

**Occidental Chemical/Firestone
Pottstown, Pennsylvania
Region 3
PAD980229298**

Site Exposure Potential

The Occidental Chemical Corporation/Firestone Tire and Rubber Company site occupies 101 hectares on the Schuylkill River in Pottstown, Pennsylvania (Figure 1). Firestone produced both polyvinyl chloride (PVC) and tires on the site from 1945 until 1980, when the facility was sold to Occidental Chemical Company. Since 1980, Occidental has manufactured PVC at the plant (EPA 1987).

Both Firestone and Occidental disposed of wastes on 12 hectares of the property. The disposal areas consist of an inactive, seven-hectare landfill; an active, three-hectare landfill; four inactive seepage lagoons; and two active, lined lagoons. The four seepage lagoons received PVC waste from 1945 to 1974. Sludge from the lagoons was periodically removed and disposed of in the inactive seven-hectare landfill. In 1971, the Pennsylvania

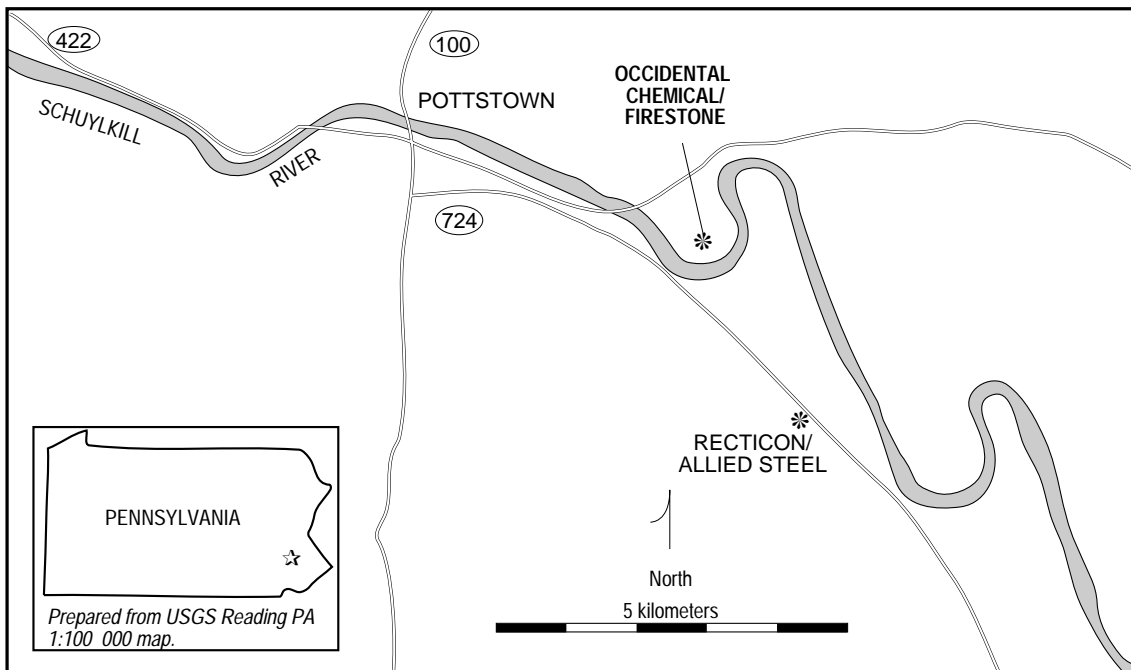


Figure 1. The Occidental Chemical/Firestone site in Pottstown, Pennsylvania.

Department of Environmental Resources (PA DER) issued a permit to Firestone to operate the seven hectares as a sanitary landfill. In 1985, Occidental Chemical closed the landfill under a PA DER closure plan; the landfill was capped with a cover, 60 cm of earth and topsoil, and then seeded (EPA 1987). All of the landfills and lagoons are between 45 and 300 meters from the Schuylkill River.

Under current practices, PVC waste is pre-treated by filtering out the solids, mixed with fly ash, and disposed of in an active landfill. The resulting effluent is discharged to the municipal sanitary sewer system. The sludge goes to the two lined lagoons, constructed in 1974 (EPA 1987).

The major surface water of interest near this site is the Schuylkill River, which meanders along three sides of the site. The site is in the 100-year floodplain of the Schuylkill River. The river flows 75 km to the Delaware River. There are several groundwater aquifers that are connected with each other and the Schuylkill River. Another NPL site, Recticon/Allied Steel, is approximately 4 km southeast of the Occidental Chemical site.

Possible contaminant migration pathways to NOAA trust resources are surface water runoff and groundwater flow to the Schuylkill River.

Site-Related Contamination

The contaminants of concern at this site are trace metals and VOCs (Table 1). In 1984, trichloroethene was spilled on the site and was subsequently found in well water and soils on-site. Concentrations of chromium, copper, mercury, and zinc in well water exceeded AWQC for the protection of freshwater aquatic life.

Table 1. Maximum levels of contaminants at the Occidental Chemical/Firestone site (EPA 1987); AWQC for the protection of freshwater aquatic life (EPA 1986); concentrations for soil in mg/kg and for water in µg/l.

Contaminant	Soil	Well Water	AWQC	
			Acute	Chronic
ORGANIC COMPOUNDS				
<u>Volatiles</u>				
1,2-dichloroethane	3.6	NA	118,000.0††	20,000.0††
ethylbenzene	100.0	NA	32,000.0††	N/D
trans-1,2-dichloroethene	500.0	750.0	N/D	N/D
trichloroethene	18.0	1,500.0	45,000.0††	21,900.0††
vinyl chloride	420.0	11.0	N/D	N/D
INORGANIC SUBSTANCES				
<u>Trace Metals</u>				
chromium	0.07	173.0	16.0	11.0
copper	0.02	1966.0	18.0†	12.0†
manganese	0.25	10,010.0	N/D	N/D
mercury	0.001	4.00	2.4	0.012
zinc	NA	1,005.0	120.0†	110.0†
† Hardness-dependent (based on 100 mg/l CaCO ₃); †† LOEL; NA: Not available; N/D: Not determined				

NOAA Trust Habitats and Species in Site Vicinity

The Schuylkill River is designated a Warm Water Fishery (WWF) under Title 25, Chapter 93, of the Pennsylvania Department of Environmental Resources Water Quality Standards (PA DER undated). The reach of the Schuylkill River that flows near the Occidental Chemical/Firestone site at Pottstown is one to two meters deep and 30 to 100 meters wide, and is the flowing water system most heavily used for wastewater assimilation in Pennsylvania. A great deal of agricultural runoff affects the river, resulting in low water quality. The river substrate consists of gravel/cobble in riffle reaches and silt in pool reaches. Heavy aquatic plant beds are found throughout the river, with the dominant plant species being water milfoil and pickerelweed (Koffman 1989).

American eel are present the entire length of the Schuylkill River. American shad are stocked in the river near Pottstown and use the freshwater habitat adjacent to the site. A

series of six dams downstream of Pottstown blocks natural anadromous fish runs on the Schuylkill River in the vicinity of the site. Of these dams, only Fairmount, the furthest downstream near Philadelphia permits fish passage. Fish passages may be installed on the entire series of dams in order to reestablish a natural fish run. American shad are presently stocked above the dams near Pottstown and the catadromous American eel currently migrates the entire length of the river. Hence, both species use the freshwater habitats of the Schuylkill River near the site. If the fish passages are installed, the expected future anadromous fish runs adjacent to the site will include striped bass, alewife, and blueback herring (Koffman 1989).

Response Category: Federal Enforcement Lead

Current Stage of Site Action: RI/FS Workplan

EPA Site Manager

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NOAA Coastal Resource Coordinator

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References

EPA. 1986. Quality Criteria for Water. Washington, D.C.: Office of Water Regulations and Standards, Criteria and Standards Division. EPA 440/5-86-001.

EPA. 1987. National Priorities List Package (CERCLA). Occidental Chemical Corporation/Firestone Tire and Rubber Company. Pottstown, Pennsylvania. Philadelphia: U.S. Environmental Protection Agency, Region 3.

Koffman, M., fisheries biologist, Pennsylvania Fish Commission, Revere, Pennsylvania, personal communication, March 3, 1989.

PA DER. undated. Water Quality Standards. Rules and Regulations. Chapter 93. Philadelphia: Pennsylvania Department of Environmental Resources.