

Health Consultation

SURFACE SOIL

PALMYRA BORO SITE

PALMYRA, BURLINGTON COUNTY, NEW JERSEY

CERCLIS NO. NJD980769160

OCTOBER 31, 1997

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia

Health Consultation: A Note of Explanation

An ATSDR health consultation is a verbal or written response from ATSDR to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members. This concludes the health consultation process for this site, unless additional information is obtained by ATSDR which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

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Prepared by:

Exposure Investigation and Consultation Branch
Division of Health Assessment and Consultation
Agency for Toxic Substances and Disease Registry

BACKGROUND AND STATEMENT OF ISSUES

The Environmental Protection Agency (EPA) Region II requested that the Agency for Toxic Substances and Disease Registry evaluate the public health impact of contamination detected in surface soil at the Palmyra Boro Landfill.

The Palmyra Boro Landfill occupies 50 acres in a commercial area of Palmyra, Burlington County, New Jersey. The landfill received municipal household wastes from the 1960s until it closed in 1971. After closure, the landfill was capped with material dredged from the Delaware River [1]. The site is accessible by foot, but not by vehicle. The site is heavily vegetated [1]. The site is bordered on the south by Pennsauken Creek, on the west by tidal flats and the Delaware River, on the north by a drive-in theater, and on the east by Route 73 (see attached map). There are no residences, schools, or day-care centers within 200 feet of the site. EPA indicated that the current owner recently constructed a gate to prevent on-site dumping of tires and other debris by trespassers [1]. EPA also indicated that the site is not used for recreational activities.

The Potomac-Raritan-Magothy (PRM) aquifer formation lies beneath fill material at the site [1]. The PRM is generally composed of upper, middle, and lower aquifers separated by two confining beds. However, in the vicinity of the site, the confining layer between the upper and middle aquifers is not distinct, and the two aquifers can be considered interconnected [1]. Groundwater is used as the primary source of drinking water within 4 miles of the site. Wells in the middle aquifer serve 2,147 people within one-fourth mile of the site. The nearest well providing potable water is about 500 feet south of the site.

There are no on-site monitoring wells, so it is not known whether on-site contamination has impacted groundwater in the underlying aquifer. Furthermore, no information was provided on possible contamination in water or sediment from Pennsauken Creek.

In April 1990, EPA's Site Inspection Team collected 11 on-site surface soil samples. However, the EPA provided the results for only one sample, which contained contaminants at concentrations of greater than three times background levels. Sample S10 contained the following contaminants: lead (690 parts per million [ppm]); mercury (0.15 ppm); polychlorinated biphenyls (1.2 ppm); benz [k] fluoranthene (2 ppm); chrysene (2.3 ppm); benz [b] fluoranthene (3.9 ppm); indeno [1,2,3] pyrene (2.9 ppm); dibenz [a,h] anthracene (1 ppm); and benzo [g,h,i] perylene (3.1 ppm).

DISCUSSION

In soil sample S10, the concentration of total polycyclic aromatic hydrocarbons (PAHs) was 24 parts per million (ppm), and the concentration of total carcinogenic PAHs was 14 ppm. Using toxicity equivalent factors, the concentration of benzo(a)pyrene toxic equivalents in the soil sample was 5 ppm. Lead was also elevated in the soil sample at 609 ppm.

The site is accessible by foot, but it is not used for recreational activities. The site is heavily vegetated. Therefore, exposure to on-site contamination would be infrequent and of limited duration. Under these conditions, the contaminant levels detected in the soil sample do not pose a public health hazard.

CONCLUSIONS

1. Based on the limited data provided for review, contaminated surface soil at the site does not pose a public health hazard under current use conditions. However, results were available for only one soil sample, and this is not sufficient to characterize on-site soil contamination.
2. The groundwater beneath the site has not been characterized. Therefore, it is not known if wells downgradient of the site are at risk for being impacted by site contamination.

REFERENCE

1. Remedial Site Assessment Decision-EPA, Palmyra Boro
Landfill, Burlington County, New Jersey, September 7, 1995.