NPL Site Narrative for Armco Inc., Hamilton Plant

ARMCO INC., HAMILTON PLANT
Hamilton, Ohio

The Armco, Inc. Hamilton Plant (Armco) site is associated with a 120-acre inactive industrial facility located in Hamilton, Ohio. The facility property is bordered by the Great Miami River to the east and south, by the Baltimore and Ohio Railroad to the north and west, and is divided into a northern portion and a southern portion by Augspurger Road. The southern parcel consists of 92 fenced acres and was used for manufacturing operations, including a coke production facility and blast furnaces. The northern parcel is unfenced and consists of approximately 27 acres. The northern parcel was formerly a rail yard and temporary storage area for scrubber sludge waste piles and also contains a 4.5-acre landfill. The facility operated as a steel mill, producing both coke and molten iron, under various ownership since the 1900s. Armco purchased the facility in 1937 from the Hamilton Coke and Iron Company, and AK Steel subsequently acquired the facility in 1994. Armco manufactured both coke and iron until 1982 when coke production ceased. Armco continued to produce iron until 1991, and the facility was then used intermittently until it was completely closed in 1994.

The coke operation covered approximately 50 acres on the southern portion of the property. Byproducts of the coke operation included coal tar, naphthalene, coke oven gas, crude light oil, and ammonium sulfate. The waste streams from the operation were passed through an exhauster and flushed into a decanting tank. The decanted coal tar sludge was periodically drained from the bottom of the tank and disposed of in a landfill on the northern portion of the property from the early 1960s until the landfill was closed in 1980.

The blast furnace operation covered approximately 6 acres on the southern portion of the property. Wastewater generated in the blast furnace operation was discharged to two settling ponds located adjacent to the blast furnaces, where particulates were allowed to settle out. Excess water from these ponds was originally discharged to the Great Miami River under a National Pollutant Discharge Elimination System (NPDES) permit. The contact wastewater, from the blast furnace off gas and wet scrubbers, contained pollutants such as ammonia, cyanide, phenol, and lead- and zinc-bearing flue dust ("scrubber sludge"). The settled scrubber sludge was periodically dredged from the two settling ponds and stored in piles in the northern portion of the property.

EPA conducted a Screening Site Inspection (SSI) at Armco in September 1988. Sampling results from this SSI indicated the presence of SVOCs, such as phenanthrene, fluoranthene, pyrene, and chrysene in the facility landfill. Sampling results also indicated the presence of SVOCs, such as benzo(a)pyrene, and metals, such as lead and chromium, in the southern settling pond. EPA collected analytical data during an Expanded Site Inspection (ESI) conducted at Armco in July 1993. These data confirmed the presence of SVOCs and metals in the two settling ponds and indicated the presence of PCBs in both ponds. These data also revealed soil contaminated with SVOCs, PCBs, and significant levels of metals in the area where the scrubber sludge piles were formerly stored.

Armco used four NPDES-permitted outfalls that discharge directly to the Great Miami River. These outfalls discharged both process wastewater from the facility and storm water runoff. Two storm water outfalls that

drained the facility property were sampled during a July 8, 1991 storm event. The samples documented the direct discharge of hazardous substances, such as di-n-octylphthalate, titanium, barium, and zinc, to the Great Miami River. Analytical data collected during the July 1993 ESI documented significant concentrations of SVOCs, including 4-methyl phenol (o-cresol), fluoranthene, benzo(k)fluoranthene, and benzo(g,h,i)perylene, and metals, including chromium and zinc, in the sediments of the Great Miami River. The Great Miami River is a recreational fishery for species such as bluegill and smallmouth bass in the vicinity of the site. Habitat for the Indiana bat, a federally designated endangered species, is within the target distance limit for the site.

The Armco site is located less than one-half mile from the City of Hamilton's North Plant wellfield, which serves approximately 35,763 people. The Village of New Miami Wellfield is located within one mile of the site and serves a population of approximately 3,045. A total population of 60,605 is served by wells within four miles of sources at the site. Although ground water contamination has not been detected, the aquifer occurs at 40 feet below ground surface in the vicinity of the site.

For more information about the hazardous substances identified in this narrative summary, including general information regarding the effects of exposure to these substances on human health, please see the Agency for Toxic Substances and Disease Registry (ATSDR) ToxFAQs. ATSDR ToxFAQs can be found on the Internet at ATSDR - ToxFAQs (http://www.atsdr.cdc.gov/toxfaqs/index.asp) or by telephone at 1-888-42-ATSDR or 1-888-422-8737.