

Pine River Progress



EPA's Update on the Velsicol Site St. Louis, Michigan

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WINTER 2024

Learn More About the Cleanup



[www.epa.gov/superfund/
velsicol-chemical-michigan](http://www.epa.gov/superfund/velsicol-chemical-michigan)



See cleanup-related documents at the information repository:



T.A. Cutler Memorial Library
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Update on recent happenings at Velsicol Burn Pit site

EPA began construction of the in-place thermal treatment system, or ISTT, for the Velsicol Burn Pit in July 2023. EPA was able to reuse some of the treatment system components from the Velsicol former plant site where thermal treatment was completed in 2022, saving time and money.

Like the previous ISTT system constructed and operated at the former plant site, the Burn Pit ISTT system has both above- and below-ground components. Work crews prepared the site over the summer, including the construction of additional service roads and a new site entrance. Work crews also extended the previously constructed high-voltage electrical circuit and temporary process pad located north of the river. Construction crews have nearly finished installing the below-ground elements that will heat the

soil, vaporize underground contamination, and capture vapors.

The most exciting and noticeable element of the Burn Pit cleanup is the need to build a temporary bridge across the Pine River, to enable the reuse of portions of the treatment system from the former plant site. The temporary bridge will support utilities and process piping between the two sites. In the coming months, work crews will complete the installation of the vapor and groundwater treatment system components including the treatment system piping, below-ground heaters, extraction wells, electrical transformers, electrical distribution equipment, and pressure and temperature sensors. Construction of the ISTT system for the Burn Pit is anticipated to be completed in April 2024. The system will be operating for approximately 10 to 12 months.



Velsicol Potential Source Area Excavation Update

In fall 2022, AECOM and their subcontractors, Job Site Services and Hardman Construction, installed 757 feet of sheet pile wall, 30 feet into the ground to support the excavation at Potential Source Area (PSA-1). 185 soil borings were completed across the PSA-1 and PSA-2 sites to confirm the depth of excavation and contaminant concentration levels, as well as to prepare the soil and water disposal profiles for the future excavations. PSA-1 and PSA-2 are in Operable Unit 1, or OUI.

In April 2023, excavation began at PSA-1 and backfilling was completed in August 2023. Crews excavated a total of 107,250 tons of contaminated soil, and disposed of it at the GFL Landfill in Montrose. Crews also brought in 110,900 tons of clean sand fill from Elwell to the site to backfill PSA-1. They also stockpiled 20,000 cubic yards of clean cap soils on-site and reused as backfill at PSA-1. In August 2023, the sheet pile wall was cut to grade and will remain in the ground.

In August 2023, excavation began at PSA-2 and was completed in December 2023. Backfilling of PSA-2 was completed in December 2023. Crews excavated a total of 35,250 tons of soil, and disposed of it at the Montrose Landfill. Crews

have brought in 36,300 tons of clean sand fill to the site to backfill PSA-2. Crews were also able to use 15,000 cubic yards of stockpiled clean cap soils as backfill at PSA-2.

During the 2023 excavations, crews encountered several different types of debris at both PSA-1 and PSA-2: concrete slabs and footings, empty metal storage tanks and railroad ties. Crews disposed of the metal debris (250 tons) at a recycling facility in Alma, and the railroad ties (45 tons) at the Montrose Landfill. Crews placed the concrete pieces back into the excavation footprint during backfilling. Crews have pumped 509,000 gallons of water from excavations to date at the site.

Extensive efforts in on-site monitoring and testing activities occur daily during the excavation and backfilling work, which include:

- perimeter air monitoring
- worker safety air monitoring
- noise monitoring
- vibration monitoring
- groundwater level monitoring
- surveying
- soil compaction testing
- backfill soil laboratory testing

Restoration of PSA-1 started in September 2023 with hydroseeding, a planting process where crews spray



a liquid filled with seeds and mulch. Restoration activities for PSA-2 and other support areas will be completed in Spring 2024.



Aerial view of PSA-1 Excavation activities

Velsicol Progress Tracker

The cleanup of the former plant site includes multiple remedy components. The current status of each one is presented as follows.



Burn Pit In-situ Thermal Treatment (ISTT)

Temporary River Crossing

OU3 Remedial Design



90% Complete



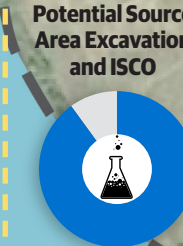
DNAPL / Groundwater Collection System

DNAPL / Groundwater Collection System

Approximately 20,000 gallons of contaminated groundwater from the site are removed weekly and shipped off-site for treatment. This is a continuing operation.

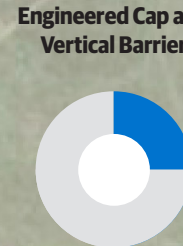
OU3 Remedial Design

A feasibility study was finalized in February 2022 for OU3. EPA issued a proposed plan to cleanup OU3 in July 2022 and a Record of Decision was signed in October. Remedial design activities started in early 2023. Phase 2 of the carbon amendment study was completed/finalized in August 2023.



Potential Source Area Excavation and ISCO

90% Complete



Engineered Cap and Vertical Barrier

25% Complete

Work Completed

Replacement of City of St. Louis Municipal Water Supply

The Gratiot Area Water Authority for Alma and St. Louis began providing drinking water to St. Louis residents in October 2015. The city began construction on the final drinking water well in December 2020, which completed the replacement of the municipal water supply wells no longer in service.

EPA and the city of St. Louis recently completed the final inspection of the upgrades to the water supply and transmission main system, completing the project in September 2023. The City of St. Louis managed this work, with funding from EPA and Michigan Department of Environment, Great Lakes, and Energy (EGLE).

River Channel

Cleanup of OU2, the sediment within the Pine River, was conducted from 1998 to 2006. 670,000 cubic yards of contaminated sediment was excavated and disposed of off-site.

In-situ Thermal Treatment

ISTT is the process of removing harmful chemicals from soil using heat. ISTT for Area 1 is part of OUI and was completed in November 2018. ISTT for Area 2 Phase 1 was completed in September 2020. ISTT for Area 2 Phase 2 was completed in January 2022. Operation of these ISTT systems removed approximately 381,000 pounds of contaminants from the site.

Project Spotlight

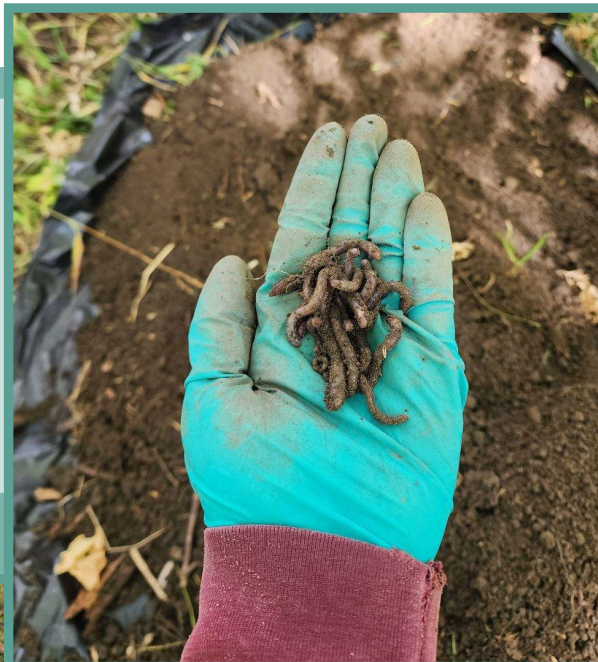
Pine River Downstream

Ecological Studies 2023

EPA conducted various ecological studies in 2023 in an area downstream of the former plant site, called OU4 (see map on page 5 for location of OU4). OU4 consists of sediments, banks and floodplains within the Pine River starting about 1.5 miles downstream of the St. Louis hydroelectric dam. Studies included a small mammal survey, worm abundance

study, worm tissue reduction study and fish tissue study. EPA will use these ecological studies first to update the ecological risk assessment for OU4, and later to support remedy selection and the final cleanup plan. Here is in-depth information about these studies:

Earthworm Abundance Study: This study is being conducted on the same floodplains as the small mammal study plus two additional floodplains. Soil and earthworms were collected from the first event in the four floodplains and analyzed for DDT to assess the relationship between earthworm abundance and DDT concentrations in soil. Two additional sample collection events will occur in 2024.

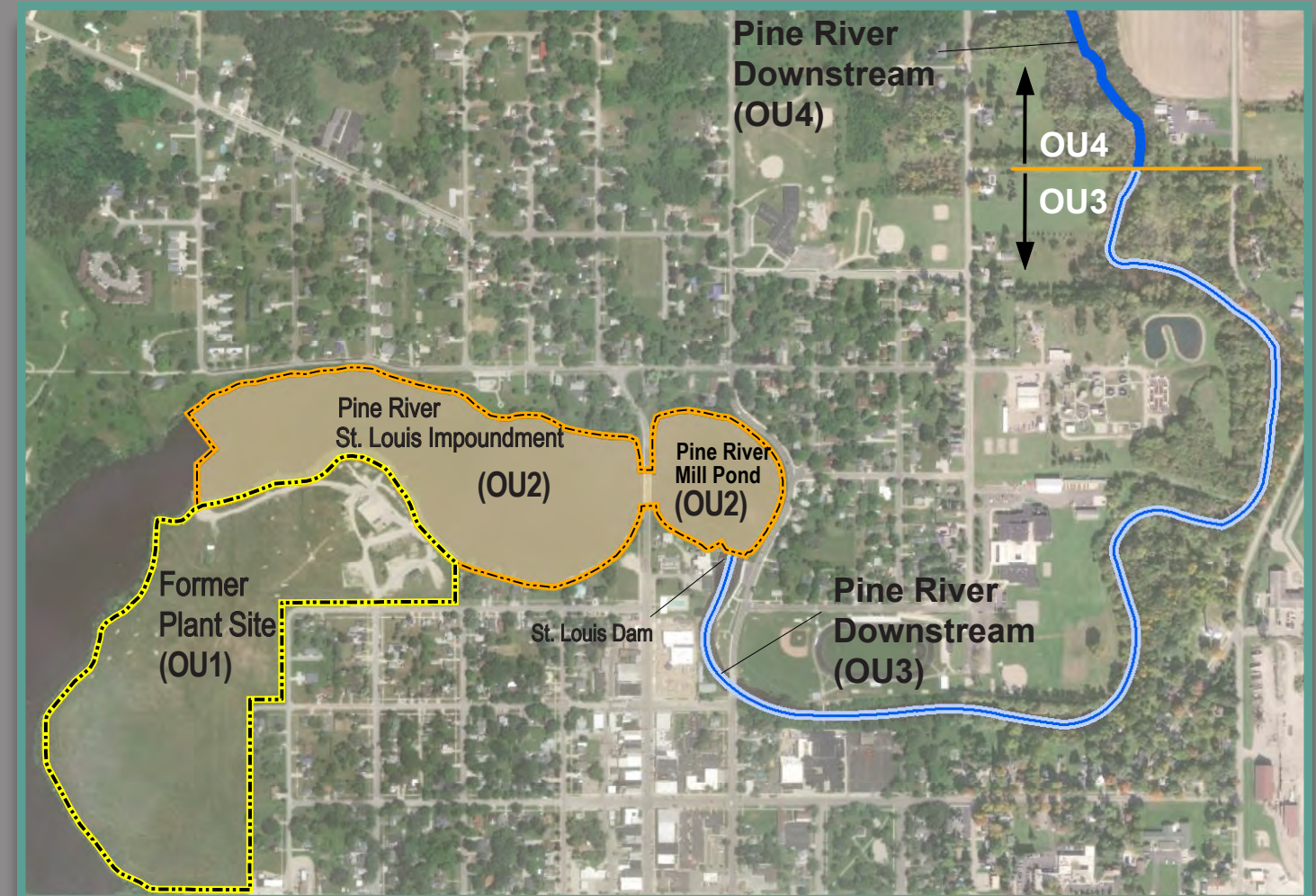


Earthworms collected



Collecting worms and soil

Earthworm Tissue Reduction Study: The objective of this study is to assess whether DDT concentrations in earthworm tissue decrease over time after being placed in clean soil. Earthworms were collected from several grid areas in an OU4 floodplain. A portion of the worms from each grid were sent to the laboratory for analysis along with soil from those grid areas. The remainder of the worms were placed in clean soil. A portion of these worms will be analyzed after one and two months to assess if their tissue DDT concentrations decrease over time after being placed in clean soil.



Small Mammal Survey: This survey was conducted in two floodplains with different DDT concentrations in the floodplain soil. The objective of the study was to assess the impacts to small mammal abundance compared to DDT concentrations in the floodplain soil and in earthworms. Small mammals were collected in live traps over 21 consecutive days. The traps were checked twice a day to minimize the amount of time a small mammal remained in the trap. The mammals were identified and then released on a different portion of the floodplain.



White Sucker Fish (Source: iStock.com)



Barge used during fish collection



Small Mouth Bass (Source: iStock.com)

Community Corner

Tribal Brownfields & Response Workshop



The Saginaw Chippewa Indian Tribe held a Brownfield seminar in Mt. Pleasant on November 14, 2023. Participants learned about Tribal Response Programs, community engagement, financial resources to address brownfields, and how brownfield redevelopment complements other environmental programs.

EPA did a presentation on the Velsicol site and then led a tour at the site.



Site tour

Congratulations to the Pine River Superfund Citizen Task Force, a volunteer community group dedicated to all aspects of site cleanup, for 25 years of service to their community!

www.pinerivercag.org/



Debra Shore, EPA Regional Administrator, presenting at PBB Disaster Conference

PBB Disaster at 50 Conference and Story Collection

A conference was held at Alma College in May 2023, marking the 50th anniversary of Michigan's PBB disaster. Scientists, artists, policy makers, and community members attended. The conference provided a platform to honor those who advocated for communities impacted by the disaster and to renew the commitment to safeguarding human health and the environment for future generations. Many stories shared at the conference by families impacted by the disaster are being collected into a book to help raise awareness. Alma College Assistant Professor Dr. Sheryle Dixon is working to collect additional stories to add to those shared at the conference. If you or your family have a story that you would like added, please contact Dr. Dixon by email at sddixon@alma.edu or phone at (989) 463-7967.



Brownfield seminar organizers

Site Reuse

EPA considers current and future land use when making decisions during the cleanup process to maximize options for the future. EPA's Superfund Redevelopment Program supports redevelopment planning for sites by bringing stakeholders together, understanding the community's land use goals and integrating them into the cleanup process as the site allows. EPA's contractor, Skeo Solutions, is providing reuse technical assistance at the Velsicol site.

Skeo Solutions met in November 2023 with EPA, community leaders, and the Pine River Superfund Citizen Task Force to discuss and solicit future redevelopment and land use goals for the site. Meetings and workshops will be held in early 2024 to revisit and develop reuse scenarios. Sign up to EPA's email list to get more information on upcoming events. You can join by sending a blank email to velsicol@lists.epa.gov.

Site Happenings

Tom Alcamo Transitions into Retirement

Tom Alcamo, EPA Velsicol Project Manager for 15 years, retired from the U.S. EPA at the end of December. Tom accomplished much at the site during his tenure, from cleanup of the neighborhood adjacent to the site to the onsite removal of 380,000 pounds of contaminants through in-place thermal treatment and 100,000 tons of contamination through excavation and disposal. The complexity of this site cleanup required careful coordination with local and state partners and Tom prioritized communicating and involvement beyond the norm.

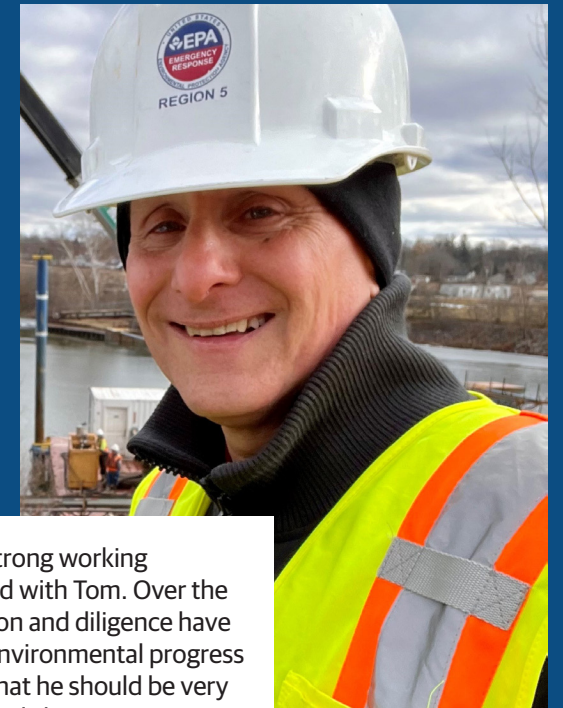
In addition to the Velsicol project, Tom also managed other projects in the region including a former municipal landfill containing PCB waste in Bloomington, Illinois as well as a large residential cleanup from a former lead smelter called USS Lead in East Chicago, Indiana.

Over his 32-year career, Tom has skillfully executed the mission of the Agency in communities throughout Region 5, and many will miss all the facets Tom brought to any project. In retirement, Tom will focus his energy into many activities, including traveling to spend time with friends and family, competitive bike racing, and finally putting some time into learning to play his favorite songs on guitar.

Tom, thank you for your public service, and from all of us, we hope you enjoy a fun and restful retirement!

"As our project manager, Tom was remarkable in his ability to find money for the projects that needed money to move forward. It wasn't easy. Now that the infrastructure dollars are flowing to our massive cleanup, it's been fun to watch Tom's enthusiasm in having three or four projects underway instead of just one. I am glad he gets to share in our new hope that we all may live long enough to see the finalization of the cleanup." - Jane Jelenek, Pine River Superfund Task Force

"We appreciate the strong working relationship we've had with Tom. Over the years, Tom's dedication and diligence have generated so much environmental progress in the St. Louis area that he should be very proud of these accomplishments. It's my pleasure to thank him for his efforts and extend our congratulations and best wishes on his well-deserved retirement." - Kurt Giles, City Manager-St. Louis



Where to find more information:



Velsicol websites:
www.epa.gov/superfund/velsicol-chemical-michigan
www.epa.gov/superfund/velsicol-burmpit



Information Repository
T.A. Cutler Memorial Library
312 Michigan Ave., St. Louis



To sign up for the Velsicol email list and receive news and updates about the site, send a blank email to velsicol@lists.epa.gov.

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Scan the QR code for
up-to-date videos from
the Velsicol Burn Pit
project team.



About this Publication

Pine River Progress is a biannual newsletter that covers topics related to EPA's cleanup of the Velsicol Superfund site. We welcome feedback and ideas for future articles. If you would like to receive a copy of this newsletter, please contact EPA Community Involvement Coordinator, Diane Russell at russell.diane@epa.gov or call 989-395-3493 9:30 a.m. to 5:30 p.m., weekdays.



Temporary bridge being constructed across the Pine River to support system utilities and piping. See page 1 for updates on the Velsicol Burn Pit work.

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