

Letter Health Consultation

IRON HORSE PARK SITE

NORTH BILLERICA, MASSACHUSETTS

**Prepared by the
Massachusetts Department of Public Health**

NOVEMBER 12, 2009

Prepared under a Cooperative Agreement with the
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia 30333

Health Consultation: A Note of Explanation

A health consultation is a verbal or written response from ATSDR or ATSDR's Cooperative Agreement Partners 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 or ATSDR's Cooperative Agreement Partner which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

You May Contact ATSDR Toll Free at
1-800-CDC-INFO

or

Visit our Home Page at: <http://www.atsdr.cdc.gov>

LETTER HEALTH CONSULTATION

IRON HORSE PARK SITE

NORTH BILLERICA, MASSACHUSETTS

Prepared By:

Massachusetts Department of Public Health
Bureau of Environmental Health
Under Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry



The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
Bureau of Environmental Health
250 Washington Street, Boston, MA 02108-4619
Phone: 617-624-5757 Fax: 617-624-5777
TTY: 617-624-5286

DEVAL L. PATRICK
GOVERNOR

TIMOTHY P. MURRAY
LIEUTENANT GOVERNOR

JUDYANN BIGBY, M.D.
SECRETARY

JOHN AUERBACH
COMMISSIONER

MEMORANDUM

TO: John McKeown, On-Scene Coordinator
U.S Environmental Protection Agency Region 1

FROM: Jan Sullivan, Director, Community Assessment Program
Bureau of Environmental Health

CC: Gary D. Perlman, Commander, US Public Health Service, ATSDR Region 1
(New England); William Sweet, ATSDR Region 1 (New England); and Martha
Steele, Massachusetts Department of Public Health

RE: Review of Sampling and Analysis Plan for Iron Horse Park, Billerica,
Massachusetts

DATE: November 10, 2009

The U.S. Environmental Protection Agency (EPA) requested the Massachusetts Department of Public Health's (MDPH) input on EPA's proposed plan (dated October 21, 2009) for environmental sampling for the presence of asbestos at Iron Horse Park in Billerica, Massachusetts. Iron Horse Park is a federal National Priorities List (NPL) site for which MDPH has conducted numerous public health assessment activities in the past. This memorandum documents MDPH's review and comments on the proposed sampling that is part of U.S. EPA's current efforts aimed at designing a remedy to address on-site soil contamination.

Background and Statement of Issues

Iron Horse Park is a 533-acre site situated in North Billerica, less than one-quarter mile from the Tewksbury town line. It was declared a NPL site in 1984 due to contamination of soil, groundwater, and surface water with organic and inorganic chemicals and asbestos (U.S. EPA 2009a). From 1944 to 1970, Johns-Manville (J-M) produced insulating board which contained 100% asbestos. After that, J-M reduced both the percentage of asbestos in products and the

number of its products that contained asbestos (MDPH 1990). Although the J-M plant is still in operation, it has not produced any products containing asbestos since December 1985. Until that time J-M generated both an asbestos slurry, which drained into an unlined slurry lagoon, and an asbestos dust and sludge which, for thirty-five years, was disposed of in an on-site landfill.

Over the past 2 to 3 decades, a number of investigations and remedial activities have occurred at this site. In December 1984, the U.S. EPA completed an immediate removal action on the J-M asbestos landfill by capping the landfill with 18 inches of gravel and one foot of topsoil (MDPH 1990). Also, asbestos deposits were removed from various areas of the site (U.S. EPA 2009a). In 1990, MDPH completed a Public Health Assessment (PHA) for the site in which MDPH concluded that, based on possible past exposure to fugitive asbestos dust, the site presented a public health concern and required further study (MDPH 1990). The 1990 PHA found a number of areas of concern at the Iron Horse Park site, including the Shaffer Landfill; the J-M catch basins and Middlesex Canal; the Boston & Maine (B&M) Railroad waste water lagoons, scrap yards, salt pile, and garage; and the Wood Fabricators catch basins. In addition, the PHA identified a number of data gaps that required additional environmental investigations to better characterize on- and off-site exposure opportunities. Following the release of the initial PHA for the site, the U.S. EPA conducted several additional investigations at Iron Horse Park, chose a remedy and released a Record of Decision (ROD) for the Shaffer Landfill portion of Iron Horse Park (U.S. EPA 2003). A settlement was subsequently reached with the Potentially Responsible Parties (PRPs) to design the remedial action for the Shaffer Landfill (U.S. EPA 2003). In an addendum to the PHA, focusing on the Shaffer Landfill portion of Iron Horse Park, MDPH recommended that environmental regulatory agencies conduct additional on-site and off-site ambient air monitoring for the presence of volatile organic compounds (MDPH 1995). At the request of Billerica residents and their state legislators, the 1995 PHA also reviewed lung cancer incidence and mortality in areas surrounding the Iron Horse Park site. The 1995 PHA concluded that, although there were no ongoing exposures to lung carcinogens associated with the landfill, the incidence of lung cancer between 1982 and 1988 was greater than expected (based on the state rate) for individuals living in census tracts nearest to Iron Horse Park (MDPH 1995). MDPH conducted additional reviews of asbestos-related disease in Billerica through 1998 (MDPH 2008). The results of the more recent review of asbestos-related disease (e.g. lung cancer and mesothelioma) will be discussed in the context of the soil sampling results to be evaluated by MDPH upon completion of the current sampling effort.

Additional environmental investigation reports completed for the Iron Horse Park Site include a remedial investigation in 1997, a feasibility study in 2004, the U.S. EPA Record of Decision (ROD) in 2004, and two Five-Year Review Reports in 2003 and 2008. Additional sampling of groundwater, surface water, and sediment was conducted in 2004, 2005, and 2006 (U.S. EPA 2009a). Remedial activities included removal of contaminated soils in 2003 from the B&M Lagoon Areas and capping of the Shaffer Landfill in 2003. Periodic reviews of the landfill gas collection system, the flare system, and the leachate collection operations at Shaffer Landfill, as well as work to temporarily cap existing asbestos deposits and to develop plans for removal of these deposits is ongoing (U.S. EPA 2008)

The most recent sampling occurred in July 2009, when the U.S. EPA conducted on-site and off-site surface soil sampling to further assess the nature and extent of asbestos throughout the Iron

Horse Park site. This sampling was conducted as part of the process to design a remedy to address on-site contaminated soil (U.S. EPA 2009a). Following the detection of asbestos (less than 0.25% to 0.50%) in surface soil at nine (of 105) sampling locations, the U.S. EPA then selected several locations for Activity-Based Sampling (ABS) (U.S. EPA 2009b).

ABS is a U.S. EPA term used to define sampling where personnel dressed in appropriate personal protective equipment simulate outdoor activities that may be conducted by residents, workers, or trespassers to determine whether asbestos fibers in soil could be released into the breathing zone of individuals conducting these activities. In the case of Iron Horse Park simulated outdoor activities will include riding all-terrain vehicles (ATVs) slowly to simulate a worker driving a forklift or golf cart, walking to simulate the daily activities of workers, raking to simulate aggressive dust-generating activities that may be conducted on the site, and riding ATVs at speeds of 5-30 miles per hour (mph) to simulate potential trespasser activities.

Discussion and Review of Sampling and Analysis Plan (SAP)

Beginning on October 27th 2009, up to 200 air samples will be collected at the site during ABS activities at seventeen locations across the Iron Horse Park site. A microscopist will also be on-site to prevent filter overloading in sampling equipment during ABS. At each ABS location, two sets of high- and low-volume personnel air samples will be collected as well as upwind and downwind air samples. The use of both high- and low-volume personnel air filters are expected to provide the best sensitivity and most accurate data (J. Wheeler, personal communication, 2009). Additional perimeter air samples will be collected to monitor air quality near off-site residents. Personnel will simulate dust-generating activities such as walking/shuffling, raking, and ATV-riding for durations ranging from 30 to 100 minutes. Following the ABS activity, the filters from one pump will be examined by the on-site microscopist for overloading, while the other will be submitted to a U.S. EPA approved laboratory for analysis via International Organization for Standardization (ISO) Transmission Electron Microscope (TEM) Direct-Transfer Preparation Method 10312. Reference samples (that is, background or upwind samples) will be collected during each day of sampling. Preliminary results will be available 2 months after completion of the sampling.

MDPH reviewed the Sampling and Analysis (SAP) plan summarized above and reached the following conclusions:

- MDPH believes that, based on the information presented in the October 21, 2009 proposed sampling plan, the data generated through the ABS will allow for further evaluation of completed or potential soil and air exposure pathways related to asbestos in soil at the Iron Horse Park site.
- MDPH concurs with the analytical method ISO Transmission Electron Microscope (TEM) Direct Transfer Preparation Method 10312. This analytical method is valuable in distinguishing between asbestos and non-asbestos fibers, distinguishing between types of asbestos, and in detecting very small fibers that can present particular harm to respiratory health (ATSDR 2001).

- MDPH believes that it is important to evaluate upwind/background samples and, if needed, stationary perimeter monitoring samples as discussed in Section 8.0 (Sampling Design) of the SAP.
- MDPH agrees with the plan to have an on-site microscopist to determine if overloading of filters has occurred. As might be expected, overloading will be more likely during ATV riding scenarios, particularly for the tail rider in the trespasser scenario.

Recommendations

- The SAP specifically discusses decontamination procedures between each ABS location, but does not specifically mention decontamination at the conclusion of the sampling day. MDPH recommends the addition of a procedure that requires decontamination of sampling equipment prior to moving equipment using town roads and prior to leaving Iron Horse Park at the conclusion of the sampling day. MDPH feels that it is important to ensure that rakes, ATVs, and other sampling equipment used during ABS do not contain asbestos fibers that may present an exposure concern for nearby residents.
- MDPH recommends that low-volume air sample filters not be analyzed unless the corresponding high-volume sample filters are overloaded because analysis of high-volume sample filters provides the most sensitive and accurate data.
- MDPH recommends that soil moisture levels at the ABS location be assessed at the start of each sampling day. Evaluation of soil moisture levels provides information that may help evaluate air/dust samples in terms of likelihood of being or becoming airborne.

MDPH provided this information verbally to U.S. EPA and its contractor during a conference call on October 23, 2009.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2001. *Toxicological Profile for Asbestos*. Atlanta: U.S. Department of Health and Human Services.

Massachusetts Department of Public Health (MDPH), 1990. Public Health Assessment for Iron Horse Park, Billerica, Massachusetts. December 5, 1988 (Amended April 4, 1990).

Massachusetts Department of Public Health (MDPH). 1995. Public Health Assessment for Iron Horse Park Addendum, Billerica, Massachusetts. Bureau of Environmental Health Assessment. January 11, 1995.

Massachusetts Department of Public Health (MDPH). 2008. Health Statistics Review of Asbestos-Related Diseases in Three Massachusetts Communities with Potential Human Exposure to Vermiculite Ore. Bureau of Environmental Health, Community Assessment Program. July 2008.

U.S. Environmental Protection Agency (U.S. EPA). 2003. Second Five Year Review Report for Iron Horse Park Superfund Site, Billerica, Massachusetts. September 24, 2003.

U.S. Environmental Protection Agency (U.S. EPA). 2008. Third Five Year Review Report for Iron Horse Park Superfund Site, Billerica, Massachusetts. September 26, 2008.

U.S. Environmental Protection Agency (U.S. EPA), 2009a. Site Fact Sheet for the EPA New England Superfund site *IRON HORSE PARK*, Available online at:
<http://www.epa.gov/region01/superfund/>. Accessed on October 22, 2009.

U.S. Environmental Protection Agency (U.S. EPA), 2009b. Sampling and Analysis Plan – Revision 1 (Draft). October 21, 2009.

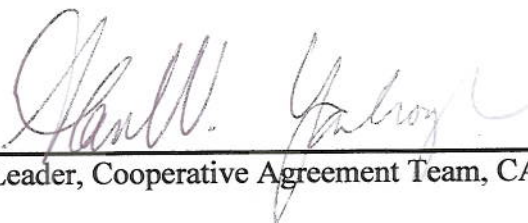
Certification

The Massachusetts Department of Public Health prepared this Letter Health Consultation, Iron Horse Park – ABS Sampling Plan Review, under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). At the time this Health Consultation was written, it was in accordance with the approved methodologies and procedures. Editorial review was completed by the Cooperative Agreement partner.



Technical Project Officer, Cooperative Agreement Team, CAPEB, DHAC, ATSDR

The Division of Health Assessment and Consultation, ATSDR, has reviewed this public health consultation and concurs with the findings.



Team Leader, Cooperative Agreement Team, CAPEB, DHAC, ATSDR