Activities in Maryland

ATSDR in Partnership With Maryland

The Agency for Toxic Substances and Disease Registry (ATSDR) is the lead public health agency responsible for implementing the health-related provisions of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). ATSDR is an Atlanta-based federal agency with more than 400 employees and a budget for 2004 of approximately $73 million. ATSDR assesses the presence and nature of health hazards at specific Superfund sites, helps to prevent or reduce further exposure and illnesses resulting from those hazards, and expands the knowledge base about the health effects of exposure to hazardous substances.

ATSDR works closely with state agencies to carry out its mission to serve the public by using the best science, taking responsive public health actions, and providing trusted health information to prevent harmful exposures and disease related to toxic substances. Through cooperative agreements and grants, ATSDR provides funding and technical assistance to states and other partners to identify and evaluate environmental health threats to communities. These resources enable state and local health departments and other grantees to further investigate environmental health concerns and to educate communities. In **fiscal years 1988–2004**, ATSDR awarded more than **$3.4 million** in direct funds and services to **Maryland** for financial support of specific environmental health activities. In addition to direct funds and services, ATSDR provides technical and administrative guidance for state-conducted site activities.

ATSDR Site-Specific Activities

Public Health Assessment-Related Activities

One of ATSDR's important mandates is to conduct **public health assessments** of all National Priorities List (NPL) sites and of other sites where a significant threat to public health might exist. A public health assessment is a written, comprehensive evaluation of available data and information about the release of hazardous substances into the environment in a specific geographic area. Such releases are assessed for past, current, or future impact on public health. ATSDR, in collaboration with public health and environmental officials from **Maryland**, has conducted **30** public health assessments in the state, including the following recent example.

In fiscal years 1988–2004, ATSDR awarded more than $3.4 million in direct funds and services to Maryland.

- **Andrews Air Force Base (AFB)**—Andrews AFB is in **Prince George's County**, about 5 miles southeast of Washington, D.C. The main base is approximately 4,300 acres, with an additional 2,511 acres in remote facilities. Air Force, Army, Navy, and Marine Corps divisions reside at the base. The base also is home to Air Force One. Remediation at Andrews AFB began in 1985; the **Maryland Department of the Environment**, **Prince George's County Health Department** (**PGCHD**), and the U.S. Environmental Protection Agency (EPA) have provided oversight and have been involved in the process. Since 1985, 32 sites under the remediation program and 78 solid waste management units have been identified that require investigation or potential remediation. Andrews AFB was placed on the NPL in May 1999, primarily for contamination in the Piscataway Creek watershed.

  Principal site contaminants are the result of past routine operations (e.g., the use of toxic materials for aircraft operations and maintenance, fire training, civil engineering, vehicle maintenance, and dry cleaning) and accidental spills, including chlorinated solvent and petroleum releases. Most of the contamination is contained on base property; however, some contamination has migrated off base through groundwater and surface water.

ATSDR released a public health assessment in September 2001 to evaluate exposure pathways and to respond to community concerns about past, current, and potential future exposures to environmental contaminants originating from the base. Exposure pathways discussed in the public health assessment were chosen on the basis of evaluations made during the site visits, an examination of environmental data, and concerns raised by regulators, the community, and the Air Force environmental program. ATSDR reached conclusions about surface soil, surface water and sediment, groundwater, and soil gas pathways.

Surface Soil Pathway: Surface soil at the base is contaminated as a result of site activities such as landfilling and fire training. ATSDR focused its evaluation on areas frequently accessed by base residents or visitors. In the past, surface soil surrounding two sandblasted water towers had elevated lead concentrations. Soil sampling around one tower showed lead, cadmium, and chromium at levels below those of concern. That means exposure to that soil does not pose a current health hazard. Soil surrounding the other tower is being evaluated to further define the extent of lead contamination; preliminary results suggest limited contamination. Surface soil at the family housing units, former soccer fields, southern golf course, and off-site flight-line area do not pose a past, current, or future health hazard to residents or visitors.

Surface Water and Sediment Pathway: Surface water that originates on base flows via tributaries into either the Patuxent or Potomac rivers. Many of these tributaries are used for recreation downstream from the base. ATSDR evaluated the potential exposure to people, including children, who may use on-site and off-site rivers and creeks for recreation. On-site and off-site surface water and sediment samples do not contain contaminants at levels of health concern for people who use these waterways for recreation.

Groundwater Pathway: Groundwater on base is contaminated; however, it is not used for drinking. Plumes migrating off base have the potential to affect drinking water wells off base. Of the nine defined plumes, only the plume originating from a former landfill has migrated off base. Contaminated groundwater is not adversely affecting private drinking water wells downgradient from that landfill. Of the two identified private wells, one is closed and the other does not contain site contaminants.

Soil Gas Pathway: Because contaminated groundwater is on base, the potential exists for volatile organic compounds (VOCs) to enter buildings built above contaminated groundwater plumes. ATSDR concluded that VOC concentrations detected in the groundwater and soil gas beneath occupied buildings were too low to be of health concern.

A **health consultation** is a written or oral response from ATSDR to a specific request for information about health risks related to a specific site, chemical release, or hazardous material. A health consultation is a more limited response than a public health assessment. In **Maryland**, **52** health consultations have been conducted at **37** sites, including the following recent examples.

- **Beltsville Asbestos Exposure Review Site**—The former W.R. Grace/Zonolite site in **Beltsville** is among 28 Phase 1 sites in ATSDR's National Asbestos Exposure Review (NAER) being conducted with other federal, state, and local environmental and public health agencies. NAER examines more than 200 U.S. sites that received asbestos-contaminated vermiculite ore mined in Libby, Montana, from the 1920s until 1990. The 28 Phase 1 sites, which received 80% of the vermiculite mined in Libby in 1964–1980, may have received vermiculite from Libby at any time during the years the mine operated. All Phase 1 sites ceased processing the vermiculite by the early 1990s.

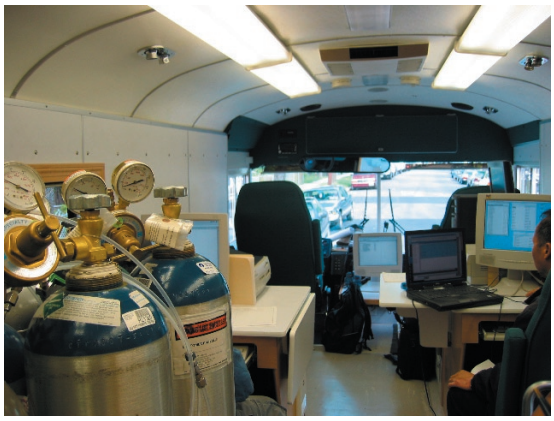
  ATSDR is working closely with the U.S. Environmental Protection Agency (EPA) and state health partners to determine whether a hazard to public health exists at any of the NAER sites.

  The Beltsville site operated from 1966 until the early 1990s. Records from 1966 through 1988 indicate that more than 93,000 tons of vermiculite were processed at this site. Since 1998, Atlantic Transportation Equipment, Ltd. (ATEL) has leased the property for a truck maintenance and repair shop. The shop is in the former vermiculite-processing building.

  Recent EPA soil tests detected no residual Libby asbestos in on-site soil. Most of the site is covered

with structures or gravel. A low level of residual Libby asbestos was detected at one location inside the facility, but no asbestos fibers were found in the air sample collected inside the former processing building.

A health consultation released in September 2003 made conclusions about exposure to current and former workers and past and present community members. In the past, people who worked at the facility were exposed to hazardous levels of asbestos. People who lived with former workers were probably also exposed to hazardous levels from fibers carried home on workers' hair and clothing. For current workers, the site poses no apparent public health hazard from asbestos. Although trace levels of Libby asbestos were detected in an isolated area inside the facility, that area is not accessible to workers. Future disturbances or renovation of the area, however, could result in hazardous exposures.



Interior of the EPA's trace atmospheric gas analyzer (TAGA) bus. TAGA was used for real-time sampling of residences near the Chillum site.

Not enough data are available to determine whether people who lived near the plant in the past were exposed to hazardous levels of Libby asbestos. Community exposure to Libby asbestos from plant emissions or from on-site asbestos-contaminated materials poses no current public health hazard. Not enough data are available to determine whether individuals are being exposed to Libby asbestos from waste that may have been used for a variety of purposes, such as fill, driveway surfacing, or soil amendments.

- **Chillum Gasoline/Perchloroethylene**—EPA Region 3 asked ATSDR to review active soil vapor sampling data and provide recommendations in a public health consultation for the **Chillum** perchloroethylene (perc or PCE) site. A community member also petitioned ATSDR to evaluate health concerns related to site contamination. Site contamination consists of a mixed gasoline and perc plume that originated in Maryland and expanded into the Lamond-Riggs Park community in Washington, D.C. The gasoline plume came from a service station at the intersection of Riggs Road and Eastern Avenue in Chillum. EPA is investigating the source of the perc plume.

  Since 1989, gasoline has leaked or has been released into the ground from the service station. Several federal and state government agencies have conducted investigation, remediation, and assessment activities at this site since 1990. The primary route of human exposure at the site is inhalation of indoor air potentially contaminated through vapor intrusion. Vapor intrusion occurs when vapors move up through the soil and into nearby buildings.

  For a health consultation released in January 2004, ATSDR reviewed active soil gas data collected in 2002 and initial indoor air data collected in April 2003. The soil gas data showed that perc and gasoline constituents—benzene, toluene, xylene, ethylbenzene, and methyl tertiary butyl ether (MTBE)—were present. Five residences have perc soil vapor concentrations at a level high enough to be a low, theoretical increased risk for cancer. Soil vapor concentrations of benzene and MTBE were below those associated with any appreciable risk for adverse health effects from subsurface vapor intrusion into residences. In the initial indoor air samples, six VOCs were detected at very low levels. Additional indoor air sampling is needed to better characterize the exposure and the extent of vapor intrusion.

  ATSDR classified this site as an indeterminate public health hazard because of limited indoor air data and a lack of environmental data for potentially affected locations, such as the church in the area.

- **Montgomery Country Club**—In May 2002, EPA Region 3 asked ATSDR to assist in evaluating whether contaminants detected in soil samples at **Harbor School** on the Montgomery Country Club in **Bethesda** pose a public health hazard. In a May 2002 health consultation, ATSDR concluded that concentrations of arsenic, mercury, and lead found in soil in the common areas and in the playground at Montgomery County Country Club do not pose

a public hazard to adults or children exposed to these metals.

In June 2002, EPA Region 3 asked ATSDR to assist in evaluating whether other contaminants detected in soil samples at Harbor School pose a public health hazard. EPA provided soil-sampling data for polychlorinated biphenyls (PCBs), VOCs, and semivolatile organic compounds (SVOCs). In a June 2002 health consultation, ATSDR concluded that the concentrations of PCBs, VOCs, and SVOCs in the soil do not pose public health hazards.

Resource Materials

ATSDR develops materials for public health professionals and medical care providers to use to assess the public health impacts of chemical exposures. These resources are available in print, on the ATSDR Web site, and on CD-ROM. For example, medical management guidelines are available for acute chemical exposures to more than 50 chemicals. These guidelines were designed to aid emergency department physicians and other emergency health care professionals, such as first responders, who manage acute exposures that result from chemical incidents. ATSDR's toxicological profiles comprehensively describe health effects; pathways of human exposure; and the behavior of more than 250 hazardous substances in air, soil, and water at hazardous waste sites. Health professionals at all levels use the toxicological profiles primarily as comprehensive resources. In the last 5 years, more than **5,900** of these profiles have been sent to requesters, including representatives of federal, state, and local health and environmental departments; academic institutions; private industries; and nonprofit organizations in **Maryland**. ATSDR also has developed extensive resources for community members.

For more information, contact ATSDR toll-free at 1-888-42ATSDR (1-888-422-8737) or visit the ATSDR Web site at www.atsdr.cdc.gov.