MD-105
Baltimore City

Areas of concern at the Amoco Oil Company site include where lab wastes and drums were buried, the former cooling tower location, and the former backwash lagoon and sludge pond.

1992 FSI by NUS detected chlorobenzene, ethylbenzene, total xylenes, and total phenols in soil samples, and total phenols, bis(2-ethylhexyl)phthalate, lead, and chromium in groundwater samples.

1993 SSI by E&E detected benzene, PAHs, aluminum, arsenic, calcium, iron, lead, magnesium, manganese, nickel, sodium, zinc, and several pesticides in on-site groundwater, on-site soil, and/or adjacent-site sediment samples.

EPA assigned NFRAP status in April 1995.

AMOCO OIL COMPANY
Baltimore, Maryland

(MD-105)

Site Description

The Amoco Oil Company site is located at 3901 Asiatic Avenue, on the point of land that separates the Curtis Bay from the Patapsco River in Baltimore City. Curtis Bay borders the southwestern side of the site, and the Patapsco River borders the eastern and southeastern sides. The land immediately adjoining the site and most of the land within a mile of the site are used for industrial purposes, including other petroleum storage or processing facilities.

The 48-acre site includes an area formerly used for cleaning tank cars, an area where laboratory wastes were buried, an area where drums of unknown material were buried, an area where a cooling tower was formerly located, and an area on the southeast side of the site where a filter backwash lagoon and a sludge pond were formerly located. Also located on the site is an inactive oil/water separator. Although a 6-foot high barbed wire fence runs along the entire northern and northeastern sides of the site, a low seawall protects the shoreline from erosion and the site is considered accessible.

Site History

In 1922, the Amoco Oil Company (then known as the Mexican Petroleum Corporation) site began as a storage and transfer terminal for gasoline and kerosene. In the 1950s, the site was converted to an oil refinery that produced asphalt, light gas oil, medium gas oil, and heavy gas oil. A research facility, asphalt packaging facilities, various maintenance facilities, utility stations, and shipping/receiving operations were associated with the petroleum refinery. Asphalt production and other refining operations ceased in February 1982. Between February 1982 and August 1990, the site operated as an asphalt packaging terminal; all packaging, refining, and storage operations ended in August 1990. Current operations at the site consist of remedial efforts, which have centered on gross removal of spilled and leaked petroleum products and petroleum wastes, removal of above ground storage tanks, collection of soil and groundwater samples, and site assessment to determine further remedial actions.

Environmental Investigations

In March 1992, NUS Corporation completed a Field Screening Investigation (FSI) of the site, which involved a terrain conductivity survey of the drum burial area and collection of subsurface soil and groundwater samples. Soil samples collected from bermed areas along the northeast and west side contained chlorobenzene ($\leq$89 ppb), ethylbenzene ($\leq$128 ppb), total xylenes ($\leq$224 ppb), and total phenols ($\leq$6,200 ppb). Compounds detected in groundwater samples collected from the laboratory waste burial area, the tank car cleaning area, and the drum burial area included total phenols ($\leq$229 ppb) and bis(2-ethylhexyl)phthalate ($\leq$1,300 ppb); in addition, lead ($\leq$1,630 ppb) and chromium ($\leq$3,100 ppb) were detected near the lab waste burial area. The terrain conductivity survey detected several apparent anomalies; however, soil screening using a geoprobe did not indicate significant levels of contamination.

In February 1993, Ecology and Environment (E&E), Inc., completed a Screening Site Inspection (SSI) of the Amoco Oil Company site under direction of the U.S. Environmental Protection Agency (EPA). Soil and groundwater samples were collected on site, and surface water and sediment samples were collected from the Patapsco River and Curtis Bay. Although trace levels of several volatile and semivolatile organic

compounds were detected in groundwater samples, benzene (2 ug/l) was the only compound identified as potentially posing a health risk if the water were used for drinking. In one groundwater sample (pH 3.51), elevated concentrations of aluminum (14,000-15,400 ug/l), calcium (190,000-191,000 ug/l), iron (11,000-12,100 ug/l), magnesium (47,700-48,400 ug/l), manganese (1,160-1,180 ug/l), nickel (80.5-109 ug/l), sodium (19,100-19,700 ug/l), and zinc (246-298 ug/l) were detected. Surface soil samples detected polycyclic aromatic hydrocarbons (PAHs; $\leq$520 ug/kg), alpha-BHC (1.2 ug/kg), DDT (12 ug/kg), chlordane (1.4 ug/kg), and arsenic (6.4-13.3 mg/kg) at elevated concentrations. One sediment sample, which was collected near the drum burial area on the Curtis Bay side of the site, contained elevated concentrations of PAHs ($\leq$5,700 ug/kg). One sediment sample, which was collected in an area adjacent to the former locations of the sludge pond and cooling tower, had a lead concentration of 265 mg/kg. In addition, trace concentrations of aldrin (0.21-0.35 ug/kg), heptachlor epoxide (0.28 ug/kg), and dieldrin (0.50-1.0 ug/kg) were also detected in sediment samples.

Current Status

Based on the 1992 SSI, the EPA assigned the Amoco Oil Company site No Further Remedial Action Planned (NFRAP) status in April 1995.

Reference

Screening Site Inspection of the Amoco Oil Company Site, prepared by Ecology and Environment, Inc., for the U.S. Environmental Protection Agency, February 1993.