

SEMET RESIDUE PONDS (TAR BEDS)

Fact Sheet #2:
A Sub-Site Of The Onondaga Lake
Superfund Site and NYS Superfund Site
Registry #7-34-008

Contacts For More Information And Comments

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Documents for this Site are Available for Public Inspection at:

Atlantic States Legal Foundation Depository Library
658 West Onondaga Street, Syracuse NY 13204-3711
Phone: 315-475-1170 Fax: 315-475-6719
<http://www.ASLF.org/>

Onondaga County Public Library
Central Branch At The Galleries
447 South Salina Street, Syracuse, NY 13202
Phone: (315) 435-1800
Hours: M, Th, Fri, Sat, 9:00 A.M. - 5:00 P.M.;
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New York State Department of Environmental Conservation
625 Broadway, Albany, NY 12233-7016
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Please Call For An Appointment

New York State Department of Environmental Conservation, Region 7
615 Erie Blvd. West, Syracuse, NY 13204-2400
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Hours: M - Fri, 8:30 am - 4:45 pm
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<http://www.dec.ny.gov/about/615.html>

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Figure 1: Aerial photo taken on June 22, 1966, showing Semet Residue Ponds and adjacent Willis Ave plant (a separate Superfund sub-site).

Description

The Semet Residue Ponds (a.k.a. "Tar Beds") site is located in the town of Geddes, approximately 400 feet south of Onondaga Lake. The site has five irregularly-shaped ponds containing approximately 80 million gallons¹ of acidic (pH<1) tar wastes from a benzol production plant. Between 1917 and 1970, the Semet-Solvay Division of Allied Chemical & Dye (now Honeywell International, Inc.) used the ponds as depositories for tar wastes² generated at its BTX (Benzol) Plant located immediately to the south. In addition, two narrow "containment areas" were created to control leakage along the southern edge of the site.

Prior to construction of the Semet Residue Ponds, the site (aka Wastebed A) was used for the disposal of Solvay Process waste. The dikes bordering the ponds were reportedly built from fill materials including concrete rubble, old electrolytic cell parts, ashes, cinders, soil, Solvay Waste, bricks, and stone.

Tributary 5A originates from natural springs south of the site, and flows along the south and west sides of the site before discharging into Onondaga Lake. The surrounding area is industrial with the nearest residential area about 0.5 miles to the south. Leakage from the site has resulted in the contamination of off-site soils, groundwater, and the sediments of Onondaga Lake.

¹ Recent (2009) investigations indicate that the actual volume of wastes is considerably less than 80 million gallons.

² The waste resulted after the acid washing of coke light oil during the production of benzene, toluene, naphthalene, xylene, and "motor benzol."

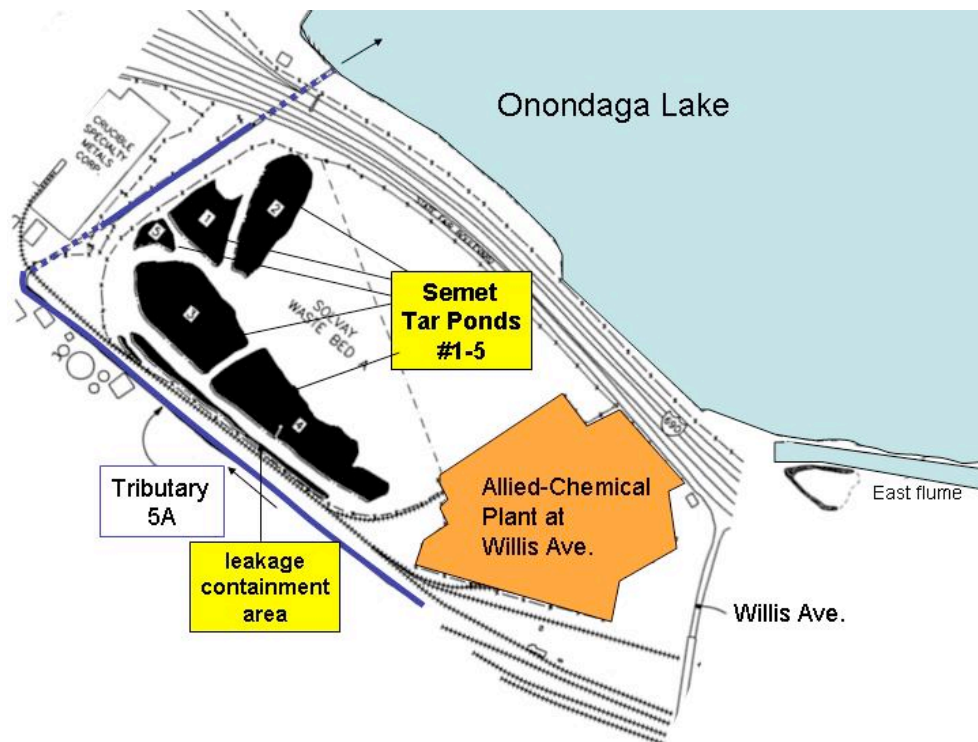


Figure 2: Schematic of area shown in Figure 1. The chemical plant at Willis Avenue has been razed, and is now the site of Honeywell's groundwater treatment facility.

Environmental Issues

The primary contaminants at the site include:

- benzene, toluene, ethylbenzene, xylenes (BTEX)
- naphthalene (a "low-weight" PAH)
- mercury and other metals
- diphenylethanes³

The site presents a significant environmental threat due to the leakage of the Semet residue into underlying soils, and high levels of contaminants in groundwater. The Semet waste material lies below the water table and is therefore in direct contact with the groundwater. In addition, the tarry waste has been observed seeping out of the basins along the slope adjacent to the railroad tracks near Tributary 5A. Contaminants from this site also entered the lake via the 1-690 storm drains, which collect some contaminated groundwater in this area. These storm drains have been intercepted or plugged.

³ These are unique compounds formed during the acid-washing step in the Semet process. Not much is known about their toxicity.

Prior to construction of a barrier wall, the site was contributing contamination to Onondaga Lake, via contaminated groundwater which flows into the lake. Groundwater, which is highly contaminated with BTEX compounds, naphthalene, and several metals, also flows into Tributary 5A, which flows into the lake. Monitoring of Tributary 5A documents the transport of organic compounds (BTEX, naphthalene) and mercury and other metals from the vicinity of the Semet Residue Ponds site. The organic compounds are believed to have originated from the Semet Residue Ponds site. The mercury is believed to have migrated from the Willis Avenue and/or Semet Residue Ponds sites. Other metals (e.g., chromium, copper, and nickel) may have originated from the Crucible Materials Corporation plant.

Emissions of volatile compounds (e.g. BTEX and others) into the air have historically been a problem at this site.

What's been done to address the problem?

In March 2002, a Record of Decision was issued for the Semet Residue Ponds subsite. The \$50 million plan included the excavation of the Semet pond waste and on-site processing of the residue into benzene, light oil, and a soft tar product to be converted into driveway sealer. However, it was later determined that market conditions for driveway sealer made this option untenable. A modification of the remedy, which would allow for the residue to be converted to a material to be burned for energy recovery, was evaluated under a focused Feasibility Study performed by Honeywell. A draft focused FS report was submitted in July 2006. Field activities conducted in 2009 to determine the thickness of the residue in the Semet Tar ponds indicate that the volume of material in the ponds is considerably less than previously estimated. As a result, USEPA states that "other alternatives to address the pond material may be considered."

Honeywell has already constructed a groundwater treatment system which is now treating groundwater collected at the barrier wall. Design of a groundwater collection system adjacent to Tributary 5A is underway.

Several Interim Remedial Measures (IRMs) have been completed:

- **June 1997:** all five tar ponds were covered, thereby greatly reducing odors.
- **2003 - 2007:** Interstate-690 storm drains were cleaned, re-routed and/or modified.
- **Summer of 2007:** a barrier wall and groundwater collection system was installed to stop the flow of contaminated groundwater from the site, and the adjacent Willis Avenue Site, to Onondaga Lake.