Site Location

The Chevron Chemical - Baltimore Refinery is a 75-acre active asphalt terminal located at 1955 Chesapeake Avenue in Baltimore City. Chesapeake Avenue borders the facility on the north, and Fairfield Road borders to the west. A small residential area is located northwest of the site. A series of tank farms belonging to Vista Chemicals borders to the south of the facility, and the Patapsco River shoreline defines the borders to the east. A 5-acre wetland area lies within 1/2 mile southwest of the facility.

The refinery site includes several tank farms, each housing two to four storage tanks, a 286,000-gallon capacity "observation" pond, an enclosed separator unit, several monitoring wells, and an outfall pipe, which discharges directly into the Patapsco River. The entire perimeter of the property is defined by an 8-foot cyclone fence topped with barbed wire. Surface and groundwater flow east-northeast and discharge directly into the Patapsco River.

Site History

Since 1948, activities at the Chevron Chemical - Baltimore Refinery site have included refinery operations, asphalt production and storage, chemical transport, and research and development.

May 1985 PA by WAS found no evidence of buried tank bottoms on the property.

In January 1987, 8,500 gallons of unleaded gasoline spilled. In January 1988, 100-150 gallons of benzene spilled. Affected soils were analyzed, deemed clean by the state, and returned to excavation sites.

August 1989 SI by NUS revealed benzene, toluene, ethylbenzene, total xylenes, naphthalenes, substituted benzenes, cyclohexane, PAHs, methylnaphthalene, arsenic, chromium, and lead in significant concentrations in soil and/or groundwater samples.

EPA assigned NFRAP status to site in October 1990.

Environmental Investigations

In May 1985, the Maryland Waste Management Administration (WAS) conducted a Preliminary Assessment (PA) of the facility to determine if two leaded tank bottoms were buried...
between two above-ground storage tanks. According to plant officials, burial probably occurred before 1948. No evidence of buried tank bottoms was found.

Two spill incidences were reported to the WAS. In January 1987, 8,500 gallons of unleaded gasoline spilled from a leaking Conoco gas line, and in January 1988, 100-150 gallons of benzene spilled from a leaking benzene pipeline. In both instances, the affected soil was removed and placed on plastic to dry. After the soil was tested and declared clean by the state, it was returned to the excavation site.

In August 1989, the NUS Corporation conducted a Site Inspection (SI) of the Chevron Chemical - Baltimore Refinery. Soil and groundwater samples were obtained. The highest overall concentrations of organic contamination were observed in subsurface soil samples collected from the previous spill sites; identified contaminants at these sites included benzene (<6,600 ug/kg), toluene (<180,000 ug/kg), ethylbenzene (120,000 ug/kg), total xylenes (<620,000 ug/kg), naphthalenes (<135,000 ug/kg), substituted benzenes (<1,444,000 ug/kg), cyclohexane (14,000 ug/kg), polycyclic aromatic hydrocarbons (PAHs; ≤99,900 ug/kg), and methylbenzene (<29,000 ug/kg). With the exception of lead (elevated level of 460 mg/kg detected at the gasoline spill site only), metal concentrations in on-site soils were below levels typically observed in unpolluted soils in the eastern United States. Several petroleum-related volatile organic compounds were detected in well samples at levels exceeding set or recommended drinking water standards, including benzene (84-4,900 ug/l), ethylbenzene (25-960 ug/l), toluene (100-2,900 ug/l), and total xylenes (170-6,300 ug/l). In addition, arsenic (1.7-19.7 ug/l), chromium (64-4,940 ug/l), and lead (9.1-59.7 ug/l) were detected in levels exceeding recommended drinking water standards.

**Current Status**

Based on the 1989 SI by NUS Corporation, the U.S. Environmental Protection Agency (EPA) assigned the Chevron Chemical - Baltimore Refinery site No Further Remedial Action Planned (NFRAP) status in October 1990. Remediation of petroleum related contamination has been handled by the WAS Oil Control Program. Future investigations or remediation at the site pursuant to the release of hazardous substances will be addressed by the State Superfund Division.

**Reference**

Site Inspection of Chevron Chemical - Baltimore Refinery, prepared by the NUS Corporation, Superfund Division, for the Hazardous Site Control Division, U.S. Environmental Protection Agency, July 1990.