Department of Environment & Conservation

Proposed Permit Termination Velsicol Chemical LLC

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Division of Solid Waste Management

June 30, 2025, and July 1, 2025

Authority

- DSWM proposes to terminate the permit under the authority of the Tennessee Hazardous Waste Management Act of 1977, as amended, Tennessee Code Annotated, Section 68-212-101 et seq., and Rule Chapter 0400-12-01, Hazardous Waste Management.

- The permit termination is prepared in accordance with the provisions of Rule 0400-12-01-.07.

Permit Application Process

- Permit, TNHW-158, Corrective Action, issued on September 30, 2014

- Permit Renewal Application Submittal
  - Pre-Application Public Notice
    - *The Commercial Appeal*, February 22, 2024
    - WREC-AM and FM, February 23, 2024
  - Public Meeting, March 21, 2024
  - Application Submitted, March 29, 2024
  - Public Noticed, *The Commercial Appeal,* September 19, 2024

- Notice of Deficiency, September 12, 2024

Permitting Process

- Velsicol Filed Chapter 11 with the United States Bankruptcy Court
  - September 21, 2023
- Tennessee Department of Environment and Conservation (TDEC) filed a Proof of Claim with the Bankruptcy Court
- Transfer of Site into an Environmental Response Trust
  - State of Tennessee as the Beneficiary
    - Fund Remedial Activities at the Facility

Proposed Permit Termination

- Site Transfer to Trust
  - Site Referral from Division of Solid Waste Management to Division of Remediation
  - Terminate the Hazardous Waste Permit
  - Propose the Site for National Priorities Listing

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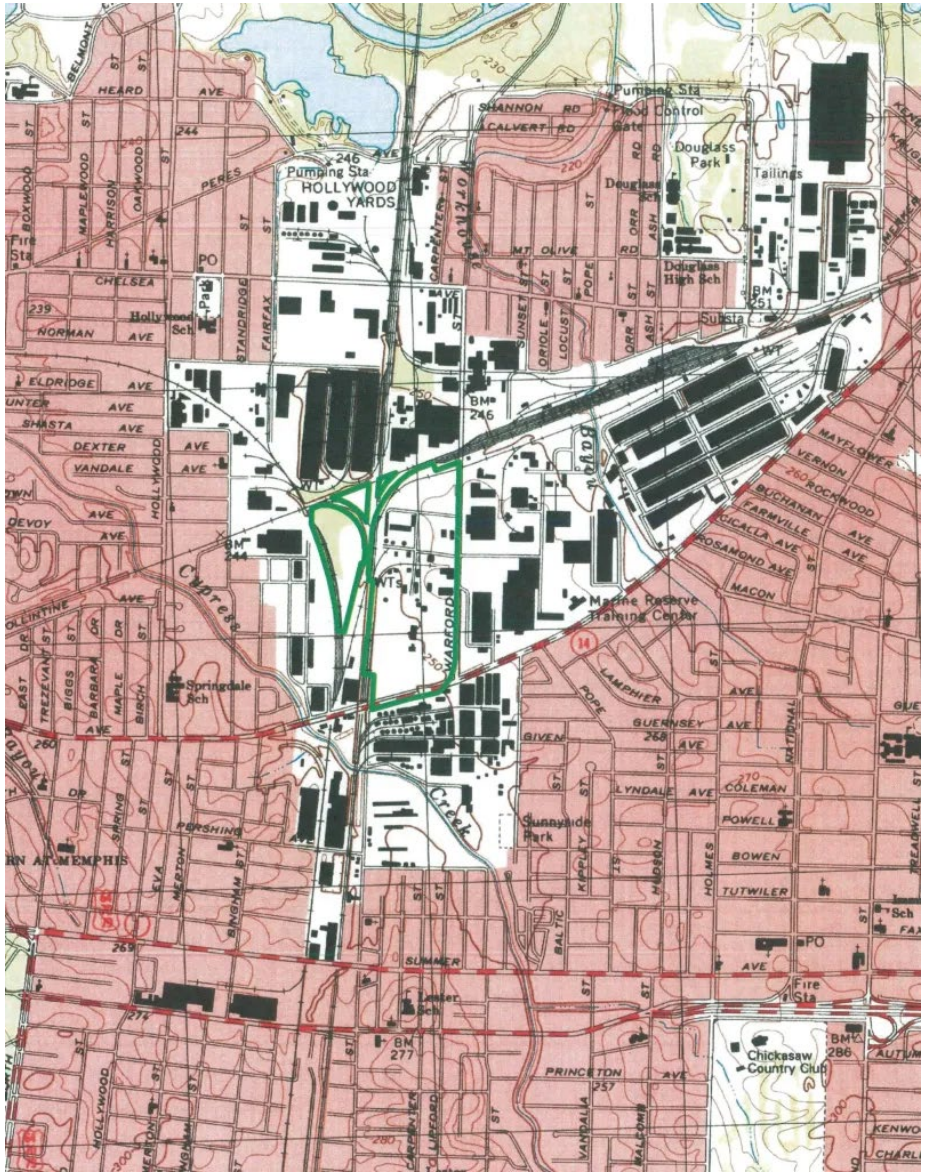
Velsicol Memphis Plant

Velsicol Memphis Plant



- 83-acre Site located at 1199 Warford Street, Shelby County, Memphis, Tennessee.
- Surrounding area is primarily industrial, although residential is present as well.
- Chemical manufacturing began in the mid-1940s in support of World War II strategic chemical production.
- Velsicol Chemical Company purchased the property in 1952 and operated it for the manufacture of chlorinated organic chemicals, including pesticides, until 2011 when manufacturing ceased.
- Demolition of the former manufacturing plant was completed in 2015.

Site History

- A 1986 RCRA Facility Assessment (RFA) was completed that identified Solid Waste Management Units and Areas Of Contamination.
- After a Phase II RFI (RCRA Facility Inspection) was completed in 1997, interim measures were developed that used the groundwater recovery and treatment system for off-site migration of impacted groundwater and to provide contaminant source control/removal.
- A groundwater containment system has been used to stabilize dense non-aqueous phase liquid (DNAPL) by removing DNAPL via groundwater extraction, lowering the volatile fraction of the DNAPL via vapor extraction, and by reversing or reducing downward hydraulic gradients.
- A 2009 Corrective Measures Study (CMS) was completed to evaluate corrective measure alternatives for 36 Solid Waste Management Units (SWMUs) as well as the north consolidation area (SWMU 7) and groundwater.

Site History

- Releases from process and storage areas and almost thirty SWMUs have contaminated the groundwater above Maximum Contaminant Levels (MCLs) or Risk Based Concentrations (RBCs).
- Carbon tetrachloride, chlorobenzene, chloroform, BTEX, and PCE are the primary contaminants detected above MCLs. Chlordane and heptachlor have also been detected at elevated levels.
- Multiple plumes have been identified in the uppermost aquifer at depths ranging from 40 to 100 feet.
  - Carbon tetrachloride and PCE plumes in groundwater are extensive, extending almost 150 acres in the intermediate and deep zones, with over 75% having migrated off-site. The plumes overlap at the southwestern facility boundary and continue downgradient to the southwest about 2,000 feet beneath adjacent industrial and residential property and Cypress Creek.
  - Chlorobenzene and chlordane plumes are smaller (12 and 30 acres) and localized on-site.

Site History

Phase I Operations (Jan. 1998 – Mar. 1998)

- Construction of the Corrective Action Treatment Facility(CATF).
- Initiation of limited hydraulic containment (total combined flow rate of 23 gallons per minute (gpm)).
- Dewater and excavate SWMU 31.

Phase II Operations (Apr. 1998 – Jul. 2002)

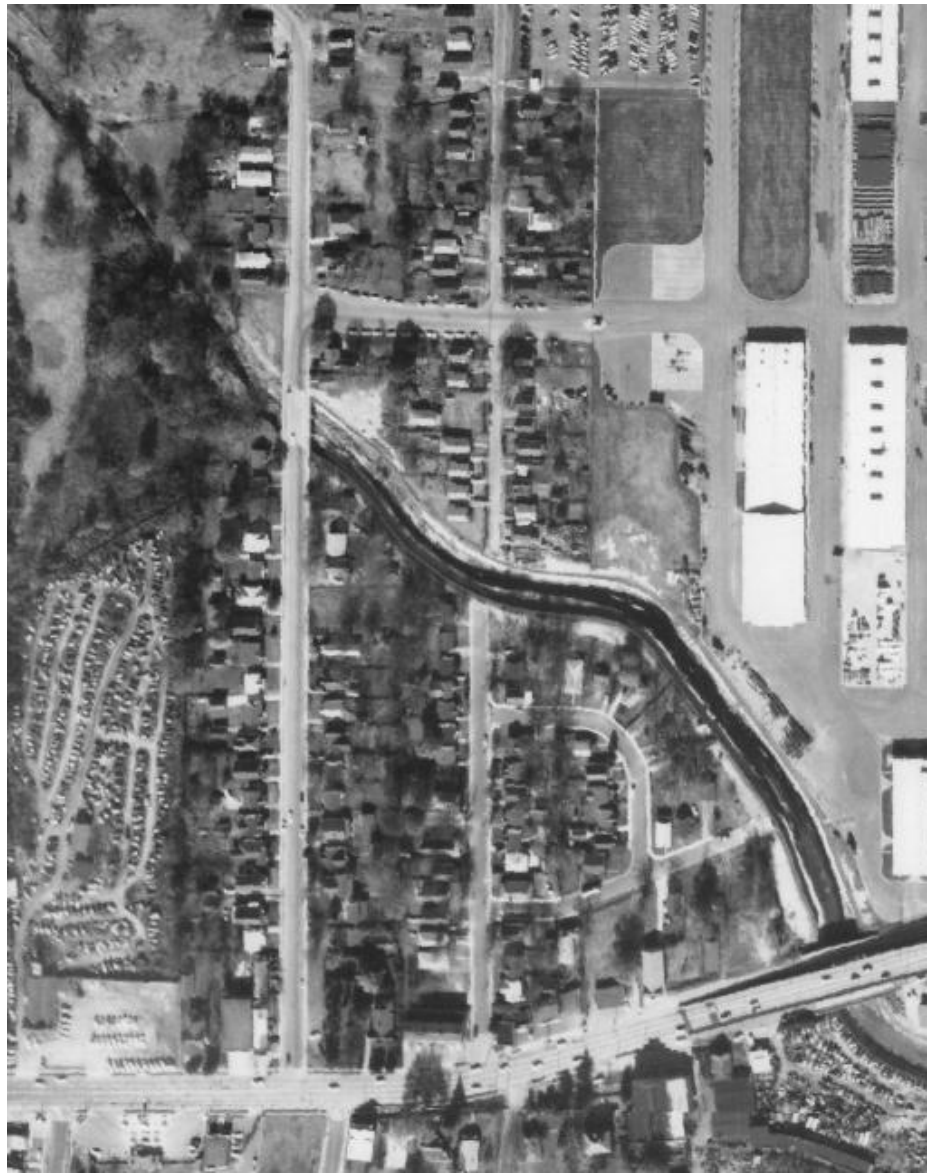
- Installation and operation of DNAPL stabilization system (34 2-phase recovery wells).
- Continue limited hydraulic containment.

Phase III Operations (Aug. 2002 – Current)

- Shut down DNAPL stabilization system.
- Initiate full-scale hydraulic containment (three wells with a total combined flow rate of approx 38 gpm).

Since startup of the CATF, the groundwater containment system has recovered approximately 425 million gallons of groundwater containing approximately 80,049 pounds of VOCs, 5,395 pounds of SVOCs, and 166 pounds of NVOs.

Cypress Creek



In the early 1960s, as part of a flood control project, the United States ACOE built a pump station on Cypress Creek at the confluence with the Wolf River. At the same time and continuing into the 1970's, the City of Memphis began to channelize Cypress Creek by channelizing the creek. Historically, Cypress Creek was a natural watercourse that served as the discharge point for agricultural and then urban storm water and sanitary and industrial wastewater discharges from industries including Velsicol.

During the construction of the concrete liner, sediments from the creek bottom and banks were removed and then placed in staging piles. After construction of the channel walls, the staged sediments/soils were used as backfill material to bring the adjacent banks to grade with the new concrete channel walls.

Velsicol began to study the soil along Cypress Creek as part of the RCRA clean up permit.

Path Forward

- RCRA permit termination
- Site being transferred to Division of Remediation
- TDEC filed a Proof of Claim against Velsicol's Chapter 11 bankruptcy filing, asserting claims for remediation costs of the Memphis plant site, ground water contamination, remediation of Cypress Creek and oversight costs.
- TDEC and Velsicol have reached an agreement to settle these claims and Velsicol's environmental liabilities.
- Under the terms of the settlement, Velsicol will transfer title to the Memphis plant site to an environment response trust and make payments to the trust in the amount of approximately $3.8 million over the course of 5 years.
- The trust will fund continued remedial activities at the Facility at the direction of TDEC.

CERCLA Process