

Pine River Progress

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



VOLUME 4, ISSUE 1

SPRING 2019

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
312 Michigan Ave.
St. Louis

Contact EPA staff:

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Community Involvement
Coordinator
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989-395-3493

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312-886-7278
800-621-8431, Ext. 67278



**EPA has a contact
number for Velsicol!**
989-681-8187

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56,000 Pounds of Contamination Removed from Former Plant Site

Last year, U.S. Environmental Protection Agency turned up the heat at the former Velsicol Chemical Plant in St. Louis when it built a system that does “in-situ thermal treatment,” or in-place treatment, of contaminated soil and underground water (groundwater) using soil heating technology.

The system built in 2018 is on a 1-acre portion of the site called Area 1 (see map, page 4). Officials knew from previous investigations that there was hard to reach underground contaminants that had to be removed and destroyed. In order to do this, the system would heat the ground to very high temperatures using electrical energy. The contaminants are very difficult chemicals to remove called “non-aqueous phase liquid,” or “NAPL,” and can be an ongoing source of contamination if not treated. Results were apparent soon after the system began operating.

“We started to see increased contaminant removal 14 days after we turned on the system – even more once we got to the target temperature,” says Scott Pratt, an EPA contractor working on the project.

The system continued to run after reaching its target temperature of 212°F and was actively heating until last October when the heaters were shut down. The system continued to eliminate pollution over a month-long cool-down period resulting in a total of almost 56,000 pounds of contamination removed before the system completely shut off in November.

It took a lot of energy to keep treatment temperatures high enough to accomplish this cleanup. Over 9.7 million kilowatt-hours of electricity was used, enough to power 900 homes (see page 2). During the cleanup process, the system also treated contaminated groundwater. Over 5.7 million gallons were treated, enough to fill over eight and a half Olympic-sized swimming pools.

To make sure the workers and residents living near the treatment system were safe during its operation, extensive air monitoring was conducted. Over 6,000 air samples were taken around the system, with no detection of harmful contaminants related to its operation.

Tom Alcamo, EPA project manager, was pleased by the outcome saying, “we are really impressed with how this system worked at the site and we look forward to having the same success in our next phase of cleanup.”



ISTT for Area 1



Removal and crating of ISTT heaters.



Transferring spent granular activated carbon to roll-offs for disposal.



Removing ISTT heaters.



Demobilizing Area 1 ISTT well field components.



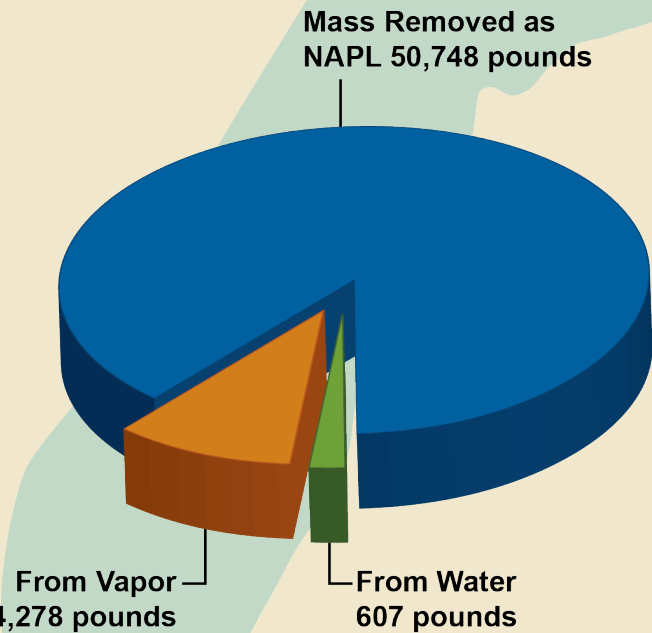
Warming liquid granular activated carbon prior to removal from treatment vessel.



Vacuum removal of liquid granular activated carbon.

In-Place Thermal Treatment Numbers

Estimated Contamination Removed



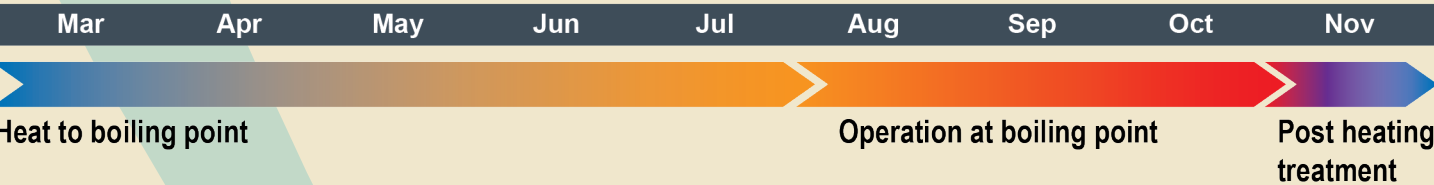
Energy Use



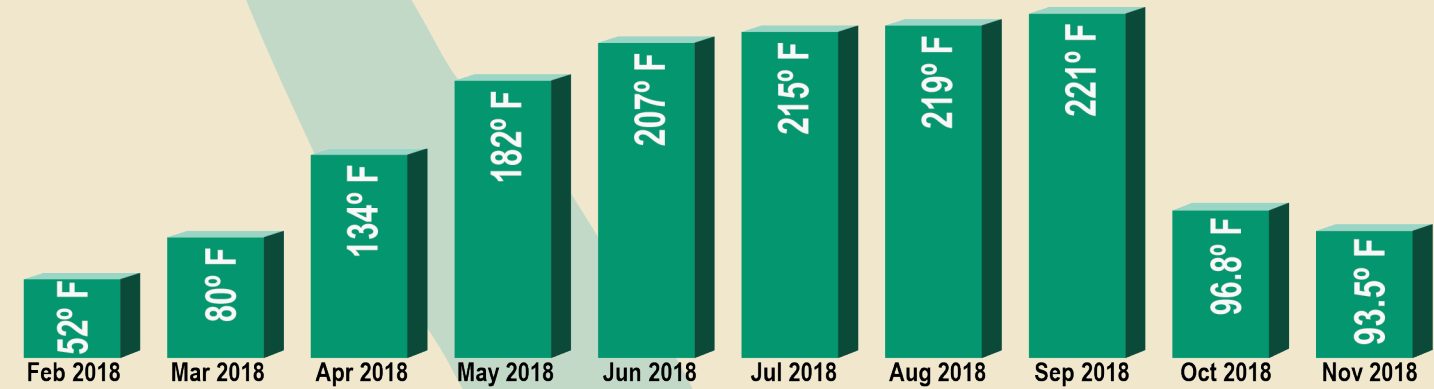
Since March 2018, enough electricity has been used to power over 900 homes for one year.

= 100 homes

Operations Timeline

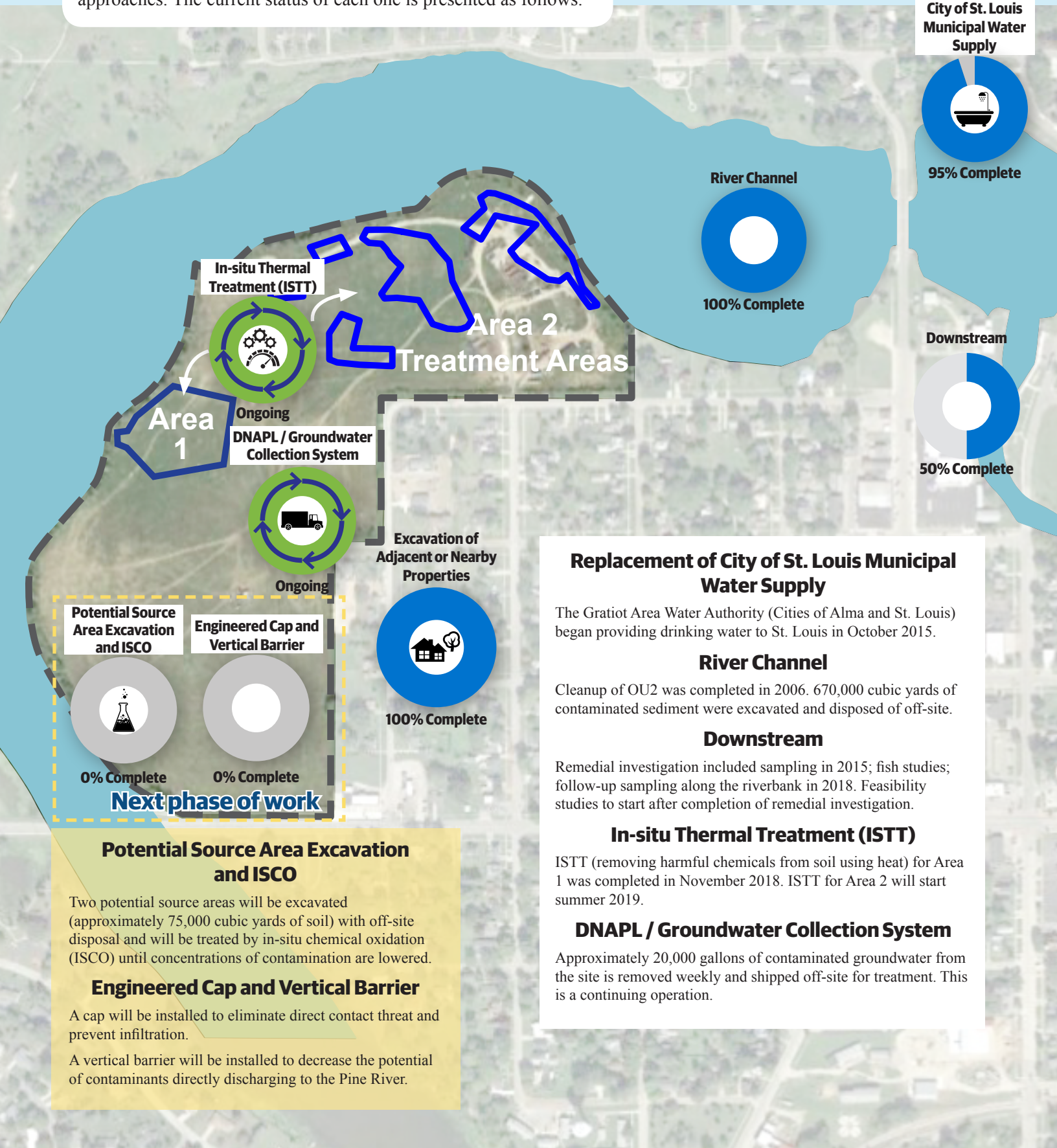


Average Monthly Temperature of Target Treatment Zone



Velsicol Progress Tracker

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



Project Spotlight

Next Area Targeted for Cleanup, New Technology Explored for Floodplains

Cleanup Planned for Area 2

Over this winter, EPA contractors will be designing the cleanup for the next area of the former Velsicol Chemical Plant. Area 2 covers nearly 3 acres in the northern portion of the former plant where a number of former site buildings, including the DDT plant, and chemical storage areas were located.

The river cleanup 1998 to 2006 removed over 4,300 gallons of contaminated liquids called NAPL (see definition, page 1), and a collection system was installed that to-date has collected over 5.8 million gallons of contaminated groundwater. There remains an estimated 23,000 pounds of NAPL-related contamination below the surface that EPA wants to remove using the same thermal treatment technology from Area 1. The work will be split into two phases with estimated completion in fall 2021. You will likely see the first part of the work starting this spring or summer as holes are drilled for the heating rods used in the treatment system. Once system components are installed, workers will turn it on and start heating soil in the fall, likely sometime in October.

EPA is planning to hold a meeting once the design of the system is complete where more details can be shared with the community. Watch your local newspaper for the meeting announcement or sign up for EPA's listserv at www.epa.gov/superfund/velsicol-chemical-michigan to be notified.



Example of aerial application of carbon.

Cleanup Technology Gets Research Focus

A team of EPA contractors, scientists and researchers from Michigan State University are wrapping up a study that looked at floodplains around the Pine River downstream of the St. Louis dam. The goal was to see if there was contamination in the environment that could harm wild animals that live or visit there. In addition, EPA took samples from the riverbanks and surface water locations near the high school athletic fields to test for DDT, a pesticide product made at the former Velsicol Chemical plant. Scientists from EPA, Michigan Department of Environmental Quality and Dr. Stephen Boyd from Michigan State University are looking into cleanup solutions including the possibility of applying carbon, a common element found in many products we use around our home and work.

There is compelling evidence that carbon is effective at binding to contaminants like DDT reducing its ability to harm the environment. The team of scientists are creating a proposal for EPA's Office of Research and Development to fund a study that would look at how this might work to cleanup floodplain areas impacted by the former chemical plant. If the research proposal is funded, EPA expects pilot studies to start this year.



Carbon on soil surface.

Community Corner

Congratulations to the Pine River Superfund Citizen Task Force, a volunteer community group dedicated to all aspects of site cleanup, for 20 years of service to their community!

EPA Welcomes Community to Visit Site

Since October 2017, EPA has provided more than 11 site tours of the former Velsicol plant site to over 150 people! The tours were given to various organizations including colleges, tribes, government officials, press, and community members. Site tours include a glimpse at what the surrounding area currently looks like up close as well as seeing the current cleanup processes that are occurring.

Construction of the ISTT system for Area 2 will be underway this spring at the former Velsicol plant site. EPA would like to invite you and your group to see the work happening in-person. Tours begin at the site trailer for a brief site introduction. The group will then be guided through the site on foot to see the construction and operation of the treatment system.



Western Michigan University Hydrogeologic Field Camp touring the Velsicol site.

Becoming tradition over the past several years in St. Louis, Velsicol team members handed out candy to over 168 trick or treaters. In addition, Velsicol was again the site for lighting off fireworks during 4th of July activities.



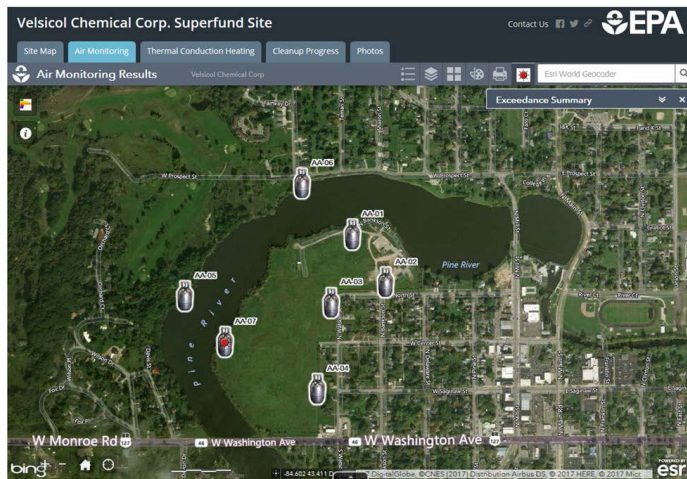
To schedule a tour, contact:

Diane Russell
Community Involvement Coordinator
989-395-3493
russell.diane@epa.gov

The More You Know...

EPA will provide the public with air monitoring data collected during the thermal treatment process for Area 2. Data will be added to the interactive map during treatment to keep the public informed about operation of the system. Visit www.epa.gov/superfund/velsicol-chemical-michigan and in spring 2019 look for **Sampling and Monitoring under Cleanup Activities**.

Monitoring Work in Action



EPA has a Community Information Office

EPA has a community information office in Flint. The address is 1300 Bluff St., Suite 140, Flint, MI 48504.

Where to find more information:



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



Sign up on EPA's List Serve to have site information and updates emailed to you. Go to the Velsicol website, and click on **Stay Updated, Get Involved**.



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



EPA's contact number for Velsicol:
989-681-8187

Get Nixle, Get Notified!

The City of St. Louis Police Department utilizes the Nixle Community Information Service (Nixle) to provide important community information when you need it. EPA and its contractors are working directly with the Police Department to create notifications using the Nixle system if there is an emergency at the site. Nixle will then deliver this information to you instantly via text, email and/or web message. Notifications can also be accessed at Nixle's website: www.nixle.com

The service is secure, reliable, easy to use. YOU decide what information you want and whether you want it sent to your cell phone, email or just simply over the web. The service is free of charge to St. Louis area residents. Once you have set up an account, you can customize it to receive alerts, advisories or community messages. Please register now at the company's main web site: www.nixle.com. There you can also access their Frequently Asked Questions.

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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.



The ISTT system for Area 1 successfully removed 56,000 pounds of pollution before it was shut down. See pages 1 and 2 for more information.

RETURN SERVICE REQUESTED

FIRST CLASS

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United States
Environmental Protection
Agency
Region 5 Superfund Division
Community Information Office
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