

HEALTH
**Health
Assessment
for**

M & T DELISA LANDFILL

ASBURY PARK, NEW JERSEY

JANUARY 4, 1989

Agency for Toxic Substances
U.S. Public Health Service

THE ATSDR HEALTH ASSESSMENT: A NOTE OF EXPLANATION

Section 104(i)(7)(A) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, states "...the term 'health assessment' shall include preliminary assessments of potential risks to human health posed by individual sites and facilities, based on such factors as the nature and extent of contamination, the existence of potential pathways of human exposure (including ground or surface water contamination, air emissions, and food chain contamination), the size and potential susceptibility of the community within the likely pathways of exposure, the comparison of expected human exposure levels to the short-term and long-term health effects associated with identified hazardous substances and any available recommended exposure or tolerance limits for such hazardous substances, and the comparison of existing morbidity and mortality data on diseases that may be associated with the observed levels of exposure. The Administrator of ATSDR shall use appropriate data, risk assessments, risk evaluations and studies available from the Administrator of EPA."

In accordance with the CERCLA section cited, ATSDR has conducted this preliminary health assessment on the data in the site summary form. Additional health assessments may be conducted for this site as more information becomes available to ATSDR.

PRELIMINARY HEALTH ASSESSMENT
M & T DELISA LANDFILL
ASBURY PARK, NEW JERSEY
JANUARY 4, 1989

Prepared by:
Office of Health Assessment
Agency for Toxic Substances and Disease Registry (ATSDR)

Background

The M & T Delisa Landfill Site (MDL) is listed by the U.S. Environmental Protection Agency (EPA) on the National Priorities List. The 132-acre site is located in Asbury Park (Monmouth County), New Jersey. MDL was reported to receive municipal waste from 1945 to 1975. In 1976, the Seaview Square Mall was constructed on 25 to 30 acres of MDL, reportedly on clean fill. Leachate streams and seepage were observed to be discharging into a nearby stream that empties into Deal Lake. Methane exists 1 to 3 feet below the ground outside the mall. Access to the site is unrestricted. A leachate collection system and a series of gas venting systems have been installed. Some of the landfill material was redistributed on-site and placed under the mall parking garage.

The following documents were reviewed by ATSDR: (1) the Hazard Ranking Package, August 1982, (2) Final Report, Field Investigation Team Project, December 24, 1981, and (3) Final Report Seaview Square Mall Remedial Investigation (RI), August 7, 1984. These documents form the basis of this Preliminary Health Assessment.

Environmental Contamination and Physical Hazards

Preliminary on-site groundwater sampling results have identified methylene chloride (15 to 20 ppb), arsenic (5 to 68 ppb), chromium (9 to 56 ppb), and lead (ND to 230 ppb). Surface water sampling results identified trichloroethylene (14 ppb), 1,1,1-trichloroethane (90 ppb), and lead (100 ppb). Methylene chloride, chromium, lead and arsenic were identified from storm drain and leachate seeps composite samples. In addition, sediment sampling results have identified various polynuclear aromatic hydrocarbons (PAH's) and arsenic, mercury, lead, and zinc. Off-site sampling results were not reported. Physical hazards were not reported.

Potential Environmental and Human Exposure Pathways

Potential environmental pathways include those related to contaminated groundwater, surface water, on-site soils, and volatilization of contaminants in ambient air. In addition, bioaccumulation of contaminants in fish and vegetables grown in contaminated soil may be other environmental pathways.

Potential human exposure to contaminants include ingestion and direct contact with groundwater, surface water, on-site soil, and possible ingestion of bioaccumulated contaminants in the food chain. In addition, inhalation of volatilized contaminants or contaminants entrained in air are other potential sources for human exposure.

Demographics

There are about 2,373 people living within a 1-mile radius of the site. No further demographic information has been reported.

Evaluation and Discussion

There are 34 private wells in use within a three mile radius of MDL. Approximately 120 people draw water from area private wells. Lead was detected in a potable well at concentrations ranging from 6 to 64 ppb (1982). No further sampling information was reported regarding off-site groundwater.

Municipal wells in use within the vicinity of the site have not been sampled for site-related contaminants. However, it appears unlikely that municipal water is contaminated because water intakes are not located in the immediate area. Still, area groundwater sampling has identified various PAH's and inorganics. Therefore, sampling area municipal water systems is warranted to safeguard public health concerns about drinking contaminated water.

In 1981 EPA found surface water and soil contaminated with by PAH's and metals. Deal lake is located less than one mile from the site and is used for recreational activities (e.g., fishing and boating). No further information was reported.

There has been a history of odor complaints by nearby residents. In July 1983, the mall and surrounding areas were tested for methane gas migration. No further information was reported as to the results of the test or the status of the gas migration or whether there any possibilities for explosion. ATSDR has prepared, or will prepare, Toxicological Profiles on the site contaminants noted above.

Conclusions and Recommendations

Based on available information, this site is considered to be of potential public health concern because of the risk to human health caused by the possibility of human exposure to hazardous substances. Direct contact with contaminated leachate, sediment, surface water, and groundwater are sources of human exposure. Other possible sources for human exposure include possible ingestion of groundwater from private wells and possible inhalation of methane gas by mall employees, shoppers, and nearby residents.

Additional information on contaminants released, populations potentially exposed, and environmental pathways through which the contaminants can reach these populations is necessary. At a minimum, future investigations of this site should include a characterization of the site and site contaminants to include off-site sampling, air sampling measurement in and around the mall, an updated well survey, and a characterization of the hydrogeology of the area. In addition, an assessment on the possibilities for explosion of methane gas should be provided.

Further environmental characterization and sampling of the site and impacted off-site areas during the Remedial Investigation and Feasibility Study (RI/FS) should be designed to address the environmental and human exposure pathways discussed above. When additional information and data, such as the completed RI/FS, are available, such material will form the basis for further assessment by ATSDR, as warranted by site-specific public health issues.