk of exposure to lead for people living in Ottawa County. OU3 was a removal action completed in 1999 where all contamination was removed and all risk was abated in a short period of time.

OU2

Residential and High-Access Areas

Contaminated soils in residential yards and high-access areas are excavated and taken off-site for disposal. Of the 12,000 residential properties identified during the initial investigation, about 7,000 yards have been assessed and nearly 4,000 of those yards have been cleaned up.



Residential property after cleanup



Clearing in progress at Chat Base 199

OU 4

Mining Waste

Oklahoma DEQ and the Quapaw Nation continue to remediate mining waste, with a focus on cleanups near waterways. EPA's 2005 remedial investigation for OU4 estimated that there were 65.5 million tons of mining waste in the OU. To date, nearly 11 million tons of mining waste have been removed.

OU5

Sediment and Surface Water

A feasibility study is ongoing in coordination with Region 7. The Site is one of four NPL sites within the former TSMD, including over 300 river miles of rivers, creeks, and tributaries. EPA has not yet selected a remedy for OU5.



Tar Creek at Kenoyer chat pile



Diversion dike at Operable Unit 1

OU1

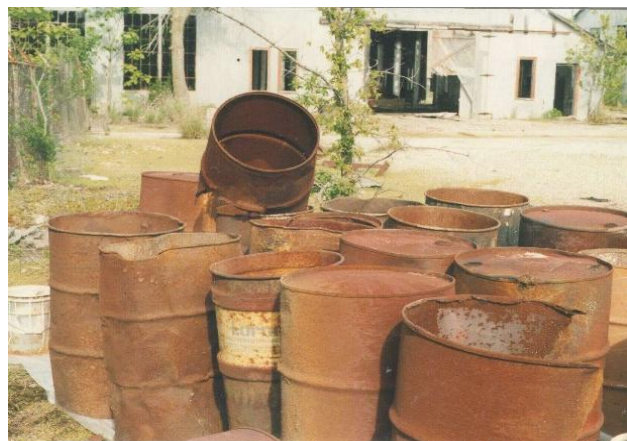
Mine Impacted Surface Water and Groundwater

OU1 includes the construction of a diversion dike to divert surface water and plugging wells that threaten the Roubidoux aquifer. During initial investigation activities, 66 abandoned wells were identified for plugging. Over the years, more wells have been identified. A total of 85 wells have been plugged to-date.

OU3

Eagle-Picher Office Complex

This former office and laboratory facility in Cardin, Oklahoma, was subject to a removal action. Removal response actions at OU3 eliminated exposure to dangerous chemicals through off-site disposal of containerized lab chemicals.



Staged barrels at the Eagle-Picher Office Complex

OU2 – Residential and High-Access Areas (such as schools, daycares, and community centers)

OVERVIEW

OU2 addresses contaminated soil in residential and high-access areas. High-access areas include daycare facilities, schoolyards, parks, and other areas where children may congregate. OU2 was established to address lead contaminated soil in residential areas of the Site. Ingesting lead contaminated soil in it can be dangerous to people's health, especially to children's health. In 1994, blood lead levels of children living on the Site indicated that about 35% of the children tested had concentrations of lead in their blood exceeding 10 micrograms per deciliter ($\mu\text{g}/\text{dL}$). At the time of the initial assessment and based on the Centers for Disease Control's (CDC's) guidance (CDC, 1991), blood lead levels of 10 $\mu\text{g}/\text{dL}$ or greater were considered a health concern. Some of the adverse health effects associated with elevated blood lead levels are behavior and learning problems, reduced IQ and hyperactivity, slowed growth, hearing problems, and anemia.

Soil sampling in 1994 and 1995 found significant concentrations of lead in surface soils at residences and high-access areas. In 1995, EPA began to excavate contaminated soil from these areas. EPA issued the OU2 Record of Decision (ROD) in 1997 to address contaminated soil in OU2 residential areas.

Oklahoma DEQ oversees OU2 and continues to address new properties that require investigation and remediation through a cooperative agreement with EPA. All residential property owners in Ottawa County are eligible for Oklahoma DEQ's Residential Yard Cleanup Program.



Remediated area at Alexander Elementary School

The remediation of yards and public areas, along with education and outreach programs implemented by the Ottawa County Health Department, are protecting children's health. Ottawa County children's blood lead levels have been reduced significantly since EPA began residential cleanup in 1995. Since the late 1990s, the Oklahoma State Department of Health (OSDH) and the Ottawa County Health Department have conducted blood lead testing of children on a voluntary basis. OSDH shares blood lead exceedances with Oklahoma DEQ and EPA to inform possible assessment and remediation efforts for those residential properties. The 2025 Ottawa County Health Department's annual report shows that only 4.9% of Ottawa County children have a blood lead level exceeding 3.5 $\mu\text{g}/\text{dL}$, which is the new threshold blood lead level established by the CDC. For the towns of Miami, North Miami, Commerce, Quapaw, and Picher, the 2025 data indicate that 8.7% of children have a blood lead level exceeding 3.5 $\mu\text{g}/\text{dL}$. Both findings demonstrate that EPA's residential cleanup efforts have resulted in a significant reduction in children's blood lead levels over the past 30 years.

Ensuring housing is safe for residents is a priority for the U.S. Department of Housing and Urban Development (HUD) and EPA. EPA and HUD developed a Memorandum of Understanding (MOU) to

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help ensure that residents of HUD properties on Superfund sites are not exposed to contamination above acceptable levels. The MOU includes public housing and multi-family assisted housing. The Region has completed an inventory of HUD housing at the Site and determined that all properties have been assessed and remediated, if needed.

EPA and Oklahoma DEQ continue to coordinate with HUD's Southern Plains Office of Native American Programs (ONAP) to identify Tribally owned properties (housing or other HUD-assisted properties such as healthcare clinics) that require sampling and remediation under OU2. Since 2015, 263 Tribal HUD properties have been assessed and 45 properties have been remediated. Additionally, EPA Region 6 and HUD ONAP established a process to meet National Environmental Policy Act (NEPA) requirements for all Tribal HUD-assisted projects to receive environmental clearance from EPA prior to initiation. When requested, EPA will provide this clearance through a Superfund comfort/status letter.

Additionally, EPA, BIA, HUD, and Indian Health Service work cooperatively and in close consultation with Tribal governments to coordinate environmental programs affecting Indian lands. This includes participating in information exchanges and coordinating overlapping responsibilities.

On January 17, 2024, EPA's Office of Land and Emergency Management released the Updated Residential Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities (2024 Updated Soil Lead Guidance). This guidance lowered recommended screening levels and strengthened guidance for cleaning up lead-contaminated soil in areas where children live, learn, and play. Based on the 2024 lead guidance, EPA currently recommends investigating areas where the amount of lead in soil is 200 parts per million (ppm) or more. EPA Region 6 is considering the 2024 lead guidance and evaluating its application to the OU2 residential cleanup.



Before-and-after views of a residential cleanup in OU2



MAJOR ACCOMPLISHMENTS

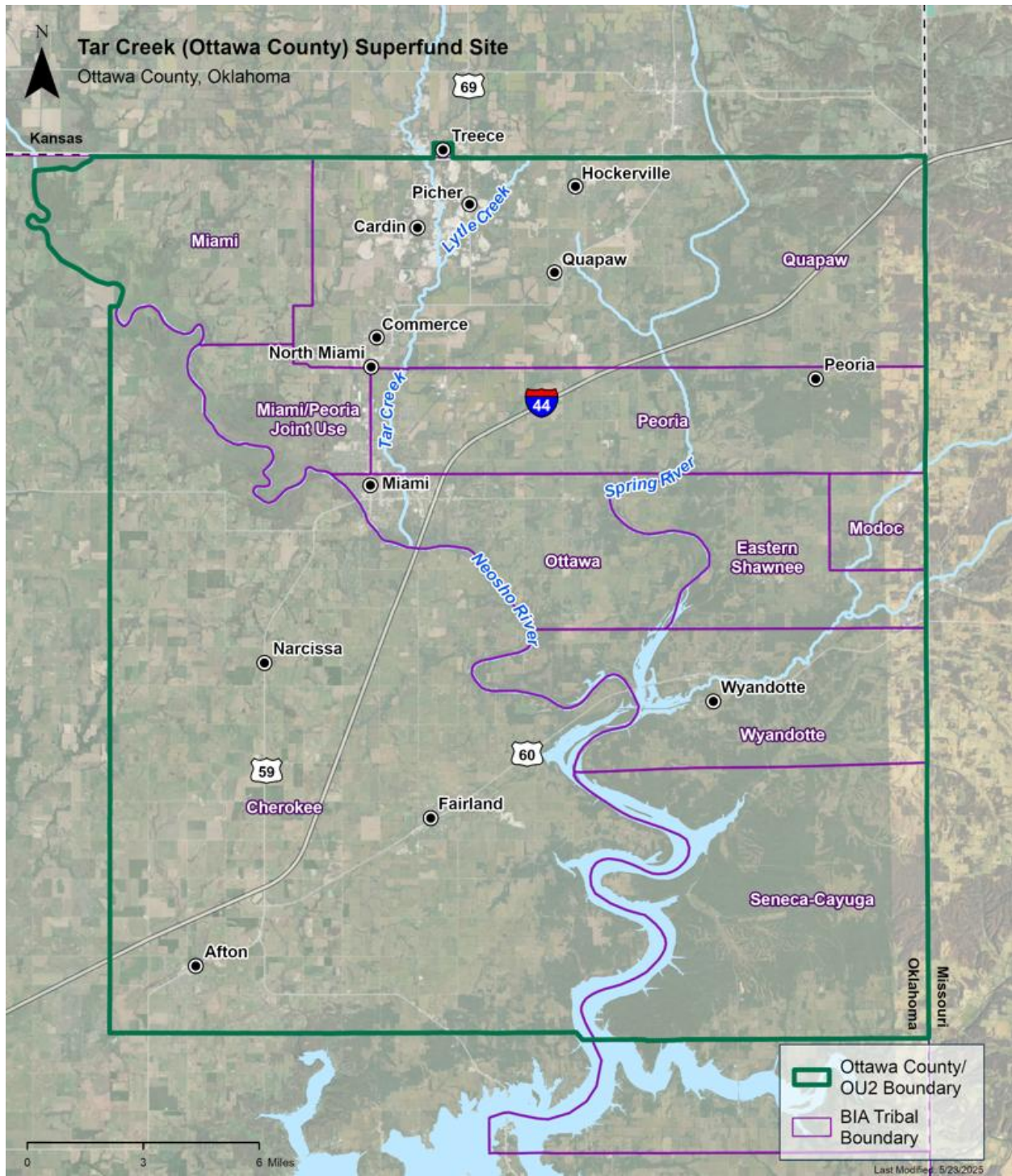
- Significantly decreased blood lead levels in children
- Cleanups of nearly 4,000 residential properties, which eliminates lead in yards
- Assessed about 7,000 properties
- Residential yard cleanups in the towns of Afton, Fairland, Narcissa, Peoria, Miami, Wyandotte, Picher, Quapaw, North Miami, Commerce, and Cardin
- 263 Tribal HUD properties assessed, and 45 properties remediated
- Inventoried multifamily and public housing HUD properties to confirm all properties were reassessed and remediated, if necessary
- Coordinated with Oklahoma DSHS and Oklahoma DEQ on child blood lead data sharing agreement.
- A telephone hotline was established for Ottawa County residents to request soil sampling



PRIMARY GOALS

- Continue Oklahoma DEQ sampling and cleanup of residential yards and high-access areas under a cooperative agreement with EPA
- Continue the implementation of Ottawa County's blood lead screening and reporting program, including education and outreach
- Maintain the telephone hotline for Ottawa County residents to request soil sampling
- Continue to coordinate with HUD to ensure that housing is safe for residents and that residents of HUD properties on-site are not exposed to contamination above acceptable levels
- Explore institutional control options to notify and educate the community about previous cleanup activities, as well to inform them of the potential harm associated with coming in contact with remaining contamination
- Consider the 2024 lead guidance and evaluate its application to the OU2 residential cleanup

Map of OU2 – Residential/ High-Access Areas



OU4 – Chat Piles, Other Mine and Mill Waste, and Smelter Wastes

OVERVIEW

OU4 addresses undeveloped rural and urban areas of the Site (i.e., terrestrial areas²) where mining wastes (i.e., source material) are located. EPA issued the OU4 ROD in 2008. It called for a phased approach to address mining waste over about 30 years. Although voluntary residential relocations are complete, cleanup efforts to address mining waste source material and transition-zone soil (impacted soils around and underneath chat piles and bases) are ongoing.



View of cleanup activities at a chat base (Distal 10)

Former mining operations spanned nearly 100 years and were generally conducted on 20- to 40-acre tracts scattered across OU4. The byproducts of the mining operations are known as mining and milling tailings. The milling tailings are locally known as “chat.” The chat was deposited into piles that were up to 200 feet in height; those are referred to as “chat piles.” Some of the mining waste is spread out and appears relatively flat; those areas are referred to as “chat bases.” In addition to piles and bases of mining wastes, fine tailings ponds containing wastes from the flotation milling process were also produced. All mining waste is contaminated with metals, which impacts the surrounding land and the surface water quality of the creeks.

In addition to millions of tons of mining waste, it is estimated that there are 161 million cubic yards of underground mining cavities, 100,000 exploratory boreholes, over 1,000 mine shafts, and numerous water wells within the Picher Field, and mostly in northeast Oklahoma at the Tar Creek Superfund Site.

The OU4 remedial action began in 2009 and is ongoing. The remedial action includes excavation and hauling of mining waste to the central repository for disposal or consolidating and capping waste in place when removal is not practicable, as well as the remediation of rural residential yards not included in the OU2 remedial action. Addressing mining waste is a priority because ongoing exposure to metals in mining waste significantly impacts human health and the environment.

To quantify the volume of mining waste and the remediation work that remains within OU4, the U.S. Bureau of Mines estimated, based on production records, that a total of 165 million tons of mining waste was produced. In 2005, EPA initially estimated that 65.5 million tons of mining waste were present at OU4, a significant underestimate based on visual surveys. To date, nearly 11 million tons of mining waste have been remediated in OU4.

EPA’s 2024 Updated Soil Lead Guidance is not anticipated to change cleanup in this OU because the predominant land use is non-residential. The updated lead guidance applies only to residential properties. If residential properties within OU4 are identified for cleanup, the appropriate residential cleanup value will be used.

² OU4 also includes terrestrial areas where mine and mill waste and smelter waste has been deposited by natural erosion processes (e.g., where chat has washed from a chat pile into a stream), which may include floodplains/riparian corridors.



MAJOR ACCOMPLISHMENTS

- Voluntary relocations of 628 residents, 74 businesses, and 125 renters from affected areas in Picher, Cardin, and Hockerville, Oklahoma (completed in 2011), and Treece, Kansas (completed in 2012)
- Voluntary buyout and relocation of a family residing at the former smelter site (completed in 2019)
- Remediation of rural residential yards not included in OU2
- Construction of the Central Mill Repository at a former fine tailings pond
- Cleanup of significant volumes of mining waste 40 chat piles and 85 chat bases have been remediated, as well as nine fine tailing ponds
- Removal of nearly 10.5 million tons of mining wastes, now managed at the Central Mill Repository or deposited back into the mine workings^{3,4}
- Provided rural drinking water connections to three homes after high levels of lead were found in their water wells⁵
- Completion of the remedial design for the core area (the most heavily mined area at the Site) and implementation at the Howe Pile⁶
- Support for chat sales (about 2.3 million tons of chat have been provided to local chat processors during remedial actions to be sold; BIA administers additional chat sales on restricted Tribal lands)⁷
- Operation of the Region 6 Chat Database to support compliance with EPA's Chat Rule and Off-Site Rule
- Completion of five Oklahoma DEQ-led cleanups under cooperative agreements with EPA
- Completion of 12 Quapaw Nation-led cleanups under cooperative agreements with EPA
- Completion of a technical memorandum for the evaluation of metals recovery in source materials in 2021, which evaluated the potential to recover metals from chat and fine tailings, which would reduce the volume of chat requiring remediation

³ OU4 mining waste quantities are reported through 2024.

⁴ Tribal land or property at the Site may be restricted or unrestricted. Restricted land is held by a Tribe or Tribal member subject to restriction (e.g., against sale or transfer). Fee simple (i.e., unrestricted) land or property is held by a Tribe, Tribal member, or non-Tribal member without restriction.

⁵ While rural drinking water connections is OU1-related, work was performed under OU4 during remedial activities.

⁶ Tribal land or property at the Site may be restricted or unrestricted. Restricted land is held by a Tribe or Tribal member subject to restriction (e.g., against sale or transfer). Fee simple (i.e., unrestricted) land or property is held by a Tribe, Tribal member, or non-Tribal member without restriction.

⁷ EPA does not own any chat and will not purchase any chat. However, it is assisting chat sale participants, including the Quapaw Nation and local chat processors, as part of the Site's Superfund remedy.



PRIMARY GOALS

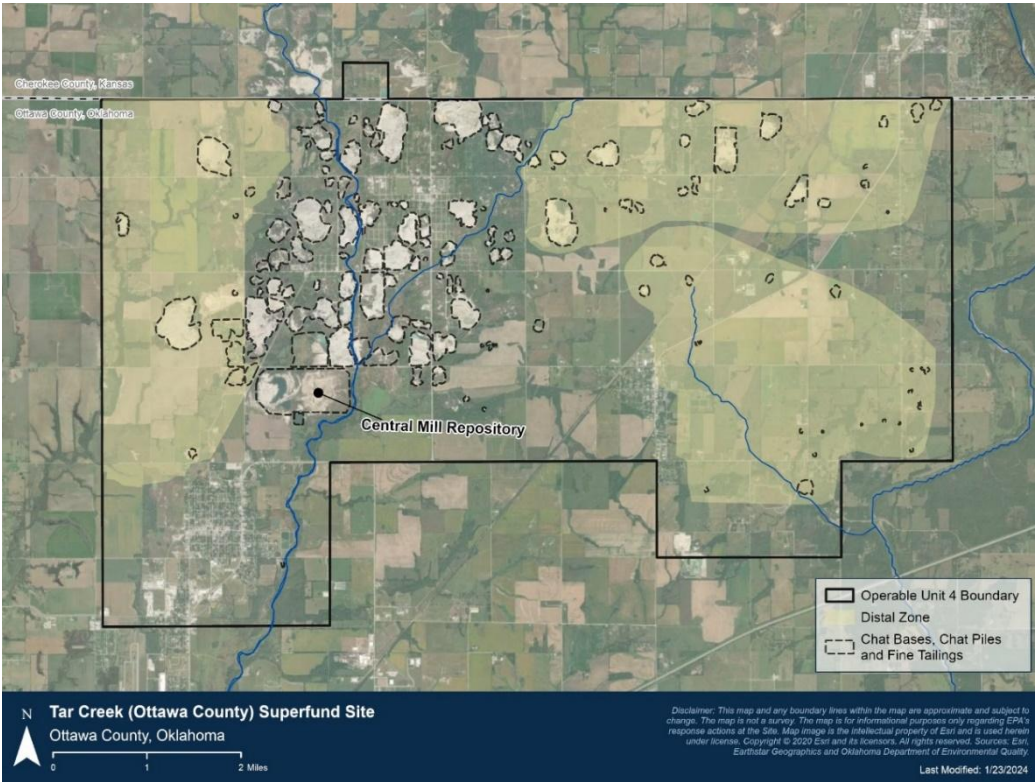
- Continue to collaborate with the Quapaw Nation, Oklahoma DEQ, and other partners to perform interim measures to address significant metal loading from nine source areas located in or near streams within the core area
- Continue cleanup of remaining chat piles, chat bases, and fine tailings deposits through cooperative agreements with the Quapaw Nation and Oklahoma DEQ. A total of 65 chat piles, 158 chat bases, and 54 fine tailing ponds remain at the Site
- Continue to assess various options for reducing the amount of topsoil needed for site restoration and for reducing the costs of the remedial actions.
- Continue to provide remedial design support to the Quapaw Nation and Oklahoma DEQ during the implementation of the remedial action for OU4
- Collaborate with Oklahoma DEQ and the Quapaw Nation to reduce operation and maintenance costs, which are required to be funded by Oklahoma DEQ after closure
- Expand community involvement activities such as continuing the development and dissemination of brochures and fact sheets, participating in the annual Tar Creek Conference, and continuing to partner with federal, state, Tribal, and local stakeholders to co-host an annual open house event with Oklahoma DEQ and the Quapaw Nation



Did You Know?

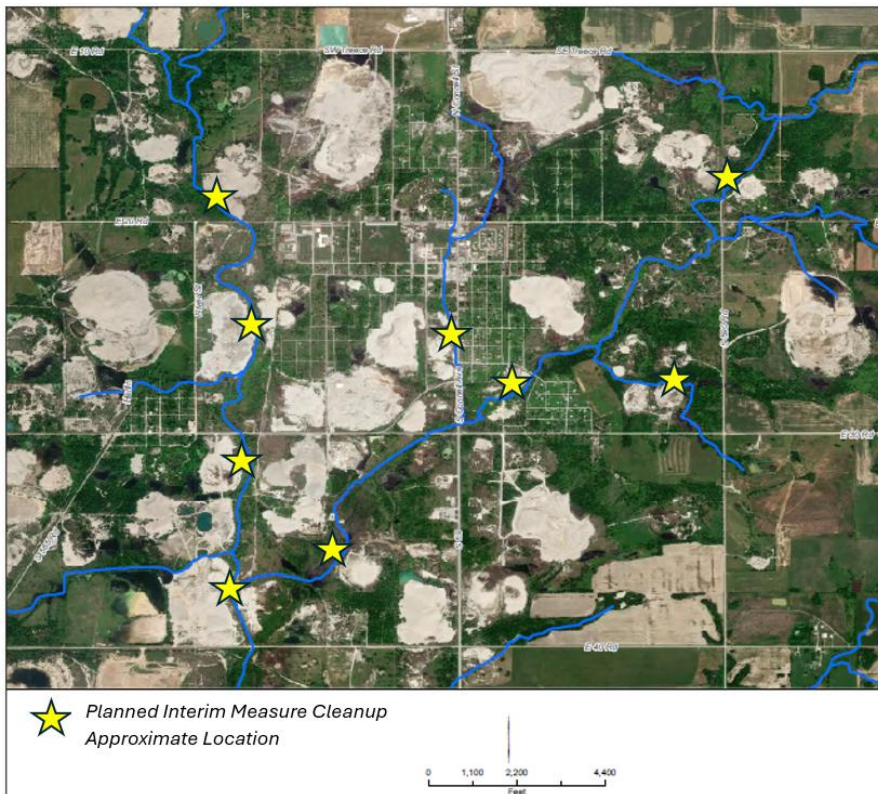
The Oklahoma Conservation Commission has [funding available to plug and fill mine shafts and sink holes](#) in undermined areas. This work focuses on physical safety rather than contamination exposure under Superfund. As such, EPA encourages affected community members to contact the state agency for more information.

Map of OU4 – Mining Waste



The OU4 core area (most heavily mined area) is depicted north of the Central Mill Repository

Please note that in addition to the generalized boundary depicted above, OU4 includes areas where mine and mill waste and smelter waste has been moved by natural actions including erosion. See OU4 Section Overview above for more details.



OU5 – Sediment and Surface Water

OVERVIEW

Within the Tar Creek Superfund Site, the watershed OU (OU5) addresses sediment⁸ and surface water in perennial (always flowing) water bodies impacted by former mining activities. OU5 is included in an area that consists of seven watersheds covering about 437 square miles and 119 river



Tar Creek east of Miami near BNSF railroad

miles in Oklahoma, Kansas, Missouri, and nine Tribal areas. Previous studies have documented that runoff and seepage from mine waste, along with drainage from mine workings, contribute to elevated concentrations of metals in sediment and surface water of the TSMD.

OU5 includes portions of the Lower Spring River, Lost Creek, Elm Creek, Tar Creek, and Fourmile Creek (background/reference area), as well as

the Neosho River and Beaver Creek watersheds. The downstream end of the study area is in Oklahoma at the confluence of the Neosho River, the Lower Spring River, and Lost Creek where each enters the north end of the Grand Lake O' the Cherokees. OU5 is in the remedial investigation and feasibility study phase of the Superfund process.

TSMD WATERSHED COORDINATION WITH EPA REGION 7

Because of the inter-relationship between the surface water and sediment, EPA Region 6 (Oklahoma) works with EPA Region 7 (Kansas and Missouri) as part of a multi-region and multi-state effort to characterize sediment and surface water throughout the river basins affected by historical mining practices within the TSMD. In April 2019, EPA Region 6 and EPA Region 7 signed an MOU for the coordination and strategy for the watershed work in the TSMD.

The MOU memorialized different lead EPA Regions for ongoing remedial investigation and feasibility study efforts. The TSMD watersheds were split into the Upper Spring River watershed and the Lower Spring River/Neosho River watersheds. The dividing point is the two dams at Empire Lake in Cherokee County, Kansas. OU5 is located in the Lower Spring River/Neosho River watershed. The MOU will be updated by the Regions as the TSMD watersheds strategy changes.

This work is a cooperative effort involving the sharing of information resources, historical data, and new data between EPA Regions 6 and 7, Tribal stakeholders with an interest in the Site, including the Seven Downstream Tribes, the states of Oklahoma, Missouri, and Kansas, and other federal and local stakeholders.⁹ Stakeholder involvement and input are central to the TSMD remedial investigation and feasibility study work.

⁸Sediments included in OU5 are those that are perennially under water/saturated (i.e., the “wet” banks of each stream).

⁹ The Seven Downstream Tribes, also referred to as the Tar Creek Trustees Council of Indian Tribes (TCTCIT), include the Peoria Tribe, the Ottawa Tribe, the Miami Tribe, the Eastern Shawnee Tribe, the Wyandotte Nation, the Seneca-Cayuga Nation, and the Cherokee Nation. The Downstream Tribal lands are located downstream from the area where the majority of the mining waste is located. Therefore, the Tribes have a significant interest in the investigation and cleanup of the watershed.

CURRENT STATUS

The TSMD watersheds are in the remedial investigation and feasibility study phase of the Superfund process, including OU5. EPA Regions 6 and 7 are coordinating the activities for the remedial investigations and feasibility studies that are being conducted for the TSMD watersheds. Both Regions are conducting pilot studies to gather information that will be used to evaluate technologies to support cleanup in watershed study areas across the TSMD. The TSMD feasibility studies will compare cleanup technologies to support future cleanup decisions.

For the remedial investigation and human health risk assessment (HHRA), the TSMD was divided into two study areas (upper and lower). Empire Lake in Kansas was the natural break used to define the division between the two watershed study areas. The Upper Spring River Watershed is referred to as the “Upper Watershed Study Area” and is located in Region 7. The Lower Spring River, Neosho River, and Lost Creek Watersheds are collectively referred to as the “Lower Watershed Study Area” and are located in Oklahoma, Kansas, and Missouri. However, the feasibility study for OU5 will cover only the Oklahoma portion of the Lower Watershed Study Area.

A Remedial Investigation Report was completed for OU5 in 2020. The OU5 remedial investigation also included the Kansas and Missouri portions of the Lower Spring River, Lost Creek, Elm Creek, Tar Creek, and Fourmile Creek watersheds. The scope of the remedial investigation for the OU5 study area, as agreed by EPA Regions 6 and 7 and site stakeholders, included the evaluation of the nature and extent of contamination within the sediment and surface water, and associated mine discharge and select aquatic biota within the OU5 study area.

An HHRA was released for OU5 in 2021. The OU5 HHRA also included the Kansas and Missouri portions of the Lower Spring River, Lost Creek, Elm Creek, Tar Creek, and Fourmile Creek watersheds. The OU5 HHRA scope, developed in consultation with EPA Regions 6 and 7 and site stakeholders, includes evaluation of sediment, surface water, associated mine discharge, and select aquatic biota (including fish, shellfish, plants, amphibians/aquatic reptiles, and small semi-aquatic game such as raccoons) in the OU5 study area. Together, the OU5 Remedial Investigation Report and the HHRA will inform the OU5 feasibility study and the future ROD for OU5.

TSMD WATERSHED COORDINATION WITH TRIBES

Close coordination among EPA, the Quapaw Nation (remedial action partner for OU4), and the Tar Creek Trustee Council of Indian Tribes (TTCIT) led to the incorporation of the Tribal Lifeway scenario into EPA's Tar Creek OU5 watershed human health risk assessment. EPA developed a Conceptual Exposure Model for the Site guided by input from the Tribes, ultimately resulting in the inclusion and evaluation of the Tribal Lifeway cumulative exposure scenario as well as a Tribal worker scenario. These scenarios evaluated exposures to environmental media through a variety of exposure routes, including ingestion/dermal/inhalation of surface water, ingestion of aquatic plants and animals as food, dermal routes from using aquatic plant as salves, and ingestion and dermal exposure routes from work-related (aquatic worker) and recreational activities within surface water and/or sediment. EPA will continue to coordinate with our Tribal partners as OU5 moves through the remedial investigation and feasibility study process, including coordination on the combined TSMD HHRA.¹⁰

¹⁰ An HHRA is the process to estimate the nature and probability of adverse health effects in humans who may be exposed to chemicals in contaminated environmental media, now or in the future.



MAJOR ACCOMPLISHMENTS

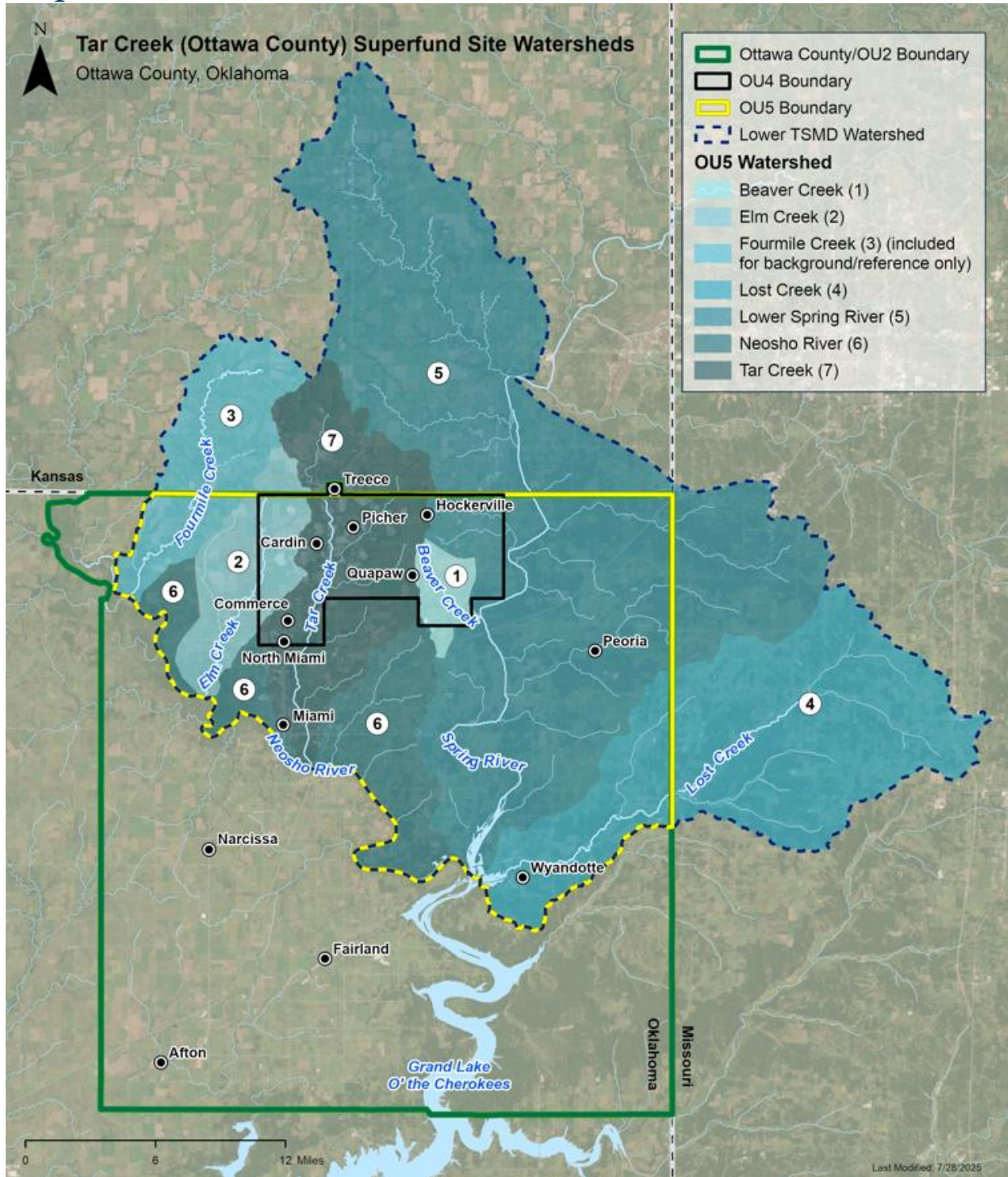
- Development of the remedial investigation and human health risk assessment
- Initial development of preliminary remediation goals (PRGs) for sediment
- Initiation of a feasibility study to identify and evaluate potential remediation technologies
- CSTAG engagement for Site Optimization for Milestone #1
- Coordinated with Region 7 and stakeholders on the Prioritization Scheme for early or interim actions in the TSMD watersheds and released a memorandum and response to comments (RTC) document
- Began performing interim cleanup measures on mining waste in and near-streams in the core area
- Coordinated with Region 7 and stakeholders on the conceptual design of a treatment complex on Tar Creek near the Kansas-Oklahoma border
- Conducted a biochar pilot study to evaluate the effectiveness of biochar in adsorbing and retaining metals in surface water
- Conducted a site-specific screening level risk evaluation for parts of Tar Creek based on reports of observed swimming



PRIMARY GOALS

- Continue to coordinate with stakeholders throughout the remedial investigation and feasibility study phase, including the PRG selection process
- Continue to coordinate with stakeholders throughout the CSTAG engagement process
- Continue to perform interim cleanup measures at areas where mining waste is located in and near streams in the core area
- Continue conducting ongoing watershed monitoring sampling with the U.S. Geological Survey
- Complete the Watershed Characterization Report for the TSMD watersheds
- Complete a geomorphic study for the TSMD watersheds
- Continue participating in the NEPA review of the Pensacola Dam re-licensing process
- Finalize the feasibility study for OU5
- Update the MOU between Region 6 and Region 7, as appropriate, to reflect watershed strategy changes

Map of OU5 - Watersheds



Please note that watershed map shows the entire Lower Watershed Study area that includes watersheds in Kansas and Missouri (Region 7).

Highlighting The University of Oklahoma's Center for Restoration of Ecosystems and Watersheds (CREW) Work with Support from Oklahoma DEQ, Oklahoma SEE, and EPA

Mine discharges from two areas in Commerce that discharge to Tar Creek are currently captured and treated by two passive treatment systems, Mayer Ranch and Southeast Commerce (constructed in 2008 and 2017, respectively). They were commissioned for design, constructed, and are operated and maintained by the University of Oklahoma's CREW. The two passive treatment systems have treated a combined 1,600,000,000 gallons of mine water and, as a result, have retained 200 pounds of cadmium, 1,800 pounds of lead, and 82,100 pounds of zinc.



*Mayer Ranch
Passive Treatment
System*

Highlighting Tribal and Interagency Coordination – The Lost Creek Restoration Project

In May 2023, EPA coordinated with the Tar Creek Trustee Council (Trustee Council), which includes the Eastern Shawnee Tribe of Oklahoma, the Cherokee Nation, the Miami Tribe of Oklahoma, the Ottawa Tribe of Oklahoma, the Peoria Tribe of Indians of Oklahoma, the Seneca- Cayuga Nation, the Wyandotte Nation, DOI, and the State of Oklahoma on the proposed Lost Creek Restoration project (a Natural Resource Damage Assessment and Restoration, or NRDAR, project).



Lost Creek restoration site located on Eastern Shawnee land

This proposed project is located in a flood- and erosion-prone area along Lost Creek near the Eastern Shawnee Tribal Pow-Wow grounds. The proposed project includes work to stabilize the banks of Lost Creek, protect the banks from future erosion, and facilitate access to natural resources (e.g., plants, water) traditionally used by the Tribes, while protecting stream habitat.

The Lost Creek Restoration project is located within the TSMD watersheds OU where EPA is engaged in ongoing remedial investigation and feasibility study activities. Coordination between the Trustee Council and EPA was conducted to ensure that the proposed restoration project could occur at this location without disrupting EPA's ongoing remedial investigation and feasibility study activities.

Following several coordination meetings on the proposed project, EPA provided a status letter to the Trustee Council, via DOI, in October 2023, which facilitated Trustee Council approval of the proposed project.

OU1 – Mine Impacted Surface Water/Groundwater

OVERVIEW

OU1 addresses surface water degradation from the discharge of acid mine water and the threat of contamination to the Roubidoux Aquifer, the regional water supply, from the downward migration of acid mine water from the overlying Boone Aquifer through abandoned wells. The 1984 ROD for OU1 included the use of diking and diversion structures to reduce the inflow of surface water to three mine shafts at the Site and reduce the outflow of acid mine water from the subsurface to Tar Creek. Construction activities finished in 1986. Oklahoma DEQ inspects the diversion channel and dike structures annually as part of the Site’s operation and maintenance activities.

Abandoned wells that could threaten the aquifer are still being discovered and/or reported by community members and are subsequently plugged. Oklahoma DEQ monitors groundwater quality in four Roubidoux Aquifer wells annually. The drinking water supplied from the aquifer in the mining area continues to meet health-based primary drinking water standards (i.e., maximum contaminant levels, or MCLs). It is considered safe for use as a drinking water supply.



MAJOR ACCOMPLISHMENTS

- Construction of dikes and diversion channels at three abandoned mine openings (Muncie, Big John, and Admiralty)
- Plugging of 85 abandoned wells in the deeper Roubidoux Aquifer through 2024
- The start of groundwater monitoring in the Roubidoux Aquifer in 1987



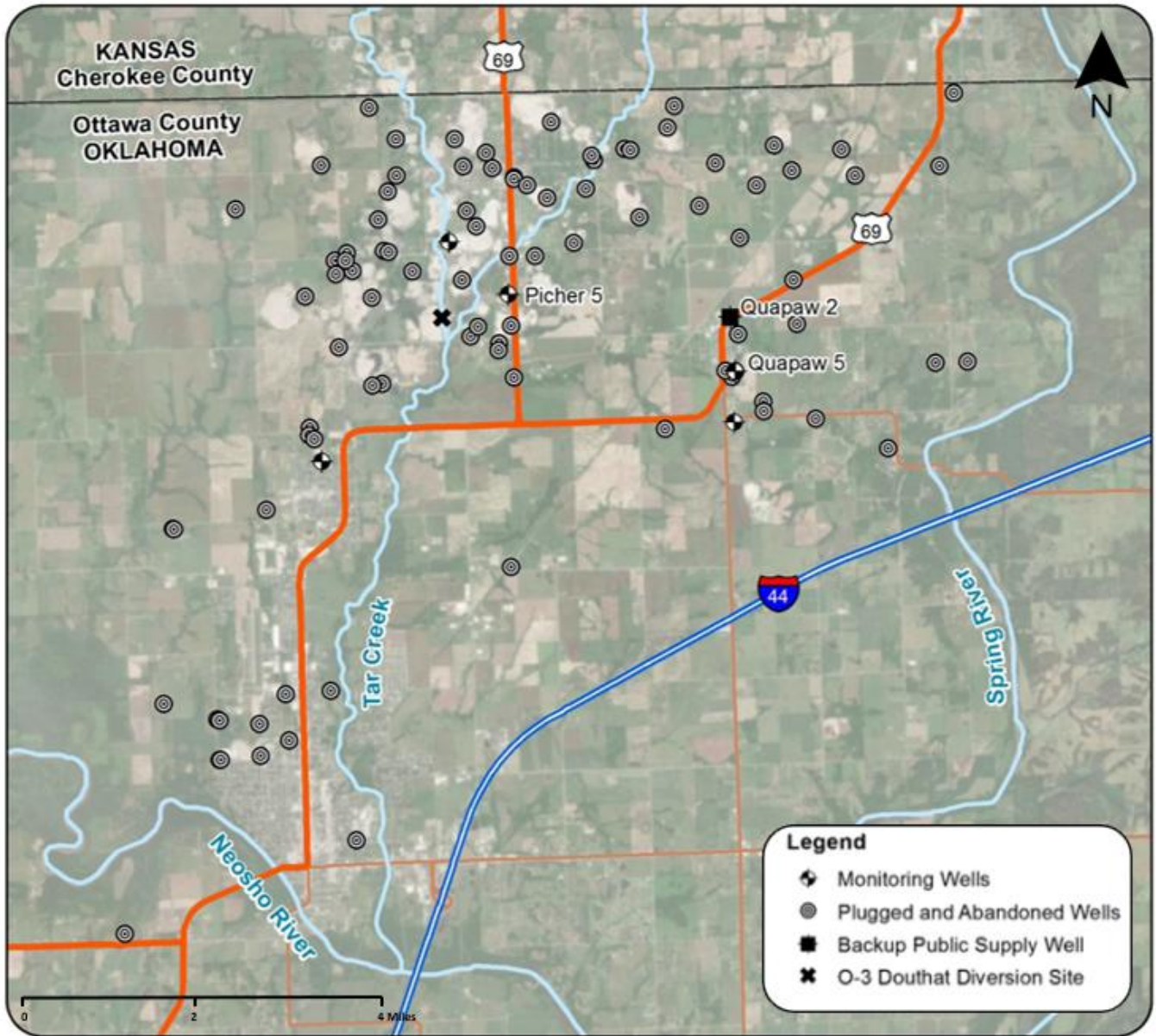
PRIMARY GOALS

- Continue the inspection and repair of dikes and diversion channels
- Continue operation and maintenance activities – annual Roubidoux Aquifer groundwater monitoring and inspections of the diversion and dike structures
- Continue plugging of abandoned Roubidoux Aquifer wells, as identified/reported, typically by community members



Representative monitoring well sampled quarterly by DEQ

Map of OU1 - Mine Impacted Surface Water/Groundwater



Map showing the locations of monitoring wells, plugged and abandoned wells, and a backup public supply well

OU3 – Eagle-Picher Office Complex – Abandoned Mining Chemicals Removal Action

OVERVIEW

OU3, the Eagle-Picher Office Complex, was an office and laboratory facility in Cardin, Oklahoma, operated by one of the former mining companies. Many containers of chemicals were found in the area in 1998 and 1999.



MAJOR ACCOMPLISHMENT

- Characterized and removed 120 containers of chemicals
- Removal response action in 2000; no further action is necessary



Building #13 at the Eagle-Picher Office Complex



Interior features at Building #15 at the Eagle-Picher Office Complex

Map of OU3 – Eagle Picher Office Complex



Community Involvement

EPA and its project partners value input from affected communities and are fully committed to working with them throughout the cleanup process. EPA and its project partners support and participate in a wide range of community initiatives that inform residents about the Site and involve them in the cleanup decision-making process. These include regular meetings with local project partners, the annual Tar Creek Conference, community open houses and health fairs, document and data sharing, and site fact sheets and updates provided through mail or on EPA site webpages (www.epa.gov/superfund/tar-creek) and Oklahoma DEQ site webpages (www.deq.state.ok.us/lpdnew/TarCreekindex.html). EPA and its partners work hard to get information about the Site out and to involve area communities.

EPA is drafting a district-wide Community Involvement Plan (CIP). It includes strategies for community engagement, including participation in community meetings and methods for information sharing. The CIP will be completed in 2025.



Did You Know?

In spring 2024, EPA published the first edition of the *Tri-State Mining District Digest*, which focuses on updates and news for the TSMD watersheds.

Regions 6 and 7 are collaborating on this watershed-wide community update. A new edition will be released and sent out once annually, moving forward.



Representatives from state, federal, and Tribal agencies and organizations participated in the second annual Tar Creek Open House – Healthy Communities event in April 2025

In April 2024, EPA, Oklahoma DEQ, and the Quapaw Nation co-hosted a Tar Creek Open House event. These events provide education and health outreach to community members, partners, and local organizations, with a focus on blood lead testing for children and residential yard testing. The event shared lead-focused health resources as well as site updates and a question-and-answer session. Open houses will continue to be held annually, with the last one taking place in April 2025.

In 2025, EPA Region 6 shared its Technical Assistance Needs Assessment and Community Involvement Plan for Tar Creek with the community. Twenty-six community members and interested parties participated in interviews for the assessment, which helped identify community needs, concerns, and expectations surrounding the Site and its cleanup. Concerns focused on watershed impacts, human health, potential for future land use or reuse, cleanup, and community engagement. EPA incorporated the findings into the Site's CIP. The plan describes how EPA will involve the community and address local needs during the Superfund process and includes a Community Involvement Action Plan that provides a path forward for EPA to keep residents, community partners, and local officials informed and involved throughout the cleanup process.

EPA facilitates greater community involvement in site-related decisions and discussions by coordinating with the Local Environmental Action Demanded (L.E.A.D.) Agency, a nonprofit organization that promotes awareness of health and environmental issues related to the Site. These efforts have included awarding the L.E.A.D. Agency a Technical Assistance Grant and, more recently, making technical assistance services available to the community through EPA's Technical Assistance Services for Communities program.¹¹

In 2010, EPA also supported a local Superfund Job Training Initiative (SuperJTI) in coordination with the L.E.A.D. Agency. SuperJTI students attended the Northeast Technology Center in Afton, Oklahoma, for training.¹²



Representatives from EPA meeting with community members at the first annual Tar Creek Open House in April 2024

¹¹ A Technical Assistance Grant provides funding to community groups to contract their own technical advisor to interpret and explain technical reports, site conditions, and EPA's proposed cleanup proposals and decisions. EPA's Technical Assistance Services for Communities program provides independent technical assistance through an EPA contract.

¹² EPA's SuperJTI is an environmental remediation job readiness program that provides career development opportunities for residents living near Superfund sites. EPA's goal is to help provide training and employment opportunities for people living in communities affected by Superfund sites during the cleanup and redevelopment process, and to provide the workforce development skills needed to take advantage of those opportunities.

Institutional Controls

Institutional controls are non-engineered instruments such as administrative and legal controls that help minimize the potential for human exposure to contamination and protect the integrity of site remedies. Institutional controls at the Site include:

- **Informational controls** such as childhood lead poisoning prevention education programming.
- **Governmental controls** such as state regulations requiring special protective well construction for wells to seal off the Boone Aquifer to protect the Roubidoux Aquifer, and toxic metals testing and possible treatment for Boone Aquifer wells used for potable or domestic purposes.
- **Proprietary controls** in the form of deed notices and easements that limit how some properties can be used based on the cleanup achieved.

Examples of Informational Institutional Controls Used at the Site

- Fact sheets about the safe use of chat
- Childhood lead poisoning prevention/lead-contaminated dust reduction education through health fairs, Head Start and childcare programs, community organizations, and events
- Blood lead screenings
- Oklahoma DEQ fish consumption advisories for Tar Creek area water bodies



Fencing and signage posted to restrict access to a chat pile in OU4

Table 4. Institutional Controls (ICs) in Place or Planned at the Site				
Location / Area IC Applied	IC Objective	IC Instrument	Responsible Organization	Status
Covered mining waste	Restrict future use of the property to protect the cover.	Deed Notice and Easement	Oklahoma DEQ, EPA, the Quapaw Nation and BIA ^A	Ongoing
On-site repositories	Restrict future use of the property to protect the engineered containment system.	Deed Notice and Easement	Oklahoma DEQ, EPA	Deed notices filed on three subsidence area repositories, one consolidation area and the Central Mill Repository
Property acquired via voluntary relocation	Restrict future use of the property to prevent human exposure to contamination.	Deed Notice and Easement	Oklahoma DEQ controls in effect until the area is safe for reuse	Deed notices filed
Shallow groundwater	Protect the integrity of the Roubidoux Aquifer and ensure Boone Aquifer wells for domestic and potable use do not exceed MCLs for toxic metals.	Oklahoma Water Quality Standard	Oklahoma DEQ	In place
Residential and high-access areas	Prevent or minimize childhood lead exposure.	Yard Testing Mapper, information sharing via fact sheets	Oklahoma DEQ, EPA	In place

^A For property where DOI is the trustee, institutional controls are being developed by the Quapaw Nation and recorded by BIA, as appropriate.

Oklahoma DEQ and the Ottawa County Health Department, in conjunction with the Oklahoma State Department of Health, have put a variety of institutional controls in place. Oklahoma DEQ placed deed notices and easements on properties acquired via the OU4 buyouts. Oklahoma DEQ establishes deed notices and easements in areas under state jurisdiction where source materials are covered on-site.

To address Tribal properties where remedial action has finished and institutional controls are needed, BIA and the Quapaw Nation developed short- and long-term strategies to put institutional controls in place to protect the cleanups and ensure long-term stewardship. Indian-owned property is managed by DOI as trustee.

EPA, BIA, and the Quapaw Nation continue to work together on the strategy for institutional controls on Tribal properties. The first conservation easement restricting land use on a remediated Indian-owned property was recorded with the BIA Land, Title, and Records Office in 2018. This marks the first time that BIA, in partnership with EPA and a Tribal nation, has recorded land use restrictions on Tribal-restricted property at a Superfund site. In early 2019, BIA, the Quapaw Nation, and EPA worked together to record conservation easements at three other Tribally owned properties at the

Site. In September 2019, the Quapaw Conservation Easement Act was passed. It establishes enforceable components within conservation easements recorded on Quapaw Nation Tribal Trust and restricted properties.

Site Redevelopment and Continued Use

Supporting the revitalization of places affected by contaminated lands is a key part of the mission of the Superfund program. EPA emphasizes returning remediated properties to beneficial use and supports local reuse priorities that are compatible with the Site's remedy. To date 5,529 acres at the Tar Creek Superfund Site have been cleaned up and are ready for reuse.

Remediated lands support a variety of uses at the Site, showcasing the importance of returning contaminated land to beneficial use. Across the Site, remediated lands have been converted for local agricultural and grazing activities, the Quapaw Nation completed cleanup of a culturally significant Tribal property to preserve the remnants of a historic school, and the city of Miami built the county's first recreational splash pad, now a popular cooling-off spot during hot Oklahoma summers. The Quapaw Nation is also exploring different uses for parts of the Site. Following the cleanup of a former smelter, which included relocating a family who lived there, the Quapaw Nation installed an outdoor classroom, along with a native tallgrass prairie, to showcase what the Site could look like after cleanup. The Quapaw Nation also partnered with the Peoria Nation to stock a pond with native fish species, for future catch-and-release activities for Tribal youth. Lands in OU5 have cultural significance and will be used for cultural purposes by the seven Downstream Tribes after cleanup.

EPA's Superfund Redevelopment Program supported the Quapaw Nation with a renewable energy assessment for parts of the Site. It includes coordination with Tribal businesses and initiatives to identify facilities that could benefit from solar power to reduce energy burdens and support the Quapaw Nation and its partners as they pursue funding opportunities through the U.S. Department of Energy and other agencies and organizations.



A splash pad and pavilion built on a cleaned-up area at the Site

EPA will continue to promote and support the reuse and redevelopment of remediated Tar Creek lands to provide local communities with new opportunities to grow and prosper. The Tar Creek Superfund Site holds reuse potential waiting to be realized, from pollinator habitats and playgrounds to solar arrays and new business facilities.

Looking Ahead

Substantial progress has been made at the Tar Creek Superfund Site to protect human health and the environment since its listing on the NPL in 1983. A great deal of work also remains and will take decades to complete. EPA is committed to working with our partners, including the Quapaw Nation and Oklahoma DEQ, on cleanup activities to address contamination and return more cleaned-up areas to beneficial use. EPA will continue to issue decision documents, complete five-year reviews, and put institutional controls in place to help eliminate, reduce, and manage risks to human health and the environment. The near-term goals and ongoing priorities below highlight EPA’s priorities for upcoming years and throughout the cleanup.

NEAR-TERM GOALS

EPA has prioritized the near-term goals below for cleanup at the Site. The Primary Goals for each OU are discussed in their respective sections above.

Table 5. 2025 Strategic Plan Five-Year Outlook Goals
Control ongoing releases.
Finalize and publish the 2025 Five-Year Review Report.
Complete the re-evaluation of the residential cleanup number for lead based on EPA’s 2024 lead guidance.
Continue additional interim measure cleanups in streams as part of OU4.
Complete the feasibility study for OU5 to inform the future ROD.

ON THE HORIZON

- Development of a sitewide Conceptual Site Model to represent potential risk and to facilitate a better understanding of exposure to site contaminants.
- Continue to enhance EPA’s work with and coordination with the seven Downstream Tribes.
- Complete the remedial actions on all OU4 projects along Beaver Creek, which will mark the conclusion of the mining waste remediation work in the Beaver Creek Watershed.
- Continue to coordinate with the Quapaw Nation and state and federal agencies on the ongoing evaluation of innovative technologies, such as the potential for critical mineral recovery from mining waste.
- Continue to partner with Oklahoma DEQ, the University of Oklahoma, and the Quapaw Nation to evaluate mine discharge areas for potential characterization and treatment opportunities using new and emerging technologies.

