

**PRELIMINARY
Public Health
Assessment
for**

BUTLER MINE TUNNEL

PITTSTON, LUZERNE COUNTY, PENNSYLVANIA

CERCLIS NO. PAD980508451

JANUARY 4, 1989

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry



THE ATSDR PUBLIC HEALTH ASSESSMENT: A NOTE OF EXPLANATION

This public health assessment was prepared by ATSDR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) section 104 (i)(6) (42 U.S.C. 9604 (i)(6)), and in accordance with our implementing regulations (42 C.F.R. Part 90). In preparing this document, ATSDR has collected relevant health data, environmental data, and community health concerns from the Environmental Protection Agency (EPA), state and local health and environmental agencies, the community, and potentially responsible parties, where appropriate.

In addition, this document has previously been provided to EPA and the affected states in an initial release, as required by CERCLA section 104 (i)(6)(H), for their information and review. The revised document was released for a 30-day public comment period. Subsequent to the public comment period, ATSDR addressed all public comments and revised or appended the document as appropriate. The public health assessment has now been reissued. This concludes the public health assessment 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.

Agency for Toxic Substances and Disease Registry..... David Satcher, M.D., Ph.D., Administrator
Barry L. Johnson, Ph.D., Assistant Administrator

Division of Health Assessment and Consultation Robert C. Williams, P.E., DEE, Director

Exposure Investigations and Consultation Branch..... John E. Abraham., Ph.D., Chief

Federal Facilities Assessment Branch.....Sandra G. Isaacs, Chief

Petitions Response Branch Acting Chief

Superfund Site Assessment Branch Sharon Williams-Fleetwood, Ph.D., Chief

Program Evaluation, Records, and Information Services Branch Max M. Howie, Jr., M.S., Chief

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

Background

The Butler Mine Tunnel Site (BMT) is listed by the U.S. Environmental Protection Agency (EPA) on the National Priorities List. The site is located in Pittston, (Luzerne County), Pennsylvania. The Butler Tunnel is a collection and discharge point for acid mine drainage from an estimated 5-square mile area of underground coal mines. Hazardous materials were disposed in the mines through a 4-inch borehole over 2 miles from the mouth of the Butler Tunnel. In 1979 contaminants discharged from the tunnel into the Susquehanna River. It was estimated that approximately 160,000 gallons of oil containing 13,000 pounds of dichlorobenzene were removed. In September 1985 100,000 gallons of waste oil containing 1 to 3 percent bis-2-ethyl hexyl phthalates were released after a period of heavy rains in the area. Access to the site is unrestricted. Removal actions have occurred on-site. EPA's Emergency Response Team removed 161,350 pounds of material from the Susquehanna River in September 1985.

The following documents were reviewed by ATSDR: (1) ATSDR Superfund Record of Communications, September 28-30, 1985, (2) On Scene Coordinator Report, September 28-30, 1985, (3) Hazard Ranking Package, November 1, 1985, and (4) Remedial Investigation Phase I, August 17, 1987. These documents form the basis of this Preliminary Health Assessment.

Environmental Contamination and Physical Hazards

Preliminary on-site oil/groundwater sampling results have identified benzene (26 to 1,300 ppb), bis(2-ethylhexyl)phthalate (36 to 13,000 ppb), butylbenzylphthalate (5 to 600 ppb), carbon tetrachloride (ND to 14 ppb), trichloromethane (ND to 7 ppb), 1,3-dichlorobenzene (26 to 100 ppb), diethyl phthalates (ND to 2,200 ppb), dimethylphthalate (ND to 2,400 ppb), dimethylphthalate (ND to 2,400 ppb) di-n-octylphthalate (110 to 792,000 ppb), ethylbenzene (ND to 4,350 ppb), methylene chloride (ND to 795 ppb), toluene (11 to 1,300 ppb), xylene (ND to 11,400 ppb), and 4-bromophenyl hexyl ether (ND to 20,000 ppm). Preliminary off-site oil/groundwater sampling results were said to be similar. Physical hazards were not reported.

Potential Environmental and Human Exposure Pathways

Potential environmental pathways include those related to contaminated groundwater, surface water, and volatilization of contaminants in ambient

air. In addition, bioaccumulation of contaminants in fish, water fowl, livestock, and commercial agricultural products is another environmental pathway.

Potential human exposures to contaminants include ingestion of and direct contact with groundwater, surface water, and possible ingestion of bioaccumulated contaminants in the food chain. In addition, inhalation of volatilized contaminants or contaminants entrained in air is another potential source for human exposure.

Demographics

There are about 25,000 people living within a 5-mile radius of the site and approximately 1,400 living within the boundaries of the Butler Mine. The nearest residence is located on-site. Moreover, a number of schools are located within a mile of the discharge point.

Evaluation and Discussion

Previous ATSDR comments were concerned with finding the source of releases as well as all substances identified in the 1979 release. There are neither private nor municipal wells within the vicinity of BMT. Therefore, ingestion of and direct contact with contaminated groundwater are not human exposure pathways.

The Susquehanna River is the area's source of potable water. The waste discharge is 60 miles upstream from the water intakes. The Communities of Danville, Sunbury, Shomkin Dam, Lancaster, Columbia, Wrightville, and Steelton are located downstream from the discharge point. Dichlorobenzene was identified in the Danville potable water supply in 1979 and 1985. However, the concentrations of the contaminant were not reported. It is uncertain as to whether other communities downstream from the discharge point reported site-related contaminants in their potable water supply.

Fish taken from the Susquehanna River in 1979 and area wildlife have demonstrated levels of dichlorobenzene and polychlorinated biphenyls. However, it is uncertain as to whether fish and wildlife were sampled for site-related contaminants in 1985. Moreover, sediment sampling information was not reported. This information is necessary to rule out any possible exposures through direct contact with contaminated sediment and/or ingestion of bioaccumulated contaminants in fish and wildlife.

It was also reported that release of cyanide gas was detected at the borehole on-site and two off-site areas. No further information regarding this incident(s) has been reported. Air sampling measurements are needed to rule out exposure of site-related contaminants as an exposure pathway. 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. Ingestion of and direct contact with contaminated surface water are the exposure pathways of concern. In addition, ingestion of bioaccumulated contaminants in fish and wildlife, direct contact with contaminated sediment, and possible inhalation of site-related contaminants are other possible sources for exposure.

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, updated sampling of community potable water sources downstream for site-related contaminants, food chain sampling, and a characterization of the hydrogeology of the area.

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.