BoRit Superfund Site
Question and Answer

Borough of Ambler, Montgomery County, Pennsylvania
U.S. EPA Region 3

Last Updated: March 21, 2018

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Note: EPA prepared this Q&A archive containing responses to past questions asked by the public. We will continue to update the Q&A as cleanup work progresses. Some of the questions have been edited and/or reformatted for brevity and clarity. Similar or duplicate questions may be consolidated into one question.

Q&A's labeled ROD ISSUE: were taken from the Record of Decision (ROD) Document, Responsiveness Summary Section that came out on July 28, 2017. The full ROD can be viewed online here: https://semspub.epa.gov/src/document/03/2244733

Some responses may now be outdated or no longer accurate, as the cleanup work progresses and status conditions change at the Site. For updated information about any of the responses, please contact:

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Response Categories

Questions and answers are organized into the following categories:

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Ambler Asbestos Superfund Site

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4) Is the Ambler Asbestos site in violation of the Clean Water Act (CWA)? (7-3-2010)

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10) Will EPA consider performing a soil and air analysis for asbestos on the Ambler Asbestos Pile? (7-3- 2010)

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1) What course of action did EPA follow to mitigate asbestos from the Ambler Asbestos site? (7-3-2010)

During the 1980s, EPA's Superfund program responded to the asbestos contamination in Ambler by conducting removal response actions and a full investigation into the major sources of asbestos. The results of this investigation are documented in the Remedial Investigation and Feasibility Study reports for the Ambler Asbestos Piles Superfund Site. Ultimately, the massive uncovered waste piles with exposed asbestos containing waste (the Locust Street Pile and the Plant Pile) were addressed as the Ambler Asbestos Piles Superfund Site, which also included the immediately adjacent CertainTeed Pile and the former settling lagoons. This Site was remediated in accordance with the remedies selected and documented in the two Records of Decision for the Site. The Maple Avenue Piles were already covered and vegetated, and monitored by the Pennsylvania Department of Environmental Resources, and at the time, EPA determined they did not warrant Superfund action.

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2) Why did EPA choose an on-site containment remedy for the Ambler Asbestos site? (7-3-2010)

The selection of the remedy was based on commonly accepted, existing soil principles, combined with the regulations specific to asbestos that were and are still applicable. The capping systems implemented at the Ambler Asbestos Piles Site utilized soil and vegetative cover for the steep side slopes with engineered multilayer caps for the flat plateaus of the Locust Street and Plant Piles. The CertainTeed Pile was capped with soil and vegetation only. All parts of the containment remedy for the Ambler Asbestos Piles Site comply with the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), which are the regulations that EPA uses regarding abandoned asbestos factories and disposal sites. The NESHAP regulations for asbestos are contained in 40 CFR 61.140 through 61.157.
Further information on EPA's regulations concerning asbestos is available on the EPA website at: http://www.epa.gov/asbestos

The basic principles supporting soil as an appropriate cover for asbestos containing waste are summarized here. Asbestos is a generic term used to describe a group of fibrous silicate minerals that occur naturally in the environment and have been mined for commercial use. The asbestos minerals have high tensile strength, the ability to be woven, and resistance to heat and most chemicals. Because of these properties, asbestos fibers have been used in a wide range of heat resistant, durable manufactured goods.

The physical properties of asbestos are also the reason that asbestos is not expected to move through soil. It is a mineral (i.e., rock) and dense, having a specific gravity typically reported as ranging between
2.0 and 3.5 (two to three and a half times heavier than water), depending on the mineral variety. Asbestos is made up of fibers, and although the fibers and fiber fragments can be microscopic, these particles are still large, complex molecules in the microscopic environment. The fibers are not soluble and, therefore, cannot be transported in a water solution like other, smaller contaminant molecules and ionic species. The particles are also too large to be transported preferentially by other physical-chemical processes like diffusion. Therefore, asbestos fibers tend to remain stationary within the soil matrix. In other words, in a natural soil setting, asbestos fibers do not move through the soil.

An analysis published by EPA in April 1977, *Movement of Selected Metals, Asbestos, and Cyanide in Soil: Applications to Waste Disposal Problems,* EPA Publication Number EPA-600/2-77-020, describes the potential for asbestos movement through soil. Although the author, Dr. Wallace H. Fuller, recognizes the paucity of data specific to asbestos, he argues that asbestos is reasonably expected to behave like similarly sized clay particles, which have been extensively studied.

"Although there are no data on mobility of asbestos in soil, predictions about its behavior can be made with reasonable confidence. Since the weathering products of asbestos are the common nonhazardous salts of Ca, Mg, and Si, physical transport is the only mode of movement in soil which is of significance. The extensive data on movement of clay sized (<2µ diameter) particles by strictly physical processes provide a convenient yardstick for gaging the probable behavior of asbestos in soil. Clay particles 0.1 to 2.0µ in diameter are estimated to move at a rate of 1 to 10 cm per 3,000 to 40,000 years, depending on the soil texture (Berkland, 1974). There is no reason to expect that asbestos particles of similar size would move differently from this. Consequently, asbestos migration through soil will not be a problem of any significance."

It can be added that larger particles (i.e. the longer fibers of the asbestiform minerals) are expected to be even more resistant to movement due to physical impedance.

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3) Is the Ambler Asbestos Site in violation of Pennsylvania's landfill requirements due to the deep rooted vegetation, permeable barriers, and slopes greater than 33 degrees? (7-3-2010)

The Ambler site is not in violation of Pennsylvania law. Deep-rooted vegetation is not allowed on most landfill covers because of the potential for damage to underlying geosynthetic membranes that are a typical component of caps. Because the contaminant of concern is asbestos, the side slopes of the Locust Street and Plant Piles were covered with soil and vegetation and do not have geosynthetic membranes, and removal of deep-rooted vegetation (i.e., trees) was not required. Additionally, the presence of trees on the side slopes of these piles is considered beneficial. Tree roots add structure and strength to loose soil components to make them more slide-resistant. Tree roots also absorb excess moisture that could otherwise build up in the soil turning it into unstable mud (for an extreme example, reference the mud slides of California). Tree roots at the Ambler Asbestos Piles Site are also expected to be deep enough to be anchored into the underlying cinder berms that constitute the constructed walls of the original disposal areas. Being anchored into a more structurally stable sub-layer gives the roots additional strength to hold the soil.

On the level plateaus atop the Locust Street and Plant Piles, engineered capping systems were designed and constructed. These cap systems included semi-permeable barriers. This is a departure from the impermeable barriers for cap systems and bottom liners that are typically required by the hazardous waste landfill, residual waste landfill and municipal waste landfill regulations. These regulations were developed for landfills containing putrescible and other types of waste that are expected to generate toxic gases and leachate that could contaminate underlying soils and/or groundwater. An impermeable cap serves to contain the waste, prevent gases from escaping and prevent rain water from percolating through the cap into the waste, thereby increasing the leachate volume. (Less water leaking in through
the top leads to less leachate volume in the fill.)

The purpose of the cap systems for the Locust Street and Plant Piles of the Ambler Asbestos Piles Site is markedly different from those typically required for hazardous or municipal landfills. Because the waste at the Site is predominantly a wet plaster-like substance, EPA does not expect and is, therefore, not concerned about gas and leachate production. The cap system was specifically designed for containment of this waste, with drainage features to carry off most of the water from precipitation, and a semi-permeable membrane on the top plateaus to allow some moisture to infiltrate through the waste to maintain its wet plaster-like consistency. To prevent damage to the semi-permeable membrane and the drainage features, the Record of Decision required the removal of trees and other vegetation and the continued prevention of re-emergence of vegetation on the top plateaus.

There are no liners or membranes on the side slopes because the remedy did not need to completely prevent water infiltration (and most of the water runs off the slopes naturally). This is a significant departure from most landfills, but is appropriate to the characteristics of the Ambler Asbestos Piles Site. There is no concern that deep tree roots will compromise membranes on the side slopes because there are not any such membranes. And, as explained above, the trees were allowed to remain on the forested side slopes because the root systems of the trees are expected to have a stabilizing effect on the soil of the very steep slopes.

The rationale for allowing slopes steeper than 33 degrees (3:1 slope) at the Locust Street and Plant Piles of the Site is detailed in the Remedial Investigation/Feasibility Study (RI/FS) documents for the Site and summarized here. The Locust Street and Plant Piles were originally created by building containment berms of piled cinders (cinder berms), and then pumping in waste slurries and allowing the waste to set. Some of the waste infiltrated the cinder berms, drying and acting, to some extent, as a binder.
Consequently, the slopes, which are now covered with soil and vegetation, are steep but have proven to be stable structures. Attempting to restructure the slopes to be less severe would necessitate removal, or partial removal, of the cinder berms. As described in the RI/FS, "Reduction in the thickness or removal of these berms may cause a collapse of the piles and a release of calcium/magnesium carbonate and asbestos materials ..."

Another method for achieving a flatter slope would involve adding material to the bases of the existing slopes. However, due to the limited space surrounding the Site, regrading or adding material to ease the slopes would necessitate expanding the base footprint of the Site. As discussed in the RI/FS, "In order to establish 3:1 or flatter slopes on all of the piles side slopes, potential encroachment to near the commuter rail line, onto the residential areas north and west of the Locust Street Pile, into the flood plain, and into a portion of the Wissahickon would result."

Because of the structural stability of the existing slopes, the infeasibility of reducing the steepness and other considerations, EPA selected the On-Site Closure Remedy for the Ambler Asbestos Piles Site, waiving the slope requirements of Pennsylvania Municipal Waste Regulations at 25 PA 273.234.

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4) Is the Ambler Asbestos site in violation of the Clean Water Act (CWA)? (7-3-2010)

The Ambler Asbestos Site is not in violation of the CWA. During the Remedial Investigation/Feasibility Study (RI/FS), the potential for discharge of asbestos to the groundwater at the Ambler Asbestos Piles Site was determined to be minimal and, therefore, no preventive actions were required. As discussed in

the RI/FS documents, because of the physical characteristics of asbestos, it is not mobile in soil and discharge to groundwater is not expected. The RI/FS for the Ambler Asbestos Piles Site states, "Ground water is not expected to be a significant migration pathway for asbestos at this site. This is due to two factors: 1) the site's location in a hydrologic discharge zone where generally base- flow is slightly upward and toward the stream; and 2) the relative insignificant subsurface downward or lateral migration of asbestos fibers in soils. To date, there is no documentation of groundwater transport of asbestos particles (Dalton, U.S. EPA, 1985)."

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5) Does EPA monitor the ambient air for asbestos contamination as part of the cleanup at the Ambler Asbestos site? (7-3-2010)

Consistent with the relevant regulations for asbestos disposal sites under the National Emission Standard for Hazardous Air Pollutants (NESHAPs), ambient air sampling was not required.
On August 30, 1993, following the completion of construction at the Ambler Asbestos Piles Site, EPA issued a Final Close-Out Report certifying that the remedy was completed in accordance with the Record of Decisions. The containment remedy for the Ambler Asbestos Piles Site was designed to significantly reduce the potential for release of asbestos fibers to the environment.

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6) Is EPA governing the Ambler Asbestos using the National Emission Standard for Hazardous Air Pollutants (NESHAPs) law and the Clean Air Act (CAA) and Clean Water Act (CWA)? (7-3-2010)

EPA is addressing the site under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authority. Under CERCLA, any selected remedy must be protective of human health and the environment and in compliance with Applicable or Relevant and Appropriate Requirements, which may include the CAA and CWA. The NESHAPs are regulations established under the federal CAA that specifically relate to asbestos and other contaminants that have been identified as 'hazardous air pollutants.' Under Section 112(d) (6) of the CAA, EPA is required to review standards issued under Section 112 and to revise them "as necessary (taking into account developments in practices, processes and control technologies)."

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7) The site was covered with soil and vegetated in the past, yet the asbestos waste became uncovered. Can EPA explain why this has occurred and is it unsafe? (7-3-2010)

At the Ambler Asbestos Piles Site, there are pieces of apparently discarded asbestos products visible on the side slopes of the piles. These discarded pieces are few in number and have remained on the piles, undisturbed, for years. There is no indication that these pieces were ever covered, but because they are durable goods, asbestos cement pipes and asbestos wall board, they are not expected to be friable or likely to release asbestos, and were not removed.

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8) Could animal and other natural disturbances to the Ambler Asbestos piles cause asbestos to come through a soil cap? If so, how will EPA mitigate these animal and natural disturbances to the soil cover? (7-3-2010)

For the Ambler Asbestos Piles Site, two Operation and Maintenance Plans (O&M Plans) are currently being implemented by the current owner and the Responsible Parties who constructed the original remedies. The O&M Plans require routine inspections of the Site, maintenance of the fencing and necessary repair of damage to the cover systems caused by trespassers, burrowing animals, fallen trees, erosion, or other causes. Animal burrows have been observed on the side slopes with extracted soil and potential waste materials surrounding the burrows. In accordance with the O&M Plans, the disturbed soil and materials are gathered back into the burrow holes and tamped down.

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9) Did EPA and Agency for Toxic Substances and Disease Registry (ATSDR) assess all possible risks to human health from asbestos and communicate those risks to the public? (7-3-2010)

The goal was and continues to be to address highest priority threats for exposure to the community first. The long timeline involved and the extent of the asbestos contamination in the Ambler area resulted in a complex matrix of agency responses over the decades. Based on the available relevant environmental authorities, distinct aspects of the contamination concerns were separated out for different oversight actions.

The Center for Disease Control/ATSDR and the Pennsylvania Department of Health have evaluated exposure information, reviewed health outcome (e.g., cancer data) information, and provided health opinions for the asbestos contamination in the Ambler area since the 1970s. The health agencies have issued public health warnings about the contamination in the area, including a Public Health Advisory focusing on the Ambler Asbestos Piles National Priorities List Site area in 1983. Starting in the 1980s and continuing currently, the environmental and health agencies have reviewed environmental sampling data as it becomes available and have made and continue to make recommendations to fill identified data gaps. As new environmental sampling data has become available and mitigation actions have been implemented, the health agencies have revised and updated the public health conclusions and recommendations for the community accordingly.

Contamination in and around Wissahickon Creek has been known to the agencies and is an ongoing indicator of the history of disposal activities affecting the community. The current environmental

sampling data for sediments and streams in the site area (Wissahickon Creek, Rose Valley, and Tannery Run) do not indicate that recreational contacts with these streams/sediments would be a problem based on the transient levels of exposure recreational users would experience in these wet environments. EPA's 2006-2007 environmental sampling data support this conclusion regarding the streams and sediments; this air data indicates that people offsite are not inhaling asbestos at levels of health concern. Additionally, based on water and sediment sample results, people are not being exposed to asbestos at levels of health concern from contacting the surface water and generally playing, walking, and fishing in the creeks. However, EPA is currently in the process of collecting additional environmental sampling data relevant for further evaluation of recreational activities in and around the Wissahickon Creek. The agencies will use this information to further revise our understanding of this exposure pathway and will update the findings for the community accordingly.

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10) Will EPA consider performing a soil and air analysis for asbestos on the Ambler Asbestos Pile? (7-3- 2010)

As part of a current investigation of the former Keasbey and Mattison buildings, air samples for asbestos analysis are planned for areas at the perimeter of the Ambler Asbestos Piles Site. These samples are to be used to help determine the ambient background for the area. If high levels of asbestos are present in the samples near the Ambler Asbestos Piles Site, EPA will consider performing further sampling as necessary. Additionally, EPA will reevaluate the Ambler Asbestos Piles Site with regard to soil and air analysis as part of its Five-Year Review process.

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11) How much money has been spent to date by the EPA for Ambler Asbestos Piles Superfund Site? (7-3- 2010)

Ambler Asbestos/CertainTeed Operable Unit 1/Operable Unit 2 Combined EPA Costs Incurred for the Ambler Asbestos Piles Site, Pennsylvania
Total Site Costs through May 2010: $5,387,017.13
Total Costs Recovered: $1,667,438.90

FY 2006 Total Costs: $12,692.39 FY 2007 Total Costs: $18,020.01 FY 2008 Total Costs: $ 7,928.29 FY 2009 Total Costs: $61,178.87
FY 2010 Total Costs through May, 2010: $42,889.72

It is important to note that EPA's costs to date do <u>not</u> include the actual costs of constructing the main remedies or conducting the long-term Operation and Maintenance (O&M) at the Ambler Asbestos Piles Superfund Site. These costs were expended by the responsible parties that constructed the remedies for the Site pursuant to agreements with EPA. EPA does not know how much the parties spent, but the original estimate of capital and maintenance costs for the Site was $6,942,000.

Because the Potentially Responsible Parties have agreed to conduct the O&M (which includes inspection and repairs) of the Ambler Asbestos Piles Site, EPA's future costs are expected to be minimal and no specific allocations have been set aside for this Site.

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12) Why did EPA have to conduct maintenance work at the site and is the revetment failing? (7-2010)

EPA evaluated the effectiveness of the cleanup and the need for routine maintenance and repair. Our evaluation determined that the cleanup continues to be protective of human health and the environment. This evaluation also determined that the revetment has not failed, but is in excellent condition. EPA did determine, however, that the stream bank is eroding around the concrete revetment and needs to be stabilized to preserve the integrity of the revetment. By making these repairs to the stream bank, EPA expects the revetment to stay in place for decades to come.

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13) Has there been a release of asbestos and other toxins into the Wissahickon creek **because of the stream erosion around the revetment? (7-2010)**

The erosion of the stream bank around the concrete revetment did not contribute to a release of asbestos or other toxins from the Ambler piles. Because the erosion is occurring upstream of the concrete revetment and along the lower edge of the revetment beyond the extent of the Ambler Asbestos piles, it is the native soils and sediments of the stream bank that were washed away by water of the Wissahickon.

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14) Is the placement of rocks a good remedy for the repair? (7-2010)

EPA is using an established technology to stabilize the stream bank, called riprap. Riprap is a universally accepted and recommended method in civil engineering for this type of erosion control. The work will include reinforcing the stream banks with large angular stone (riprap). The installation of properly sized rocks will rival the strength and stability of the concrete revetment.

For anyone interested in knowing more about the effectiveness of riprap, the Ohio Department of Natural Resources has a good plain language on riprap for stream erosion. Go to: http://soilandwater.ohiodnr.gov/portals/soilwater/pdf/stream/stfs16.pdf

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15) What is the life expectancy for the concrete revetment? (7-2010)

The revetment has been in place for 17 years, and is in excellent condition. The maintenance work will ensure that it continues to be effective for decades to come.

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16) Is the remedy for the Ambler Asbestos site protective of human health and the environment and why they decided to do the maintenance work? Can EPA explain why asbestos has been detected in the creek near the site? (7-2010)

EPA has certified in three consecutive Five Year Reviews that the remedy implemented at the Ambler Asbestos Piles Superfund Site is in good condition and continues to be protective of human health and the environment. EPA expected repairs would have to be made over time, and we planned for that in our Operation and Maintenance (O&M) program.

As a result of the long-term O&M activities and, as reported in the last Five Year Review, EPA became aware of erosion of the stream bank at the upstream edge and along the toe (down slope edge) of the concrete revetment. The consultant responsible for O&M on the Locust Street Pile began planning the maintenance activities for the revetment in 2007. EPA and the Pennsylvania Department of Environmental Protection (PADEP) approved the repair design in December 2008, and the maintenance is now being implemented in August 2010. The contractor for the work shared the plans and schedule with the Ambler Borough Manager, Wissahickon Valley Water Association, the Montgomery County Conservation District and PADEP.

EPA believes that the suspected asbestos containing materials (pipe and shingle fragments) have been carried down from other, upstream sources by the water flow in the Wissahickon. Similar materials are evident upstream of the Ambler Asbestos Site location.

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17) Will EPA hold a public meeting to tell the community about the repair work? (7-2010)

At this time, EPA does not plan to hold a public meeting about the Ambler Asbestos maintenance work. However, we are happy to respond to questions from the community. In addition, we can offer to update the community on the maintenance work at an upcoming CAG meeting, which, like all CAG meetings, will be open to the public. Also, as part of our ongoing work at the BoRit Asbestos Site, EPA plans to host a series of open houses and public meeting opportunities and we would be happy to address any questions or concerns regarding the Ambler Asbestos Site during those meetings.

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18) Has EPA evaluated the effectiveness of the cleanup of the Ambler Asbestos piles? (6-2-2010)

Since the cap remedy for the Ambler Asbestos Piles was completed in 1993, EPA has continued to monitor the conditions of the Site and the ongoing maintenance programs being conducted at the Site by the Potentially Responsible Parties. The Site is inspected on an annual basis and Five-Year Reviews are conducted. As a result of these inspections, typical maintenance issues are identified and addressed. The stone covered pile plateaus have remained level, with even coverage and almost no settling. The side slopes, stabilized by the roots of the mature trees, show very little erosion. The small disturbances in the soil cover used by burrowing animals have been and will continue to be repaired as part of the maintenance programs.

The erosion control devices are in excellent condition and continue to protect the piles against the scouring action of the Wissahickon and Stewart Farm Creeks. Some native soils have been washed away from the upstream end of the Wissahickon device (the revetment) and two small areas on the stream side of that device, but not to the point of threatening the pile or impacting the effectiveness of the device. As part of the regular maintenance programs, repairs to address those undermined areas are scheduled for 2010; the designs have been approved and permits are being obtained. The security fences surrounding the Site are periodically cut by vandals and trespassers, but are repaired under the maintenance programs. In consideration of the observed physical conditions and the ongoing maintenance activities, EPA has certified the protectiveness of the Site in three consecutive Five-Year Reviews of the Remedy at the Ambler Asbestos Piles Superfund Site.

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19) Are the trees/vegetation on the Ambler Asbestos site impacting the effectiveness of the protective cap? (4-20-2009)

The cap on the Ambler Asbestos Superfund Site is not failing. In fact, we know that the cleanup is succeeding because the third Five-Year Review for the site, conducted in 2007, documents that the cleanup continues to be protective of human health and the environment. The trees on the side slope were allowed to remain there because their root systems provide the stabilization for the very steep slopes.

In addition, EPA has an operation and maintenance program in place to inspect and repair any damage or erosion to make sure that the cleanup remains protective of human health and the environment.

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20) Why did EPA issue an Explanation of Significant Differences (ESD) for the Ambler Asbestos Superfund Site and will the ESD impact future reuse? (4-20-2009)

The ESD for the Ambler Asbestos site is a required fulfillment of the Superfund law and not an attempt by the EPA to prevent site reuse. The Record of Decision is the legal document which directs how EPA
will clean up a site. The institutional controls (ICs) are the restrictions that EPA puts on the site to ensure that any future use of the site does not compromise the cleanup and remains protective of human health and the environment.

To clarify, a form of ICs, the requirements of the operation and maintenance program, has been in place since the remedy was constructed. It is now EPA policy to legally require ICs. To comply with the law, an ESD is required to officially document the ICs. Again, it is important to note that EPA has been following the requirements of the operation and maintenance program since the remedy was constructed, and will continue to do so, to ensure that the cleanup remains protective of human health and the environment.

Officially documenting the ICs through an ESD further ensures that - whatever future uses may be chosen for the site - remain protective of human health and the environment.

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21) What technology/techniques were used to remediate the Ambler Asbestos Piles National Priorities List site and would they be used at BoRit and how would they be applied? (1-2008)

The Ambler Asbestos Piles Site was remediated by capping, covering and vegetating the site. The technology for asbestos removal remains basically the same. Although other remedies have been proposed, (removing the materials, etc.) they are extremely cost prohibitive and would require moving asbestos-containing material through other communities to reach an approved dump site.

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22) What are the primary differences between how EPA is handling the asbestos contamination at BoRit, compared to what was done at the Ambler Asbestos Superfund Site, and the Libby Montana Site? (3- 12-2007)

The Libby, Ambler Asbestos, and BoRit Sites are distinct sites differing from each other in several ways. Each site has its own set of unique circumstances and environmental conditions that require independent evaluation by the Agency for Toxic Substances and Disease Registry **(**ATSDR) and EPA. Some of the significant differences include meteorological conditions (i.e., the amount of precipitation at each site - Libby, MT vs. Ambler, PA), the different mineral types of asbestos, the vegetation and ground cover, and the matrix in which the asbestos is contained. These variables all affect how much asbestos people have been or are exposed to. All of these variables influence EPA's decision-making at each site. The following outlines some of the most obvious differences between the sites:

In Libby, people were exposed to asbestos at relatively high levels through numerous exposure

pathways. There was an active mine on the edge of town that brought raw material into the town for processing and shipping. Workers were exposed at the mine, at the processing plants, and at areas in town that were contaminated. Limited data suggest the asbestos air levels in town may have reached today's occupational exposure limits (i.e., 0.1 f/cc). Within Libby there were piles of material people played on, the high school track was made from contaminated material, and the material was used in gardens and as house insulation.

In Libby, vermiculite was mined. The vermiculite was contaminated with a type of asbestos called amphibole, a mineralogical term for a group of minerals that have similar chemistry. Most toxicologists think amphibole asbestos is more toxic, especially at producing mesothelioma, than the more common
asbestos type, chrysotile.

At BoRit, EPA air sampling data to date does not show a significant airborne concentration of asbestos at the Site. To further refine our understanding of that data and to help better make decisions specific for BoRit, EPA along with ATSDR, is conducting more air sampling, including activity-based sampling at the Site. This type of sampling will give the federal agencies an understanding of the worst-case air levels that can result from the materials at BoRit in its current condition.

The type of asbestos at BoRit found thus far is primarily chrysotile. Chrysotile can cause the same diseases seen in Libby, but most toxicologists think chrysotile is much less likely to cause mesothelioma than is amphibole, the type of asbestos in Libby. In addition, the process at BoRit involved combining asbestos into a product that binds the asbestos. This helps limit the amount of asbestos that can be re- entrained into the air. This does not mean that chrysotile asbestos is not toxic or that the Asbestos- Containing Material cannot release fibers. It simply means that the risk of being exposed to BoRit asbestos and becoming sick is much less than with materials such as those found at Libby.

The Libby and Ambler Sites each went through an investigatory process similar to the one that the BoRit Site is now undergoing. Libby and Ambler both were listed on the National Priorities List (NPL) as Superfund Sites, based on EPA's hazard ranking system. BoRit is still being investigated and may or may not reach NPL status.

At the Ambler Site, although the type of asbestos material appears to have been similar to the type found at BoRit (generally chrysotile versus amphibole), the risk of exposure at Ambler was found to present an immediate threat to the public, based on findings by the ATSDR and the Pennsylvania Department of Health (PADOH). The exposure risks at the Ambler Site were likely higher due to the manufacturing activity, the uncovered state of certain of the Ambler piles, and the public's access to and actual contact with those piles. At BoRit, based on the ambient air sampling results from October and November 2006 residents in the vicinity of the BoRit Site are not being exposed to asbestos fibers from the Site at levels that pose an unacceptable or significant health risk.

The size of a particular site is not the primary factor in EPA’s decision-making, it is the risk posed. EPA will respond to an immediate threat to public health and environment regardless of the size of a site.

There is no single solution for every site that has asbestos contamination. The solution to the asbestos problem in BoRit must be based upon the unique findings at BoRit.

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23) How is EPA handling the asbestos contamination at BoRit, compared to what was done at the Ambler Asbestos Superfund Site, and the Libby Montana Site? (1-24-07)

The Ambler Asbestos National Priorities List (NPL) Site consists of the Locust Street Pile, Plant Pile and Pipe Plant Dump. Based on area dimensions from viewing aerial photographs, it appears roughly similar in size to the BoRit Site, which consists of the BoRit Pile, Reservoir and Whitpain Park. However, the waste depths and volumes of waste contained within these individual sub-sites can only be estimated. Our Remedial Program will have the best information for the Ambler Asbestos Site.

Regarding our ''treatment'' of the BoRit Site in comparison to the Ambler Asbestos Site, size is not a primary determining factor. We have routinely addressed smaller unrelated sites in an emergency manner due to the nature of the hazard (e.g., leaking tank/drum, high hazard or toxic material in small volumes) and potential for significant exposure (e.g., mercury vapors in one small house), not the square area of the site. In essence, it is the significance of the exposure or potential exposure that drives the urgency of the response.

Libby Montana and BoRit are two completely different sites. Some of the significant differences are the amount of precipitation, the type of contaminant, the vegetation, and most important, the exposure. These are all important reasons that the BoRit experience may vary from the experience in Libby, MT.

The average monthly precipitation in Libby, MT is 1.53 inches compared to 3.99 inches in Ambler, PA (weather.com). The most common way to reduce asbestos emissions during renovation, demolition, cutting or stripping of asbestos material is to use a wetting agent throughout to keep asbestos from becoming airborne. At BoRit, the moisture content in the soil may help minimize release of asbestos fibers into the air.

The difference in the types of asbestos found at Libby versus Ambler is also important. The asbestos found in Libby, MT is naturally occurring vermiculite and zonolite. At BoRit we are talking about asbestos-containing material (ACM) waste, not pure asbestos. The Remedial Investigation/Feasibility Study data describe the ACM material at BoRit as being moist or wet.

There are several reasons to suspect that unlike Libby, BoRit may not have served as a significant source of community exposures to asbestos fibers over the years. These include the soil cover placed on the Site in the 1960s, the subsequent growth of natural vegetation over much of the Site, and the closure of the majority of the Site to residents and potential ground disturbing activities since the mid-1980s.

Being a worker or household contact (i.e., wife or child of worker coming home with fibers on clothing) at Libby was very important to your risk of developing disease. Also being male, a pile player (i.e., children playing on vermiculate piles), your age and smoking history were also correlated to disease. The point being that these were high exposure scenarios or in the case of smoking, compounding
behavior. Environmental exposures almost always required exposure through multiple pathways to be linked with disease and Libby had every pathway conceivable. Complicating all this was a high "background" of asbestos in the community's air leading to additional exposure for all groups.

It is important to remember that EPA is assessing the current risk to the community from airborne asbestos fibers from the Site. EPA understands that before the NPL Site was covered and while the plant was still in operation, the risk of exposure to the community might have been higher than what EPA found based on the October and November 2006 air sample results.

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24) Is it true that the Ambler Asbestos Site was impacted by unauthorized work? What will EPA do about this? (3-03-2015)

The Ambler Asbestos Superfund Site is adjacent to private property known as the Frumin parcel. The owners of the Frumin parcel, allegedly working in coordination with the current property owner of the Ambler Asbestos Superfund Site, installed a monitoring well, destroyed security fencing, and placed fill material on the Ambler Superfund Site without prior authorization from EPA and/or PADEP. The Ambler Asbestos Site is subject to a PADEP Section 512 Order which prohibits certain activities on the Site in order to protect the remedy. PADEP issued a Notice of Violation of the section 512 Order to the owners

of the Ambler Asbestos Site property, and has entered into a Consent Order to correct the violations. EPA is working with PADEP to enforce the Consent Order, which requires the removal of any wells that have been placed on the Site and the removal of any fill material that does not meet PADEP's clean fill standards. The Consent Order also requires repair of the damaged security fencing that is part of the Ambler Asbestos remedy be repaired.

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25) Is it true that the Ambler Asbestos Superfund Site has not been cleaned up? (4-02-2015)

No. The cleanup of the Ambler Asbestos Superfund Site was completed on August 30, 1993 and the Site was deleted from the EPA's National Priorities List (NPL) on December 27, 1996, having met all of the cleanup requirements under the Superfund law. The cleanup requirements for the Site were specified in the Record of Decision (ROD), as modified by a subsequent Explanation of Significant Differences. EPA has no plans to re-open the ROD for the site; however, because asbestos waste was left in place, the site undergoes a review every five years to ensure that the cleanup remains protective of human health and the environment. The next five-year review is scheduled to be completed in September 2017. In addition, the responsible parties are implementing an ongoing operation and maintenance program to evaluate and address any disturbances (fence damage, burrow holes, cap erosion) that may impact the implemented remedy.

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26) Is the cover on the Ambler Asbestos Superfund Site stable? (3-10-16)

Yes, the capping remedy at the Ambler Asbestos Superfund site is stable. EPA completed the cleanup work at the Ambler Asbestos Piles site on August 30, 1993 and the site was deleted from the National Priorities List (NPL) on December 27, 1996, having met all of the cleanup requirements under the Superfund law. EPA also conducts a review of the cleanup every five years to address any issues at the site and to ensure that the remedy remains protective of human health and the environment.

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Asbestos

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1) Does EPA consider the material at the BoRit Site and at the Whitpain Park friable? (8-8-2007)

2) What is the difference between “asbestos" and "asbestos-containing material"? (9-2006)

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1) Does EPA consider the material at the BoRit Site and at the Whitpain Park friable? (8-8-2007)

EPA's opinion is that, for the most part, we are not dealing with friable asbestos on surface soils. Most of what may be considered friable asbestos waste is buried and inaccessible unless the ground is dug into. The asbestos of concern at the Site is that which may become airborne on surface soils or through unauthorized and uncontrolled digging or excavation.

Friable asbestos-containing material (ACM), is defined by the Asbestos National Emission Standards for Hazardous Air Pollutants regulations, as any material containing more than one percent asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM), that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure.

Non-friable ACM is any material containing more than one percent asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, PLM, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

The majority of the ACM (e.g., pipes, shingles, and tiles) seen throughout the Site cannot be pulverized by hand, and therefore is not considered to be friable.

For more information about friable and non-friable asbestos please go to the following website: http://www.epa.gov/asbestos

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2) What is the difference between “asbestos" and "asbestos-containing material"? (9-2006)

Asbestos is a generic term used to describe naturally occurring fibrous minerals found in certain types of rock formations. *Asbestos containing material* describes man-made substances that are created by mixing or binding asbestos fibers with other materials for use in a variety of products - such as floor tile, wallboard, brake lining and thermal insulation.

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Community

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1) How is EPA notifying the public of the commencement of any invasive activities at the BoRit Asbestos Site? (9-5-2008)

2) Why did the EPA not share the preliminary work plans and precaution documents with the Community Advisory Group (CAG) before field work began? (9-5-2008)

3) Why has the formation of this Community Advisory Group (CAG) taken 8 months to establish? (1-2008)

4) Does EPA have a responsibility to ensure the accuracy of the Pennsylvania Department of Environmental Protection's presentation at a public meeting? (8-8-2007)

5) Does EPA have an electronic response system for questions received from the public? (3-12-2007)

6) Is the data provided to the public complete and accurate? (3-12-2007)

7) Questions were received about the Freedom of Information Act (FOIA) process, including whether certain documents and raw data would be provided under FOIA, and why monetary charges for requested information may be assessed. (1-24-2007)

8) How can I review related the Pennsylvania Department of Environmental Protection (PADEP) files related to these sites? (9-2006)

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1) How is EPA notifying the public of the commencement of any invasive activities at the BoRit Asbestos Site? (9-5-2008)

EPA notified property owners and municipalities involved about the start of site activities. All the people who were notified are members of the Community Advisory Group, including co-chairs.

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2) Why did the EPA not share the preliminary work plans and precaution documents with the Community Advisory Group (CAG) before field work began? (9-5-2008)

EPA recognizes that communications can be improved, and has already met with the CAG leadership to discuss how to improve it. EPA will give a presentation at the next CAG meeting on field activities and the concept for the stream bank stabilization. The work activities that began during the week of July 7 are of a preparatory nature, not the main work to be conducted at the Site. These kinds of activities generally do not have detailed written plans prepared before commencement. Before the actual stream bank stabilization work begins, EPA will provide the plan to the CAG.

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3) Why has the formation of this Community Advisory Group (CAG) taken 8 months to establish? (1- 2008)

The initial meeting to discuss formation of a CAG representative of the community at large took place in April. EPA's community involvement staff met with members of the community and outlined the support EPA provides in the formation of CAG's, including the services of a Neutral Facilitator.

Steps to procure a Facilitator began immediately; Melinda Holland was selected in May. Ms. Holland conducted approximately 70 interviews; delays were caused due to work schedules and/or vacations. Ms. Holland furnished a Convening Assessment Report to all, which summarized the in-depth work that was accomplished May through August. She also facilitated two meetings, as well as a number of conference calls.

The CAG information public meeting took place on June 26, 2007. The following excerpt from page 18 addresses why the process has taken longer than the norm: "Throughout the convening interviews and at the June 26, 2007 CAG information public meeting, the facilitator was pleased to note a great deal of interest and enthusiasm about the CAG. Unlike many advisory group processes where it is difficult to find an appropriate range of stakeholders who are willing to participate, in this case, there is an abundance of interest throughout all interest groups. The large number of people who are interested creates a unique challenge…"

The first meeting of the CAG took place on September 10, 2007, 4 months after selection of Ms. Holland as the Neutral Facilitator.

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4) Does EPA have a responsibility to ensure the accuracy of the Pennsylvania Department of Environmental Protection's presentation at a public meeting? (8-8-2007)

EPA is not a public health agency. EPA's contribution to public health lies in the Agency's authority under **the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to study, contain,** control or remove a hazard. Other agencies, when asked to participate in an EPA forum or meeting, develop their presentation materials based on their particular area of expertise. EPA collaborates with these agencies to ensure that the information presented is correct and accurate.

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5) Does EPA have an electronic response system for questions received from the public? (3-12-2007)

EPA is making every effort to respond to all questions we get from the public. Although we have no automatic response system confirming receipt of e-mails, we do try to answer e-mails as soon as possible. Because of the level of public interest at BoRit, EPA has received a large number of e-mails, and has committed to answering all questions on a monthly basis. EPA will endeavor to send an interim response within 24 hours of receiving e-mail requests.

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6) Is the data provided to the public complete and accurate? (3-12-2007)

Yes. EPA bases its decisions upon validated data, and EPA's general policy is to release validated data to the public. Validated data is that which has gone through a quality assurance process. The validated analytical results were posted on EPA's BoRit website and the results have been discussed with the community.

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7) Questions were received about the Freedom of Information Act (FOIA) process, including whether certain documents and raw data would be provided under FOIA, and why monetary charges for requested information may be assessed. (1-24-2007)

Under FOIA, 5 U.S.C. § 552, federal government agencies are required to disclose requested documents, subject to exemptions for, among other things, business confidentiality and privacy concerns. The FOIA regulations require that EPA responds to a FOIA request no later than 20 working days of receipt. This does not mean that all requested documents can be provided in 20 days. EPA intends to provide the community with documents responsive to the requests, subject to any exemptions.

The FOIA authorizes EPA to charge requestors for the cost of document search, duplication and review, depending on the category of request. Generally, requests from the public, for non-commercial use, are assessed search and duplication costs, in excess of 2 hours search time and 100 pages of duplication.
Fee waivers may be requested in accordance with EPA policy.

EPA normally releases only validated data, because it is the validated data upon which EPA bases its decision-making. However, EPA can, in its discretion, release raw data, and has decided to release the raw data for this Site. As with any other documents requested under FOIA, before the raw data can be released, it is subject to screening for confidential business or privacy information, or other information which may be excluded from release under FOIA. Additionally, the raw data for the BoRit Site, as with the majority of analytical-data for EPA projects, is currently in electronic format per EPA data deliverable policy. The electronic data must be converted to hard copy or an electronic format that will prevent tampering or modification prior to its release to the public. An explanation of the terms "raw data" and "validated data" is provided below.

The air sampling location map from the April 2006 is already posted on the website. In addition, EPA will be providing it in response to FOIAs.

Raw vs. Validated

Laboratories perform the sample analysis according to a defined published procedure commonly referred to as an analytical method. The air samples for the BoRit Site were analyzed using the International Standards Organization (ISO) Method 10312 *Ambient Air - Determination of Asbestos Fibers - Direct-Transfer Transmission Electron Microscopy Method.* Analytical methods have required quality control (QC) procedures, such as replicate analysis, blank sample analysis, and calibrations (i.e., defining instrument parameters), with associated acceptance criteria and corrective actions if the QC procedures do not meet the acceptance criteria. To further ensure that asbestos project data quality objectives are met, EPA has developed a spreadsheet (National Asbestos Data Entry Spreadsheet) with internal QC verification that insures specific QC requirements for performing analyses are met and insure that the required data package is complete. The data package is the mechanism through which the laboratory provides documentation that the proper analytical method was performed.

Data validation involves the verification of reported results, which includes confirmation that the summarized data have been accurately reported, transcribed, the sample results can be reproduced, and the qualitative identifications are correct. Data validation involves verifying the analyte identification and quantification, method compliance, report accuracy, sample blank acceptance or rejection, instrument parameters and sample custody. In conjunction with data validation, documentation of the analytical process is evaluated for compliance with the requirements analytical method, the Quality Assurance Project Plan, and Work Plan. Subsequent to method compliance verification, an evaluation of the usability of the data is performed. Data usability refers to the reliability of the reported results (i.e., usable, unusable/rejected or estimated) and is determined by an evaluation of the QC results.

In comparison, *raw data* consists of data of unknown quality and routinely contains information about the analysis (e.g., instrument, voltage, magnification, grid opening area, name of the analyst, date and time of analysis, scale, filter size, mineral type, dimensions, etc.) of the samples that is used to validate the data. The raw data contains all of the information required to validate or confirm the summary data that is reported as validated.

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8) How can I review related the Pennsylvania Department of Environmental Protection (PADEP) files related to these sites? (9-2006)

PADEP files are open to the public. Anyone interested in reviewing files should first contact the Southeast Regional Records Management Section to make an appointment. The attached link outlines this process - http://www.dep.pa.gov/Citizens/PublicRecords/Pages/default.aspx

Subject files can be found under the site names of: Ambler Asbestos Superfund Site; Certain Teed; BoRit Asbestos Tailing Pile; Nicolet; Nicolet Industrial Landfill and Wissahickon Park and Whitpain Park.
Related information can be found by requesting the Hazardous Site Cleanup Act files, as well as those from our Waste Management and Air Quality programs.

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Costs and Funding

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1) How much money has been spent to date (May 2010) by the EPA for the BoRit Asbestos Superfund Site? (7-3-2010)

2) How do the cleanup costs for the Ambler Asbestos Piles Superfund Site and for the BoRit Asbestos Superfund Site compare to the cleanup costs of other asbestos contaminated Superfund sites in the United States? (7-3-2010)

3) Has a budget been established for cleanup of the BoRit Site? (8-13-2009)

4) Will lobbying our elected officials result in additional money to conduct a more extensive cleanup (e.g. Congressional appropriations)? (4-20-2009)

5) Is Whitpain Township paying for or contributing to any part of this project and are there other sources of money other than Superfund? (9-5-2008)

6) What precautionary measures did the fence company contractors take regarding health and safety? (9-5-2008)

7) Are the bids given to the EPA contractors available to the public? (9-5-2008)

8) How are bids put together? (9-5-2008)

9) Do EPA and the Pennsylvania Department of Environmental Protection (PADEP) have enough money to remediate the site if they decide to do so? (1-2008)

10) Why isn't the company responsible for the Ambler Asbestos cleanup paying for the BoRit cleanup? (8- 8-2007)

11) Has EPA pursued potentially responsible parties (PRPs) to clean up the Ambler Asbestos and BoRit Asbestos Superfund Sites? (4-02-2015)

12) With the millions of dollars spent on remediation at BoRit, what have the residents received? (3-10- 16)

13) Who identifies which properties are remediated and who will provide funding for the work? (3-10-16)

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1) How much money has been spent to date (May 2010) by the EPA for the BoRit Asbestos Superfund Site? (7-3-2010)

Combined EPA Costs Incurred for the BoRit Asbestos Site,
Pennsylvania Total Site Costs through May 2010: $12,862,255.70.

FY 2006 Total Costs: $ 170,546.05
FY 2007 Total Costs: $ 509,607.59
FY 2008 Total Costs: $
775,412.49 FY 2009 Total Costs:
$6,576,199.09
FY 2010 Total Costs through May, 2010: $4,835,086.93

EPA has not selected a long-term remedy for any portion of the Site. As a result, EPA cannot estimate the future projected costs.

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2) How do the cleanup costs for the Ambler Asbestos Piles Superfund Site and for the BoRit Asbestos Superfund Site compare to the cleanup costs of other asbestos contaminated Superfund sites in the United States? (7-3-2010)

We do not have enough information to comment on how sites in other regions have been funded other than to say that different sites are addressed individually by Federal and state agencies in accordance with their specific site characteristics and authorities. The Federal and/or state approach to one site may not match the approach to another, even if, on the surface, they appear similar. The extent to which Potentially Responsible Parties pay for cleanup costs makes side-by-side comparisons of cleanup costs difficult.

Although each site is very different, EPA Region III is in communication with EPA HQ, through the Technical Review Workgroup Asbestos Committee, to ensure consistency with asbestos sites nationwide.

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3) Has a budget been established for cleanup of the BoRit Site? (8-13-2009)

No. A budget for the Remedial Action, or cleanup, will be determined once a final remedy has been chosen for the Site, which will not happen for several years. EPA does have a budget to conduct the current, ongoing Removal Action at the BoRit Site, and a budget for the upcoming Remedial Investigation and Feasibility Study for the Site.

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4) Will lobbying our elected officials result in additional money to conduct a more extensive cleanup (e.g. Congressional appropriations)? (4-20-2009)

A final cleanup is chosen based on its long-term protectiveness of human health and the environment. The cleanup will be as extensive as it needs to be to achieve that goal, regardless of any lobbying done by the community. In addition, funding the cleanup of a National Priorities List (NPL) site is not automatic or guaranteed. It will be several years before EPA is ready to request funding to do any cleanup work at BoRit and then we will be competing for those funds nationally. EPA gets money to clean up sites based on the risk they pose to human health and the environment. When we get that money depends on where we rank nationally for all NPL cleanups across the country.

Once EPA completes its investigation of the BoRit Site, which will likely be several years from now under the NPL process, we will propose a variety of options for cleanup. These options will include EPA's preferred option. As part of that proposal, we will ask the Community Advisory Group (CAG) and the public for their comments during a formal comment period.

Once EPA has considered a variety of criteria, including the publics' comments, we are required by law to make a final remedy selection decision and to document it in the Record of Decision (ROD).

Once the ROD is in place, we must then go to a national panel to request the funds necessary to clean up the site. At that point, we will be placed into a national ranking system of funding based on: risk to human population exposed; site stability; contaminant characteristics; threat to a significant environment and; program management considerations

Again, EPA is several years away from a final cleanup decision for the BoRit Site and we encourage the CAG to take every opportunity for EPA to present a detailed presentation on our cleanup process under the NPL.

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5) Is Whitpain Township paying for or contributing to any part of this project and are there other sources of money other than Superfund? (9-5-2008)

This is an EPA Fund Lead Project. Therefore, Whitpain is not paying for the work. However, they are contributing by allowing us to be on-site and by providing us with important information necessary to do our job right (e.g., sewer lines drawings, Rose Valley Creek flooding information upstream of Chestnut Avenue).

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6) What precautionary measures did the fence company contractors take regarding health and safety? (9-5-2008)

When the fence company came to check out the work to be conducted, a background of the Site was explained. EPA contractors are 40-hours Occupational Safety and Health Administration certified. In addition, every worker on-site must read and sign the Site Health and Safety Plan.

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7) Are the bids given to the EPA contractors available to the public? (9-5-2008)

Yes. All the subcontract bids are available in EPA's field office.

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8) How are bids put together? (9-5-2008)

When a bid package is put together, what is given to the contractor is a statement of work. As far as the EPA contractor, we do not go through a bid process for each site. We maintain a number of contractors to do removal work as needed. These contracts are re-competed every 4 or 5 years.

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9) Do EPA and the Pennsylvania Department of Environmental Protection (PADEP) have enough money to remediate the site if they decide to do so? (1-2008)

Yes. All sites which are recommended to the National Priorities List receive funding commensurate to the needs of the cleanup. PADEP's Hazardous Sites Cleanup Act (HSCA) program only addresses orphan sites. Since BoRit has 3 owners HSCA has no jurisdiction.

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10) Why isn't the company responsible for the Ambler Asbestos cleanup paying for the BoRit cleanup? (8- 8-2007)

Because the BoRit Site was not considered part of the former Ambler Asbestos Superfund Site, the cleanup of that site did not include the BoRit Site. EPA's enforcement investigation is underway to identify parties who may be liable for costs related to the cleanup of the BoRit Site.

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11) Has EPA pursued potentially responsible parties (PRPs) to clean up the Ambler Asbestos and BoRit Asbestos Superfund Sites? (4-02-2015)

The Superfund law requires that EPA identify financially viable PRPs, where possible, and compel them to clean up Superfund sites under EPA oversight. In the absence of a viable PRPs, the Superfund program allows EPA to cleanup sites using taxpayer dollars, and, then, seek reimbursement once a viable PRP(s) is identified.

In the case of the Ambler Asbestos Site, EPA successfully pursued PRPs and required them to clean up the site and to reimburse EPA for some of the Agency's costs. The PRPs completed construction of the remedies to EPA's satisfaction and continue to conduct the ongoing Operation and Maintenance program at the site. In the case of the BoRit Asbestos Superfund Site, EPA is currently investigating liability. Until then, the ongoing work at the Site is being funded by the EPA's Superfund program, using taxpayer dollars.

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12) With the millions of dollars spent on remediation at BoRit, what have the residents received? (3-10- 16)

The BoRit site was added to the EPA's Superfund list in 2009, in part, because citizens of Ambler brought their concerns to EPA and the BoRit site met the criteria needed to place the site on the National Priorities List. The work that EPA has done at both the Ambler Asbestos and BoRit sites has prevented people from being exposed to unhealthy levels of asbestos, which is our primary mission.

Another potential benefit is the opportunity for the community to envision future uses for the property. As long as redevelopment does not damage the protective remedy, beneficial reuse or redevelopment is encouraged by EPA and could include a wide range of possibilities. EPA works closely with the West Ambler Revitalization Committee to identify possible reuse opportunities that are compatible with our cleanup work. In fact, beneficial reuses are already planned for two of the properties that comprise BoRit. The pond property is owned by the Wissahickon Waterfowl Preserve and will continue to be a refuge for migrating birds. The largest parcel on the site is owned by Whitpain Township and is expected to, once again, become a community park. For more information about the West Ambler Revitalization and Action Plan, please visit: http://www.whitpaintownship.net/

It's important to note that federal Superfund money may only be spent to clean up sites and not for monetary compensation or general improvement projects in the community.

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13) Who identifies which properties are remediated and who will provide funding for the work? (3-10-16)

Hundreds of sites identified by the states or local organizations and the public are considered by EPA and are evaluated to determine whether or not a Superfund response is warranted. The majority of those sites do not meet the criteria for federal action but, instead, may be subject to state action or state voluntary cleanup opportunities. Both the Ambler and BoRit sites were designated as Superfund sites, making them eligible for federal cleanup money.

The Superfund law requires that EPA identify potentially responsible parties (PRPs), where possible, and compel them to clean up Superfund sites under EPA oversight. In the absence of a viable PRP (s), the EPA may cleanup sites through the Superfund program, using taxpayer dollars, and seek reimbursement once a viable PRP (s) is identified.

In the case of the Ambler Asbestos site, EPA successfully pursued PRPs and required them to clean up the site and to reimburse EPA for some of our costs. The PRPs completed construction of the remedies to EPA's satisfaction and continue to conduct the ongoing operation and maintenance program at the site.

In the case of the BoRit site, EPA is currently investigating liability. Meanwhile, the ongoing work at the site is being funded by the EPA's Superfund program, using taxpayer dollars.

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Flooding Concerns

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1) Is EPA considering modifications due to the flooding in the area? (8-10-2009)

2) What is being done to address the flooding issues? (3-10-16)

3) ROD Issue: Multiple commenters requested that EPA design remediation efforts to be protective of the 500-year storm. Due to the history of flooding at the Site, there may be a need to further protect various cap and slope stabilization elements associated with the Site remediation in all areas that could be exposed to a 500-year flood or a 0.2 percent probability storm. (7-28-17)

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1) Is EPA considering modifications due to the flooding in the area? (8-10-2009)

During Phase II of the Removal Action, EPA is diverting water from the culvert on Chestnut Street to the confluence of Rose Valley and Wissahickon Creek. There are 2 pumps located near the South Gate of the site to help divert the water, with one pump working full time and an additional pump that will be activated if the first pump fails or if it is needed to assist the first pump due to an increase in water flow. However, in a heavy storm event in which both pumps would be unable to effectively pump the water, EPA will turn off the pumps and allow the stream to flow normally. Following such a storm event, EPA would then go back to begin efforts to divert the stream, again.

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2) What is being done to address the flooding issues? (3-10-16)

EPA understands that flooding issues are a concern for many residents, impacting their quality of life. Although it is not within EPA's Superfund authority to directly address flooding issues, we have made improvements to Rose Valley Creek and Tannery Run, in an effort to protect our response action as part of our work at BoRit. These improvements will facilitate better flow of the tributaries, reducing the impact of flooding events. In addition, EPA is coordinating with the West Ambler Revitalization Committee, led by Whitpain Township, to provide advice on flooding issues and revitalizing the West Ambler neighborhood.

Additionally, Temple University's Center for Sustainable Communities (CSC) received grant money from the EPA and the Army Corps of Engineers to complete a storm water management plan for three urban watersheds in Ambler Borough and Whitpain and Upper Dublin Townships — Rose Valley, Honey Run/Stuart Farm and Tannery Run. As part of the outreach process, CSC's Dr. Jeffrey Featherstone, Director of the Center for Sustainable Communities and co-Principal Investigator for the flooding mitigation project, presented the flood plan at a public meeting held in West Ambler at the Daniel W. Dowling American Legion Post on April 7, 2015.

EPA understands that the Federal Emergency Management Agency (FEMA) published a public notice in the February 24, 2016 edition of the *Times Herald* that proposes the inclusion of homes above the Rose Valley sluiceway, on Maple Street, into the new floodplain mapping proposal. This development is due to the collaborative efforts of the West Ambler Revitalization Committee, Temple University and the U.S. Army Corps of Engineers.

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3) ROD Issue: Multiple commenters requested that EPA design remediation efforts to be protective of the 500-year storm. Due to the history of flooding at the Site, there may be a need to further protect various cap and slope stabilization elements associated with the Site remediation in all areas that could be exposed to a 500-year flood or a 0.2 percent probability storm. (7-28-17)

EPA Response: The selected capping remedy has been designed to comply with current regulations regarding design and construction within a floodplain. Section 264a.1 of the Pennsylvania Code, 25 PA Code § 264a.1, incorporating by reference 40 C.F.R. § 264.18(b)(1), mandates that a facility located in the 100-year floodplain must be designed, constructed, operated, and maintained to prevent washout of any hazardous waste by a 100-year flood, not a 500-year flood. It should also be noted that the 100-year floodplain is not significantly different from the 500-year floodplain on the Site. Capping will be maintained throughout the life of the remedy to prevent any washout by a 100-year flood.

As noted in the FS and the Proposed Plan, the 100-year floodplain was recently updated by the Federal Emergency Management Agency (FEMA), and these changes were taken into consideration during the Removal Action. In addition, EPA will evaluate any future updates to the 100-year floodplain during the FYRs. To further ensure that the capping remedy remains protective, the ICs specified in Section 13.2.6 of the ROD and the O&M requirements specified in Section 13.2.9 of the ROD require that public access shall be restricted after significant weather events until the property has been inspected for any signs of damage.

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Decontamination Procedures

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1) Is EPA concerned about the decon wash for trucks getting washed away in a heavy rainfall and spreading asbestos? (8-10-2009)

2) Is there a need for an Industrial Hygienist to certify that any asbestos that enters the decon pad is contained within the decon pad without the possibility to re-enter the environment? (8-10-2009)

3) Is EPA considering putting the decontamination plan for the trucks in the Health & Safety Plan for the site? (8-10-2009)

4) What is the decontamination process and what is going to be done with the waste products generated in the decontamination process? (9-5-2008)

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1) Is EPA concerned about the decon wash for trucks getting washed away in a heavy rainfall and spreading asbestos? (8-10-2009)

There is an insignificant possibility of asbestos moving off site due to the decon wash on-site. It is important to emphasize that asbestos, being a fiber, does not readily move in soil, stone, water, etc. The likelihood of asbestos moving off site from the decon pad in amounts that would exceed the maximum contaminant level is minimal.

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2) Is there a need for an Industrial Hygienist to certify that any asbestos that enters the decon pad is contained within the decon pad without the possibility to re-enter the environment? (8-10-2009)

The need for a Certified Industrial Hygienist is unwarranted in this case, as the predictable properties of asbestos are best understood by a geologist.

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3) Is EPA considering putting the decontamination plan for the trucks in the Health & Safety Plan for the site? (8-10-2009)

EPA will consider including it as a Health and Safety Consideration.

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4) What is the decontamination process and what is going to be done with the waste products generated in the decontamination process? (9-5-2008)

The decontamination pad was constructed near the existing tennis court. It will primarily be used to wash off gravel dust from truck tires carrying equipment into or out of the site, as necessary. Decon water will be allowed to drain through the decon pad, into the ground surface. Collecting decon water is unnecessary since the only contaminant of concern is asbestos and there is no significant threat of fibers migrating through the ground surface into the ground water. A berm will be constructed around the decon pad to prevent potential migration of asbestos via surface runoff. In addition, since the trucks will be driving on the access roads constructed with clean materials the possibility of the tires getting contaminated is minimal.

Personal protective equipment worn by the site workers may be contaminated with fibers. It is bagged at the end of the day for off-site disposal.

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Health and Safety Concerns

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1) Is EPA testing for asbestos along the Wissahickon Creek and is it safe for the public to be in these areas? (7-3-2010)

2) My son and friends routinely visit the Wissahickon Creek, fish, play, dig, pretend they are panning for gold, skip flat stones, etc. south of BoRit. Is it safe for them to play in the creek where the EPA has identified asbestos? (8-23-2009)

3) Why is EPA cleaning up the stream? Will EPA update its Health and Safety Plan (HASP) prior to the stream clean activities? (8-21-2009)

4) Will the BoRit community receive a questionnaire similar to what was used at the Libby community? (8-13-2009)

5) Will EPA test residential yards for asbestos? (8-13-2009)

6) What are the current risks at the BoRit site? (8-13-2009)

7) Will EPA identify where the waste may be located and will sampling be done where there are tide pools, eddy currents behind bridge abutments, obvious overflow ponding and deep water depressions where asbestos waste may have migrated? (8-10-2009)

8) Under what circumstances will the EPA sample off of the Site during Phase I (e.g. the south side of the Wissahickon Creek flood plain)? (8-10-2009)

9) Are there any grant programs from the Health Departments for a specialized X-Ray machine to be located in Ambler to help diagnose pleural plaques? (5-18-2009)

10) Are there plans for putting out a fire on site after work begins and will fire trucks become contaminated with asbestos? (9-5-2008)

11) Did the workmen wear personal protection equipment (PPE) while invasive operations are occurring? (9-5-2008)

12) Why are all the exposed areas not being covered temporarily at the end of the work day? (9-5-2008)

13) Why are there men working at the park in suits? Do the residents across the Wissahickon need to wear personal protective equipment (PPE)? (9-5-2008)

14) Are short asbestos fibers considered to be a health threat/risk? (1-2008)

15) What goes into a risk assessment? On what basis is a risk-based decision made? (1-2008)

16) When other sites do not make the National Priorities List what was done to make them safe? (1-2008)

17) How many non-worker cases of asbestos-related illness have been reported in the Ambler area? (1- 2008)

18) If asbestos waste is covered with soil, can it work its way to the surface? (1-2008)

19) Is there a minimum amount of soil cover that is recommended? (1-2008)

20) Will EPA coordinate with all of the health agencies involved to implement a more in-depth, health data collection protocol? (12-27-2007)

21) Is non-cancer asbestos-related disease tracked? (12-27-2007)

22) Will EPA look at non-occupational cases of asbestos disease? (12-27-2007)

23) Will EPA continue to monitor and test the site? (12-27-2007)

24) Why were the cancer statistics presented based on one sampling event and not the average of all the air tests to date? (8-8-2007)

25) Is the 19002 zip code the best way to identify asbestos exposures? (8-8-2007)

26) Given the fact that there was a very large asbestos operation here, which operated for 80 years; would an increase in asbestos related deaths be expected? (8-8-2007)

27) Does EPA recognize that the Site represents a potential health hazard? (3-12-2007)

28) How can EPA conclude that there is no risk to public health and safety at this time? (3-12-2007)

29) What is a health screening study and is one being done for residents in the vicinity of the site? (3-12- 2007)

30) What should residents do if they think they have been exposed to asbestos? (3-12-2007)

31) What is the role of the Agency for Toxic Substances and Disease Registry (ATSDR) at the site, and what is the basis for ATSDR's conclusions and findings about the site? (3-12-2007)

32) Do fencing and signs provide sufficient protection at the site, given the results of the tests performed by EPA? (3-12-2007)

33) Would EPA be satisfied with the data if their own children were growing up in Ambler or the nearby communities? (3-12-2007)

34) How did the Pennsylvania Department of Health (PADOH) come to its public health conclusions and what was their reasoning for analyzing health information based only the Ambler zip code? (3-12- 2007)

35) Will EPA conduct health screening for residents in the vicinity of the Site? (1-24-2007)

36) What is the Agency for Toxic Substances and Disease Registry's (ATSDR) role at the site and what are their conclusions and findings? (1-24-2007)

37) What is the source of the Pennsylvania Department of Health's (PADOH) cancer information and what was their reasoning for analyzing only the Ambler zip code? (1-24-2007)

38) What do state and federal health agencies say regarding claims of increased cancer rates in the Ambler area? (9-2006)

39) What can residents do to ensure their safety? (9-2006)

40) Can either the PADEP or EPA guarantee that kids are not trespassing and causing airborne fiber?

41) Could the building rubble left in the remnant of the old factory closest to Chestnut Street contain a lot of contamination? How about the building rubble lying back there along the street?

42) What are EPA's protective guidelines for levels of asbestos in air at the BoRit site?

43) What is being done to address concerns related to asbestos contamination in people's homes and basements and around their property and who monitors the health of the residents? (3-10-16)

44) ROD Issue: Multiple commenters requested that EPA strengthen the acceptable risk range so that cancer risks do not exceed a target risk of 1x10-6 (7-28-17).

45) ROD Issue: Several commenters noted that future comprehensive human health monitoring needs to be incorporated into the annual and five-year monitoring at the Site in perpetuity to ensure that the population surrounding the Site is being adequately protected by the Selected Remedy. The purpose of human health monitoring efforts would be to determine whether the remedy at the Site is protective of human health and to track human health data for the Ambler community and surrounding local community. The methods, findings, and conclusions of reviews could be adequately documented in FYR reports and shared with the public. (7-28-17)

46) ROD Issue: Several comments were submitted suggesting that permanent signage be implemented at the Site to note Site restrictions, safety hazards, and contact information for Site healthy and safety issues (7-28-17)

47) ROD Issue: Several commenters requested EPA to justify the selection of capping as the preferred alternative compared to treatment and removal alternatives. Alternatives WSS4 and WSS5 provide treatment, reduction in toxicity/mobility/volume (T/M/V), and ensure long-term protection. Alternative WSS3 would remove contamination from the Site.(7-28-17)

48) ROD Issue: Several commenters requested that EPA continue to monitor groundwater and surface water at the Site. (7-28-17)

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1) Is EPA testing for asbestos along the Wissahickon Creek and is it safe for the public to be in these areas? (7-3-2010)

EPA and the Agency for Toxic Substances and Disease Registry are aware that pieces of asbestos containing waste material (such as pieces of old pipes) are present in scattered areas offsite. Exposure to asbestos is a concern if you inhale the tiny fibers. The asbestos-containing material (ACM) on the ground is not a concern unless the fibers become airborne and are inhaled. To date, air monitoring in the community has not shown levels of concern related to asbestos. However, to mitigate public exposure from the debris along the creek, beginning this summer, when water levels are expected to be low (shallow), EPA is planning to remove waste material along the Wissahickon Creek, beginning at Mt. Pleasant Avenue and moving downstream. In addition, EPA has initiated stationary and activity-based sampling (ABS) at the area downstream of Butler Pike (near the Wissahickon Valley Watershed Association offices), where ACM has deposited, to determine if the waste there poses current or future risk to human health or the environment.

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2) My son and friends routinely visit the Wissahickon Creek, fish, play, dig, pretend they are panning for gold, skip flat stones, etc. south of BoRit. Is it safe for them to play in the creek where the EPA has identified asbestos? (8-23-2009)

The Agency for Toxic Substances and Disease Registry (ATSDR) and the Pennsylvania Department of Health (PADOH) cannot advocate swimming in any unsupervised waterway, since there are no lifeguards to keep swimmers (both child and adult) safe from water levels that can change unexpectedly based on weather conditions. Furthermore, the public health agencies strongly discourage any contact with asbestos-containing material (ACM) found on the site or in the streams. However, we do understand that members of the public recreate in these areas. The current environmental sampling data for sediments or streams (Wissahickon, Rose Valley, and Tannery) do not indicate that recreational contacts with these streams/sediments would be a problem based on the levels of exposure. Fibers have not been detected in any of EPA's 2006-2007 surface water samples taken from the streams (i.e., Wissahickon, Rose Valley, and Tannery). The only recent surface water sample in which asbestos fibers were detected was one taken from the reservoir in April 2006. The 2006-2007 air sampling data reviewed in this document do not indicate that people are exposed to asbestos at levels of health concern from contacting the surface water and generally playing, walking and fishing in the creeks.
Historic sampling events did detect asbestos in surface waters near the Ambler site at higher levels. However, based on the most recent data which are most reflective of the current situation, ATSDR and PADOH do not see a public health asbestos exposure problem for children and adults having occasional recreational contact (e.g., fishing and swimming) in Wissahickon Creek or the other nearby creeks at this time. Therefore, fishing from the western side of the Wissahickon should not present public health concerns regarding asbestos exposure. However, it is the current understanding of ATSDR and PADOH that fishing from the eastern side of the Wissahickon is trespassing and is strongly discouraged.

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3) Why is EPA cleaning up the stream? Will EPA update its Health and Safety Plan (HASP) prior to the stream clean activities? (8-21-2009)

After speaking with concerned residents and local organizations, EPA decided to evaluate the asbestos- containing material (ACM) that may be associated with the site downstream. EPA will address ACM downstream from the site following the stream bank stabilizations. EPA will update the HASP accordingly prior to the stream cleanup.

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4) Will the BoRit community receive a questionnaire similar to what was used at the Libby community? (8-13-2009)

We believe that the questionnaire referenced is in regards to a health related questionnaire conducted at Libby and administered by phone through the National Opinion Research Corporation. Using a toll- free number, residents were able to call in at their convenience and complete the questions. The purpose of that questionnaire was to establish asbestos exposure histories in preparation for medical screenings that were conducted for Libby residents.
There are important differences between the community asbestos exposures that occurred in Libby compared to Ambler, in addition to the medical services available to Libby residents compared to Ambler residents. For these reasons, different public health services have been conducted in these two communities.

EPA recognizes that some members of the community have tried to compare the BoRit Asbestos Site to the Libby Asbestos Site in an effort to understand the differences between the two. The exposure pathways at Libby are different from those present at BoRit. At Libby, there are multiple *active* exposure pathways at the site. The vermiculite mine wastes, as well as off-specification intermediate asbestos- containing material, were made available to the community and were widely distributed to the Libby area. These materials were used as fill in yards, driveways, gardens, and many public areas. At BoRit, there is no documented evidence that a similar distribution of asbestos-containing materials occurred in the Ambler area. It is also important to emphasize at BoRit that, although residents may have been actively exposed to asbestos when the manufacturing facilities were in operation, there is currently no active exposure taking place in the area.

To learn more about the Libby Asbestos Superfund Site, please visit http://www.epa.gov/region8/libby-asbestos

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5) Will EPA test residential yards for asbestos? (8-13-2009)

Residents in the Ambler area have expressed concerns about the possibility of having asbestos in their yards. To address these concerns, EPA is offering to conduct visual inspections upon the request of the property owner. Since the offer was made to the community in December 2008, EPA has received three requests to conduct visual inspections.

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6) What are the current risks at the BoRit site? (8-13-2009)

Current Asbestos Exposure Via Air for Nearby Residents:
Based on the air results to date, there is no current asbestos exposure to residents from the BoRit Site. The removal activities are mitigating potential releases to the environment. The removal activities are also addressing potential public health threats that might arise as a result of the removal activities. All data and documentation to support this has been shared with the Community Advisory Group (CAG) and EPA hosts weekly meetings with CAG members to keep them up-to-date on site activities.

Prior to proposing the BoRit Site to the National Priorities List, EPA did conduct air sampling over a single 24-hour period on the site in Apri12006. The public health agencies' conclusions regarding these April 2006 samples were that these results were not sufficient to make a quantitative determination of health risks for off-site residents. However, this sampling did support the need for further investigation and evaluation of the BoRit Site based on the potential for public health concerns.

EPA agreed with this public health recommendation and began a comprehensive air sampling program at the BoRit Site from October 2006 through September 2007. During this program, asbestos air samples were collected from locations on and off of the site, in different seasons, and under different weather conditions.

Based on the results from EPA's October 2006-September 2007 samples, the public health agencies concluded that "the risks from the BoRit site for both on-site and off-site do not pose a substantial cancer risk when the waste material is left undisturbed. Under these conditions a public health hazard does not exist and the cancer risk for the site is classified as no apparent increase to low increased risk. Any changes to this site could alter this classification ... substantial increases in exposure can occur on-site when activities are disturbing the soil [at the site] ...At present the community has restricted access to the on-site sampling locations, off-site data do not indicate air transport of fibers, and on-site construction and soil disturbing activities are not occurring on a regular basis. The data strongly suggest that airborne asbestos could pose a threat to public health, should any of these conditions change."

Current Asbestos Exposures Via Sediments/Streams for Nearby Residents
EPA recognizes that some residents are concerned about exposures to surface waters and sediments contaminated with asbestos-containing material at the BoRit Site. EPA and the public health agencies have evaluated this pathway.

There is general agreement in the scientific community that inhalation is the pathway of greatest exposure/risk concern for asbestos. We acknowledge that some of the soil, surface water, and sediment at the BoRit Site contains asbestos. **However, the presence of contamination alone does not inherently imply risk.** Unless the asbestos becomes airborne, we do not expect dermal or ingestion exposures to result in adverse health effects. To establish whether asbestos was becoming airborne from sediments and streams at the BoRit Site, EPA conducted personal air monitoring during sediment sampling activities. These results did not indicate a level of concern for recreational users of these waterways.

Below is an excerpt from the Agency for Toxic Substances and Disease Registry (ATSDR) and the Pennsylvania Department of Health (PADOH) 2009 Health Consultation for the BoRit Site. The full report is available at: https://response.epa.gov/site/doc_list.aspx?site_id=2475

“Is it safe for children and adults to have contact with creek waters and their sediments at this site?”

ATSDR and PADOH cannot advocate swimming in any unsupervised waterway, since there are no lifeguards to keep swimmers (both child and adult) safe from water levels that can change unexpectedly

based on weather conditions. Furthermore, the public health agencies strongly discourage any contact with asbestos-containing material found on the site or in the streams.

However, we do understand that members of the public recreate in these areas. The current environmental sampling data for sediments or streams (Wissahickon, Rose Valley, and Tannery) do not indicate that recreational contacts with these streams/sediments would be a problem based on the levels of exposure. Fibers have not been detected in any of EPA's 2006-2007 surface water samples taken from the streams (i.e., Wissahickon, Rose Valley, and Tannery).

The only recent surface water sample in which asbestos fibers were detected was one taken from the reservoir in April 2006. The 2006-2007 air sampling data reviewed in this document do not indicate that people are exposed to asbestos at levels of health concern from contacting the surface water and generally playing, walking and fishing in the creeks. Historic sampling events did detect asbestos in surface waters near the Ambler site at higher levels. However, based on the most recent data which are most reflective of the current situation, ATSDR and PADOH do not see a public health asbestos exposure problem for children and adults having occasional recreational contact (e.g., fishing and swimming) in Wissahickon Creek or the other nearby creeks at this time. Therefore, fishing from the western side of the Wissahickon should not present public health concerns regarding asbestos exposure. However, it is the current understanding of ATSDR and PADOH that fishing from the eastern side of the Wissahickon is trespassing and is strongly discouraged."

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7) Will EPA identify where the waste may be located and will sampling be done where there are tide pools, eddy currents behind bridge abutments, obvious overflow ponding and deep water depressions where asbestos waste may have migrated? (8-10-2009)

Although not finalized yet as part of the Site Management Plan for the Site, for the Remedial Investigation/Feasibility Study Phase I investigation, off-site soil and flood plain sediment sampling is planned. Phase II off-site sampling has not been determined at this time. EPA recognizes this comment and will consider including the described locations for future phases of the investigation.

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8) Under what circumstances will the EPA sample off of the Site during Phase I (e.g. the south side of the Wissahickon Creek flood plain)? (8-10-2009)

Although not finalized yet as part of the Site Management Plan for the Site, as part of the Remedial Investigation/Feasibility Study Phase I investigation, EPA is planning to collect three surface soil samples from three areas on the other side of Wissahickon Creek from the Site. Grab samples are planned to be collected from 0-3 inches from three areas: midpoint across from the Park parcel, across from Rose Valley Creek, and across from the breached dam. Samples are to be analyzed for asbestos by polarized light microscopy, volatile organic compounds, semi-volatile organic compounds, pest/polychlorinated biphenyls, and metals.

In addition, EPA is planning to collect floodplain sediment sample(s) areas on the other side of Wissahickon Creek across from the Asbestos Pile.

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9) Are there any grant programs from the Health Departments for a specialized X-Ray machine to be located in Ambler to help diagnose pleural plaques? (5-18-2009)

The health agencies are currently looking into this question.

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10) Are there plans for putting out a fire on site after work begins and will fire trucks become contaminated with asbestos? (9-5-2008)

Based on the site activities, the possibility of a fire is minimal. Nonetheless, we do have various fire extinguishers and a water truck on-site. However, if there is a fire and we cannot control it, we would call 911. We would expect municipal fire trucks to come on-site, if needed, and we would decontaminate them.

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11) Did the workmen wear personal protection equipment (PPE) while invasive operations are occurring? (9-5-2008)

When the contractors first mobilized to the Site, asbestos awareness training was conducted on-site. A morning safety meeting is conducted every day. During this safety meeting, the tasks planned for the day are discussed with particular emphasis on potential safety hazards associated with those tasks. For example, airborne contaminants, ticks, slip/trip/fall and heat stress are hazards that may be encountered on a site like this. EPA's contractors have been wearing the necessary PPE as required by the Site Health & Safety Plan. In addition, based on the air data from the sampling events in 2007 and 2008, as well as recent data from site activities, neither the residents nor the workers are being exposed to asbestos levels that pose an unacceptable or significant health risk. This was determined by risk calculations conducted by toxicologists from both the Agency for Toxic Substances and Disease Registry and EPA. This determination is based on the asbestos air sampling results and with guidance from Occupational Safety and Health Administration 1926.1101. The text of the guidance is detailed below:

1926.1l01(c) (1) *Time-weighted average limit (TWA),* The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 f/cc of air as an eight hour TWA, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

1926.1l01(c) (1) *Excursion limit.* The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 f/cc as averaged over a sampling period of thirty (30) minutes, as determined by the method prescribed in Appendix A to this section, or by an equivalent method.

All data collected to date has been below those limits. Also, the cabin of the excavator is pressurized. However, to be on the side of safety, we have decided that during field activities, any contractor working inside the fence will wear Level C (hardhat, Tyvek suits, safety shoes and respirator).

We also would like to clarify that the EPA removal action is not the "typical" building asbestos abatement. During a ''typical'' asbestos abatement, asbestos containing material (ACM) is removed from structures. EPA is not planning to remove asbestos, unless we determine that some of the larger pieces of ACM (pipes, etc.) cannot be properly and safely covered on-site.
While we do not think this is likely, this could result in some of these larger pieces being sent off-site for disposal.

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12) Why are all the exposed areas not being covered temporarily at the end of the work day? (9-5-2008)

The area on the Pile Property that was inadvertently exposed during the preparatory activities was covered within 48 hours. We have soil available to cover any exposed areas at the end of the day, and we are working to identify a tactifier (tacking agent) that can be used for soil cover as well. In addition, we will chip all the vegetation we are clearing and use it as mulch to cover exposed areas, if needed.

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13) Why are there men working at the park in suits? Do the residents across the Wissahickon need to wear personal protective equipment (PPE)? (9-5-2008)

The workers on the site are wearing Level C protective equipment because that is a health and safety requirement for all EPA contractors while working on the site. There is no identified threat of exposure contamination to the community from the preparatory work we are conducting based on the air monitoring and sampling data EPA has collected. Therefore, there is no need for the residents west of the Park to wear PPE.

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14) Are short asbestos fibers considered to be a health threat/risk? (1-2008)

The toxicity of asbestos appears to depend on both the mineral class (serpentine vs. amphibole) and particle size (length, width). Toxicological models based on animal studies appear to demonstrate that the most potent asbestos fibers are very long (greater than 40 um) and thin (less than 0.3 um).

EPA utilized the Transmission Electron Microscopy method, which is a more sensitive method and counts shorter and narrower fibers. The binning method used by U.S. EPA to count asbestos fibers for risk assessment purposes counts fibers longer than 5 um. Taken together, the findings from the laboratory animal, epidemiologic, and in vitro studies suggest that short fibers may be pathogenic for pulmonary fibrosis. Further investigation is needed in to determine the possible association between short fibers and pulmonary interstitial fibrosis in humans and the impact of short fibers in regard to pleural changes, such as pleural plaques and diffuse pleural fibrosis. Although there is currently incomplete scientific data on the role of short fibers and health effects, public health agencies can still consider the sampling data on short fibers in the context of the information for the overall site in their evaluations.

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15) What goes into a risk assessment? On what basis is a risk-based decision made? (1-2008)

Risk assessments follow a specific process that is put forth in guidance documents produced by U.S. EPA over the last 20 years. These documents provide guidance on exposure inputs, and describe how these parameters might apply to various receptors. After identifying possible receptors and related exposures, contaminant doses are calculated for site-specific scenarios and. compared to established toxicity criteria. These steps allow for the projection of potential risks. For cancer-causing chemicals, action is generally taken when the potential incremental risk of cancer due to site-related contaminants is greater than 1 in 10,000. For non-carcinogens, action is considered when the site-related dose is greater than the "safe dose," as determined by scientific studies appearing in the literature; this is described as a Hazard Index greater than 1.

In summary, risk assessments generally estimate current and future potential risks to a variety of possible receptors (residents, workers, recreational visitors, trespassers, etc.) using upper-bound estimates of exposure and toxicity. Remedial action is typically triggered when certain risk benchmarks, as described above, are exceeded. The conservative nature of this process allows U.S. EPA to ensure that individuals, including sensitive subpopulations, are protected against environmental contamination.

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16) When other sites do not make the National Priorities List what was done to make them safe? (1-2008)

Unfortunately, there are no data to accurately assess this question for asbestos sites. For other types of sites with other contaminants, there have been variety of actions taken, including removal and offsite disposal, onsite consolidation and stabilization, treatment, encapsulation or a combination of these or other measures.

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17) How many non-worker cases of asbestos-related illness have been reported in the Ambler area? (1- 2008)

The Pennsylvania Department of Health (PADOH) and the Agency for Toxic Substances and Disease Registry (ATSDR) are preparing a health consultation for asbestos air monitoring data collected by EPA in 2006/2007. The health consultation will attempt to determine the public health significance of exposures to reported levels of asbestos in the 2006-2007 air samples. When this health consultation is finalized, PADOH and ATSDR will present their findings to the community.

PADOH and ATSDR will collaborate with the Montgomery County Health Department, the Pennsylvania Department of Environmental Protection, and EPA to distribute this information to community members.

General information on the health risks associated with asbestos was provided in a January 2007 PADOH/ATSDR fact sheet which was mailed to the Ambler community, distributed to physicians serving the community at two locally held grand rounds, and is currently available on EPA's BoRit website.
PADOH and ATSDR plan to update the mesothelioma incidence data that was discussed at EPA's public meeting in 2007. This update will not be able to answer the question of how many non-worker cases of asbestos-related illness are in the community. The Pennsylvania Cancer Registry simply does not include the detailed information necessary to draw conclusions regarding the source of exposure. Also, the asbestos-related disease information that has been shared by the community to date has not been specific enough to draw conclusions about the type of exposure that led to the asbestos-related disease.

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18) If asbestos waste is covered with soil, can it work its way to the surface? (1-2008)

It is not likely as long as it's not disturbed.

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19) Is there a minimum amount of soil cover that is recommended? (1-2008)

The National Emissions Standards for Hazardous Air Pollutants requires either a soil cap of 18-24 inches or fencing/posting of the affected site.

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20) Will EPA coordinate with all of the health agencies involved to implement a more in-depth, health data collection protocol? (12-27-2007)

EPA will continue to coordinate with the health agencies. The health agencies are reviewing/refining the mesothelioma data for the county and the Ambler zip code, and will publish this information in a publicly available report.

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21) Is non-cancer asbestos-related disease tracked? (12-27-2007)

The health agencies only have data for cancer and mesothelioma rates. As asbestosis and other non- cancer asbestos-related diseases are not reportable, such a database does not exist.

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22) Will EPA look at non-occupational cases of asbestos disease? (12-27-2007)

The health agencies have requested any available information related to non-occupational cases of asbestos-related disease in the community. EPA encourages community members to provide specific relevant information to EPA, or directly to the health agencies, so that further evaluation may be conducted.

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23) Will EPA continue to monitor and test the site? (12-27-2007)

EPA intends to monitor the work done until establishment of the vegetative cover (i.e., one growing season or at least one year). EPA plans to evaluate the need for additional sampling. EPA will plan to take additional samples, if needed.

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24) Why were the cancer statistics presented based on one sampling event and not the average of all the air tests to date? (8-8-2007)

The cancer statistics presented were not based on sampling events but rather on data gathered by the Pennsylvania Department of Health. Health outcome data reviews, in this case cancer incidence, are conducted independently of the results of individual air sampling data. Air sampling results are utilized, in as much as they are useful, to help determine the area of concern in which to study the cancer incidence. Cancer incidence and mesothelioma in particular have long latency periods (10 to 30 or more years); therefore, current air sampling results would not necessarily be reflective of past exposures, given the historical asbestos industry in this area, that occupational exposures and associated "take home" exposure to household contacts are likely the source of any asbestos related disease in this community.

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25) Is the 19002 zip code the best way to identify asbestos exposures? (8-8-2007)

The Pennsylvania Department of Health feels that the 19002 zip code is the most valid method of evaluating exposures associated with the BoRit Asbestos Site.

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26) Given the fact that there was a very large asbestos operation here, which operated for 80 years, would an increase in asbestos related deaths be expected? (8-8-2007)

The Pennsylvania Department of Health (PADOH) concurs that with the duration and extent of asbestos operations and with (historically) limited use of personal protection for asbestos workers; that former asbestos workers and their household contacts may be at increased risk of developing asbestos related diseases. Due to statistical reasons, PADOH's cancer incidence review was prepared for the period 1996 to 2003, this time frame will not reflect the burden of asbestos related cancer prior to 1996, which may have been significant due to the many years of asbestos operations. Results including the recently available 2004 data are similar to those previously reported.

For the 1996 - 2004 time frame, PADOH found that the number of new cancer cases for all types of cancer is less than expected when comparing the Ambler zip code to the rest of Pennsylvania. The incidence of mesothelioma is more than expected but not statistically significant. This means that while there are more cases when compared to statewide rates, they are in the range of what is commonly accepted as normal variation or less than a 95% significant level. A 95% significance level means there is less than a 1 in 20 chance that the results are elevated due to random variation or chance. In this case, none of the cancer rates for the Ambler zip code are higher than what would be expected allowing for normal variation. In other words, the zip code analysis does not point to a pattern of elevated cancer risk in the Ambler zip code but is consistent with the known history of asbestos exposure. PADOH will continue to collect and update this review/analysis.

With limited historical environmental sampling data, we have no valid method to evaluate the past health implications of the waste piles of asbestos containing material, including the BoRit Asbestos Site. In an effort to raise awareness within the health care community about asbestos in the environment and to aid in the evaluation of potentially exposed patients, PADOH collaborated with the Agency for Toxic Substances and Disease Registry (ATSDR), the Montgomery County Medical

Society, the Montgomery County Health Department, and the EPA in conducting two Grand Round presentations entitled, "Case Studies in Environmental Medicine: Asbestos Toxicity". The seminar was presented by Dr. Vikas Kapil, Senior Medical Director, Department of Health Studies, Centers for Disease Control (CDC) to approximately 60 local physicians and health care providers. If any resident would like the information discussed in these sessions forwarded to their primary care provider, please contact Barbara Allerton, Nursing Services Consultant with PADOH at (717) 346-3285. ATSDR and PADOH are currently evaluating the recent environmental sampling data to ensure that there are no current exposures occurring in the community and, if present, will make recommendations to eliminate any ongoing route(s) of exposure. This evaluation will be published by ATSDR in a Health Consultation for the site.

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27) Does EPA recognize that the Site represents a potential health hazard? (3-12-2007)

Yes. In fact, the primary reason that EPA is assessing the Site is to determine if there is a complete exposure pathway between known asbestos contaminations on-site and to evaluate the potential risk associated with a complete exposure pathway. Based on the October and November 2006 ambient air sampling results collected to date, residents in the vicinity of the BoRit Site are *not* being exposed to asbestos fibers from the Site at levels that pose an unacceptable or significant health risk.

For more health-related information about what was found in past sampling events in the town of Ambler, read the Agency for Toxic Substances and Disease Registry Record of Activity posted on the BoRit website.

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28) How can EPA conclude that there is no risk to public health and safety at this time? (3-12-2007)

EPA recognizes that the Site represents a potential health hazard due to the presence of asbestos-containing material. However, based upon the October and November 2006 ambient air sampling results, EPA can conclude, at this time, that residents in the vicinity of the BoRit Site are not being exposed to asbestos fibers from the Site at levels that pose an unacceptable or significant health risk. EPA's final conclusions will not be made until the remaining seasonal samples are collected.

At the time EPA calculated the human health risk and drew its conclusion, EPA had all validated results from air, soil, water and sediments. EPA's actions are taken based on validated results, which are available to the public on EPA's BoRit website. The raw data will be made available once it is converted to a public document.

For historical information about when higher exposure levels existed, see the Agency for Toxic Substances and Disease Registry Record of Activity, posted on EPA's BoRit website.

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29) What is a health screening study and is one being done for residents in the vicinity of the site? (3-12- 2007)

Health screening surveys can be done to gather additional medical information related to exposure to asbestos or other contaminants. Public health agencies, such as the Pennsylvania Department of Health (PADOH) and the Agency for Toxic Substances and Disease Registry (ATSDR) are responsible for determining if health screenings are needed. Health screening cannot replace individual follow up with personal physicians. ATSDR and PADOH do not provide direct medical care, although they are available to consult with your physician as requested.

There are no current plans to conduct a health screening survey in the Ambler community at this time, but public health agencies are collecting targeted information on non-occupationally related mesothelioma cases in the area.

ATSDR and PADOH will produce a Public Health Consultation for this Site. The health consultation will be available to the public and will determine the public health significance of exposures and include appropriate follow up recommendations for the community, if necessary.

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30) What should residents do if they think they have been exposed to asbestos? (3-12-2007)

The Agency for Toxic Substances and Disease Registry (ATSDR) and the Pennsylvania Department of Health (PADOH) recommend concerned citizens discuss their exposure history with a family doctor who would be in the best position to assess their potential for harmful health effects.

PADOH, ATSDR, and the Montgomery County Health Department are collaborating with the Montgomery County Medical Society to increase knowledge and awareness among physicians and in the community about past exposure scenarios and actions that can reduce harmful health effects from asbestos.

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31) What is the role of the Agency for Toxic Substances and Disease Registry (ATSDR) at the site, and what is the basis for ATSDR's conclusions and findings about the site? (3-12-2007)

ATSDR is a separate federal public health agency within the Centers for Disease Control and Prevention. ATSDR is providing technical support to EPA, the Pennsylvania Department of Health, and stakeholders. EPA has asked ATSDR to evaluate sampling data from the BoRit Site to determine if exposure to site- related contaminants is causing or could cause adverse health effects in the community.

There was a specific question from the public regarding an ATSDR December 2006 document. EPA posted the Record of Activity (ROA) health consultation for the BoRit Asbestos Site on EPA's BoRit website. The ROA attempted to provide a comprehensive review of the history of sampling efforts and public health conclusions relevant to the current BoRit investigations.

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32) Do fencing and signs provide sufficient protection at the site, given the results of the tests performed by EPA? (3-12-2007)

Based on the current sampling data, yes. Fencing and signage are there to prevent people from entering the Site and being exposed to contamination. The asbestos can be a threat to people if they get onto the Site and disturb the soil, as demonstrated by the activity-based sampling conducted in November of 2006.

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33) Would EPA be satisfied with the data if their own children were growing up in Ambler or the nearby communities? (3-12-2007)

Yes. EPA has a great deal of scientific experience and expertise that gives us comfort and credibility to make sound public safety recommendations. Based on our samples at Site to date, residents in the vicinity of the BoRit Site are not being exposed to asbestos fibers from the Site at levels that pose an unacceptable or significant health risk.

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34) How did the Pennsylvania Department of Health (PADOH) come to its public health conclusions and what was their reasoning for analyzing health information based only the Ambler zip code? (3-12- 2007)

PADOH evaluated the Pennsylvania Cancer Registry's cancer incidence data that was reported for the Ambler zip code (19002) and compared it to the incidence rates for the Commonwealth.

The cancer incidence or number of new cancer cases for all types of cancer is less than expected when comparing Ambler to the rest of Pennsylvania, for the period 1996 to 2003. PADOH will continue to collect and update this review/analysis.

None of the types of cancer are statistically significantly elevated (i.e., at the 95% significance level) when compared to the rest of the state. A 95% significance level means there is less than a 1 in 20 chance that the results are elevated due to random variation or chance. In this case, none of the cancer rates for the Ambler zip code are higher than what would be expected, allowing for normal variation.

PADOH presented the Ambler zip code because it was felt that it best reflects the community surrounding the BoRit Asbestos Site. PADOH did analyze cancer incidence in the adjacent zip codes to the Ambler zip code, and mesothelioma incidence was not statistically significant. However, a preliminary state-wide analysis has identified several statistically significant mesothelioma zip codes, but these results need to be confirmed with additional data analysis. This work is ongoing. The results of a 1996 - 2004 analysis will be presented when they are available, and the findings may vary.

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35) Will EPA conduct health screening for residents in the vicinity of the Site? (1-24-2007)

EPA does not do health screening. Health screening, if necessary, is conducted by the Pennsylvania Department of Health (PADOH) and/or the Agency for Toxic Substances and Disease Registry (ATSDR). EPA consulted with PADOH and ATSDR in responding to this question.

The health agencies and EPA are aware that there is an interest in health screenings (e.g., medical monitoring for asbestos exposures such as X-rays, CT scans, etc.) at this site. Health agencies are often asked to conduct health studies or screenings in neighborhoods surrounding former industrial sites such as the BoRit Asbestos Site. In order to consider conducting such additional investigations, health agencies need a possible outcome that would reduce or eliminate a current exposure or mitigate the effects of a past exposure.

Based on the EPA's preliminary findings in the community surrounding the Site, there is apparently no current or ongoing exposure to asbestos at a level at which health agencies expect to see harmful health effects. Additional rounds of community sampling data are needed to confirm this conclusion. PADOH and ATSDR will conduct a review of all of EPA's most recent community sampling data and produce a publicly available Health Consultation document after the complete sampling data results are available. PADOH and ATSDR will make any appropriate follow up recommendations for the community (i.e., including addressing the need for health screenings or additional health statistics outcome studies), if necessary at that time.

ATSDR does not provide direct medical care. The purpose of screening health study events, when they are conducted by public health agencies, is to provide additional information about exposures not available through other means. Screening health studies cannot replace individual follow up with personal physicians.

We can see from the historical information available now that former workers, household contacts of former workers, and former or current residents who lived near the asbestos manufacturing plant may have been exposed to airborne asbestos at a level of health concern. Health agencies recommend concerned citizens discuss their possible exposure history with their family doctor who is in the best position to assess their potential for harmful health effects. Preventative health actions such as reducing exposure to smoke, second-hand smoke, and radon and getting an annual flu shot can greatly reduce health risks for individuals with asbestos-related lung disease.

PADOH, ATSDR, and Montgomery County Health Department are collaborating with the Montgomery County Medical Society to increase awareness among physicians and in the community about past exposure scenarios and actions that can reduce harmful health effects. For example, on March 14th, an ATSDR physician with expertise in asbestos and asbestos-related disease will be conducting two physician-oriented "asbestos grand rounds" in Montgomery County.

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36) What is the Agency for Toxic Substances and Disease Registry's (ATSDR) role at the site and what are their conclusions and findings? (1-24-2007)

ATSDR wrote its Record of Activity, posted on EPA's website, to try to provide in one place a review of the history of sampling efforts and public health conclusions relevant for the current BoRit investigations. ATSDR was not trying to discount past investigations. Rather, one of the points ATSDR was trying to emphasize in this document was ATSDR's conclusion that despite all the changes in sampling techniques, that under certain, worst case conditions

ATSDR finds that there was the potential for local levels of air borne asbestos of concern in the past. Therefore, ATSDR finds support for the steps EPA is now taking to further evaluate the conditions at the BoRit Site and for the public health agency plans to perform health education activities with health professionals in the area.

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37) What is the source of the Pennsylvania Department of Health's (PADOH) cancer information and what was their reasoning for analyzing only the Ambler zip code? (1-24-2007)

PADOH evaluated the Pennsylvania Cancer Registry's cancer incidence data that was reported for the Ambler zip code (19002) and compared it to the incidence rates for the Commonwealth.

The cancer incidence or number of new cancer cases (for all types of cancer) is less than expected when comparing Ambler to the rest of Pennsylvania, for the period 1996 to 2003. None of the types of cancer are statistically significantly elevated (at the 95% significance level) when compared to the rest of the state. A 95% significance level means there is a less than a 1 in 20 chance that the results are elevated due to random variation or chance. In this case, none of the cancer rates for the Ambler zip code are higher than what would be expected, allowing for normal variation.

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38) What do state and federal health agencies say regarding claims of increased cancer rates in the Ambler area? (9-2006)

The Agency for Toxic Substances and Disease Registry and the Pennsylvania Department of Health (PADOH) both looked at health data for the Ambler area from 1985-2002. They saw no evidence of higher rates for bronchus and lung cancer, indicating that several rates were lower for Zip Code area 19002 compared to statewide data. PADOH plans to produce separate tabulations and rates for mesothelioma when running their PA Zip Code Area Cancer Database in January 2006, when the 2003 cancer data becomes available.

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39) What can residents do to ensure their safety? (9-2006)

Heed the warning signs and do not remove them and do not trespass on these sites. Call the police if you see anyone cutting holes in the fence, tearing down warning signs or unlawfully gaining access to any of these sites. If you observe visible emissions on or coming from these sites, please report what you see to the Pennsylvania Department of Environmental Protection's (PADEP) complaint service representative (http://www.dep.pa.gov/About/ReportanIncident/Pages/EnvironmentalComplaints.aspx)

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40) Can either the PADEP or EPA guarantee that kids are not trespassing and causing airborne fiber?

The requirement for fencing ACM that has not been capped is contained within the asbestos NESHAP, which acknowledges fencing as a universally recognized notice that property contained within is restricted. These parcels are currently fenced and posted to inform would-be trespassers of potential risk, and there is no evidence of ongoing trespasser activity. PADEP Air Quality Program and EPA Superfund Program staff continue to monitor the parcels in question.

EPA's air toxics regulation for asbestos is intended to minimize the release of asbestos fibers during activities involving the handling of asbestos. The air toxics provisions of the Clean Air Act (CAA) require EPA to develop and enforce regulations to protect the public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112 of the CAA, EPA establishes National Emission Standards for Hazardous Air Pollutants (NESHAP). EPA promulgated the Asbestos NESHAP, currently found in 40 CFR Part 61, Subpart M.

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41) Could the building rubble left in the remnant of the old factory closest to Chestnut Street contain a lot of contamination? How about the building rubble lying back there along the street?

After the removal of the ACM, the buildings were then demolished. The debris was tested and managed as construction debris. It is anticipated that any remaining debris would fall under the same waste classification.

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42) What are EPA's protective guidelines for levels of asbestos in air at the BoRit site?

Using standard ***residential long-term*** exposure assumptions, risk-based action levels for asbestos in air can be calculated. Under conditions of long-term exposure (350 days/year for 30 years, starting at birth), a protective concentration of asbestos in ambient air is 0.001 fibers/cc. Continuous, exposure to this level of asbestos, as described above, would pose an excess cancer risk of 1 in 10,000. This concentration (0.001 fibers/cc) is the ambient air remediation goal for long-term exposure at the site.

For ***short-term*** exposures, such as those incurred by disturbing asbestos-contaminated soil on the BoRit site, risk-based concentrations are determined according to the activity being performed. At BoRit, vigorously raking soil was found to represent a worst-case scenario; that is, although the duration of exposure was short, vigorous raking resulted in the highest airborne concentrations of asbestos and the greatest potential for risk. These fibers do not remain airborne for very long, quickly settling back to the ground soon after the activity ends, which differentiates this type of exposure from long-term ambient exposures. Based on a raking scenario, an activity-based remediation goal of 0.04 fibers/cc has

been established for short-term exposure (50 days/year for 24 years, starting at age 6) to airborne asbestos at the site.

These site-specific protective values for asbestos in air were developed by EPA Region 3 toxicologists for the BoRit Site in accordance with the guidelines in OSWER Directive #9200.0-68, Framework for Investigating Asbestos-Contaminated Superfund Sites.

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43) What is being done to address concerns related to asbestos contamination in people's homes and basements and around their property and who monitors the health of the residents?
(3-10-16)

The EPA, along with PADEP, PADOH and ATSDR have evaluated the potential health risks from asbestos throughout our response activities in Ambler. Extensive air monitoring has been performed in residential communities, walking trails, and in the ambient air around the BoRit site. EPA also collected air and soil samples from several West Ambler residential properties to assess the potential for asbestos to migrate off-site and determine if day-to-day activities would expose people to unhealthy levels of asbestos. The sampling results in the residential areas were low and below the EPA risk-based screening levels therefore, it has been determined that there is no unacceptable risk to residents in the vicinity of the BoRit site.

In response to a community concern that residential properties may contain fill material from the BoRit site, EPA offered residents in West Ambler, and surrounding areas, visual inspections of their properties in November 2008. Owners at three properties requested that inspection and EPA did not observe any suspect fill consisting of asbestos-containing material associated with the site. No other requests were received.

The EPA does not conduct health monitoring. However, health screening, if necessary, may be conducted by the PADOH and/or ATSDR. An enormous amount of health information has been developed for the BoRit site by these health agencies. ATSDR and PADOH have shared their public health conclusions about the BoRit site in a series of public health documents. All of these documents are available at https://response.epa.gov/site/doc_list.aspx?site_id=2475 under "documents" and then under the "health" category tab. ATSDR and our state and local public health partners have also conducted extensive outreach activities in Ambler to educate public health officials about asbestos and routinely participate in CAG meetings and in West Ambler community events and public meetings.

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44) ROD Issue: Multiple commenters requested that EPA strengthen the acceptable risk range so that cancer risks do not exceed a target risk of 1x10-6. (7-28-17)

EPA Response: EPA's Office of Solid Waste and Emergency Response (OSWER) Directive #9355.0-30, "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions" (EPA 1991) provides guidance on the interpretation of estimated cancer risks in the human health risk assessment (HHRA). EPA considers cumulative excess cancer risks less than 1x10-6 to be so small as to be negligible. When cancer risks are greater than 1x10-4, some type of Remedial Action is generally warranted. Cancer risks between 1x10-6 and 1x10-4 are generally considered to be protective, and generally do not warrant Remedial Action. For the purposes of risk management decision-making, cancer risk estimates are based on reasonable maximum exposure (RME), which ensures that decisions are adequately protective of all individuals within the exposure population.

In accordance with the OSWER Directive #9355.0-30, "waste management strategies achieving reductions in Site risks anywhere within the [cancer] risk range may be deemed acceptable by the EPA risk manager." When deriving preliminary cleanup levels, although 1x10-6 is generally used as a screening level, the results of the HHRA are used to refine preliminary cleanup levels into final cleanup levels. Final cleanup levels may also be modified taking into consideration the nine criteria used for remedy selection. Review of the HHRA shows estimated RME cancer risks were well below 1x10-6 for ambient air exposures, and estimated RME cancer risks were less than 1x10-5 for most off-Site exposures and the Reservoir parcel. RME cancer risks only approach 1x10-4 for on-Site worker exposure scenarios. The selection of a target risk of 1x10-4 is consistent with EPA guidance and considered to be adequately protective.

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45) ROD Issue: Several commenters noted that future comprehensive human health monitoring needs to be incorporated into the annual and five-year monitoring at the Site in perpetuity to ensure that the population surrounding the Site is being adequately protected by the Selected Remedy. The purpose of human health monitoring efforts would be to determine whether the remedy at the Site is protective of human health and to track human health data for the Ambler community and surrounding local community. The methods, findings, and conclusions of reviews could be adequately documented in FYR reports and shared with the public.

EPA Response: EPA consulted with PADOH and ATSDR in responding to this question. EPA does not perform health screening or monitoring. Community-based health screening, if necessary as part of a public health study, may be conducted by public health agencies like PADOH and/or ATSDR. PADOH, ATSDR, and EPA are aware that there is an interest in health screenings (e.g., medical monitoring for asbestos exposures such as X-rays, CT scans, etc.) at this Site. However, ATSDR and PADOH do not provide direct medical care. The purpose of health screening investigations, when they are conducted by public health agencies, is to provide additional information about exposures not available through other means. Screening health studies cannot replace individual follow up with personal physicians.

Based on available historical information, former workers, household contacts of former workers, and former or current residents who lived near the K&M asbestos manufacturing plant may have been exposed to airborne asbestos at a level of health concern in the past. PADOH and ATSDR recommend that concerned citizens discuss their possible exposure history with a medical professional such as their family doctor, who is in the best position to assess their potential for harmful health effects. Preventative health actions such as reducing exposure to smoke, second-hand smoke, and radon and getting an annual flu shot can greatly reduce health risks for individuals with past exposures to asbestos and asbestos-related lung disease. Since 2007, PADOH and ATSDR have collaborated with several partners in the community to share this preventative health information with health professionals and community members in Ambler, including the Montgomery County Health Department, the Montgomery County Health Alliance, University of Pennsylvania, the Visiting Nurses Association, and the Montgomery County Medical Society.

Based on EPA's findings in the community surrounding the Site, there is no current or ongoing exposure to asbestos at a level at which PADOH and ATSDR expect to see harmful health effects. That said, given the potential for past exposures in the local community, PADOH and ATSDR have committed to continuing to review available cancer statistics for the areas surrounding the Site, and will share this information with EPA and the public.

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46) ROD Issue: Several comments were submitted suggesting that permanent signage be implemented at the Site to note Site restrictions, safety hazards, and contact information for Site healthy and safety issues. (7-28-17)

EPA Response: Because capping covers asbestos waste left in place, the selected remedy has to comply with actions identified under the applicable NESHAP regulations, 40 C.F.R. Part 61, Subpart M, for asbestos. Specifically, § 61.151(a) provides that inactive waste disposal sites like the BoRit Site shall:

(a) Comply with one of the following: * * *
(2) Cover the [ACM] with at least 6 inches of compacted [non-ACM], and grow and maintain a cover of vegetation
on the area adequate to prevent exposure of the [ACM]. . . .
; or

(3) Cover the [ACM] with at least 2 feet of compacted [non- ACM], and maintain it to prevent exposure of the [ACM];
* * *

(b) Unless a natural barrier adequately deters access by the general public, install and maintain warning signs and fencing as follows, or comply with paragraph (a)(2) or (a)(3) of this section. (emphasis added)

The Selected Remedy includes geotextile, at least 2 feet of clean fill, and another 6 inches of topsoil to support a vegetative cover. EPA believes that signage is not required because the Selected Remedy provides a deeper cover than is required by § 61.151, and requires long term stewardship requirements to ensure that the integrity of the Capped Areas are protected through O&M, ICs, and FYRs.

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47) <u>ROD Issue:</u> Several commenters requested EPA to justify the selection of capping as the preferred alternative compared to treatment and removal alternatives. Alternatives WSS4 and WSS5 provide treatment, reduction in toxicity/mobility/volume (T/M/V), and ensure long-term protection. Alternative WSS3 would remove contamination from the Site. (7-28-17)

EPA Response: As noted in the Proposed Plan and the FS, the Selected Remedy, capping (Alternative WSS2), meets the threshold criteria of overall protection of human health and the environment and compliance with applicable or relevant and appropriate requirements (ARARs) [NESHAP, etc…]. While Alternatives WSS2, WSS3, WSS4 and WSS5 each meet the threshold criteria, based on the information currently available, EPA has determined that the Selected Remedy provides the best balance of advantages and disadvantages among the alternatives when evaluating them using the balancing criteria evaluated during the FS.

Capping is a practice commonly used to address asbestos waste sites and is an acceptable remedy for this Site because it will prevent dermal contact and will limit the mobility of air-borne contaminants, such as asbestos fibers. The most significant exposure route for asbestos is inhalation. The capping remedy takes the necessary precautions to minimize disturbance to the asbestos-containing waste, soils, and sediment and to prevent asbestos from becoming airborne during and after remedy construction.

One of the most significant drawbacks to the treatment alternatives developed for the Site (Alternatives WSS4 and WSS5) is that both present an increased risk of exposing on-Site and off-Site receptors to asbestos contamination during excavation and transportation activities. These risks could be further exacerbated due to the extended period of time needed to implement Alternatives WSS4 and WSS5 compared to Alternative WSS2. Alternatives WSS4 and WSS5 also have significant implementability concerns, including uncertainties regarding full scale performance of the technologies to address a site as large as BoRit, availability of an adequate energy source, and/or the limited availability of vendors. In addition, by an order of magnitude, the treatment alternatives, as well as the excavation and off-Site disposal alternative (Alternative WSS3), would be substantially more expensive to implement. EPA's Selected Remedy, capping, is cost-effective and will physically contain Site contaminants and prevent contaminant release and off-Site migration.

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48) ROD Issue: Several commenters requested that EPA continue to monitor groundwater and surface water at the Site. (7-28-17)

EPA Response: As indicated in Section 7.4 of the ROD, groundwater was included in the Site's conceptual site model and considered in the Chemical and Asbestos HHRAs; however, no action or additional monitoring is anticipated for groundwater at the Site. Groundwater contamination identified in on-Site wells was either: (1) at concentrations lower than those found in the upgradient wells; (2) included isolated or one-time detections that do not suggest the presence of a contaminant plume; and/or (3) does not appear to emanate from contaminated media at the Site. Additionally, asbestos, the only human-health COC at the Site, is present in the source material (waste, soil, and Reservoir sediment), but was not found above its MCL in groundwater.

Following construction of the Selected Remedy, in accordance with Section 13.2.7 of the ROD, Reservoir surface water and creek surface water will be sampled for Site COCs to demonstrate that the capping remedy is operating as designed. In accordance with Section 13.2.8 of the ROD, LTM of the surface water will be conducted annually for the first four years leading up to the first FYR, and then once every FYR cycle thereafter, to confirm cleanup levels continue to be achieved and to demonstrate that the capping remedy continues to perform as designed.

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History and Background

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1) During the US EPA investigation and cleanup of the Ambler Asbestos Piles from 1972 to 1995, EPA documented the Ambler Asbestos Piles Superfund Site, the East and West Maple Street piles, now known as the BoRit Asbestos Superfund Site, and all the asbestos manufacturing buildings to be a potential source of asbestos contamination and pollution, yet EPA only re-mediated the Ambler Asbestos Piles. Why didn't EPA address all the asbestos contamination from the asbestos manufacturing of the Keasbey and Mattison, CertainTeed, and Nicolet Industries? (7-3-2010)

2) Why was all the asbestos contamination not addressed in the 1980's during the original EPA investigation of asbestos? (6-2-2010)

3) Why did the EPA place the Nicolett Plant Pile and the Locust Street Pile on the National Priorities List (NPL)? (1-2008)

4) Why was the Whitpain Park closed since buried asbestos, for the most part, is not a health hazard? (1- 2008)

5) Who remediated the Gravers Road pile and when? (1-2008)

6) Why did the Pennsylvania Department of Environmental Protection (PADEP) commission the evaluation by Shaw? (1-2008)

7) When was this asbestos material dumped and why was it allowed? (9-2006)

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1) During the US EPA investigation and cleanup of the Ambler Asbestos Piles from 1972 to 1995, EPA documented the Ambler Asbestos Piles Superfund Site, the East and West Maple Street piles, now known as the BoRit Asbestos Superfund Site, and all the asbestos manufacturing buildings to be a potential source of asbestos contamination and pollution, yet EPA only re-mediated the Ambler Asbestos Piles. Why didn't EPA address all the asbestos contamination from the asbestos manufacturing of the Keasbey and Mattison, CertainTeed, and Nicolet Industries? (7-3-2010)

Near the Ambler Asbestos Piles Superfund Site, there are other areas that were also used for waste disposal by the Keasbey & Mattison Company, the original asbestos products manufacturer in Ambler. The West Maple Street Pile (now designated the BoRit Pile), the East Maple Street Pile (now designated Whitpain Park), and the reservoir between them were not dealt with as part of the Ambler Asbestos Piles Site, because, as stated in the Remedial Investigation Report for the Ambler Asbestos Piles Site, "The Maple Avenue Piles were covered and vegetated by the Pennsylvania Department of Environmental Resources (PADER), which is currently the Department of Environmental Protection (PADEP), in the mid-1970s and are currently monitored by PADER." As early as 1984, and several times thereafter, EPA evaluated the BoRit Pile and Whitpain Park. Each time, EPA determined they did not warrant Superfund action. It was not until the most recent assessment by EPA's Removal Program conducted during the time period of October 2006 through September 2007, with a focus on the site's deteriorating conditions, and a more advanced evaluative approach to asbestos sites, that the decision was made to initiate a Removal Action and subsequent evaluation for proposal to the Superfund list. The three areas were considered together as one site and finalized on the Superfund list as the BoRit Asbestos Site.

At the time when most of the waste disposal occurred in Ambler, there were no laws prohibiting such disposal activities, and EPA was not in existence to handle such problems. PADER and EPA became actively involved in 1971 after receiving a complaint from the Wissahickon Valley Watershed Association concerning the possible contamination of air and water from the operations of the Nicolet and CertainTeed companies in Ambler. These two companies owned and operated the three waste piles that make up the Ambler Asbestos Piles Superfund Site. Investigations showed visible emissions and substantial dust concentrations at the Site, and the owners were ordered to stop dumping on the piles. The Superfund law was enacted in 1980, and the Ambler Asbestos Piles Site was formally evaluated by EPA's Superfund Removal Program which conducted an assessment and several response actions to stabilize the massive piles which were then commonly known as the "White Mountains" because of the visible waste on the uncovered side slopes. Subsequently, the Site was placed on the National Priorities List (NPL or Superfund list) and, after a full evaluation of remedial alternatives; the capping remedy was selected and implemented by EPA's Remedial Program.

Sites evaluated in the 1980s, including the Ambler Asbestos Piles Site, EPA's Superfund program did not investigate or clean up hazardous waste inside factory buildings. In accordance with the EPA's 1983 Guidance for Controlling Friable Asbestos Containing Materials in Buildings, if a determination was made that the buildings could be secured, and the hazardous substances inside were unlikely to be released to the environment and pose a significant threat to public health, then the building would not be included

in a Superfund action. As stated in the guidance, "The decision whether to take action and the selection among different courses of action are the responsibilities of individual building owners." There are instances where conditions led to the inclusion of buildings in Superfund actions, but that determination was not made at the Ambler Asbestos Piles Site. Also, portions of the Ambler Asbestos facility were in operation until 1987, in which case the Occupational Safety and Health Administration would have been the regulatory agency enforcing the proper handling of hazardous materials within the buildings. When the facilities became abandoned, PADEP became the primary enforcing agency. PADEP and EPA have worked with property owners and developers to restrict access to the buildings.

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2) Why was all the asbestos contamination not addressed in the 1980's during the original EPA investigation of asbestos? (6-2-2010)

At the time when most of the contamination occurred, there were no laws prohibiting such disposal activities, and the EPA was not in existence to handle such problems. The Superfund law was enacted in 1980. The Ambler Asbestos Piles Site was first evaluated in the early 1980's by EPA's Superfund Removal Program which conducted an assessment and several response actions to stabilize the massive piles.
Subsequently, the Site, which was defined as the piles (i.e., CertainTeed Pile, Locust Street Pile, and the Plant Pile) was placed on the National Priorities List (NPL or Superfund List) and, after an evaluation of alternatives, the capping remedy was selected and implemented by EPA's Remedial Program.

As early as 1984, and several times thereafter, EPA evaluated the East and West Maple Street piles and the berm around the reservoir which is now defined as the BoRit Superfund Site. Historically, those areas did not pose a threat to human health and the environment, and, therefore, did not warrant Superfund action. The vegetative cover on much of the area likely contributed to this determination. It was not until the more recent assessment in 2006 and 2007 by EPA's Removal Program, with a focus on the Site's deteriorating conditions, and a more advanced approach to the evaluation of asbestos sites, that the decision was made to pursue a Removal Action and evaluation of the Site for the NPL.

Superfund was established to address abandoned hazardous waste sites and conduct response actions that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances to the environment. Responses to releases inside buildings is not the primary focus of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) unless there is a release or threat of release to the environment, and the release poses a hazard to public health, welfare, or the environment. EPA, State, and/or local authorities often work with the property owner to ensure the hazardous substances inside buildings are properly addressed. There are instances where site specific conditions led to the inclusion of buildings in Superfund actions, but that determination was not made at the Ambler Asbestos Site.

Also, buildings adjacent to the Ambler Asbestos Superfund Site were in operation until 1987, in which case the Occupational Safety and Health Administration would be the regulatory agency enforcing the proper handling of hazardous materials within the buildings. When the facilities became abandoned, the Pennsylvania Department of Environmental Protection (PADEP) became the primary enforcing agency. PADEP has worked with property owners and developers to restrict access to the buildings.

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3) Why did the EPA place the Nicolett Plant Pile and the Locust Street Pile on the National Priorities List (NPL)? (1-2008)

The cleanup of this Site was accomplished through the following actions: In 1974, the State denied permit applications for continued disposal and ordered both companies to stop dumping and to stabilize and cover the piles. Remedial Investigations were conducted on both parcels to determine the degree and extent of contamination. EPA found asbestos in the soil, in the filter bed lagoon sludges and on equipment in the Locust Street playground, adjacent to the Locust Street Pile. As an early response to these findings, the contaminated playground equipment was removed, the sides of the piles were reinforced and security fencing was constructed around the site. Additional cleanup actions were selected and described in EPA-issued Records of Decisions in 1988 and 1989. These cleanup actions consisted of regrading and capping the pile plateaus; reinforcing the soil cover; installing erosion and sedimentation control devices; draining and backfilling the lagoons with clean soil; installing or upgrading the fencing/locking gates; posting warning signs; and monitoring the air. Where the piles bordered surface water, they were reinforced against erosion. These actions were completed and mitigate the threats of release of asbestos and exposure of the surrounding community.

Two parties entered into separate Consent Decrees to design and implement the remedies. CertainTeed Corporation, as the current owner, conducted the work for Operable Unit 2 detailed in the November 1990 Consent Decree. T&N Industries, Inc., as the parent corporation of a previous owner, conducted the work for Operable Unit 1 under a May, 1991 Consent Decree. The remedies were implemented and on-site physical construction was completed in October 1992; EPA accepted the construction reports in April 1993.

The construction of all remedies, along with all approvals and documentation, at the Ambler Asbestos Piles Superfund site was completed August 30, 1993 and the site was deleted from the NPL on December 27, 1996. Maintenance of the remedies constructed at this Site is conducted as part of an ongoing Operation and Maintenance Program. Two five-year reviews of the remedy were completed May 27, 1997 and September 25, 2002. Both reviews certified that the cleanup of the site continues to be protective of human health and the environment.

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4) Why was the Whitpain Park closed since buried asbestos, for the most part, is not a health hazard? (1- 2008)

The site as it exists was designated as an Asbestos Disposal Site per the National Emission Standards for Hazardous Air Pollutants. As such, the owners of the property were required by law to conform to those regulations. This included fencing off the property and maintaining controls on the site.

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5) Who remediated the Gravers Road pile and when? (1-2008)

Blue Bell Associates, who purchased the site in 1999 from the Smith Land Improvement Corporation. The remedial investigation final report is dated December 1999, with a cleanup plan final report submitted September 2004, with a related addendum dated September 2005.

During development preparation for this 40+-acre property, slurry material from the pile was removed and mixed with clean soil from off-site. The slurry/soil mix was used to level and grade the wooded low- lying area. Following the grading, a geotextile membrane was placed over the impacted area and covered with a minimum of two feet with clean soil. Much of the property will be further covered with asphalted parking areas, asphalt access roads and slab-on-grade buildings. Prior to installing the geotextile membrane and soil cover utility excavations were installed. Additionally, a deed notice will be placed on the property to provide for post-remediation care.

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6) Why did the Pennsylvania Department of Environmental Protection (PADEP) commission the evaluation by Shaw? (1-2008)

In March 2003, the PADEP commissioned Shaw Environmental to assist in determining the need for involvement by our agency at the BoRit Site, which had been deemed "no further action required" by EPA in September 1988. This was a draft document, one which PADEP did not review in-depth or comment on, as agency review stopped once the property was purchased by a private entity.

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7) When was this asbestos material dumped and why was it allowed? (9-2006)

The waste asbestos containing material and asbestos shingles found at these sites were deposited by Keasby & Mattison and Nicolet Industries from the 1930s until the 1970s. Unfortunately at that time, there were no environmental regulations regarding the disposal of asbestos. The Solid Waste Management Act of 1988 requires that asbestos and asbestos containing material now be disposed of at permitted landfills.

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1) Does EPA have a remedy for the BoRit site and does is comply with Pennsylvania's landfill requirements? (7-3-2010)

2) Is the BoRit Asbestos site in violation of the Clean Water Act? (7-3-2010)

3) Is the air quality in Whitpain, Upper Dublin and Ambler, and the surrounding communities in compliance with the Clean Air Act (CAA) for asbestos? (7-3-2010)

4) EPA governing the BoRit Asbestos Superfund site using the National Emissions Standards for Hazardous Air Pollutants (NESHAPs) law and the Clean Air and Clean Water Acts? (7-2010)

5) Has EPA reviewed the depositions and court case documents from U.S. vs. Nicolet Industries? (8-10- 2009)

6) What are the 9 criteria and how are they ranked in importance? (5-18-2009)

7) What is the disclosure responsibility for the EPA if waste is kept in place (signs, fences, etc.)? (5-18-2009)

8) Are there any protections that may be offered to a potential buyer of a parcel of the site to free the buyer of liability? (5-18-2009)

9) Was the fact that West Ambler is an Environmental Justice community included as one factor in the National Priorities List (NPL) decision? (9-5-2008)

10) Could Turner and Newell have been forced under the Comprehensive Environmental Response, Compensation, and Liability Act to clean up the current BoRit Site if it was on the National Priorities List along with the Locust Street and CertainTeed Plant Pile? (1-2008)

11) What enforcement authorities do EPA and the Pennsylvania Department of Health have for the BoRit Site? (1-2008)

12) How could Kane Core be held legally responsible for remediation and did Kane Core sign any agreements with EPA? (1-2008)

13) If the BoRit Site is not listed on the National Priorities List (NPL), what courses of action are available to see that the site is remediated? (1-2008)

14) Who is responsible for monitoring the BoRit property for compliance? (8-8-2007)

15) I was reading several articles regarding asbestos and this Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) citizen's suit provision keeps on appearing and I do not understand what it is. Can someone explain this to me? (8-8-2007)

16) Has Kane Core responded to EPA's September 21, 2006 letter requesting information pursuant to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section

104(e)? How will EPA's follow up on this response, and what is the role of EPA's Office of Regional Counsel in this process? (3-12-2007)

17) What environmental regulations are used to determine compliance at asbestos disposal sites? (9-2006)

18) What would be considered a violation for these sites? (9-2006)

19) If asbestos-containing material can be seen on the surface of these sites, isn't that a violation? (9-2006)

20) Why did the EPA sign on to investigate these grounds, find significant and egregious uncovered asbestos contamination that is currently (as it was during the EPA investigation) in violation of NESHAP and PADEP landfill regulations, obtained high readings in air tests for asbestos during their investigation, then just left it here?

21) ROD Issue: Multiple commenters requested that EPA remain the lead agency throughout long-term O&M instead of the PADEP. One commenter requested that, given the proximity and similarity of the nearby Ambler Asbestos Pile Superfund Site, EPA should combine some of the monitoring and maintenance activities for both sites over time. (7-28-17)

22) ROD Issue: Several commenters noted that the success of the capping remedy is dependent on effective enforcement and management of ICs and deed restrictions. To ensure this happens, all responsibilities and enforcement actions should be clearly articulated in the Record of Decision (ROD). Specific comments requested restrictions on potable use of surface water or groundwater, woody vegetation, construction, excavation, and well drilling. (7-28-17)

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1) Does EPA have a remedy for the BoRit site and does is comply with Pennsylvania's landfill requirements? (7-3-2010)

EPA is currently using Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) authority to address the conditions at the BoRit Asbestos Site. We are using Removal authority to deal with the imminent risks that have been identified, and we are conducting a Remedial Investigation to evaluate the long-term threats. To date, EPA has not selected a long-term remedy for the waste pile or any portion of the Site. The selected remedy must be protective of human health and the environment and in compliance with substantive applicable or relevant and appropriate Federal and state environmental legal requirements (ARARs); unless a specific ARAR is waived. During the remedy selection process, EPA will evaluate state and Federal requirements related to the waste pile and other areas of the Site.

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2) Is the BoRit Asbestos site in violation of the Clean Water Act? (7-3-2010)

In April 2009, the BoRit Asbestos Site was added to the National Priorities List (NPL), a national list of sites where hazardous substances, pollutants or contaminants may impact public health and/or the environment. An NPL site must undergo a thorough Remedial Investigation and Feasibility Study, which can take several years to complete, before a final remedy can be selected. The first phase of environmental sampling for the Remedial Investigation was completed in January 2010, and EPA is currently planning for the Phase II sampling effort, which is anticipated to occur in the fall of 2010. As part of Phase II, EPA is planning to install groundwater monitoring wells and sample the seep that appears to be discharging from the reservoir.

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3) Is the air quality in Whitpain, Upper Dublin and Ambler, and the surrounding communities in compliance with the Clean Air Act (CAA) for asbestos? (7-3-2010)

The EPA is using Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) authority to address the conditions at the BoRit Asbestos Site. Superfund was established to address abandoned hazardous waste sites and conduct response actions that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances to the environment. Under the CAA, among other things, EPA sets limits on certain widespread common pollutants, known as criteria pollutants, to ensure environmental protection from air pollution throughout the United States. Individual states may establish stronger air pollution laws, but they may not have weaker pollution limits than those set by EPA. EPA has established National Ambient Air Quality Standards (NAAQS) for six criteria pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide. State Implementation Plans provide for implementation, maintenance, and enforcement of the NAAQS in each state.

Other contaminants regulated under the CAA include a list of more than 180 Hazardous Air Pollutants (HAPs), including asbestos. Section 112(c) of the CAA directs EPA to develop a list of source categories that emit any of the HAPs and to develop regulations for these categories of

sources. EPA's regulations

governing HAPs are the National Emissions Standards for Hazardous Air Pollutants, or NESHAPs, which are nationally uniform standards oriented toward controlling each of the listed HAPs. The CAA does not require ambient air monitoring for asbestos.

EPA's Site Assessment and Removal Programs have conducted air monitoring events at the BoRit Asbestos Superfund Site and within the nearby community since 2006. As described in the response to Question 4, in April 2006, EPA's Site Assessment Program conducted air sampling at the BoRit Asbestos Site. A preliminary review of the air samples indicated the presence of airborne asbestos. However, the results were inconclusive because four of the six air samples were overloaded with dust/particulates and a non-preferred method of analysis was used for those samples. As a result, the EPA Removal Program conducted air sampling events in October/November 2006 and in March/May/June/July/August and September 2007 to determine whether airborne results would change throughout the year. During each of the sampling events, there were eight sampling locations within the boundaries of the BoRit Asbestos Site (which were moved depending on the direction of the wind the day of sampling) and five fixed off- site sampling locations within 1/4 mile of the perimeter of the Site that were monitored for airborne asbestos.

Since July 2008, EPA has conducted air sampling when intrusive activities at the BoRit Asbestos Site were taking place. Out of the 32 total locations, to date, 12 air monitors have been placed just outside the boundary of the Site (fence line along Maple Street and Chestnut Avenue and on the sewer easement on the right side of the Wissahickon Creek). To date, air sampling results indicate that the levels of asbestos fibers are within acceptable levels and do not pose a significant health risk to the residents.

Furthermore, EPA's Remedial Program is in the process of summarizing and reviewing the stationary air monitoring data that has been collected. EPA will evaluate this data to determine if stationary air monitoring is necessary for the Remedial Investigation and will share this information with the public at the conclusion of its review.

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4) EPA governing the BoRit Asbestos Superfund site using the National Emissions Standards for Hazardous Air Pollutants (NESHAPs) law and the Clean Air and Clean Water Acts? (7-2010)

EPA is addressing the sites under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) authority. Under CERCLA, any selected remedy must be protective of human health and the environment and in compliance with applicable or relevant and appropriate Federal and state environmental legal requirements, which may include the Clean Air Act (CAA) and Clean Water Act. The NESHAPs are regulations established under the federal CAA that specifically relate to asbestos and other contaminants that have been identified as 'hazardous air pollutants.' Under Section 112(d) (6) of the CAA, EPA is required to review standards issued under Section 112 and to revise them "as necessary (taking into account developments in practices, processes and control technologies)."

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5) Has EPA reviewed the depositions and court case documents from U.S. vs. Nicolet Industries? (8-10- 2009)

EPA has not reviewed the depositions and court case documents from U.S. vs. Nicolet Industries. However, EPA recognizes this comment and will consider reviewing such documents.

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6) What are the 9 criteria and how are they ranked in importance? (5-18-2009)

By law, EPA is required to conduct a detailed analysis of remedial alternatives considered for a Superfund site, using nine specific criteria. The nine criteria are grouped into 3 categories: threshold criteria, balancing criteria, and modifying criteria.

The two threshold criteria are the minimum requirements that each alternative must fulfill in order to be considered a potential remedy. These include:

- Overall Protection of Human Health and the Environment
- Compliance with Applicable or Relevant and Appropriate Requirements
  The remedy may need to comply with other environmental laws, as well as state and local laws.

The five balancing criteria are used to conduct a detailed analysis of the alternatives. These criteria include:

- Long-term Effectiveness and Permanence
  The alternatives are evaluated to ensure they are protective over time.
- Reduction of Toxicity, Mobility, or Volume through Treatment
  The remedy must ensure that the risk posed by the site is mitigated through some kind of treatment.
- Short-Term Effectiveness
  Risks associated with the construction of the remedy are considered.
- Implementability
  The difficulty of constructing the remedy is taken into consideration.
- Cost Effectiveness
  Capital, operation, and maintenance costs are compared to other, equally protective alternatives.

The two modifying criteria are used to modify the preferred remedial action alternative. These two criteria are:

- State Acceptance
- Community Acceptance

New information or comments made during the Proposed Remedial Action Plan comment period may either modify the preferred alternative or lead to consideration of another alternative. EPA must respond to all significant comments during the comment period in a Responsiveness Summary.

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7) What is the disclosure responsibility for the EPA if waste is kept in place (signs, fences, etc.)? (5-18- 2009)

The site will be cleaned up to ensure it is protective of human health and the environment. If asbestos waste is kept in place, the remedy must comply with applicable or relevant and Federal and state environmental legal requirements. Under this possible remedial action, the remedy would have to comply with National Emission Standards for Hazardous Air Pollutants (NESHAPs) Part 61 Subpart M for

asbestos, which would require actions to prevent the emission of asbestos fibers from disposal sites. These actions may include installation of cover materials, warning signs, security fencing, or other approved actions.

It is important to note that the site will be cleaned to ensure it is protective to the appropriate clean up goals. For instance, if an area is to be used as a residential property, EPA would clean the site to ensure the contamination is not hazardous to residents based on risk calculations. The same would go for recreational or commercial uses.

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8) Are there any protections that may be offered to a potential buyer of a parcel of the site to free the buyer of liability? (5-18-2009)

Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), there is a liability exemption for Bona Fide Prospective Purchasers (BFPP). To qualify, a prospective purchaser must demonstrate that certain legal criteria are met, including, but not limited to: acquiring the property after January 11th, 2002; not being a Potentially Responsible Party (PRP); not being affiliated with a PRP; and must have undertaken "all appropriate inquiry" into the previous ownership of the site. The prospective purchaser must also fulfill certain obligations, including but not limited to, providing cooperation, assistance, and access to the EPA.

It is strongly recommended that a prospective purchaser consult with an attorney to see if he or she qualifies as a BFPP.

In addition to the above clarifications, EPA would like to make a recommendation regarding future requests for information. Although the Community Advisory Group has the option of requesting Technical Assistance to Communities services for informational purposes, EPA has many resources available within the Regional Office and from across the country. For instance, EPA has people that would be able to give a presentation regarding possible land reuse. Please do not hesitate to speak with the Community Involvement Coordinators regarding options for EPA to provide information.

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9) Was the fact that West Ambler is an Environmental Justice community included as one factor in the National Priorities List (NPL) decision? (9-5-2008)

The NPL scoring process simply takes into consideration the kind of contamination at the site, the data collected during the sampling events and the possible receptors. No other factors (e.g., environmental justice, petitions) are considered when determining whether a site score high enough for consideration of listing on the NPL.

The Hazard Ranking System package for the site is posted on the website. The package includes the parameters that were considered in the scoring.

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10) Could Turner and Newell have been forced under the Comprehensive Environmental Response, Compensation, and Liability Act to clean up the current BoRit Site if it was on the National Priorities List along with the Locust Street and CertainTeed Plant Pile? (1-2008)

EPA is currently investigating the existence of any Possible Responsible Parties.

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11) What enforcement authorities do EPA and the Pennsylvania Department of Health have for the BoRit Site? (1-2008)

Under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund), EPA has enforcement authority to achieve cleanup and seek reimbursement for cleanup at sites such as this one. For example, EPA can do short or long-term cleanups at a site (under Section 104) and later recover its costs from potentially responsible parties (PRPs) (under Section 107). EPA can also order, or ask a court to order PRPs to cleanup a site when an imminent or substantial endangerment may exist (under Section 106). EPA can also enter settlement agreements with PRPs, to cleanup a site or pay for cleanup conducted by EPA (under Section 122).

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12) How could Kane Core be held legally responsible for remediation and did Kane Core sign any agreements with EPA? (1-2008)

Under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund), certain parties may be liable, or legally responsible, for the costs EPA spends to cleanup a facility/site (where hazardous substances have been disposed and have been released into the environment). These parties include the current owner of the site property; the owner at the time disposal of hazardous substances occurred on the site; any person/entity that arranged for the disposal of hazardous substances onto the site; and any person/entity that transported the hazardous substances to the site. There are limited defenses and exemptions to CERCLA liability.

EPA cannot comment further on Kane Core or other parties' liability at the site. This information is enforcement confidential.

Kane Core has signed access agreements with EPA.

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13) If the BoRit Site is not listed on the National Priorities List (NPL), what courses of action are available to see that the site is remediated? (1-2008)

Any site not listed to the NPL typically undergoes the following:

1. The site is not listed; however, any significant or immediately hazardous materials may be addressed under the EPA Removal Program.
2. The responsibility for the site may be turned over to the State.
3. The responsibility for the site may be turned over to the property owners.

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14) Who is responsible for monitoring the BoRit property for compliance? (8-8-2007)

Responsibility for enforcement of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulation has been delegated to the State. Neither EPA nor the Pennsylvania Department of Environmental Protection (PADEP) can be present at all of our sites all of the time. The PADEP Air Quality inspector for that area does make it a point to monitor site and fence conditions on a regular basis. If you should see a condition that causes concern, such as a downed portion of the fence, please contact EPA and PADEP as soon as you can. We will respond appropriately once we become aware of a problem.

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15) I was reading several articles regarding asbestos and this Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) citizen's suit provision keeps on appearing and I do not understand what it is. Can someone explain this to me? (8-8-2007)

As with other federal environmental laws, CERCLA section 310, 42 U.S.C. 9659, contains a provision which allows members of the public to initiate a lawsuit, except as provided, in federal court against any person, including the United States, who is alleged to be in violation of federal environmental laws and regulations. Such lawsuits are referred to as citizen suits.

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16) Has Kane Core responded to EPA's September 21, 2006 letter requesting information pursuant to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 104(e)? How will EPA's follow up on this response, and what is the role of EPA's Office of Regional Counsel in this process? (3-12-2007)

EPA has not yet received a response to its September 21, 2006 letter to Kane Core. On Monday, February 5, 2007, EPA sent Kane Core a letter regarding its overdue response to EPA's information request. In both letters, EPA advised Kane Core of the agency's enforcement options should Kane Core fail to respond, or adequately justify its failure to respond. EPA's plans for additional action, if any, are enforcement-confidential.

The referenced letters have been made available to the public on the BoRit website. EPA will also post any responses received, subject to certain exemptions under the Freedom of Information Act, including requirements for handling any claims of business confidentiality.

EPA's Office of Regional Counsel provides legal advice at many stages of site work, including information gathering under Section 104(e) of CERCLA. The Office of Regional Counsel assists in identifying the information sought, and evaluating responses and enforcement options, as appropriate.

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17) What environmental regulations are used to determine compliance at asbestos disposal sites? (9- 2006)

Pennsylvania Air Quality regulations (25 PA Code Chapter 124) or National Emissions Standards for Hazardous Air Pollutants were adopted verbatim from the federal regulation, (40 C.F.R. Sections 61 et seq., standards for asbestos) http://www.epa.gov/ttn/atw/eparules.html. According to the requirements for inactive asbestos disposal sites, property owners have three options for maintaining compliance:

1. Cover the pile with six inches of compacted, non-asbestos containing material and vegetate;
2. Cover the pile with two feet compacted, non-asbestos containing material; or
   Fence off the perimeter, post warning signs, and ensure there be no discharge of visible emissions to the outside air from the inactive waste disposal site. A natural barrier that deters access can be used in lieu of a fence and signs.
3. This third option is being used at the BoRit, Reservoir and Wissahickon Park (a.k.a. Whitpain Park) sites.

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18) What would be considered a violation for these sites? (9-2006)

Under our Air Quality regulations, a violation would be documented if visible emissions were being discharged to the outside air from these inactive waste disposal sites. Visible emissions, as defined in the National Emissions Standards for Hazardous Air Pollutants regulations for asbestos, are emissions visually detectable by the naked eye and without the aid of instruments. Also, a violation would be noted if site owners were not making reasonable efforts to maintain fencing or warning signs for these properties.

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19) If asbestos-containing material can be seen on the surface of these sites, isn't that a violation? (9- 2006)

No. Under the National Emission Standards for Hazardous Air Pollutants regulations it is not necessary to cover the asbestos containing material. Consequently, exposed asbestos containing material may be visible on the surface of the ground.

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20) Why did the EPA sign on to investigate these grounds, find significant and egregious uncovered asbestos contamination that is currently (as it was during the EPA investigation) in violation of NESHAP and PADEP landfill regulations, obtained high readings in air tests for asbestos during their investigation, then just left it here?

EPA conducted a removal assessment of the properties identified above after local residents expressed concerns about the status of the properties, specifically onsite contamination and the prospects for cleanup. EPA reviewed the investigative and proposed cleanup reports on the properties which included descriptions of conditions, previous sampling activities, sampling results and plans for remediation of asbestos and other wastes. It is EPA's understanding that the cleanup plans outlined in the reports for the former processing facilities have not been implemented except for the building demolition work.

EPA recognizes that the investigative sampling reports identify significant contamination, primarily at the Processing Buildings and adjacent grounds. The reports identify the presence of a large amount of ACM much of which was in the basement of Processing Building #1 but was also part of building components (e.g. floor tiles, plaster, insulation, electrical panel board, cement roofing panel). Significant asbestos contamination of surface and sub-surface soil is present.

An EPA On-Scene Coordinator (OSC) stated that a Removal Action by the EPA Superfund Removal Program is not needed provided: (1) the waste drums at the former Boiler House are adequately addressed, (2) any disturbance of asbestos-containing soils or -waste does not occur or is carefully controlled and monitored, and (3) the property owners implement and maintain diligent, reasonable measures to restrict access to the properties in an attempt to prevent community exposure to
hazardous substances. The conclusion that a EPA Superfund Removal Action is unnecessary is further supported by the OSC's understanding that the properties are targeted for remediation (for asbestos and other contaminants) under PADEP's Act II Cleanup Program. In addition, asbestos issues at the former processing facilities were addressed by the PADEP Air Quality Program administering the NESHAP regulations as it pertains to asbestos during the demolition of these same buildings. EPA anticipates that the cleanup of both parcels will be conducted under the ACT II Program.

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21) ROD Issue: Multiple commenters requested that EPA remain the lead agency throughout long-term O&M instead of the PADEP. One commenter requested that, given the proximity and similarity of the nearby Ambler Asbestos Pile Superfund Site, EPA should combine some of the monitoring and maintenance activities for both sites over time (7-28-17)

EPA Response: The Site is an EPA Fund Lead Project, which means that EPA is using federal appropriations to remediate the Site. For Fund-financed remedies, Section 104(c) of CERCLA, 42 U.S.C. § 9604(c), requires States to pay for or ensure payment of all future maintenance.
Although States are responsible for the O&M at the Site, EPA retains responsibility for determining when O&M is complete and for conducting FYRs. As previously stated, EPA is currently preparing the O&M Plan for the Site which will describe all requirements for implementation and maintenance of ICs and O&M activities to ensure that the remedy remains protective of human health and the environment in the long term.

With respect to the comment that EPA combine monitoring and maintenance activities at both the BoRit and Ambler Asbestos Piles Sites, EPA notes that these are two different sites, with different LTM requirements and different O&M schedules. The fact that different parties are responsible for LTM and O&M at these two sites also would complicate efforts to combine monitoring and maintenance activities. LTM and O&M of the Ambler Asbestos Piles Site is being performed by potentially responsible parties (PRPs), whereas LTM and O&M at the BoRit Site will ultimately be performed by the State and/or the property owners. However, for efficiency and when possible, EPA may perform inspections concurrently at both sites.

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22) ROD Issue: Several commenters noted that the success of the capping remedy is dependent on effective enforcement and management of ICs and deed restrictions. To ensure this happens, all responsibilities and enforcement actions should be clearly articulated in the Record of Decision (ROD). Specific comments requested restrictions on potable use of surface water or groundwater, woody vegetation, construction, excavation, and well drilling. (7-20-17)

EPA Response: In the ROD, EPA acknowledges that effective implementation and enforcement of ICs are critical components of the Selected Remedy. Section 13.2.6 of the ROD describes the Site-wide and parcel-specific ICs that are required for the Site, and also provides examples of the instruments that may be used to enforce these ICs. Specific plans to implement the ICs selected in the ROD will be identified in the Remedial Design.

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Miscellaneous

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1) Would you please send me the literature on which site in Pennsylvania had the "silver bullet" process? The process that the governor sends the hazardous site right to the National Priorities List. (unknown date)

2) ROD Issue: EPA should publicly identify any potential PRPs for the Site that are still under investigation and/or have those PRPs bear some of the economic burden of the remediation and O&M. (7-28-17)

3) ROD Issue: What is the meaning and/or derivation of the word “BoRit”? (7-28-17)

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1) Would you please send me the literature on which site in Pennsylvania had the "silver bullet" process? The process that the governor sends the hazardous site right to the National Priorities List. (unknown date)

Pennsylvania's "silver bullet" was used to list the McAdoo Associates Superfund site in McAdoo Township, PA. Information about the site can be accessed through the administrative record.

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2) ROD Issue: EPA should publicly identify any potential PRPs for the Site that are still under investigation and/or have those PRPs bear some of the economic burden of the remediation and O&M. (7-28-17)

EPA Response: The Superfund law requires that EPA identify PRPs, where possible, and compel them to clean up Superfund sites under EPA oversight, as appropriate. EPA may also clean-up sites through the Superfund program, using federal funding, and seek reimbursement from PRP(s) at a future date. With respect to the BoRit Site, EPA is currently investigating potential PRPs and their liability at the Site. EPA cannot comment on ongoing investigations of potential PRPs or other parties' liability at the Site because this information is confidential. Until then, the ongoing work at the Site is being funded by EPA's Superfund program until the Site is declared O&F, at which point O&M of the Site will be performed by PADEP.

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3) ROD Issue: What is the meaning and/or derivation of the word "BoRit"? (7-28-17)

EPA Response: BoRit Corporation, named after Bob Rittenhouse, previously owned of one of the Site properties.

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Other Asbestos Properties in Ambler

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1) Can EPA provide oversight of the proposed construction project at the Bast property? (3-03-2015), (4- 28-2015), (5-22-2015) The proposed construction project is called Ambler Crossings.

2) Is EPA funding redevelopment of the Bast property? (3-03-2015)

3) What is the plan for remediating the Bast property? (5-22-2015)

4) Is it true that the Bast property consists of 90 percent asbestos? (5-22-2015)

5) Is it true that there are tanks containing toluene on the Bast property? (5-22-2015)

6) Can EPA pursue a potentially responsible party (PRP) for the Bast property? (4-02-2015)

7) What is EPA's role in evaluating redevelopment plans for the parcel currently owned by Kane Core? (3-12-2007)

8) What is EPA's role in evaluating development plans for the parcel currently owned by Kane Core? (1- 24-2007)

9) How can development be possible without disturbance of the piles? (1-2008)

10) Can such sites be redeveloped safely? (9-2006)

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1) Can EPA provide oversight of the proposed construction project at the Bast property? (3-03-2015), (4- 28-2015), (5-22-2015) The proposed construction project is called Ambler Crossings.

The property on which it will be built, the Bast property, was a former asbestos products manufacturing facility.

The Bast property is not on the Superfund National Priorities List, and is not the subject of other federal cleanup or enforcement authorities. Such properties are considered to be "eligible response sites" under Section 101(41) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). In general, the term "eligible response site" means a site that meets the definition of a brownfield site. A brownfield is defined as a property where expansion, redevelopment, or reuse may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

The Bast property is being managed under the Pennsylvania Department of Environmental Protection's (PADEP) Act 2 Program. This program is the Commonwealth's voluntary cleanup program to address eligible response sites that may be suitable for redevelopment after they have been cleaned up. Section 128(b) of CERCLA provides that the EPA may not take an administrative or judicial enforcement action under CERCLA to address a release at an eligible response site (in this case, the Bast property) that is being addressed in compliance with a state response program (such as the Act 2 program). In 2004, EPA and PADEP entered into a Memorandum of Agreement (MOA) that discusses roles and responsibilities at such properties and includes a recognition that the Act 2 Program includes the key elements of a state response program.

Both Ambler Borough and PADEP approved the plans for Ambler Crossings, and PADEP's Act 2 Program is responsible for ensuring that the cleanup is performed properly. This includes addressing any asbestos-containing materials on the property and potential groundwater contamination.

EPA facilitated two public presentations in 2015 related to the Bast property. One presentation was made by the developer to the BoRit Community Advisory Group's (CAG) Removal, Remediation and Monitoring Workgroup in late January 2015 and the other presentation was made by the developer (PDF) and PADEP (PDF) at the February 4, 2015 CAG meeting.

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2) Is EPA funding redevelopment of the Bast property? (3-03-2015)

The EPA is not presently providing funding for the project at the Bast property. As a general rule, EPA does not provide funding for Brownfields redevelopment projects, but does fund Brownfields assessment and cleanup of contamination. EPA may award Brownfields grants on a competitive basis to local communities for the purpose of establishing Revolving Loan Funds (RLF). RLFs provide low-interest loans to private parties to clean up contamination at Act 2 and Brownfields properties to further redevelopment.

The Redevelopment Authority of Montgomery County, Pennsylvania, (RDA) is the recipient of an RLF grant. Private and public developers may apply to the RDA for RLF money to conduct cleanup work. The RLF funds are for use anywhere in Montgomery County, and the RDA decides which cleanup projects it will fund. According to the information EPA received from the RDA, the Bast property has

applied for RLF funding through the RDA. EPA is not aware if the RDA has evaluated the application.

A brownfield is defined as a property where expansion, redevelopment, or reuse may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

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3) What is the plan for remediating the Bast property? (5-22-2015)

The approved plan calls for a capping remedy, as well as taking the necessary precautions to comply with the National Emissions Standards for Hazardous Air Pollutants (NESHAPs) and other environmental laws designed to prevent people from being exposed to asbestos during and after construction. Capping is an accepted technology for this property, because it will prevent dermal contact, and more importantly, will limit the mobility of air-borne contaminants, such as asbestos fibers. For asbestos, in particular, inhalation is the most significant exposure route. So, the capping remedy is appropriate.

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4) Is it true that the Bast property consists of 90 percent asbestos? (5-22-2015)

No. EPA provided clarification that **only one** sample showed 90 percent asbestos and that sample was collected at five to five and a half feet below ground surface. Sampling data taken from the Bast property is contained in the August 28, 2006 "Act 2 Remedial Investigation Report; Former Nicolet Industrial Site; Ambler, PA" (*Langan Report)*. The report was prepared by a private contractor for a former prospective developer of the Bast property. Please note that the *Langan Report* was issued in 2006 and, since then, a number of conditions described in the report have already been addressed, removed or cleaned up. Detailed information about the Ambler Crossings proposal and the Langan Report (PDF) (42 pp, 13.7 MB) may be obtained from PADEP's Act 2 program office, and both documents are posted on the BoRit Asbestos Community Advisory Group (CAG) website.

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5) Is it true that there are tanks containing toluene on the Bast property? (5-22-2015)

No. There are no known tanks containing toluene on the Bast property.

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6) Can EPA pursue a potentially responsible party (PRP) for the Bast property? (4-02-2015)

EPA has no authority to pursue a PRP because it is not a federal Superfund Site.

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7) What is EPA's role in evaluating redevelopment plans for the parcel currently owned by Kane Core? (3-12-2007)

Development of the property owned by Kane Core is primarily a local and state issue. EPA's role at the Site is to make sure that there is no immediate health risk to humans or the environment from the asbestos pile in its current condition.

Because EPA has scientific and environmental engineering knowledge of the Site, we would be happy to provide input to the state and local government on any redevelopment plans that would affect the safety of the public.

If the Site were to be redeveloped, significant engineering controls would likely be required to ensure that the asbestos would not be released to the environment.
Pennsylvania's Act 2 law allows the Pennsylvania Department of Environmental Protection (PADEP) to enforce cleanup standards, monitoring conditions and/or compliance requirements required by either agency. If there were no specific requirements, EPA could still comment on any notice of Intent to Remediate or Site Remediation Plan. PADEP has stated that it would welcome and consider any such comments when evaluating Act 2 submissions.

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8) What is EPA's role in evaluating development plans for the parcel currently owned by Kane Core? (1- 24-2007)

EPA does not take a position on whether the property should be reused or not, but recognizes that this is a local and State issue. If reuse is proposed, EPA, if asked, would be happy to work with the State and local government to review any proposals.

EPA and the Pennsylvania Department of Environmental Protection (PADEP) know of no current redevelopment plans by Kane Core and as such would rather not speculate on this nonexistent redevelopment plan. Generally speaking, Act 2 allows PADEP to enforce cleanup standards, monitoring conditions and/or compliance requirements required by either agency. If there were no specific requirements, EPA could still comment on any notice of Intent to remediate or Site Remediation Plan. PADEP would welcome and would consider any such comments when evaluating Act 2 submissions.

Regarding the risk should asbestos be moved, there are a large number of variables that will affect any predictive model of asbestos migration during soil disturbance. It is important to consider that engineering controls to prevent release of asbestos would be required during any potential movement. EPA will not significantly move the asbestos for the purpose of risk projection. The on-site activity-based sampling, even though it created only surface disturbance, has already shown that fibers are released to the air. EPA's directive at the Site is to find out if the Site is a health problem to the community “as is.”

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9) How can development be possible without disturbance of the piles? (1-2008)

Development would likely involve some disturbance of the asbestos. Engineering controls would have to be in place to prevent any asbestos releases. The method used to limit disturbance while monitoring air quality would be something outlined in the redevelopment plan, but as mentioned before, there is no current Land Recycling/Act II redevelopment proposal for this parcel.

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10) Can such sites be redeveloped safely? (9-2006)

The Pennsylvania Department of Environmental Protect
ion Land Recycling and Environmental Standards Act (Act 2) was designed to facilitate the remediation of contaminated properties and the reuse of these properties in a manner that is consistent with their intended use while being safe. We have overseen several successful asbestos containing material disposal site cleanups across the state. The most notable regional example is the Metroplex site in Plymouth Meeting, which is adjacent to residential and commercial properties. Our involvement in the redevelopment of such sites is to protect the health and safety of the public and the environment while promoting the redevelopment of contaminated sites for productive reuse. By definition, such sites qualify as Brownfield sites.

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Reuse and Redevelopment

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1) Is the EPA aware of any site where a recreational facility is located on top of an asbestos waste dump? (8-17-2009)

2) During the Community Advisory Group (CAG) meeting, several statements were made by CAG members who suggested that EPA has the final say on the future use of the site. (4-20-2009)

3) What was done to the Metroplex property? (1-2008)

4) Does the Pennsylvania Department of Environmental Protection Act 2 program release potential developers from all liability in order to develop? (1-2008)

5) Several environmental advocates have indicated that state redevelopment programs are not all that protective of human health and the environment. What is the State of Pennsylvania's position on this issue? (1-2008)

6) With regards to future development, is it correct that the owner of a developable property is not responsible for any release of airborne asbestos outside of the fenced area under Act 2 and is not required to test air past the fenced in area? (1-2008)

7) What are Kane Core Inc.'s current plans, hopes, intentions, or actions for their 6 acres? (1-2008)

8) Does EPA have a position on redeveloping the property and can it be done safely? (1-2008)

9) Institutional controls (ICs) should be an integral part of any cleanup action at the BoRit Site, including the removal action currently planned by US EPA and any future remedial action that may be taken. The removal action currently calls for the capping of any exposed asbestos and the stabilization of creek and stream banks on the three parcels that comprise the Site. As a result, contamination at potentially high levels will remain in the subsurface on the Site. If not properly addressed, any possible future use of any of the three parcels could cause soil disturbance, erosion, or degradation of the soil cap (even if only during the construction phase), thereby again exposing the asbestos and threatening human health and the environment. (12-27-2007)

10) Is EPA consulting with the property owners, Whitpain Township and residents near the Wissahickon Park parcel see if the site can be used as some type of youth recreation facility? (12-27-2007)

11) Will EPA consider issues such as safely accommodating reuse; limiting construction activities on days with high winds; dust control, wet down, and daily soil cover requirements to prevent asbestos from becoming airborne; notices to nearby residences, businesses, all effected municipalities, and the county of excavation times and dates; storm water management, soil erosion, and sedimentation controls specifically designed to prevent degradation of the cover; continuous air monitoring with public notification of any releases; washing for all vehicles and equipment exiting the Site; a cap or liner with thicker soil overlay for any open areas to be used or accessed by the public (e.g. ball fields); no wells on any parcel; deed Notices advising of the restrictions on the parcels' use. (12-27-2007)

12) Does EPA intend to work with other agencies to implement Institutional Controls (ICs)? (12-27-2007)

13) Does EPA have programs that support the reuse of cleanup sites? (12-27-2007)

14) Does the EPA have evidence to show that building on an asbestos pile this large is a safe option for the land? (8-8-2007)

15) Can we assume that strict land use regulations will be put into place for these 38 acres? (8-8-2007)

16) The Pennsylvania Department of Environmental Protection suggested to the public that the BoRit Site can be developed safely under the Act 2 program. How can development be possible without disturbance of the piles? (8-8-2007)

17) What is the intent of the Pennsylvania Department of Environmental Protection's (PADEP) Act 2 program? (8-8-2007)

18) Is the cover at the BoRit site stable for the tot lot, basketball courts and future residential construction? (3-10-16)

19) ROD Issue: Several commenters raised concern over future use plans for the Asbestos Pile parcel. Commenters requested that the ROD identify a responsible party or a line of succession for the Asbestos Pile parcel in case of default. One commenter requested that EPA consider future use plans for the Asbestos Pile published in the 2010 BoRit Community Advisory Group (CAG) Future Uses Group Vision Plan. (7-28-2017)

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1) Is the EPA aware of any site where a recreational facility is located on top of an asbestos waste dump? (8-17-2009)

The following is a list that describes asbestos sites that have been reused. It provides a site description, cleanup methods, and reuse conducted on these sites.

Asbestos Sites in Reuse

Asbestos
Dump US EPA
Region 2
Millington, NJ
NJD98065414
9

Site Description

The Asbestos Dump site consists of the 11-acre Millington site and three separate satellite sites. The Millington site lies in a residential and commercial area. Beginning in 1927, a succession of owners operated an asbestos products manufacturing plant at the Millington site. Asbestos was disposed of at the Millington site, comprising a large mound approximately 1.5 acres in size. Prior to remediation, erosion and weathering of the mound exposed areas of asbestos along the Passaic River bank. One satellite site, known as the Dietzman Tract or the Great Swamp area (Operable Unit 3-OU3), is approximately 7 acres and is located within the Great Swamp National Wildlife Refuge, about 2 miles southeast of New Vernon Road. This site was used as a refuse and asbestos disposal area for approximately 40 years and is bordered by Great Brook and a woodland habitat. The New Vernon Road and White Bridge Road satellite Sites are residential properties. The New Vernon Road Site occupies approximately 30 acres. Broken asbestos tiles and siding, as well as loose asbestos fibers, were landfilled on this former com and dairy farm during the late 1960's. The White Bridge Road Site, covering 12 acres, is bounded by the Great Swamp National Wildlife Refuge and private residences. This property was a farm until 1969, when the current owner started landfilling asbestos waste from the Millington facility. The wastes were present on the site as subsurface fill or as part of an asbestos waste mound.
Disposal continued until 1975.

Cleanup

Millington Cleanup (Operable Unit 1 – OU1): The remedy selected by EPA for cleaning up the Millington site includes: installing a soil cover on areas of exposed asbestos; building a chain-link security fence around all areas of known or suspected asbestos disposal; protecting and stabilizing the slope along the base of the asbestos mound embankment; building channels to divert surface runoff; conducting operation and maintenance, and long-term monitoring. A Deed Notice was filed, by Tifa Realty, Inc., in the Morris County, New Jersey, Office of the County Clerk, on September 8, 2008 for the OU1 Millington property. The Deed Notice limits development on the asbestos fill areas and outlines the monitoring and maintenance requirements imposed on the property.

New Vernon Road and White Bridge Road Cleanup (Operable Unit 2-OU2): The selected remedy involved in-situ solidification/stabilization treatment of asbestos containing materials. Phase I

consolidation and solidification of asbestos containing materials, was completed as of December 1994. However, Phase II, which consisted of site restoration and wetland mitigation, was delayed due to the use of unacceptable fill material to backfill the residential properties. This issue was resolved at the White Bridge Road Site and remediation of this property was completed in November 1995. In summer 1999, EPA conducted activities at the White Bridge Road property to install a French drain in a ponding area of the cap. In May 2000, EPA conducted activities to re-establish the vegetative growth at the site. In August 2000, EPA completed all activities at White Bridge Road. On February 8, 2002 EPA deleted the White Bridge Road property from the National Priorities List (NPL).

In June 1998, EPA acquired the New Vernon Road property. In July 1998, additional work to complete remedial activities at the New Vernon Road portion of the site was initiated. This work, which included the excavation and off-site disposal of the unacceptable fill and site restoration activities, was completed in March 1999. In September 2000, EPA approved the final Remedial Action Report for the New Vernon Road portion of the Site. In January 2002, EPA, the New Jersey Department of Environmental Protection and the U.S. Fish and Wildlife Service (FWS) reached an agreement on the terms of the transfer of a portion of the New Vernon Road property to FWS to expand the Great Swamp National Wildlife Refuge. In September 2002, the Final Remedial Action Report for New Vernon Road was completed. In September 2002, a 25 acre portion of the New Vernon Road property was formally transferred to the FWS and is now part of the Refuge. The remaining 5 acre portion of the New Vernon Road property was transferred to the State of New Jersey.

Dietzman tract Cleanup (Operable Unit 3-OU3): The Dietzman Tract is located in the Great Swamp Natural Wildlife Refuge, which is owned by the U.S. Department of the Interior (DOI). A remedial investigation was initiated by the National Gypsum Company in 1986. Due to the bankruptcy of National Gypsum Company, the Dietzman property is being addressed by DOI. DOI completed an additional Remedial Investigation and Feasibility Study (RI/FS) for this operable unit (OU-3) in 1997. As part of its remedial action, DOI conducted removal actions on small areas where asbestos contaminated materials, buried drums and lead impacted soils may have been a potential exposure threat to refuge visitors. EPA issued a Record of Decision in September 1998, and by November 1998, cleanup activities were completed including consolidation of asbestos and the construction of a cap to contain asbestos. In September 1999, EPA approved the Final Remedial Action Report documenting that all remediation is complete at the Dietzman Tract portion of the Asbestos Dump site. Currently, FWS is conducting Operation and Maintenance activities.

Reuse Description

The New Vernon Road Residential portion of the property and OU-3 portion of the site are part of the Great Swamp National Wildlife Refuge which is owned by DOI. Portions of Mount Vernon and White Bridge Road have been redeveloped into residential properties.

Sources:

SURE 09/08/09
https://www.epa.gov/superfund/asbestos-dump

Coalinga Asbestos Mine
US EPA Region 9
Coalinga, CA

CAD980817217

Site Description

The Coalinga Asbestos Mine Site covers 120 acres near Coalinga. The mill was operated by the Coalinga Asbestos Company as a joint venture between the Johns-Manville Sales Corporation, the Kern County Land Company, and private investors from 1962 to 1974, when the mill property reverted to the Southern Pacific Land Company (SPLC). SPLC leased the facility to the Marrnac Resource Company for chromite mining in 1975. All operations ceased in 1977. The site consists of partially demolished mill buildings and a process waste mine tailings pile that occupies about 20 acres. Two large open-pit mines are located above the mill site and were used as the sources of ore for the Coalinga Asbestos Company milling operations. While the mill was operating, some milling and mining products from Coalinga and from the Atlas Asbestos Mine, located about 3 miles away, were transported to the City of Coalinga.
Because these two mines contributed to the contamination of a 107-acre area in Coalinga, the contamination in Coalinga is also being cleaned up. (For additional information, please see the separate listing for Atlas Asbestos Mine Site.) The area surrounding the Coalinga Asbestos Mine is primarily rural. The land is used for ranching, farming, and recreational activities such as hunting. About 10 ranchers live within 5 miles of the site. The closest community is Coalinga, located approximately 16 miles away. The City of Coalinga has a population of approximately 19,000 people.

Cleanup

The cleanup remedy, selected in 1991, includes diverting the stream flow away from the tailings pile by building a cross-canyon stream diversion, minimizing the release of asbestos into a nearby creek by improving the existing sediment trapping dam, paving the road through the Mill Area to suppress dust, dismantling the mill building and disposing of the debris, and limiting access to the site by erecting a fence and placing deed restrictions on the property. As part of the City-wide effort, EPA demolished the storage buildings and excavated asbestos-contaminated soil. This material was placed in a specially built underground storage unit with a total capacity of 26,000 cubic yards. Once the asbestos contaminated debris was housed safely, the area above the storage unit was covered with an impermeable clay cover, revegetated, and secured the area with a fence. After EPA declared the cleanup complete, the City of Coalinga spread the word in hopes of attracting new businesses.

Reuse Description

The availability of clean land near the center of town was a lure for developers. Kmart entered and won a bidding war with a competitor for this prime property. The Kmart opened its doors in 1992. In addition, members of the Coalinga community call two of the former asbestos storage areas "home" following the construction of a 43-unit apartment complex and a 47-lot subdivision. These residences are helping to meet the housing needs of the Coalinga population, which has doubled since 1980.

Sources:
SURE 09/08/09
https://www.epa.gov/superfund/coalingaasbestos

South Bay Asbestos Area

US EPA Region 9

Alviso, CA

CAD98089488

5

Site Description

The 550-acre South Bay Asbestos Area Site is located on the southern edge of the San Francisco Bay. Portions of the site served as dumping areas for over 30 years. Three landfills located within the site boundaries (the Santos Landfill, the Leslie Salt Landfill, and the Sainte Claire Corporation Landfill) received asbestos wastes from an asbestos-cement pipe manufacturing plant, located 4 miles south of the site that operated from 1953 until 1982. Residents reportedly used waste asbestos pipe to drain excess water from their properties before curbs and gutters were installed. Several areas may have been filled with asbestos-containing soils transported in by residents to raise the elevation of their property and to improve flood protection. As a result of heavy rains in 1983, Coyote Creek flooded the site. The City of San Jose built a levee around the town to pump out the floodwater. The levee material was taken from the Raisch Quarry in southern San Jose and was later found to contain asbestos. Asbestos also was found in the Guadalupe River levee, the ring levee, and in surface soils around the town. Approximately 1,700 people live in Alviso. Most water is provided to South Bay residents through public supply systems that draw groundwater from the deep aquifer. The majority of private wells draw water from the less- protected shallow aquifer. The ring levee lies within the 100-year flood plain of the Guadalupe River and was built on portions of wetland areas adjacent to Alviso. The levee also abuts wetland areas next to a National Wildlife Refuge.

Cleanup

The final cleanup remedies selected to address contamination of the entire site include paving the asbestos-contaminated truck and industrial yards, wet-sweeping Alviso streets monthly, removing asbestos debris, installing landfill covers, implementing deed restrictions, and maintaining and monitoring the site. The design of the cleanup technologies was completed in 1992. Four truck yards have since been paved, and maintenance inspections and repairs take place on an annual basis. An ambient air study for asbestos was conducted in 1994 to assess the effectiveness of these cleanup efforts. Results of the study showed that there was no significant adverse health threat to the residents of Alviso due to asbestos fibers in the air. All construction was completed in 1993. Landfill covers meet applicable clean soil cover requirements, and deed restrictions will be implemented to control site property use. The City of San Jose is wet-sweeping the streets on a monthly basis.

Reuse Description

The 550-acre site supports a mixture of residential, commercial, light industrial, public service, and recreational reuses including elementary schools, supermarkets, restaurants, retail, recreational areas, and Legacy Tech Park, an industrial park.

Sources:

https://www.epa.gov/superfund/southbayasbestos

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2) During the Community Advisory Group (CAG) meeting, several statements were made by CAG members who suggested that EPA has the final say on the future use of the site. (4-20-2009)

It is important to understand that EPA does not have the final say on the future use of sites. This decision is ultimately the responsibility of site owners. EPA's primary responsibility, under the law, is to make sure that our final cleanup of the site is protective of human health and the environment. As part of that cleanup process:

EPA will evaluate the potential exposures, and associated risks, of any future use scenarios presented to us for this site. By doing this evaluation, EPA can select the proper cleanup standards that will ensure those future use scenarios are protective of human health and the environment. Again, we do not choose the reuse, we evaluate its protectiveness and feasibility.

EPA encourages communities to consider future use scenarios as early in the cleanup process as possible. By doing this, EPA may begin evaluating the protectiveness and feasibility, and communities may begin working together to start leveraging the required resources that may be needed once a reuse decision has been made by the community.

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3) What was done to the Metroplex property? (1-2008)

The work at Metroplex involved consolidating piles of asbestos containing material on portions of the site, allowing for on-slab development on other portions of the site. No two Land Development projects will be exactly the same. This site is an example of an inactive asbestos disposal site being safely redeveloped and put back into productive use.

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4) Does the Pennsylvania Department of Environmental Protection Act 2 program release potential developers from all liability in order to develop? (1-2008)

The Act 2 program can provide potential developers release from liability from past contamination. They would still be responsible for properly dealing with current issues and complying with current environmental regulations.

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5) Several environmental advocates have indicated that state redevelopment programs are not all that protective of human health and the environment. What is the State of Pennsylvania's position on this issue? (1-2008)

The Pennsylvania Department of Environmental Protection's Land Recycling and Environmental Standards Act (Act 2) was designed to facilitate the remediation of contaminated properties and the reuse of these properties in a manner that is consistent with their intended use while being safe. Our involvement in the redevelopment of such sites is to protect the health and safety of the public and the environment while promoting the redevelopment of contaminated sites for productive reuse.

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6) With regards to future development, is it correct that the owner of a developable property is not responsible for any release of airborne asbestos outside of the fenced area under Act 2 and is not required to test air past the fenced in area? (1-2008)

Under Act 2, our Environmental Cleanup Program works in conjunction with our Air Quality program staff to ensure potential developers are aware of (and comply with) air regulations pertaining to fugitive dust. Our Air Quality program would first review related work plans to ensure measures will be taken to prevent dust from leaving the site. During active construction, periodic surveillance would be conducted to ensure adequate dust prevention measures are being taken.

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7) What are Kane Core Inc.'s current plans, hopes, intentions, or actions for their 6 acres? (1-2008)

This is a question that should be more appropriately addressed to Kane-Core. It is not EPA's policy to speak for a private property owner as to the disposition and potential future use of their property.

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8) Does EPA have a position on redeveloping the property and can it be done safely? (1-2008)

EPA has no position on the (re) development issue. EPA does consider it theoretically possible to do something safely with the property, without specifying a particular outcome.

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9) Institutional controls (ICs) should be an integral part of any cleanup action at the BoRit Site, including the removal action currently planned by US EPA and any future remedial action that may be taken. The removal action currently calls for the capping of any exposed asbestos and the stabilization of creek and stream banks on the three parcels that comprise the Site. As a result, contamination at potentially high levels will remain in the subsurface on the Site. If not properly addressed, any possible future use of any of the three parcels could cause soil disturbance, erosion, or degradation of the soil cap (even if only during the construction phase), thereby again exposing the asbestos and threatening human health and the environment. (12-27-2007)

EPA intends to coordinate with the state, local and municipal governments, and property owners to establish appropriate ICs. In addition, if asked, EPA will review any development plans for any of the parcels with respect to potential asbestos exposure.

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10) Is EPA consulting with the property owners, Whitpain Township and residents near the Wissahickon Park parcel see if the site can be used as some type of youth recreation facility? (12-27-2007)

EPA has an ongoing dialogue with the interested parties and will continue with those discussions.

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11) Will EPA consider issues such as safely accommodating reuse; limiting construction activities on days with high winds; dust control, wet down, and daily soil cover requirements to prevent asbestos from becoming airborne; notices to nearby residences, businesses, all effected municipalities, and the county of excavation times and dates; storm water management, soil erosion, and sedimentation controls specifically designed to prevent degradation of the cover; continuous air monitoring with public notification of any releases; washing for all vehicles and equipment exiting the Site; a cap or liner with thicker soil overlay for any open areas to be used or accessed by the public (e.g. ball fields); no wells on any parcel; deed Notices advising of the restrictions on the parcels' use. (12-27-2007)

EPA plans to consider these suggestions.

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12) Does EPA intend to work with other agencies to implement Institutional Controls (ICs)? (12-27-2007)

EPA recognizes the importance of intergovernmental coordination in establishing ICs at the Site and we intend to work together with the State and local governments to ensure that appropriate ICs are put into place. EPA has already had discussions with most of the stakeholders in this Site and will continue to do so as long as we are actively involved.

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13) Does EPA have programs that support the reuse of cleanup sites? (12-27-2007)

EPA has initiatives in place to facilitate and promote the reuse of Superfund sites, and will be happy to provide you with more information about this and to participate in discussions with stakeholders.

Back to Reuse and Redevelopment List

14) Does the EPA have evidence to show that building on an asbestos pile this large is a safe option for the land? (8-8-2007)

EPA does not have evidence. Each proposal, if any, would be reviewed to make sure human health and the environment is protected.

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15) Can we assume that strict land use regulations will be put into place for these 38 acres? (8-8-2007)

Reuse of the land, if any, would be subject to local and state laws. It is possible that some deed restrictions will be put in place.

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16) The Pennsylvania Department of Environmental Protection suggested to the public that the BoRit Site can be developed safely under the Act 2 program. How can development be possible without disturbance of the piles? (8-8-2007)

Development would likely involve disturbance of the asbestos. Engineering controls would have to be in place to prevent any asbestos releases. The method used to limit disturbance while monitoring air quality would be something outlined in the redevelopment plan, but as mentioned earlier, there is no current Land Recycling/Act II redevelopment proposal for this parcel.

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17) What is the intent of the Pennsylvania Department of Environmental Protection's (PADEP) Act 2 program? (8-8-2007)

PADEP's Land Recycling and Environmental Standards Act (Act 2) was designed to facilitate the remediation of contaminated properties and the reuse of these properties in a manner that is consistent with their intended use while being safe. Our involvement in the redevelopment of such sites is to protect the health and safety of the public and the environment while promoting the redevelopment of contaminated sites for productive reuse.

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18) Is the cover at the BoRit site stable for the tot lot, basketball courts and future residential construction? (3-10-16)

EPA is constructing a soil cap that is designed to immobilize asbestos-containing materials, prevent erosion along the stream banks and resist flooding events. As long as redevelopment does not damage the protective remedy, beneficial reuse or redevelopment such as a park and basketball court are promising opportunities for reuse. In fact, structures such as a paved ball court, would enhance the existing cap and the routine maintenance required for a recreation center would complement any future operation and maintenance plan.

Please note that EPA is unaware of any plans to construct residential buildings on the BoRit site. The Human Health Risk Assessment that was conducted as part of the BoRit Remedial Investigation did not include a residential use scenario. Institutional controls placed on the site will acknowledge that residential use was not contemplated and may not proceed unless that use is subject to a human health risk assessment, and is allowable under those scenarios.

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19) ROD Issue: Several commenters raised concern over future use plans for the Asbestos Pile parcel. Commenters requested that the ROD identify a responsible party or a line of succession for the Asbestos Pile parcel in case of default. One commenter requested that EPA consider future use plans for the Asbestos Pile published in the 2010 BoRit Community Advisory Group (CAG) Future Uses Group Vision Plan. (7-28-2017)

EPA Response: The Asbestos Pile parcel is owned by a private party. EPA does not have the authority to dictate the future use of Site parcels. This decision is ultimately the responsibility of Site property owners and each individual property owner will determine whether to comply with the CAG Future Uses Group Vision Plan. EPA's primary responsibility, under the law, is to make sure that the final cleanup of the Site is protective of human health and the environment, based on reasonably anticipated future use. However, the private property owner (and any future owners) will be responsible for ensuring that the ICs specified in Section 13.2.6 of the ROD are properly maintained and that O&M is performed in accordance with Section 13.2.9 of the ROD.

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Sampling and Monitoring

Back to Response Categories List

1) In 2006, the EPA took air samples from the BoRit site and detected levels of asbestos in the air at the site. How was EPA able to determine that the asbestos came from the BoRit site and not from other sources? (7-3-2010)

2) Will EPA continue to do quarterly air sampling? (8-10-2009)

3) How does EPA determine groundwater elevations for contour maps? (8-10-2009)

4) Why has EPA determined to use Polarized Light Microscopy (PLM) and Phase Contrast Microscopy (PCM) instead of the Transmission Electron Microscopy (TEM) analysis of the samples? (8-10-2009)

5) How will the depth of the waste be determined? If the native soil starts at the groundwater table interface, will the boring stop? (8-10-2009)

6) Will the grab samples being taken include the pile cover and clean materials? (8-10-2009)

7) Will EPA install well clusters to monitor the groundwater quality in the native soil and in the asbestos waste, especially in areas where the asbestos fill extends near or into the water table? (8-10-2009)

8) Will the geological and hydrogeological setting of the Site be required to refine the Conceptual Site Model (CSM)? (8-10-2009)

9) How is limiting the clearing and grubbing considered a data gap? (8-10-2009)

10) Could electrical resistivity tests on the Park be warranted to determine or rule out potential water influences under the park as well and to aid in determining the depth of waste at the Park? (8-10- 2009)

11) Should the proposed action call for continuous Photo Ionization Detector (PID) headspace readings in case a 4-foot-long Geoprobe sampler is used? (8-10-2009)

12) If all surface water samples are collected from the bottom of the water column, how will this correlate to the evaluation of the water quality impact on the waterfowl? (8-10-2009)

13) Is the water from Rose Valley Creek being tested before being diverted into the Wissahickon Creek? (8-9-2009)

14) Is EPA looking for asbestos material in the community? (8-3-2009)

15) Why does the EPA believe that exposed asbestos does not present a potential health hazard? (9-5- 2008)

16) Are there air samplers at the park now? (9-5-2008)

17) How long per day does EPA sample the air at the site? (9-5-2008)

18) Can EPA explain "discrepancies" between the past and most recent results of asbestos in the Wissahickon Creek? (1-2008)

19) Why did EPA conduct testing after wet conditions in two of the three rounds conducted this summer? (1-2008)

20) Has EPA taken enough air samples during dusty, windy weather/soil conditions? (1-2008)

21) Has EPA's Removal Section evaluated all Pennsylvania Department of Environmental Protection (PADEP) data relevant to the BoRit Site? (1-2008)

22) Was the Gilmore report and Shaw report considered by EPA in this current sampling/evaluation process? (1-2008)

23) How many samples are acceptable for the BoRit Site? (1-2008)

24) Were the results from the April 2006 testing accurate? (1-2008)

25) Has the EPA performed soil analysis on the BoRit portion of the 38 acre site? (1-2008)

26) What does the EPA think is the contributing factor of the fuel oil smell as reported in the Gilmore report phase 1 performed in 2001? (1-2008)

27) Will the EPA consider providing Whitpain, Upper Dublin and Ambler with a grant to have independent testing performed ? (1-2008)

28) Does EPA plan to conduct monitoring during and after removal activities? (12-27-2007)

29) Is future sampling planned? (12-27-2007)

30) Has EPA evaluated the "worst case scenario"? (12-27-2007)

31) Can EPA conduct independent testing and analysis of the site and the surrounding areas? (12-27-2007)

32) Many of the documents (Gilmore, Shaw et al) refer to illegal dumping, 55 gallon drums, fuel oil smells, etc., What, if any tests can be done with regards to addressing these problems? (8-8-2007)

33) Were any air tests conducted in April, 2007? (8-8-2007)

34) Why is it necessary for EPA to conduct additional testing prior to taking a removal action at the Site? (5-1-2007)

35) The Gilmore report states: "the asbestos waste material from the excavation is considered friable." The Ages report of 1984 for the Whitpain Park also notes that the asbestos waste is considered friable. Can EPA explain this? (5-1-2007)

36) How does EPA ensure accurate sampling is being done? (3-12-2007)

37) Why are EPA's actions at the site so data and time-intensive? (3-12-2007)

38) How does EPA analyze samples? What is the difference between "raw data" and "validated data"? (3- 12-2007)

39) What is the status of the testing conducted by EPA in April, October and November of 2006, including the reasons for the additional testing, the length of time for EPA to release the data, the findings, and the locations selected for sampling? (3-12-2007)

40) Does EPA "make up" its data? (3-12-2007)

41) Please explain the quarterly, seasonal sampling currently being conducted by EPA, including the effect of leaves and other groundcover on the fall sampling data, and EPA's choice of sampling locations. (3- 12-2007)

42) What does EPA mean when they report that "0" or "no fibers were detected" at the Site, and about the expected "background" of fibers in urban areas? (3-12-2007)

43) What does the term "fatal error" mean on the National Asbestos Data Entry Spreadsheet (NADES)? (3-12-2007)

44) Why are the "analysis dates" incomplete on the National Asbestos Data Entry Spreadsheet (NADES)? (3-12-2007)

45) Are fencing and signs sufficient at the Site, given the results of the tests performed by EPA? (1-24- 2007)

46) Is the data that EPA provides to the public complete and accurate and does the public have access to the documents during public meetings? (1-24-2007)

47) How many tests were performed for the water and sediment during last year's testing? (unknown date, 2007)

48) Has there been recent sampling or is any planned? (9-2006)

49) Is EPA concerned about the trace amounts of Amphibole fibers that were detected from this March testing event? (Unknown Date)

50) The CAG asked EPA to work with Ambler Borough to conduct pump testing on the public water supply well to determine if groundwater beneath the site could influence the public water supply. What was the outcome of that request?

51) Is it possible that some of the high air testing came from the 50% fiber that is still lying uncovered back there?

52) What are some of the methods for analyzing and measuring asbestos concentrations in air?

Back to Response Categories List

1) In 2006, the EPA took air samples from the BoRit site and detected levels of asbestos in the air at the site. How was EPA able to determine that the asbestos came from the BoRit site and not from other sources? (7-3-2010)

In April 2006, EPA's Site Assessment Program conducted air sampling at the BoRit Asbestos Site. A preliminary review of the air samples indicated the presence of airborne asbestos. However, the results were inconclusive because four of the six air samples were overloaded with dust/particulates and a non- preferred method of analysis was used for those samples. As a result, the EPA conducted air sampling events in October/November 2006 and in March/May/June/July/August and September 2007 to determine whether airborne results would change throughout the year. During each of the sampling events, there were eight sampling locations within the boundaries of the BoRit Asbestos Site and five
off-site sampling locations within 1/4 mile of the perimeter of the Site that were monitored for airborne asbestos. The wind direction from a nearby meteorological station was recorded during each sampling event. This would ensure that the proper background monitors could be selected to help determine whether any asbestos detected in the on-site monitors was coming from the BoRit Asbestos Site, as opposed to other potential off-site sources. Background samples were collected upwind of the BoRit Asbestos Site, based on the predominant wind direction identified by the weather station. The background samples did not contain asbestos fibers while the onsite samples did show asbestos demonstrating that the asbestos detected in the samples most likely came from the BoRit Asbestos Site.

EPA began offering residents visual inspections of their properties in November 2008. To date, EPA has received, and completed three (3) residential inspections.

Based on the visual inspections, EPA determines whether sampling is needed on the residential property to further determine whether the waste is associated with the site. It is important to note that EPA is looking for asbestos waste that may be associated with the BoRit Site, not asbestos building materials used during construction at the property (i.e. siding, shingles, insulation, etc.).

To date, EPA has found no evidence that asbestos waste was widely distributed in this community. Nonetheless, EPA is committed to providing property inspections to any residents living near BoRit who believe asbestos waste associated with BoRit is present on their private property.

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2) Will EPA continue to do quarterly air sampling? (8-10-2009)

EPA's Removal Program has agreed to perform quarterly community air sampling. The Remedial Program is planning to begin their Remedial Investigation/Feasibility Study (RI/FS) Phase I investigations in mid-November, which will last for approximately 2 months. Thus, while the Removal Program continues their work through the fall and winter, quarterly community air sampling will continue while both the Removal and Remedial Programs conduct their activities.

Although not finalized yet as part of the Site Management Plan for the Site, for the RI/FS Phase I perimeter sampling, during intrusive activities (e.g., where direct-push sampling is to be conducted), EPA is planning to collect four perimeter (also referred to as stationary) air samples for the first two days of sampling. The planned asbestos analysis for these samples is PCM-NIOSH 7400 and TEM-ISO 10312. The samples will be collected in the upwind, downwind, and both cross wind directions. It is also planned that perimeter air samples will be collected daily and archived after the first two days of

sampling. If meteorological data or Site conditions indicate a reason to analyze additional perimeter air samples, EPA will determine which archived perimeter air cassettes need to be submitted for analysis. If greater than two asbestos structures are found on any perimeter air sample by TEM-ISO 10312, a re-evaluation of engineering controls will be performed.

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3) How does EPA determine groundwater elevations for contour maps? (8-10-2009)

If soil is wet in a borehole, this will be noted on the boring log. However, this is not an accurate method to determine groundwater elevations for contour maps. Therefore, temporary piezometers will be installed on the Whitpain Park parcel, the Asbestos Pile parcel, and around the Reservoir as part of the Phase I and II activities. Groundwater elevations will be used from these piezometers to develop contour maps. In addition, groundwater monitoring wells may be installed as part of Phase II activities, which will also be used in the development of groundwater contour maps.

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4) Why has EPA determined to use Polarized Light Microscopy (PLM) and Phase Contrast Microscopy (PCM) instead of the Transmission Electron Microscopy (TEM) analysis of the samples? (8-10-2009)

For soil collection and analysis, the EPA *Framework for Investigating Asbestos-Contaminated Superfund Sites* recommends using CARB 435 PLM method. Although not finalized yet as part of the Site Management Plan for the Site, this is the method that EPA is planning to use for analysis of asbestos in soil.

Although not finalized yet as part of the Site Management Plan for the Site, personal air monitoring for workers is planned to occur during all days of Phase I intrusive investigations. Two personal samples per day (30 minute and 8 hour Time-Weighted Average will be collected during each monitored intrusive activity. These air samples will be analyzed for asbestos by PCM-NIOSH 7400, and if the 30 minute PCM concentration is greater than 1 f/cc and/or the 8 hour TWA concentration is greater than 0.1 f/cc, then the samples will be analyzed by TEM-NIOSH 7402.

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5) How will the depth of the waste be determined? If the native soil starts at the groundwater table interface, will the boring stop? (8-10-2009)

Although not finalized yet as part of the Site Management Plan for the Site, EPA will continue to drill until we hit native soil regardless if we hit groundwater above, in the waste. If we encounter groundwater above native material or right at native material, we will still collect a 0-3 inch sample in the native soil. EPA wants to document the full extent of the waste and what the top of the native soil looks like (at least the first 3 inches).

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6) Will the grab samples being taken include the pile cover and clean materials? (8-10-2009)

Although not finalized yet as part of the Site Management Plan for the Site, five randomly determined grab samples will be collected from the 0 to 3 inches in cover material and will be analyzed for asbestos. Three randomly determined grab samples will be collected from 0 to 3 inches in cover material and analyzed for Volatile Organic Compounds, Semi-Volatile Organic Compound, Pest/Polychlorinated Biphenyls, and metals. All of these samples may include clean material added during the removal process. Additional soil samples will be collected within the cover/waste interface, waste layer, and native soil. All of the samples will be used in determining the nature and extent of contamination.

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7) Will EPA install well clusters to monitor the groundwater quality in the native soil and in the asbestos waste, especially in areas where the asbestos fill extends near or into the water table? (8-10-2009)

Information collected from the Remedial Investigation/Feasibility Study (RI/FS) Phase I activities will be used to determine if and where groundwater monitoring wells will be installed as part of Phase II RI/FS activities. EPA will consider this comment when evaluating the need and placement of groundwater monitoring wells as part of the Phase II RI/FS activities.

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8) Will the geological and hydrogeological setting of the Site be required to refine the Conceptual Site Model (CSM)? (8-10-2009)

EPA recognizes this comment and will consider it in the development of the CSM.

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9) How is limiting the clearing and grubbing considered a data gap? (8-10-2009)

The purpose of the Remedial Investigation/Feasibility Study is to characterize the Site and determine the nature and extent of contamination. However, there will likely be areas that we just will not be able to access. For instance, we may have access issues due to the steepness and stability of the Asbestos Pile. In addition, minimizing the clearing and grubbing may also limit us from certain sampling locations. However, we will move these locations to the extent possible to characterize the waste.

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10) Could electrical resistivity tests on the Park be warranted to determine or rule out potential water influences under the park as well and to aid in determining the depth of waste at the Park? (8-10- 2009)

For the Remedial Investigation/Feasibility Study Phase I investigation, EPA is not planning to do an electrical resistivity (ER) survey on any of the parcels. EPA will be evaluating the ER survey performed by Gilmore and Associates in 2001 once we have boring log information from the Phase I investigation to see if the previous survey is adequate. Once we have done this evaluation, we will also evaluate whether there is a need to do an ER survey on any or all of the parcels.

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11) Should the proposed action call for continuous Photo Ionization Detector (PID) headspace readings in case a 4-foot-long Geoprobe sampler is used? (8-10-2009)

EPA will assume there needs to be clarification regarding how PID readings will be taken. The geoprobe sleeves are 4 feet in length but EPA is planning to do PID headspace every 2 feet so each sleeve will have two headspace readings for the top 2 feet and bottom feet (therefore, it is continuous).

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12) If all surface water samples are collected from the bottom of the water column, how will this correlate to the evaluation of the water quality impact on the waterfowl? (8-10-2009)

The sampling strategy was based on the assumption that the sediments/material at the bottom of the reservoir are going to be the source of any asbestos we see in the water column. Based on the nature of asbestos and the location of the source materials, we expect to find the highest concentrations of any asbestos to be lower in the water column. The sample results are anticipated to represent a worse case exposure scenario, and we will utilize that to conservatively evaluate waterfowl exposure and potential risk.

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13) Is the water from Rose Valley Creek being tested before being diverted into the Wissahickon Creek? (8-9-2009)

No, the water being diverted in Rose Valley Creek is not being tested. There is no need to test the water, as it is the same water that has been flowing through the creek.

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14) Is EPA looking for asbestos material in the community? (8-3-2009)

EPA has offered to conduct visual inspections of private properties for the presence of asbestos-containing material (ACM). EPA is concerned with the presence of ACM on private property that may be associated with the site, not asbestos materials that were construction materials on the property (siding, shingles, tiles, concrete, etc.). EPA will only conduct these inspections if the property owner has requested such an inspection.

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15) Why does the EPA believe that exposed asbestos does not present a potential health hazard? (9-5- 2008)

EPA is conducting particulate air monitoring and asbestos air sampling while field activities are being conducted. Based on the air monitoring data and air sampling results, we believe that the work being conducted does not present an unacceptable or significant health risk.

Asbestos air sample results from 14 samples collected between July 10 - 11 detected one asbestos fiber (chrysotile) in one sample. The analytical result for the sample with the chrysotile fiber was less than 0.0003 f/cc, which is comparable to the non-activity-based results obtained off-site and on-site previously. All other results, including the ones located along the McDonald's back-parking lot, were non-detect for asbestos. The sample with the chrysotile fiber was collected from a location opposite the fence (across West Maple) where a portion of the pile was inadvertently uncovered during preparatory activities.

PCMe values were not reported but since the single fiber meets the PCMe criteria (≥5 micron length/≥0.25 micron width) we estimated a hypothetical cancer risk. As such, exposure to 0.0003 f/cc would result in EPA acceptable cancer risk estimates (less than 1 in a million or 1.0 x 10-06) for a maintenance worker (4 hrs/day for 39 days/yr for 25 yrs), a recreational receptor (4 hrs/day for 143 days/yr for 18 yrs), and a resident (24 hrs/day for 350 days/yr for 30 years).

Based on these results, EPA, the Agency for Toxic Substances and Disease Registry and the Pennsylvania Department of Health conclude that off-site exposure does not pose a public health threat and that it is safe to walk near the site and/or visit the nearby businesses (e.g., McDonalds, SEPTA).

Any interested persons are invited to stop by the EPA Command Post on Maple Street to see the real- time remote monitoring setup.

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16) Are there air samplers at the park now? (9-5-2008)

EPA is conducting particulate monitoring during each workday and air sampling two consecutive days per week.

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17) How long per day does EPA sample the air at the site? (9-5-2008)

The Datarams (for particulate monitoring) are deployed each day before field activities begin in the morning and are picked up at the end of the same day after field activities conclude.

Asbestos sampling is conducted for two consecutive days each week. Like the Datarams, the samplers are deployed before field activities begin in the morning and are picked up at the end of the same day after field activities conclude. Each sampler collects approximately 4,800 liters of air during each sampling period. At the end of the second day they are shipped to the laboratory for analysis.

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18) Can EPA explain "discrepancies" between the past and most recent results of asbestos in the Wissahickon Creek? (1-2008)

Part of the Removal Investigation conducted was devoted to study of potential water borne asbestos and engineering controls to mitigate any potential threat. Any differences are most likely due to variations in weather and vegetation at the time of sampling. Of course the primary difference is the amount of time which has passed between the various sampling events.

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19) Why did EPA conduct testing after wet conditions in two of the three rounds conducted this summer? (1-2008)

The air sampling was conducted by the EPA's Environmental Response Team Contractors (i.e., REAC). REAC does the asbestos sampling all over the country, including Libby, MT and all other asbestos sites in the west coast. Therefore, we had to schedule the sampling events in advance…it is very hard to predict weather a month prior to any scheduled activity. We tried to do our best to work around the weather. We canceled if it was raining the day of sampling. We conducted eight rounds of ambient air sampling. We are confident that we got good representation of Site conditions over time. In addition, it has been found (i.e., current asbestos sampling being conducted in the west coasts) that sometimes even wet conditions can produce high results; it all depends on the circumstances.

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20) Has EPA taken enough air samples during dusty, windy weather/soil conditions? (1-2008)

Our purpose in evaluating this site was to develop a picture of the site over time and under all conditions not just dry/windy conditions. We have tried to plan our sampling during dry/windy conditions but several times over the last year Mother Nature simply has not been cooperative. We think that we have adequately characterized the site during different weather conditions.

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21) Has EPA's Removal Section evaluated all Pennsylvania Department of Environmental Protection (PADEP) data relevant to the BoRit Site? (1-2008)

Yes. Along with the Agency for Toxic Substances and Disease Registry.

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22) Was the Gilmore report and Shaw report considered by EPA in this current sampling/evaluation process? (1-2008)

No.

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23) How many samples are acceptable for the BoRit Site? (1-2008)

It is not so much a question of how many samples are acceptable as how many samples are required to produce a usable picture of the site and what it is doing.

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24) Were the results from the April 2006 testing accurate? (1-2008)

The air results from the April 2006 round of sampling were taken using a less effective method and therefore we could not use that data for Risk Assessment purposes. A positive outcome of the April sampling was that it prompted the EPA to conduct more in depth testing.

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25) Has the EPA performed soil analysis on the BoRit portion of the 38 acre site? (1-2008)

Soil samples were collected at the site during the April 2006 sampling event. The sampling results detected asbestos; however, there are presently no health or risk-based soil guidelines for comparison purposes.

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26) What does the EPA think is the contributing factor of the fuel oil smell as reported in the Gilmore report phase 1 performed in 2001? (1-2008)

During the April 2006 sampling event, elevated levels of polycyclic aromatic hydrocarbons were detected within the former fire training area. This was an isolated occurrence and therefore presents a limited likelihood of exposure. As a result, the risk is relatively low.
It is documented that local fire departments did use sections of the BoRit Site for firefighter training. The fuel oil smell most likely came from accelerants used during those activities.

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27) Will the EPA consider providing Whitpain, Upper Dublin and Ambler with a grant to have independent testing performed? (1-2008)

No grants for this purpose are available from EPA. However, local colleges or universities have environmental science/engineering programs which may be able to provide assistance to communities.

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28) Does EPA plan to conduct monitoring during and after removal activities? (12-27-2007)

EPA plans to conduct monitoring while construction is ongoing at the site.

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29) Is future sampling planned? (12-27-2007)

EPA plans to evaluate the need for additional sampling. EPA will plan to take additional samples, if needed.

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30) Has EPA evaluated the "worst case scenario"? (12-27-2007)

In an attempt to simulate worst-case conditions, EPA did collect activity-based air samples from locations where asbestos levels in surface soil were thought to be high (like at the base of the on-site asbestos pile).

EPA tried to capture extreme weather conditions at the site by sampling throughout the year, including summer. However, because sampling events must be planned in advance and because the weather can be unpredictable, controlling variables such as dry and windy conditions is difficult.

Collecting air samples in areas where asbestos in surface soil was believed to be abundant (as explained in the first sentence) and assuming that the maximum detected air concentrations at these locations represent long-term conditions for residents, recreational receptors or maintenance workers results in an upper-bound estimate of exposure.

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31) Can EPA conduct independent testing and analysis of the site and the surrounding areas? (12-27-2007)

Any independent testing and analysis would have to be done by or in cooperation with the property owners.

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32) Many of the documents (Gilmore, Shaw et al) refer to illegal dumping, 55 gallon drums, fuel oil smells, etc., What, if any tests can be done with regards to addressing these problems? (8-8-2007)

The April 2006 assessment tested for many contaminants and only asbestos was identified as a contaminant of concern.

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33) Were any air tests conducted in April, 2007? (8-8-2007)

No, we did not sample in April. We were going to sample the same week Site Assessment sampled last year, but it was not possible due to weather conditions (the local news reported that April 2007 was the second wettest in history, in our area).

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34) Why is it necessary for EPA to conduct additional testing prior to taking a removal action at the Site? (5-1-2007)

Unfortunately, EPA cannot rely on visual information alone. The presence of asbestos or asbestos-containing-material does not automatically translate into a public health threat. In order to spend resources to remove potential contamination, we are required to rely on scientifically sound data to justify our actions at removal sites. At BoRit, EPA is taking samples that will give us that information. In addition, good quality data helps the health agencies make better health recommendations for the community.

To date, our site investigation has given us very important information. For example, for the most part, we are not dealing with friable (i.e., when dry, can be crumbled, pulverized, or reduced to powder by hand pressure) asbestos. Therefore, it does not become airborne readily. Off-site migration of asbestos is not evident upon EPA's review of the October and November 2006 sampling data.

EPA's sample results also tell us that an individual could be exposed to levels of airborne asbestos at the Site that might pose an unacceptable or significant health risk by directly disturbing the on-site soils (as simulated by the activity-based sampling). Right now, the Site is fenced and signs are posted to deter individuals from entering.

EPA did detect low concentrations of asbestos in a few sediment samples taken from the Wissahickon Creek. However, it is difficult to accurately distinguish whether it came from the Site (i.e., the asbestos was detected in sample locations both upstream and downstream from the Site) or is a result of the area's history of asbestos manufacturing, or from other sources. In addition, EPA and the Pennsylvania Department of Environmental Protection's ecological staff have not expressed any concerns regarding health threats to aquatic life.

Based on the October and November 2006 ambient air sampling results collected to date, residents in the vicinity of the BoRit Site are *not* being exposed to asbestos fibers from the Site at levels that pose an unacceptable or significant health risk. As previously stated, when EPA has completed all the sampling from the Removal Assessment, we may take some action, refer the Site for further evaluation (i.e., National Priorities List consideration) or determine that no further action is necessary.

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35) The Gilmore report states: "the asbestos waste material from the excavation is considered friable." The Ages report of 1984 for the Whitpain Park also notes that the asbestos waste is considered friable. Can EPA explain this? (5-1-2007)

Both of the statements above are correct. EPA has stated that for the most part, we are not dealing with friable asbestos. To clarify, EPA, for the most part, is not dealing with friable asbestos on surface soils. EPA is aware of what the Gilmore and Ages reports state. However, most of what may be considered friable asbestos waste is buried. The only asbestos waste which may become airborne is the waste on the surface soils.

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36) How does EPA ensure accurate sampling is being done? (3-12-2007)

EPA is providing accurate scientific analysis of the Site and consulted with national experts on asbestos sampling (i.e., EPA Emergency Response Team, EPA's National Asbestos Technical Review Workgroup, and the Agency for Toxic Substances and Disease Registry toxicologists) before the quarterly sampling events to give the greatest assurance that we are conducting sampling and analyses in accordance with the current guidance.

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37) Why are EPA's actions at the site so data and time-intensive? (3-12-2007)

EPA understands that the time it takes to study a site can be frustrating for the community. However, good science leads to good cleanup decisions, and good cleanup decisions lead to better protection of human health and the environment. EPA must also be accountable to the public and its elected representatives (i.e., Congress) for spending Federal dollars responsibly. When we collect sound data at the beginning of a project, it can often help save us time and resources later.

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38) How does EPA analyze samples? What is the difference between "raw data" and "validated data"? (3- 12-2007)

Raw Data: Raw data is data of unknown quality. Raw data routinely includes information about how the samples were analyzed (e.g., instrument, voltage, magnification, grid opening area, name of the analyst, date and time of analysis, scale, filter size, mineral type, dimensions, etc.) so that we can double-check the results before the data becomes final, or validated.

Validated Data: Validated data is data that has been put through all the checks and balances to make sure that it is accurate and that it can be reproduced using the same analytical steps. Validated data is what EPA uses to make cleanup and health decisions at all our sites, including BoRit.

Using an analogy, the numbers you write into your checkbook as checks are written are the "raw data." The "validation" is the act of balancing your checkbook by reviewing the numbers you entered into the checkbook against the bank's numbers. The "validated data" is the final result compared and corrected against the bank's balance.

All EPA samples are analyzed using approved standards and methods. The air samples for the site were analyzed using the International Standards Organization Method 10312 *Ambient Air - Determination of*

Asbestos Fibers - Direct-Transfer Transmission Electron Microscopy Method.

The analytical process also includes a very strict quality control step that ensures that the final results have been double-checked and meet all of the standards required by EPA.

To further ensure that asbestos project data quality objectives are met, EPA has developed a spreadsheet (i.e., National Asbestos Data Entry Spreadsheet) with internal Quality Control (QC) verification that insures specific QC requirements for performing analyses are met and insure that the required data package is complete. The data package is the mechanism through which the laboratory provides documentation that the proper analytical method was performed.

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39) What is the status of the testing conducted by EPA in April, October and November of 2006, including the reasons for the additional testing, the length of time for EPA to release the data, the findings, and the locations selected for sampling? (3-12-2007)

EPA is testing the air, and has tested soil, water and sediments to determine whether there is a need for a response action at the Site. Based on the October and November 2006 sample results collected, the community is not being exposed to levels that pose an unacceptable or significant health risk. However, EPA still has more tests to conduct before a final decision is made.

Because we are testing for asbestos, EPA needs to look at all the ways that asbestos could travel off-site and potentially cause health problems. To do this, EPA is testing for asbestos in different locations at and around the Site, in different seasons, and under different weather conditions. Once we know how the asbestos behaves in each of these situations, we will have a more complete picture of the risk to human health.

EPA has made all validated test results available to the public on the BoRit website, along with maps showing the sampling locations.

April 2006 Sampling: The air results of the April 2006 sampling event were inconclusive because of the method used to analyze the samples (i.e., indirect vs. direct). The results ranged from 0.00061 to 0.039 f/cc (i.e., cubic centimeter of air). Those results included the samples analyzed using the indirect method (i.e., generally biased high). Therefore, it was decided to conduct a more comprehensive sampling program.

October 2006 Sampling: EPA collected samples over four days. We collected samples from eight locations within the boundaries of the Site. We also collected samples from five locations within a 1/4 mile of the perimeter of the Site. In addition, there was a remote location in a nearby town used as a background or reference sample.

EPA also conducted activity-based air sampling (i.e., personnel wearing personal air sampling pumps while performing different physical tasks) in the park to simulate the possibility of being exposed to asbestos while doing routine activities, such as maintenance work (i.e., lawn mowing). EPA also collected soil samples from the park.

Validated results of the October 2006 data are available on EPA's BoRit website.

November 2006 Sampling: EPA collected additional air samples in November so that we could get more data. EPA conducted more activity-based air sampling that included hiking scenarios all through the Site and stream banks and raking scenarios (i.e., continuously raked a specific location for one hour, allowing for the appearance of asbestos-containing material on the ground surface) at the park, the pile and stream bank by the park. EPA collected samples from eight locations on the Site, five locations in the community and the remote location in a nearby town used as a background or

reference sample. We also collected samples from surface water, sediment and flood prone soil.

Validated results of the November 2006 are available on EPA's BoRit website.

Off-site air monitors do not show any migration of airborne asbestos fibers. The background sampling in the nearby town does not indicate higher background asbestos than normal. On-site monitoring did not detect any airborne asbestos fibers at levels that might pose an unacceptable or significant health risk. The only sampling or monitoring which showed any airborne asbestos at levels that might pose an unacceptable or significant health risk were the activity-based air samples coming from air pumps worn by the contractors as they deliberately disturbed the soil by raking.

As mentioned above, EPA did detect low concentrations of asbestos in a few sediment samples taken from the Wissahickon Creek. However, it is difficult to accurately distinguish whether it came from the Site (i.e., the asbestos was detected in sample locations both upstream and downstream from the Site) or is a result of the area's history of asbestos manufacturing, or from other sources. In addition, EPA and the Pennsylvania Department of Environmental Protection (PADEP) ecological staff have not expressed any concerns regarding health threats to aquatic life.

Sampling Method: EPA Region III has consulted with asbestos sampling experts (i.e., EPA Emergency Response Team, EPA's National Asbestos Technical Review Workgroup, and the Agency for Toxic Substances and Disease Registry (ATSDR) toxicologists) and they have assured us that we are conducting sampling and analyses in accordance with the current guidance.

The method used to analyze for asbestos during the April 2006 sampling event was an approved EPA method using Transmission Electron Microscopy (TEM), which is considered the most sensitive method for analyzing asbestos air samples. All six of the air samples were analyzed by TEM. Counting fibers directly from the filter (i.e., direct preparation) is the preferred technique. Of the six air samples collected, four had too much dust/particulates to count directly so an indirect sample preparation technique had to be used for analysis of those four samples. EPA believes the filters were overloaded because the 24-hour sampling duration and sample flow volume may have been too excessive. To prevent that from happening again, the volume and duration has been reduced and the frequency of sampling has been increased for the quarterly sampling.

Indirect and direct techniques define how the sample filters are transferred to a grid for fiber counting in the laboratory. When a sample is overloaded, it must be broken down to remove excess material on the filter to measure the asbestos sample. The direct technique is preferred when conducting human health evaluations for asbestos. However, in cases where the sample is overloaded, the indirect method can be used to interpret the sample results. Risk assessors have less confidence interpreting positive indirect results for health exposure purposes because the indirect transfer method tends to break up clusters and bundles potentially resulting in increased structure counts over the direct preparation method. Therefore, the results are reported, generally, as biased higher than what actually may be present in the sample.

Seasonal Sampling

The sampling events were scheduled to be seasonal, with more on-site air sampling locations and with locations in the community (there were none during the April 2006 event), activity-based sampling, and dual sample collection stations for a more comprehensive assessment of the Site.
During the current air sampling program, we have eight sampling locations on-site and five sampling locations in the community, plus one in a nearby town used as a background or reference sample.
Because air is a dynamic media, the locations of our on-site pumps are not the exact same locations

as the April 2006 sampling event. However, they are in the same general area and are expected to be representative of the Site. It is more important to set samplers downwind than to be in the same exact location. During all our rounds (i.e., fall, winter, spring, summer), on-site sample locations will be based on wind direction. Community stations are permanent but weighted toward the prevailing wind direction.

The only difference between the October and November 2006 sampling events was the type of activity- based sampling conducted (i.e., brush cutting and soil sampling vs. hiking and raking).

Findings

EPA and the public are equally interested in determining whether asbestos is being released into the environment at the Site and determining the associated health risk. Although asbestos-containing material is present on-site, the data collected thus far indicates that asbestos fibers are not getting into the environment at levels that pose an unacceptable or significant health risk to the public.

Regarding the length of time it took EPA to provide the laboratory results of the April 2006 sampling, the analysis was performed by EPA's Ft. Meade laboratory, which performs most of the lab work for EPA Region III. After receiving the validated results from the lab, the different programs within EPA, PADEP, ATSDR, and the Montgomery County Health Department met initially to discuss the next steps for the Site. After the initial discussion, a meeting with the interested residents within the community and the surrounding area was scheduled to discuss the sampling results and the available options for the Site.
Please note that since there are many agencies involved with the Site, EPA Site Assessment Office had to coordinate and confirm the availability of the involved agencies' schedules.

Data presentation

The results presented in the National Asbestos Data Entry Spreadsheet (NADES) are the actual test results. The NADES is a compilation of the validated results by individual sample. Technical Review Workgroup developed the NADES spreadsheet to standardize data entry and provide an electronic quality control check on data entry. The accredited lab analyzed the samples and then placed the site- specific sample results into the NADES, using the raw data. NADES is a tool to compile and capture important data from asbestos sites nationwide, in order to attain consistency.

For a list of accredited laboratories, please go to:
https://www-s.nist.gov/niws/index.cfm?event=directory.search#no-back

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40) Does EPA "make up" its data? (3-12-2007)

No. "Making up" or falsifying data is a criminal offense. EPA takes every possible precaution to ensure that all data is properly managed and reported to the public. Sound, scientific data is the best way EPA has to make sure that public health and the environment are protected.

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41) Please explain the quarterly, seasonal sampling currently being conducted by EPA, including the effect of leaves and other groundcover on the fall sampling data, and EPA's choice of sampling locations. (3- 12-2007)

Seasonal sampling is done to study the effect that climate has on the ability of asbestos to become airborne. EPA is taking samples during all four seasons to help answer this question. EPA also plans to take samples under different weather conditions, such as dry, breezy days, to determine if asbestos becomes airborne. If one of the quarterly sampling rounds cannot be scheduled during dry, breezy conditions, another round of sampling will be conducted in an attempt to sample during such condition.

The type and amount of groundcover, such as leaves, snow, vegetation, and frozen soil, are factors that can affect the opportunity for fibers to become airborne. Generally, such conditions provide protection from fiber release. When sampling, we note conditions but take no measures to remove groundcover, except minimally during activity-based sampling.

EPA plans to take a year's worth of seasonal samples (the first one was conducted in October of 2006). There will be a minimum of two additional full (on-site and off-site) quarterly sampling rounds (spring, summer). The winter round was conducted during the week of March 5th. There will also be a round between either the winter and spring seasons or the spring and summer seasons, likely the latter.
During that event between seasons, only the community sampling locations will be conducted as we are trying to determine if airborne asbestos fibers can migrate off-site into the community under the current "non-use" status of the Site.

Fall 2006: Fall samples were taken the week of October 22, 2006.

Winter 2007: Winter samples were taken the week of March 5, 2006. Validated results are expected sometime in May.

Spring 2007: One round of samples will be taken in the spring. EPA will try to duplicate the April 2006 sampling event. Therefore, the spring round will be conducted the same week it was conducted last year (i.e., last week in April).

Summer 2007: One round of samples will be taken in the summer.

Sampling Locations: The on-site air sampling locations are selected depending on the wind direction the day of sampling, with the goal of determining what could be getting off-site. The community sampling locations were selected by dividing the Site in four quadrants; with two locations downwind from prevailing wind. They will all be fixed locations during the duration of the sampling program. EPA's goal is to determine if asbestos fibers are airborne and migrating off-site into the community. Community sampling sites which are not located downwind will provide background ambient information and will address any wind shifts during sampling.

Soil sampling was not conducted at the pile because EPA knows the Site was used to dispose of asbestos-containing materials and past tests confirm the presence of asbestos in soils.

EPA conducted soil sampling at the park to find out if there was a vegetative cover as some of the historical documents suggest. Results of samples taken from the top three inches (i.e., most likely to become airborne) suggest there is likely some kind of cover in place.

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42) What does EPA mean when they report that "0" or "no fibers were detected" at the Site, and about the expected "background" of fibers in urban areas? (3-12-2007)

The "0s" and "non-detected" results can be thought of this way: the laboratory that measures the levels of asbestos cannot detect asbestos below a certain amount, also known as a detection limit. Thus, if a result is "0" or "non-detect," it means the amount of asbestos was below the detection limit of the laboratory instrumentation.

Nationwide studies (e.g., Agency for Toxic Substances and Disease Registry 2001 toxicological profile for asbestos) have shown that background rural air levels are about 0.00001 fibers/cc and background urban air levels about 0.0001 fibers/cc. Before sampling was done in the fall of 2006, EPA toxicologists set an ambient air sample detection limit of 0.0005 fibers/cc and a personal air sample detection limit of
0.003 fibers/cc for the Site. EPA considers these levels sufficient to make public health and risk decisions. The levels that registered as "0" or "non-detect" were below these detection limits.

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43) What does the term "fatal error" mean on the National Asbestos Data Entry Spreadsheet (NADES)? (3-12-2007)

The term "fatal error" appears on the NADES because the laboratory identified structures in the sample that were non-asbestos material. In the raw data, these entries are coded as non-asbestos material (NAM), and additional identification of the material was provided (e.g. gypsum). The laboratory did not include the fiber dimensions of the NAM, therefore the NADES classified the missing fiber dimensions as "fatal error."

EPA emphasizes that although the term "fatal error" sounds like a problem occurred, on the NADES for this sampling it means only that NAM was detected in the sample. The spreadsheet is working properly to exclude these entries in the concentration values.

NADES was developed as an internal EPA and laboratory tool and not initially intended for public use. EPA is currently working to clarify this information in NADES for future sampling events

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44) Why are the "analysis dates" incomplete on the National Asbestos Data Entry Spreadsheet (NADES)? (3-12-2007)

The NADES is an Excel spreadsheet. One of the quirks of Excel is that it fills in truncated numbers with "#s" rather than show you the actual value which might be truncated due to insufficient column width to show the whole number.

This issue can be resolved by increasing the column width in the analysis date column or decreasing the font size. EPA is currently working to correct this information in NADES.

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45) Are fencing and signs sufficient at the Site, given the results of the tests performed by EPA? (1-24- 2007)

To date, EPA has based its health risk evaluations for the Site on tests performed using validated results from an accredited lab. Based on the existing results, the fence and posted signs may suffice to prevent exposure. All the results showed that there is no off-site migration of airborne asbestos and that to be exposed you would have to get on-site and start disturbing the soils. The fence and signs are there to deter trespassers and prevent that from happening.

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46) Is the data that EPA provides to the public complete and accurate and does the public have access to the documents during public meetings? (1-24-2007)

Yes. EPA bases its decisions upon validated data, and EPA's general policy is to release validated data to the public. EPA considers validated data to be the "complete" data for a given sampling event.

EPA is providing accurate scientific analysis of the Site and consulted with national experts on asbestos sampling (i.e., EPA (Environmental Response Team, National Technical Review Workgroup, Agency for Toxic Substances and Disease Registry toxicologist) before the quarterly sampling events to give the greatest assurance that we are conducting sampling and analyses in accordance with the current guidance.

In some cases, such as the case with the October and November 2006 results at this Site, it is not practical to provide a printed copy of large documents to the public. However, EPA makes them available to the public on its website and upon request through the Freedom of Information Act request. Our practice is to provide such documents to citizens at their request, subject to limited exceptions including business confidentiality and privacy concerns.

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47) How many tests were performed for the water and sediment during last year's testing? (unknown date, 2007)

6 surface water samples were taken on. April 27, 2006.
9 surface water samples were taken on November 30,

2006. Documents dealing with these tests:

1. Letter to residents regarding sampling that took place on 4/27/06 (PDF)
2. Sampling results from 4/27/06 (PDF)
3. Letter to residents regarding sampling that took place on 11/30/06 (PDF)
4. Sampling results from 11/30/06 (water) (PDF)
5. Sampling results from 11/30/06 (sediment) (PDF)

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48) Has there been recent sampling or is any planned? (9-2006)

Yes, EPA and the Pennsylvania Department of Environmental Protection (PADEP) are working together to conduct sampling of the area and plan to stabilize some of the eroded stream bank areas to prevent migration of asbestos containing material. Initial sampling was conducted in April 2006, however air- monitoring results were inconclusive. Additional sampling is planned while the stabilization work is completed. A public meeting to discuss this planned activity is scheduled for October 5, 2006 from 6- 9:30 p.m. at the Wissahickon Middle School, 500 Houston Street in Ambler.

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49) Is EPA concerned about the trace amounts of Amphibole fibers that were detected from this March testing event? (Unknown Date)

EPA is primarily interested in the fibers identified by the PCME counting method as that method identifies fibers used for conducting health risk assessments. We are looking for all types of asbestos fibers including chrysotile, amphibole and other types. The website for the BoRit Site provides an explanation of the analytical techniques used.

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50) The CAG asked EPA to work with Ambler Borough to conduct pump testing on the public water supply well to determine if groundwater beneath the site could influence the public water supply. What was the outcome of that request?

EPA received a request from the CAG to conduct a pump test. For the following reasons EPA does not plan to perform a pump test between the on-site groundwater monitoring wells and a water supply well.

The current information on groundwater does not provide EPA with evidence that groundwater at the site is influenced by a local public water supply program that would require additional

investigation. The information EPA has gathered indicates that the water supply well is up-gradient; at a significant depth; operates occasionally; and pumps at a low rate.

EPA has followed a step-wise approach to evaluating the groundwater at the BoRit site. EPA's groundwater evaluation established the depth and levels of groundwater; the direction of groundwater flow; and characterized the quality of the groundwater at the BoRit site.

As part of the Remedial Investigation at the BoRit site EPA installed six groundwater wells and tested the groundwater for a comprehensive list of parameters (volatile organic compounds, semi-volatile organic compounds, PCBs, pesticides, metals, and asbestos). The groundwater sampled at BoRit is in a shallow bedrock zone. EPA did not identify a plume of groundwater contamination, but generally isolated groundwater detections. The groundwater and surface water levels were measured five times over a year and the water levels remained at consistent levels. Additionally, based on these water level measurements the groundwater flows in a north to south direction or from Maple Street to the Wissahickon Creek.

EPA is planning additional groundwater work as part of the Remedial Investigation. EPA plans to sample the six on-site groundwater monitoring wells three more times. EPA plans to install a groundwater well off-site and sample it to establish groundwater quality for comparison purposes. EPA will also measure the level of groundwater and surface water. EPA will include the results from the groundwater investigation in the RI Report.

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51) Is it possible that some of the high air testing came from the 50% fiber that is still lying uncovered back there?

The elevated airborne levels were detected inside of the now demolished buildings. EPA conducted activity based sampling (ABS) to replicate the disturbance of asbestos containing material (ACM) due to trespassers. For people who might trespass and disturb the asbestos containing materials inside the buildings, EPA's results indicate that these kinds of activities can result in elevated exposures to asbestos fibers at a level of concern. Of the 21 air samples collected from the interior of the buildings, 11 were non-detect for asbestos fibers. The highest asbestos sampling results were found inside the buildings during the times that simulated trespasser activities that might disturb ACM were being conducted.

However, even at the maximum level detected, an occasional trespasser would not be likely to experience a significantly increased predicted cancer risk from this level of exposure.
The most relevant sampling results for exposure to the general public are the seven air samples collected from outside the buildings. These results would approximate exposures to community members walking or spending time outdoors near the buildings. All of the results from these samples ranged from non-detect (4 samples) to 0.00044 fibers per cubic centimeter (f/cc) in air for the specific type and size of asbestos fibers EPA uses to evaluate cancer risk (i.e., PCME fibers).

For comparison purposes, the level of asbestos fibers in indoor air that was used to allow residents to return to their residences in the World Trade Center response was 0.0004 f/cc. This means that the asbestos results from the outdoor air near these buildings were below levels of concern for long term cancer risk for people who might visit or travel near these buildings on an occasional basis over many years.

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52) What are some of the methods for analyzing and measuring asbestos concentrations in air?

Since the toxicity of asbestos appears to be related to fiber size, analytical methods focus on providing information on these parameters, as well as total number of fibers and mineral type. The number and size distribution of fibers is determined via direct microscopic examination. Measuring asbestos content in air samples and in bulk materials that could become airborne involves both quantification of fibers and determination of mineral content of the fibers to identify whether they are asbestiform.

For analysis of air samples, fiber quantification was historically done through ***phase contrast microscopy (PCM)***, by counting fibers longer than 5 µm (micrometers)and with an aspect ratio (length: width) greater than or equal to 3:1. Sampling data analyzed using the PCM method was the basis upon which occupational regulatory limits as well as EPA's Inhalation Unit Risk for asbestos were developed. EPA's IUR is a measure of carcinogenic potency and is the tool EPA and other agencies use to predict risk associated with exposure to asbestos in air.

A key limitation of PCM is that particle discrimination is based only on size and shape. Because of this, it is not possible to classify asbestos particles by mineral type, or even to distinguish between asbestos and non-asbestos particles using PCM analysis. For this reason, EPA recommends the analysis of air samples by transmission electron microscopy (TEM). This method operates at higher magnification (typically about 20,000x) and hence is able to detect structures much smaller than can been seen by PCM. In addition, TEM instruments are fitted with accessories that allow each particle to be classified according to asbestos mineral type. In environmental samples, many of the fibers are non-asbestos fibers, thus using TEM is important so that mineralogy can be determined and only asbestos fibers are counted.

The basis of our historical understanding about the relationship of levels of asbestos in air and health effects is based on studies where PCM was used to determine exposure levels. Therefore, to ensure comparability with analyses performed by TEM, sampling results analyzed by TEM are usually expressed in terms of ***PCM-equivalent (PCME)*** structures. A PCME structure is defined as having a length greater than 5 µm, a width greater than or equal to 0.25 µm, and an aspect ratio (length: width) greater than or equal to 3:1. Thus, both PCM and PCME report structures that have similar size attributes, but PCME only reports asbestos fibers (whereas PCM includes non-asbestos fibers).

In the case of BoRit, air samples (ambient air samples and activity based sampling) were analyzed using TEM to identify and count asbestos fibers. Air concentrations were then reported in terms of ***PCME structures*** to compare to EPA's IUR and estimate exposures and excess cancer risks. The BoRit site specific ambient air remediation goal of 0.001 fibers/cc is expressed in terms of PCME.

Much of this information was taken directly from:

Section 3, Human Health Risk Assessment for Asbestos in EPA's Remedial Investigation Final Report for the BoRit site (PDF)

And the BoRit Public Health Assessment, which can be viewed at:
http://www.atsdr.cdc.gov/HAC/pha/BoritAsbestosNationalSite/Borit%20Asbestos%20National%20Priori ties%20List%20Site%20_%20(final)%20PHA%20_%2001-09-2015.pdf

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Site Management/Oversight

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1) Some of the old asbestos factory buildings are currently in use by other businesses. Did EPA ever test these buildings and surrounding grounds for residual asbestos contamination? Were these buildings ever cleaned up and are they safe? (7-3-2010)

2) Will EPA address the pieces of asbestos containing materials along the Wissahickon Creek as part of its remedial investigation study? (6-2-2010)

3) Is EPA doing the best possible investigation and clean up at the BoRit site? (6-2-2010)

4) Why is EPA using the National Emissions Standards for Hazardous Air Pollutants (NESHAP) law which has not evolved as the stricter asbestos regulations have evolved? (6-2-2010)

5) What steps is EPA taking to address the asbestos contamination? (6-2-2010)

6) Can asbestos fibers come up through the dirt cap on the Whitpain Park? (8-13-2009)

7) Can the water truck sufficiently wet down dust during grubbing and tree removal? (8-10-2009)

8) How many asbestos cleanups have been done in this region and what is the role of the EPA On-Scene Coordinator (OSC) and EPA's contractor? (9-5-2008)

9) What does the EPA mean when they state that water will be used as dust suppression on an as-needed basis? (9-5-2008)

10) What are the prevailing wind directions over the site? (9-5-2008)

11) What does the EPA mean in the Pollution Report 1 when they state that "asbestos and asbestos tiles are easily seen throughout the entire site?" (1-2008)

12) What does the Army Corps of Engineers mean when they state "Both friable and bound asbestos-containing material (pipes, rings and shingles) are visible along the banks of the three streams?" (1-2008)

13) Why didn't EPA use the Shaw Environmental and Infrastructure report to evaluate the BoRit site for the National Priorities List (NPL)? (1-2008)

14) Why was the BoRit site moved from EPA's Site Assessment Program over to EPA's Removal Program? (1-2008)

15) Does EPA have the expertise to implement the right cleanup for the site? (12-27-2007)

16) Will the community be provided with status updates on the execution and monitoring phases of the encapsulation and removal process? (12-27-2007)

17) Who will manage the removal and encapsulation actions? (12-27-2007)

18) Does the removal action preclude the site from being listed on the National Priorities List (NPL)? (12- 27-2007)

19) Who is responsible for the contamination? (12-27-2007)

20) What is the nature of EPA's current response to the BoRit Site? (8-8-2007)

21) Is the BoRit Site being considered for EPA's National Priority List (NPL)? (5-1-2007)

22) What is EPA's role at the BoRit Site? What issues and concerns will EPA address as part of the Removal Action? (3-12-2007)

23) Does EPA have a cleanup plan or Record of Decision (ROD) for the Site? (3-12-2007)

24) Why is EPA involved in the BoRit site and how are they addressing it? (1-24-07)

25) Does EPA have a cleanup plan for the site? (1-24-2007)

26) How does EPA work with contractors and what work is being done by EPA contractors (i.e., Lockheed Martin and Tetra Tech)? (1-24-2007)

27) How often was the BoRit site inspected and by whom? (9-2006)

28) What prompted the environmental ranking noted in the Shaw Report? (9-2006)

29) How can the creek be considered a barrier if individuals are using that route to access the site? (9-2006)

30) Where did the contamination in the buildings go? How were they remediated before demolition and who mediated them?

31) Is it true that the BoRit Superfund Site has not been cleaned up? (4-02-2015)

32) For the BoRit Asbestos Site, will EPA evaluate the option to have all asbestos material taken out of Ambler? (4-02-2015)

33) Who is responsible for the future monitoring of BoRit and will the “Danger” signage be removed from the BoRit site once the work is complete? (3-10-16)

34) ROD Issue: Multiple commenters raised concern that the capping alternative requires perpetual O&M. It was requested that inspections occur on a more frequent basis during the initial years after cap completion. (7-28-17)

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1) Some of the old asbestos factory buildings are currently in use by other businesses. Did EPA ever test these buildings and surrounding grounds for residual asbestos contamination? Were these buildings ever cleaned up and are they safe? (7-3-2010)

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund) law was established to address abandoned hazardous waste sites and conduct response actions that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances to the environment. Responses to releases inside buildings is not the primary focus of CERCLA unless there is a release or threat of release to the environment, and the release poses a hazard to public health, welfare, or the environment. EPA, State, and/or local authorities often work with the property owner to ensure the hazardous substances inside buildings are properly addressed. As previously mentioned, some of the buildings adjacent to the Ambler Asbestos Piles Superfund Site were in operation until 1987, in which case the Occupational Safety and Health Administration would be the regulatory agency enforcing the proper handling of hazardous materials within the buildings. When the facilities were abandoned, the Pennsylvania Department of Environmental Protection (PADEP) became the primary enforcing agency. PADEP and EPA have been working with property owners and developers to restrict access to some of these buildings. Additionally, EPA conducted air sampling in the former Keasbey and Mattison buildings in June 2010 due to concerns raised by the community. EPA is awaiting receipt of the analytical results, and will share this information with the community.

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2) Will EPA address the pieces of asbestos containing materials along the Wissahickon Creek as part of its remedial investigation study? (6-2-2010)

To mitigate public exposure from the debris along the creek, beginning this summer, when water levels are expected to be low (shallow), EPA is planning to remove waste material along the Wissahickon Creek, beginning at Mt. Pleasant Avenue and moving downstream. Furthermore, EPA is planning on conducting stationary and activity-based sampling at the area downstream of Butler Pike (near the Wissahickon Valley Watershed Association offices), where asbestos-containing material has deposited, to determine if the waste there poses current or future risk to human health, or the environment.

As part of our evaluation of the BoRit Site, EPA is conducting a Remedial Investigation (RI) to determine the full nature and extent of contamination. Currently, EPA has just finished Phase I of the RI, which included soil, waste, surface water, and sediment sampling (with some nearby flood plain samples). EPA is currently in the process of putting together a report summarizing this information. EPA has just begun scoping the extent of the Phase II investigation and is hoping to conduct this sampling in late summer/early fall 2010.

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3) Is EPA doing the best possible investigation and clean up at the BoRit site? (6-2-2010)

EPA is using Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authority to address the conditions at the BoRit Site. We are using Removal authority to deal with the imminent risks that have been identified, and we are conducting a Remedial Investigation to evaluate the long-term threats. Our efforts are intended to move quickly to address the imminent risks.

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4) Why is EPA using the National Emissions Standards for Hazardous Air Pollutants (NESHAP) law which has not evolved as the stricter asbestos regulations have evolved? (6-2-2010)

EPA acknowledges that some states' asbestos regulations may be more strict than the federal requirements. The Pennsylvania Department of Environmental Protection has adopted the EPA regulations as set forth in the NESHAPs. Regarding the comment that "EPA is posturing to keep this pollution here," EPA Region 3 has explained that the Superfund remedial process requires that EPA review different options for addressing the site during a Feasibility Study (FS), and publish the final agency decision in a Record of Decision, after considering public comments. EPA has not yet performed a FS at the Site, but when it does, EPA will carefully review, and explain its rationale for choosing or rejecting, each alternative.

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5) What steps is EPA taking to address the asbestos contamination? (6-2-2010)

Since July 2008, EPA has been conducting a removal action at the Site. Activities have included stabilizing the creek banks, with clean fill, to prevent further erosion and potential migration of asbestos into adjacent waterways. Areas on the BoRit Site in which asbestos-containing material (ACM) pieces were washed out have been addressed.

EPA and the Agency for Toxic Substances and Disease Registry are aware that pieces of asbestos containing waste material (such as pieces of old pipes) are present in scattered areas offsite. Exposure to asbestos is a concern if you inhale the tiny fibers. The ACM on the ground is not a concern unless the fibers become airborne. To date, air monitoring in the community has not shown levels of concern related to asbestos. However, to mitigate public exposure from the debris along the creek, beginning this summer, when water levels are expected to be low (shallow), EPA is planning to remove waste material along the Wissahickon Creek, beginning at Mt. Pleasant Avenue and moving downstream.
Furthermore, EPA is planning on conducting stationary and activity-based sampling at the area downstream of Butler Pike (near the Wissahickon Valley Water Association offices), where ACM has deposited, to determine if the waste there poses current or future risk to human health or the environment.

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6) Can asbestos fibers come up through the dirt cap on the Whitpain Park? (8-13-2009)

The physical properties of asbestos are the reason that asbestos is not expected to move through soil. It is a mineral (i.e. rock) and dense, having a specific gravity typically reported as ranging between 2.0 and
3.5 (two to three times heavier than water) depending on the mineral variety. Asbestos is made up of fibers and although the fibers and fiber fragments can be microscopic, these particles are still large, complex molecules in the microscopic environment. The fibers are not soluble and therefore cannot be transported in a water solution like other, smaller contaminant molecules and ionic species. The particles are also too large to be transported preferentially by other physical-chemical processes like diffusion. Therefore, asbestos fibers tend to remain stationary within the soil matrix. In other words, in a natural soil setting asbestos fibers do not move through the soil.

An analysis published by EPA in April 1977, *Movement of Selected Metals, Asbestos, and cyanide in soil: Applications to waste disposal Problems,* EPA Publication Number EPA-600/2-77-020, describes the potential for asbestos movement through soil. Although the author, Dr. Wallace H. Fuller, recognizes the paucity of data specific to asbestos, he argues that asbestos is reasonable expected to behave like similarly sized clay particles, which have been extensively studied.

"Although there are no data on mobility of asbestos in soil, predictions about its behavior can be made with reasonable confidence. Since the weathering products of asbestos are the common nonhazardous salts of Ca, Mg, and Si, physical transport is the only mode of movement in soil which is of significance. The extensive data on movement of clay-sized *(<2u* diameter) particles by strictly physical processes provide a convenient yardstick for gauging the probable behavior of asbestos in soil. Clay particles 0.1 to
2.0 u in diameter are estimated to move at a rate of 1 to 10 cm per 3,000 to 40,000 years, depending on the soil texture (Berkland, 1974). There is no reason to expect that asbestos particles of similar size would move differently from this. Consequently asbestos migration through soil will not be a problem of any significance."

It can be added that larger particles (i.e. the longer fibers of the asbestos minerals) are expected to be even more resistant to movement due to physical impedance.

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7) Can the water truck sufficiently wet down dust during grubbing and tree removal? (8-10-2009)

The dust suppression efforts during the clearing and grubbing activities were effective, as is evident in the air monitoring and sampling data (PDF)

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8) How many asbestos cleanups have been done in this region and what is the role of the EPA On-Scene Coordinator (OSC) and EPA's contractor? (9-5-2008)

The only remediation of a large asbestos pile conducted in EPA Region III was done years ago. The job of the OSC is to coordinate site activities and coordinate efforts with other Federal, State, and Local agencies. The OSC relies on the expertise of the Site team when making any determination. At the BoRit Site, the team includes representatives from EPA's Environmental Response Team and their contractor, the Agency for Toxic Substances and Disease Registry, the Army Corps of Engineers, the Pennsylvania Department of Environmental Protection (PADEP), the Pennsylvania Department of Health, Montgomery County Health Department and our technical support (START) and cleanup (ERRS) contractors.

EPA's cleanup contractor has over 25 years experience in performing consulting and contracting services relating to non-friable and friable asbestos-containing materials. This experience includes preparation of building, facility and roof asbestos surveys, asbestos abatement, asbestos abatement project monitoring and transportation and disposal of asbestos-containing materials on hundreds of projects in various states throughout the United States.

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9) What does the EPA mean when they state that water will be used as dust suppression on an as- needed basis? (9-5-2008)

The water truck is on-site and used during dry weather conditions. During wet conditions (on and off rain, thunderstorms) there is no need to use the water truck. The idea of the water suppression is to keep the dust to a minimum, not to create mud.

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10) What are the prevailing wind directions over the site? (9-5-2008)

Most of the time, the wind comes from either the SW or the NW, sometimes out of the SE. We have a weather station on-site running 24/7. It gives us precipitation, relative humidity, wind direction and wind velocity. All the wind roses are posted in the documents section of the website.

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11) What does the EPA mean in the Pollution Report 1 when they state that "asbestos and asbestos tiles are easily seen throughout the entire site?" (1-2008)

It means that there is visible evidence of asbestos-containing materials on-site.

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12) What does the Army Corps of Engineers mean when they state "Both friable and bound asbestos- containing material (pipes, rings and shingles) are visible along the banks of the three streams?" (1- 2008)

The statement means that the Corps observed friable (easily crumbled) asbestos as well as asbestos bound up in other materials like those mentioned.

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13) Why didn't EPA use the Shaw Environmental and Infrastructure report to evaluate the BoRit site for the National Priorities List (NPL)? (1-2008)

There are 2 reasons why the Shaw report is not a viable tool for evaluating the site for the NPL listing.

1. The Shaw report is based entirely on projected or possible release potential, not on actual test data or sampling.

2. The scoring system used by Shaw, PA Score, was superseded in 1995 by QuickScore. PA Score was rendered obsolete because it was deemed an ineffective tool which artificially inflated potential NPL scores.

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14) Why was the BoRit site moved from EPA's Site Assessment Program over to EPA's Removal Program? (1-2008)

EPA's Site Assessment Program requested that the Removal Program investigate the site. The Site Assessment Manager felt that more information was required and that the Removal Program had the best means of providing the needed sampling and technical expertise.

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15) Does EPA have the expertise to implement the right cleanup for the site? (12-27-2007)

Yes. EPA has the expertise to ensure that appropriate engineering controls will be employed to protect human health and the environment.

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16) Will the community be provided with status updates on the execution and monitoring phases of the encapsulation and removal process? (12-27-2007)

EPA plans to post updates of the actions on its website. In addition, there will be a Community Involvement Coordinator on-site on a regular basis to answer any questions the community may have. EPA also plans to keep the Community Advisory Group informed of our progress.

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17) Who will manage the removal and encapsulation actions? (12-27-2007)

The overall management of the removal work falls on the On-Scene Coordinator assigned to the site.

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18) Does the removal action preclude the site from being listed on the National Priorities List (NPL)? (12- 27-2007)

The removal action does not preclude the site from being evaluated for listing on the NPL and the process of NPL listing continues parallel to the removal process.

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19) Who is responsible for the contamination? (12-27-2007)

EPA intends to thoroughly evaluate all Potential Responsible Parties at this Site, and their viability.

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20) What is the nature of EPA's current response to the BoRit Site? (8-8-2007)

EPA is currently conducting a removal assessment to determine if the site, in its current state, poses a health threat to the community. So far, based on the October/November 2006 and March/May 2007 air sampling results, and our current evaluation of the potential for human exposure, the Site does not. When EPA initiated the response action in August 2006, we believed that erosion from the banks of the pile could pose a potential threat to public health. Subsequent evaluation has led us to take a more deliberate approach to determining the need for mitigative measures at the Site. We have expanded our sampling and analysis to support this approach.

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21) Is the BoRit Site being considered for EPA's National Priority List (NPL)? (5-1-2007)

Currently, EPA's Removal Program is gathering additional data to be used for determining if there is a release associated with the Site. The results of the sampling events will also be reviewed by EPA's toxicologists and personnel from the the Agency for Toxic Substances and Disease Registry. After completion of the sampling events, the Site will be reviewed for placement on the NPL, if appropriate.

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22) What is EPA's role at the BoRit Site? What issues and concerns will EPA address as part of the Removal Action? (3-12-2007)

EPA's primary concern at this Site is to ascertain whether the community is being exposed to asbestos at levels that present an unacceptable health risk, and if so, to take appropriate action. To do this, EPA is using its authority under the Removal Program to take samples that will help determine if an actual threat exists.

The Removal Program allows EPA to take immediate actions in response to a release, or threat of release of a hazardous substance, pollutant or contaminant that may present an imminent and substantial danger to the public health or welfare.

At the BoRit Site, the Removal Program is conducting a Removal Assessment to determine what next steps, if any, are warranted based on the sampling results being collected. Thus far, the ambient air sampling results from October and November 2006 indicate that residents in the vicinity of the BoRit Site are *not* being exposed to asbestos fibers from the Site at levels that pose an unacceptable or significant health risk. Nonetheless, we plan to continue the quarterly air sampling program, at least through the summer of 2007, to investigate whether changes due to seasonal variations are occurring. When EPA has completed all the sampling from the Removal Assessment, we may take some action, refer the Site for further evaluation (i.e., National Priority Listing consideration) or determine that no further action is necessary. (At the time this question was asked, the Site was not on the NPL. It has since been added to the NPL).

Based on the April 2006 validated results, EPA believed that stabilization of the banks and covering some bare portions of the Site was an immediate necessary action to prevent erosion into Wissahickon Creek. However, based on the recent validated results (i.e., October and November 2006) no off-site asbestos migration has been found at levels that might pose an unacceptable or significant health risk. EPA continues to look into different alternatives (e.g., applying some sort of stabilizing agent to the banks that appeared to be eroding into the stream). To date, EPA has not identified an agent that would be suitable for the Site. In addition, EPA is currently reviewing the different long term stabilization alternatives the U.S. Army Corps of Engineers recommended for the Site. The report is posted on EPA's BoRit website.

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23) Does EPA have a cleanup plan or Record of Decision (ROD) for the Site? (3-12-2007)

EPA has not prepared a cleanup plan because we are still in the assessment phase of the project. If a cleanup is needed, EPA will prepare a cleanup plan which will be presented to the community. EPA expects to make a decision after all the sampling is complete. We expect to complete the sampling this summer.

EPA did prepare sampling plans for testing the air, water, sediments and soil and those plans are available on its BoRit website.

A ROD is the legal document that memorializes EPA's final cleanup plan for all Superfund sites listed on the National Priorities List (NPL). The BoRit Site is not listed on the NPL; therefore a ROD would not be issued for the Site. (At the time this question was asked, the Site was not on the NPL. It has since been added to the NPL).

For more information about the NPL process, please go to
https://www.epa.gov/superfund/superfund-national-priorities-list-npl

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24) Why is EPA involved in the BoRit site and how are they addressing it? (1-24-07)

It is EPA's mission to protect human health and the environment. In the Removal Program, EPA takes actions in response to a release or threat of release of a hazardous substance or of a pollutant or contaminant that may present an imminent and substantial danger to the public health or welfare.

When notified of a release or threat of release that may require a removal action, EPA conducts a removal site evaluation to determine the source and nature of the release, the threat to public health and the environment, and whether an appropriate response has been initiated. A removal site evaluation could be completed in minutes or months, depending on the specific incident and the information available to determine the need for a removal action. When the removal site evaluation is completed, EPA reviews the results and other factors to determine the appropriate extent of a removal action. At any point in this process, EPA may refer the site for further evaluation or determine that no further action is necessary. When it concludes that a removal action is required, the EPA undertakes an appropriate response to minimize or eliminate the threat.

EPA presently is still in the removal evaluation part of the process at BoRit; EPA is trying to determine if the Site poses a health risk to the community "as is." EPA intends to finish the sampling program and then make a determination as to what actions, if any, are needed.

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25) Does EPA have a cleanup plan for the site? (1-24-2007)

EPA did prepare a written plan to evaluate the air, water, and soil and will prepare a remediation plan should it be necessary. EPA will not make a final determination about that until it finishes the sampling program which will continue through the summer of 2007.

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26) How does EPA work with contractors and what work is being done by EPA contractors (i.e., Lockheed Martin and Tetra Tech)? (1-24-2007)

EPA awards regional and national contracts every five years or so. EPA then uses these contractors for work at individual sites. EPA works with these contractors to develop a scope of work to be performed at each site.

The scope of work EPA prepared for air sampling for this Site is contained in the *Quality Assurance Project Plan Sampling Plan,* dated October 19, 2006. The scope of work for the soil, sediment and surface water sampling is contained in the *Sampling and Analysis Plan,* dated December 11, 2006. Both documents are posted on the EPA's website.

Lockheed Martin (LM) is EPA Environmental Response Team's contractor and Tetra Tech is EPA Region III contractor. As our contractors, they subcontract the laboratories to perform the analysis for EPA in accordance with the scope of work. EPA does not provide a scope of work directly to subcontractors such as the laboratories used at this Site.

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27) How often was the BoRit site inspected and by whom? (9-2006)

The Pennsylvania Department of Environmental Protection (PADEP) has been inspecting these sites on a yearly basis at minimum, with more frequent routine site visits in response to citizen concerns.

The BoRit and Reservoir sites were inspected together approximately 17 times during the years 2000- 2005, with eight of these inspections conducted in 2005. Violations outlined in notices of violations dated February 2001 and April 2002 have been corrected. More recently, a notice of violation dated December 29, 2005 was issued to Kane Core for a section of fencing in disrepair on the BoRit Site. On January 27, 2006, PADEP issued a notice of violation to the Reservoir site owner since the Maple Street entrance gate was observed lying on the ground during a site visit the previous week. These violations have not been corrected as of early February 2006.

The Wissahickon Park (a.k.a. Whitpain Park) site was inspected by PADEP approximately 23 times during the years 2000-2005, with eight site visits conducted in 2005. No violations or notices were issued for this site.

In addition to PADEP Air Quality staff, these sites have been inspected by PADEP's Environmental Cleanup Program staff and by representatives of EPA. In April 2005, a large-scale multi-agency inspection was conducted at the BoRit Site. No visible emissions were noted, although we did confirm that many of the warning signs had been removed from the perimeter fencing. To prevent

future removal of these signs and correct the problem, the property owner reposted warning signs on poles inside the fence area, which PADEP noted have been removed again by vandals in September 2006. EPA advised Kane Core on Sept. 15, 2006 that additional warning signs were needed along the Maple Street side of the property and is following up on this matter.

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28) What prompted the environmental ranking noted in the Shaw Report? (9-2006)

In March 2003, the Pennsylvania Department of Environmental Protection (PADEP) commissioned Shaw Environmental, an environmental contractor, to assist in determining the need for involvement by our agency at the BoRit Site, which had been deemed "no further action required" by EPA in September 1988. The calculated score or ranking is a tool utilized in the Preliminary Assessment (PA Score) process. At that time, the PA Score was the first step in the process leading to the development of the Hazard Ranking System (HRS) package. In calculating this preliminary score for the BoRit Site, the contractor made assumptions, some of which may not have been supported at that time or reflect the present status of the site. This was a draft document, one which PADEP did not get the chance to review in- depth or comment upon, as our agency review stopped once the previous property owner, DEAP, purchased the site with interest in remediation using private funds through Pennsylvania's Act 2 process. Since that time, there have been consistent efforts by private individuals to remediate and reuse the site.

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29) How can the creek be considered a barrier if individuals are using that route to access the site? (9-2006)

The federal regulations allow natural barriers to be used in lieu of fences. By "deter," it's meant the barrier should discourage access to the site. We acknowledge that most of the Ambler sites can be accessed, even with fencing in place if an individual is intent on gaining access. We may revisit the barrier issue at some point in the future, but ask in the meantime that people be mindful that these sites are private property. To gain access through the fencing or by way of the creek bed is considered illegal trespass.

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30) Where did the contamination in the buildings go? How were they remediated before demolition and who mediated them?

All of the regulated ACM was removed from the buildings prior to demolition. This waste was then shipped to landfills licensed to accept this type of waste (Minerva Enterprises in Waynesburg Ohio and Chester County Landfill in Honeybrook PA).

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31) Is it true that the BoRit Superfund Site has not been cleaned up? (4-02-2015)

The BoRit Superfund Site was listed on the NPL in April 2009 and is currently undergoing a cleanup action to stabilize asbestos- containing materials. EPA has completed stream bank stabilization on: the Wissahickon Creek, which runs along the perimeter of the site; the Tannery Run Creek, which runs alongside the pile; and, the Rose Valley Creek, which runs between the Reservoir and Park. Storm damage to the Rose Valley Creek stream bank stabilization measures – which was caused by extreme weather events in 2011 – was repaired and fortified to better withstand future extreme weather events. In addition, EPA has completed the cover on the Pile, which included a liner, clean fill, and grass. EPA is implementing the design for the Park, which is the same as the Pile design. Completion of the Park cover will be delayed while EPA focuses on covering the asbestos-containing materials along the inside banks ofthe Reservoir.

The Reservoir work began in January 2014. EPA pumped and treated the Reservoir water to meet state regulations for effluent (discharge water) and, then, piped the water into the Wissahickon Creek. EPA is covering the berms and the floor of the Reservoir with a geotextile liner and clean fill. When the Reservoir work is completed, clean water will be pumped back into the Reservoir, restoring and improving it. All removal work on the site is anticipated to be completed during 2015.

EPA is also studying the site to determine the nature and extent of contamination and assess any health risks that may be associated with long-term exposure if no protective actions are taken. The results will be used to evaluate potential long-term cleanup options. The work EPA performs during this phase is referred to as the Remedial Investigation/Feasibility Study (RI/FS). The RI Report has been finalized. The FS process, which identifies feasible cleanup alternatives, is underway. Once the FS is completed, EPA will propose a cleanup plan to the community and ask for public comment. EPA expects this to happen in late 2015.

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32) For the BoRit Asbestos Site, will EPA evaluate the option to have all asbestos material taken out of Ambler? (4-02-2015)

During the Feasibility Study (FS) which is currently underway, EPA will evaluate several options for the BoRit Asbestos Superfund Site, including removing the asbestos containing waste materials to an offsite location. It should be noted, however, that consideration of cleanup options includes several criteria. It is more than just the evaluation of technical feasibility and costs. Cleanup options must also consider issues such as impacts on the quality of life of the most affected residents and neighborhoods, and changes in risk levels that may occur during the short-term phase of the remedial action itself.

EPA does not plan to revisit the Ambler Asbestos Piles Site which was removed from the National Priorities List (NPL), in 1996, after the established cleanup criteria were met. However, EPA will continue to monitor ongoing O&M at the site to ensure the remedy continues to perform as expected. Additionally, EPA's Superfund Site Assessment program will evaluate other properties requiring assessment in the Ambler area. Should any of the properties warrant listing on the NPL, they will undergo a Remedial Investigation and Feasibility Study just as any other NPL site would. The final remedy would be determined on a case-by case-basis.

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33) Who is responsible for the future monitoring of BoRit and will the "Danger" signage be removed from the BoRit site once the work is complete? (3-10-16)

When EPA's cleanup work at BoRit is complete, it may not be necessary to keep the fencing and "danger" signage. However, the site will be returned to the owners who will be responsible for any fencing and signage decisions. EPA's role will transition to overseeing the long-term operation and maintenance of the site to ensure it remains protective of human health and the environment.

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34) ROD Issue: Multiple commenters raised concern that the capping alternative requires perpetual O&M. It was requested that inspections occur on a more frequent basis during the initial years after cap completion.

EPA Response: As indicated in Section 13.2.9 of the ROD, O&M for the Site will be performed perpetually throughout the life of the Selected Remedy to ensure capping and stream bank stabilization work remains protective of human health and the environment. O&M tasks will generally consist of Site inspections, post-significant weather event inspections, cap and physical remedy maintenance, IC evaluations and updates, and reporting.

EPA is currently preparing the O&M Plan for the Site which will provide additional detail on the O&M requirements. The O&M Plan will include protocols for Site inspections, maintenance of vegetative cover, repair to breaches in the cap, and reporting requirements. The O&M Plan for the Site will require Site inspections to occur at least quarterly and immediately following any significant weather event. Reports summarizing O&M activities will be prepared on an annual basis and will identify the need to increase or decrease inspection frequency. O&M reports will be posted on the Site webpage at: https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0301842. In addition, EPA will also evaluate O&M activities during the FYR process and amend inspection activities and frequency when needed.

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Stream Bank Stabilization

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1) Is the ramp across Rose Valley Creek complete? (8-26-2009)

2) How long will the ramp be in place? (8-26-2009)

3) What type of riprap (stones) is being used to stabilize Rose Valley Creek? (8-26-2009)

4) While the ramp is in place, will there be any cabled concrete mats (CCM) and/or riprap placed around the ramp to prevent erosion? (8-26-2009)

5) Are there any methods that EPA can use to dissipate floodwater energy in the Rose Valley Creek? (8- 26-2009)

6) What is EPA's schedule for completing the work at Rose Valley Creek? (8-26-2009)

7) What is EPA doing to ensure that the stream bank stabilization is successful? (8-26-2009)

8) How will EPA prevent failure during overflow situations (e.g., rip rap cover over the cabled concrete mats)? (8-26-2009)

9) Given the relatively smooth sidewalls formed by the cabled concrete mats (CCM), has the Rose Valley Creek post removal action been modeled to generate the design criteria - maximum flow rate, velocity, depth? If so, what did the model show? What are the impacts to the Wissahickon Creek if an isolated and severe storm event falls in the Rose Valley watershed, but the water level in the Wissahickon Creek is not impacted (e.g., impact of water velocity through the pipes on the far bank of the Wissahickon Creek)? (8-26-2009)

10) What is the current clay content of the soil used for backfill on the bank and ramp? What range of percentage clay (passing through a #200 sieve) is the desired for the backfill material? Will you need to amend the fill that has been trucked in already? Will the backfill readily drain water? If water is retained, will it impact the stability of the fill, surrounding slopes (especially on the reservoir side where some seep is desirable), and/or of the ramp? (8-26-2009)

11) What will the seed mix be for planting along the Rose Valley banks? (8-26-2009)

12) Are there plans to save rocks, etc. removed from Rose Valley Creek bed that may contain natural macroinvertebrate populations that can be used to reestablish the population after the removal action has been completed? (8-26-2009)

13) Will EPA be provided Record Drawings at the completion of the removal action showing how the cabled concrete mats (CCM) and slopes were installed? (8-26-2009)

14) What are the anticipated costs for the removal action on Rose Valley Creek? (8-26-2009)

15) What asbestos experts at EPA or outside EPA are being consulted concerning the removal action for Rose Valley? (8-26-2009)

16) What is the permeability (or barrier) to the passage of asbestos fibers of these various products (cabled concrete mats, geocells, etc.), in addition to the efficacy in preventing erosion? (8-26-2009)

17) Is there scientific research and documentation that explains how the geocell and concrete blocking system are adequate systems to contain asbestos contamination? (8-25-2009)

18) What would the flow in the creek need to be to worry about overtopping, flowing to the southeast, and/or around the ramp? (8-21-2009)

19) Are there any back up computations that support the design for Phase 2 of EPA's removal actions? (8- 21-2009)

20) What is the maximum flow rate (full pipe) discharging from the culvert and what the maximum flow would be that could flow through the new Corrugated Metal Pipe (CMP) culverts? (8-21-2009)

21) The southern end of the new Rose Valley Creek discharge pipes show them outside the bottom of the bank of the creek. Are there any issues associated with this situation? (8-21-2009)

22) The Tannery Run creek appears to have a steep (75 degree) sloped bank (20 feet high) located approximately 150 feet upstream from the Wissahickon Creek in an unrestricted area. Could this present a hazard? (8-21-2009)

23) Will EPA continue to photo document the conditions of Tannery Run and Rose Valley Creeks prior to and after the removal action? (8-10-2009)

24) What will be done with the soil excavated from Rose Valley? (8-10-2009)

25) What did EPA do with the wood chips from the trees that were taken down? (8-10-2009)

26) Why is EPA removing the asbestos-containing material (ACM) pipe debris? (8-10-2009)

27) How does the amount of disturbance to the asbestos that EPA has performed differ from a full removal of the asbestos-containing material (ACM)? (8-7-2009)

28) If EPA were to have started removing the waste back in June of 2008, how much asbestos-containing material would have been removed by now? (8-7-2009)

29) Does the lack of asbestos fibers on the air monitors during intrusive activity prove that a full removal can be obtained safely albeit with careful systematic approaches? (8-7-2009)

30) Is EPA considering removing the asbestos piles as a permanent solution and will EPA's work alleviate flooding issues in West Ambler? (8-7-2009)

31) Are the actions being taken by EPA's Removal Program considered a permanent remedy for the site? (8-7-2009)

32) Is it possible for asbestos to float on the water and therefore, travel off site with the flowing water? (8-3-2009)

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36) Asbestos materials have been observed downstream from BoRit. Where is it coming from and is it harmful? (8-3-2009)

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42) Why is EPA clearing the pile? (9-5-2008)

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44) Did EPA grub 16 acres in the park and leave it uncovered? (9-5-2008)

45) What percentage of asbestos is present in the Whitpain surface soil? (9-5-2008)

46) Why are the earth mover contractors so high up on the "BoRit" pile with the equipment? (9-5-2008)

47) Is the Whitpain Park going to be a staging area for depositing materials needed to stabilize the stream bank and/or for a decontamination area? (9-5-2008)

48) Will there be any activity before the next Community Advisory Group (CAG) meeting? If so, what will be taking place? (9-5-2008)

49) Are EPA contractors going to lay down a fabric and clean soils on all working areas at the park to prevent getting to the asbestos soil? (9-5-2008)

50) Will there be full time supervision and inspection by the Occupational Safety and Health Administration and/or other agencies? (9-5-2008)

51) What are the Army Corps (US ACE) recommendations on the creek and reservoir bank restoration; is funding available for this work? (1-2008)

52) Is EPA proceeding with respect for the natural environment of the Wissahickon Watershed? (12-27- 2007)

53) Is EPA considering some type of dense, thorny vegetation to plant along the stream banks. Such vegetation would make it difficult for trespassers to get to the embankments, or to disturb the cover that is to be installed. This vegetation would also help stabilize the embankments and would prevent erosion. (12-27-2007)

54) Will EPA coordinate with the Pennsylvania Department of Transportation (PennDOT) on the removal of the dam in the Wissahickon Creek? (12-27-2007)

55) Does EPA plan to monitor the effectiveness of the stream bank stabilization work? (12-27-2007)

56) Does EPA intend to comply with state laws regarding erosion and sediment control? (12-27-2007)

57) Will EPA coordinate and work with resource agencies including the U.S. Army Corps of Engineers, the Pennsylvania Department of Environmental Protection, the Pennsylvania Department of Conservation and Natural Resources, PA Fish & Boat Commission, and the PA Historical and Museum Commission? (12-27-2007)

58) Does EPA require authorization all federal, state, county, or local agencies before work begins on the proposed actions? (12-27-2007)

59) Has EPA decided how they plan to stabilize the stream bank and stop migration of asbestos? (1-24- 2007)

Back to Response Categories List

1) Is the ramp across Rose Valley Creek complete? (8-26-2009)

Yes, the ramp across Rose Valley Creek is complete.

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2) How long will the ramp be in place? (8-26-2009)

The temporary ramp across Rose Valley Creek will stay in place throughout the duration of the removal action (all phases). The ramp was designed based on the two-year peak flow of Rose Valley. The ramp may stay in place if it is needed for the Remedial Investigation, and it may also be needed for any future Remedial Action. It is still too early to know when the ramp will be removed.

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3) What type of riprap (stones) is being used to stabilize Rose Valley Creek? (8-26-2009)

The type of stone being used for riprap, which was based on flow calculations, is R4 (mainly 6” to 12”) stone.

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4) While the ramp is in place, will there be any cabled concrete mats (CCM) and/or riprap placed around the ramp to prevent erosion? (8-26-2009)

Riprap stone has been placed on each end of the ramp, and CCM will be placed close to the ramp while leaving space to allow for the ramp to be removed. CCM will be placed in the remaining portion of the creek once the ramp is removed.

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5) Are there any methods that EPA can use to dissipate floodwater energy in the Rose Valley Creek? (8- 26-2009)

Stone will be placed by the headwall (where Rose Valley enters the site) to help reduce the water's energy. In addition, the cabled concrete mat are shaped in a way to help reduce the water’s energy.

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6) What is EPA's schedule for completing the work at Rose Valley Creek? (8-26-2009)

Phase II of the Removal Action is projected to be completed by the end of 2009. For Phase II, EPA will be pumping the water out in sections of Rose Valley starting mid-September. At the latest, the pumping will continue until the end of the year. In addition to the water pumping, EPA will be reshaping the stream banks in preparation for cabled concrete mats installation.

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7) What is EPA doing to ensure that the stream bank stabilization is successful? (8-26-2009)

During the design of Phase II, the Army Corps of Engineers has considered the many aspects of the stabilization to ensure it is not undermined by common factors seen in the stream. While there are no absolute guarantees, we are confident that the design is appropriate for this setting.

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8) How will EPA prevent failure during overflow situations (e.g., rip rap cover over the cabled concrete mats)? (8-26-2009)

The general design is the same for the length of the stream. However, the company who wins the bid will provide details on how to lay the mats on the stream. As far as the section just before the ramp, that will be a field adjustment. Most likely, the area will be protected with R4 (mainly 6" to 12" rock) riprap.

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9) Given the relatively smooth sidewalls formed by the cabled concrete mats (CCM), has the Rose Valley Creek post removal action been modeled to generate the design criteria - maximum flow rate, velocity, depth? If so, what did the model show? What are the impacts to the Wissahickon Creek if an isolated and severe storm event falls in the Rose Valley watershed, but the water level in the Wissahickon Creek is not impacted (e.g., impact of water velocity through the pipes on the far bank of the Wissahickon Creek)? (8-26-2009)

Once vegetated, the sidewalls formed by the CCM will not be smooth. The CCM, by the nature it is constructed, is not smooth due to concrete blocks spaced throughout the mat. Modeling has not been conducted regarding post-Removal Action scenarios.

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10) What is the current clay content of the soil used for backfill on the bank and ramp? What range of percentage clay (passing through a #200 sieve) is the desired for the backfill material? Will you need to amend the fill that has been trucked in already? Will the backfill readily drain water? If water is retained, will it impact the stability of the fill, surrounding slopes (especially on the reservoir side where some seep is desirable), and/or of the ramp? (8-26-2009)

EPA staff are still reviewing this question.

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11) What will the seed mix be for planting along the Rose Valley banks? (8-26-2009)

The seed mix for the flood plain will consist of ERNST 178 mix and the slopes will receive ERNST 181 mix. ERNST 178 consists of the following plant species:

1. *Carex vulpinoidea* (Fox Sedge)
2. *Panicum clandestinum, 'Tioga'* ('Tioga' Deer Tongue)
3. *Schizachyrium scoparium, PA ecotype* (Little Bluestem, PA Ecotype)
4. *Chamaecrista faseieulate* (Partridge Pea)
5. *Elymus riparius* (Riverbank Wild Rye)
6. *Elymus virginicus* (Virginia Wild Rye)
7. *Verbena hastate* (Blue Vervain)
8. *Andropogn gerardii, 'Niagara'* ('Niagara' Big Bluestem)
9. *Heliopsis helianthoides* (Ox Eye Sunflower)
10. *Viburnum dentatum* (Arrow Wood)
11. *Cornus amomum* (Silky Dogwood)
12. *Panicum virgatum, 'Shelter'* ('Shelter' Switchgrass)
13. *Sorghastrum nutans, PA Ecotype* (Indiangrass, PA Ecotype)
14. *Asclepias syriaca* (Common Milkweed)
15. *Desmodium canadense* (Showy Tick Trefoil)
16. *Eupatorium fistulosum* (Joe Pye Weed)
17. *Eupatorium maculatum* (Spotted Joe Pye Weed)
18. *Eupatorium perfoliatum* (Boneset)
19. *Juneus effuses* (Soft Rush)
20. *Monarda flstulosa* (Wild Bergamot)
21. *Penstemon digitalis* (Tall White Beard Tongue)
22. *Rhus Typhina* (Staghorn Sumac)
23. *Rudbeckia hirta* (Black Eyed Susan)
24. *Baptisia australis* (Blue False Indigo)
25. *Euthamia graminifolia* (Grass Leaved Goldenrod)
26. *Vernonia gigantean* (Giant Ironweed)
27. ERNST 181 consists of the following plant species:
28. *Lolium multiflorum* (Annual Ryegrass)
29. *Schizaehyrium scoparium, Eastern ecotype* (Little Bluestem, Eastern Ecotype)
30. *Elymus Canadensis* (Canada Wild Rye)
31. *Panicum virgatum, 'Shelter'* ('Shelter' Switchgrass)
32. *Agrostis perennans* (Autumn Bentgrass)
33. *Tridens flavus* (Purple Top)
34. *Coreopsis lanceolata* (Lance Leaved Coreopsis)
35. *Agrostis scabra* (Tickle grass [Rough Bentgrass])
36. *Elymus virginicus* (Virginia Wild Rye)
37. *Penstemon digitalis* (Tall White Beard Tongue)
38. *Monarda fistulosa* (Wild Bergamot)

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12) Are there plans to save rocks, etc. removed from Rose Valley Creek bed that may contain natural macroinvertebrate populations that can be used to reestablish the population after the removal action has been completed? (8-26-2009)

EPA will attempt to save as many rocks as possible to be reintroduced to the creek bed following the stabilization actions.

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13) Will EPA be provided Record Drawings at the completion of the removal action showing how the cabled concrete mats (CCM) and slopes were installed? (8-26-2009)

Yes, EPA will be provided Record Drawings at the completion of the Removal Action showing how the CCM was installed.

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14) What are the anticipated costs for the removal action on Rose Valley Creek? (8-26-2009)

The anticipated costs for the Removal Action on Rose Valley Creek will approximately be $800,000 to $1,000,000.

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15) What asbestos experts at EPA or outside EPA are being consulted concerning the removal action for Rose Valley? (8-26-2009)

EPA has been referring to the federal National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations regarding asbestos cleanups throughout the process. Thus far, EPA has met and/or exceeded many of the requirements listed in NESHAP when it comes to asbestos cleanups. An "asbestos expert" is not necessary as long as NESHAP regulations are met. EPA does keep in contact with EPA's and the Pennsylvania Department of Environmental Protection's NESHAP experts throughout the cleanup.

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16) What is the permeability (or barrier) to the passage of asbestos fibers of these various products (cabled concrete mats, geocells, etc.), in addition to the efficacy in preventing erosion? (8-26-2009)

The physical properties of asbestos are the reason that asbestos is not expected to move through soil. It is a mineral (i.e. rock) and dense, having a specific gravity typically reported as ranging between 2.0 and
3.5 (two to three times heavier than water) depending on the mineral variety. Asbestos is made up of fibers and although the fibers and fiber fragments can be microscopic, these particles are still large, complex molecules in the microscopic environment. The fibers are not soluble and therefore cannot

be transported in a water solution like other, smaller contaminant molecules and ionic species. The particles are also too large to be transported preferentially by other physical-chemical processes like diffusion. Therefore, asbestos fibers tend to remain stationary within the soil matrix. In other words, in a natural soil setting asbestos fibers do not move through the soil.

An analysis published by EPA in April 1977, *Movement of Selected Metals, Asbestos, and cyanide in soil: Applications to waste disposal Problems,* EPA Publication Number EPA-600/2-77-020, describes the potential for asbestos movement through soil. Although the author, Dr. Wallace H. Fuller, recognizes the paucity of data specific to asbestos, he argues that asbestos is reasonable expected to behave like similarly sized clay particles, which have been extensively studied.

"Although there are no data on mobility of asbestos in soil, predictions about its behavior can be made with reasonable confidence. Since the weathering products of asbestos are the common nonhazardous salts of Ca, Mg, and Si, physical transport is the only mode of movement in soil which is of significance. The extensive data on movement of clay-sized *(<2u* diameter) particles by strictly physical processes provide a convenient yardstick for gauging the probable behavior of asbestos in soil. Clay particles 0.1 to
2.0 u in diameter are estimated to move at a rate of 1 to 10 cm per 3,000 to 40,000 years, depending on the soil texture (Berkland, 1974). There is no reason to expect that asbestos particles of similar size would move differently from this. Consequently asbestos migration through soil will not be a problem of any significance."

It can be added that larger particles (i.e. the longer fibers of the asbestos minerals) are expected to be even more resistant to movement due to physical impedance. Specifically, as was stated in EPA's memo to the RRM Group in July 2009, there are approximately two feet of material between the asbestos and the surface on the Wissahickon Creek stream bank. Because asbestos is a fiber, it does not move freely in soil. In addition to keeping the asbestos in place, the bank was designed to withstand the forces on the Wissahickon Creek stream bank. So far, we have had two big storms and the Phase I work is still intact. The concrete cable mats serve the same purpose.

As part of the Removal Program, EPA is charged with reducing the immediate risk (and in this case, the *potential* risk), that may be posed by a site. Although EPA is not aware of any scientific research specifically citing these technologies being used on an asbestos site, the manner in which these phases have been planned ensures that the asbestos will not pose a risk to human health and the environment by essentially capping the asbestos waste. Capping is a practice commonly used to address asbestos waste sites. National Emissions Standards for Hazardous Air Pollutants spells out the minimum capping requirements to ensure there will be not emissions. What we are doing will likely exceed those requirements. In addition, the stream bank stabilizations were designed to specifically hold up to the types of forces that these banks will face during storm conditions. Thus, the stabilization's purpose is twofold: capping the asbestos waste in place on the stream banks, and stabilizing the stream banks in order to withstand conditions found in the Wissahickon and Rose Valley Creeks and Tannery Run.

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17) Is there scientific research and documentation that explains how the geocell and concrete blocking system are adequate systems to contain asbestos contamination? (8-25-2009)

The physical properties of asbestos are the reason that asbestos is not expected to move through soil. It is a mineral (i.e. rock) and dense, having a specific gravity typically reported as ranging between 2.0 and
3.5 (two to three times heavier than water) depending on the mineral variety. Asbestos is made up of fibers and although the fibers and fiber fragments can be microscopic, these particles are still large, complex molecules in the microscopic environment. The fibers are not soluble and therefore cannot be transported in a water solution like other, smaller contaminant molecules and ionic species. The particles are also too large to be transported preferentially by other physical-chemical processes like diffusion. Therefore, asbestos fibers tend to remain stationary within the soil matrix. In other words, in a natural soil setting asbestos fibers do not move through the soil.

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2.0 u in diameter are estimated to move at a rate of 1 to 10 cm per 3,000 to 40,000 years, depending on the soil texture (Berkland, 1974). There is no reason to expect that asbestos particles of similar size would move differently from this. Consequently asbestos migration through soil will not be a problem of any significance." It can be added that larger particles (i.e. the longer fibers of the asbestos minerals) are expected to be even more resistant to movement due to physical impedance.

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18) What would the flow in the creek need to be to worry about overtopping, flowing to the southeast, and/or around the ramp? (8-21-2009)

The flow of Rose Valley would need to exceed 220 cubic feet per second for the water to flow around the ramp. Please keep in mind that water would likely go around the pipe, onto the flood plain.

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19) Are there any back up computations that support the design for Phase 2 of EPA's removal actions? (8- 21-2009)

The Army Corps of Engineers (US ACE) designed the plans for Phase 2 of the removal action. Any computations related to the design for Phase 2 would have been conducted by the US ACE. Most of the backup documentation is for slope stability analysis. If there are specific computations that the public would like to see, please contact EPA and we will work with the US ACE to provide them.

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20) What is the maximum flow rate (full pipe) discharging from the culvert and what the maximum flow would be that could flow through the new Corrugated Metal Pipe (CMP) culverts? (8-21-2009)

The maximum flow rate discharging from the culvert (including the two five feet circular pipes) is 440 cubic feet per second, which equates to a velocity of about 5.64 feet per second. The maximum flow rate that could flow through the new CMP culverts is half of the maximum flow rate, which would be 220 cubic feet per second.

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21) The southern end of the new Rose Valley Creek discharge pipes show them outside the bottom of the bank of the creek. Are there any issues associated with this situation? (8-21-2009)

EPA staff is still reviewing this question.

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22) The Tannery Run creek appears to have a steep (75 degree) sloped bank (20 feet high) located approximately 150 feet upstream from the Wissahickon Creek in an unrestricted area. Could this present a hazard? (8-21-2009)

EPA will be addressing the stabilization of Tannery Run following the stabilization of Rose Valley Creek. Access to Tannery Run is restricted near the site due to asbestos contamination.

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23) Will EPA continue to photo document the conditions of Tannery Run and Rose Valley Creeks prior to and after the removal action? (8-10-2009)

EPA will continue to document our efforts during the stream bank stabilizations with photos. Community members are encouraged to visit the EPA Field Office at 324 West Maple Avenue, Ambler, Pennsylvania to see the photos, and any other documents associated with the site.

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24) What will be done with the soil excavated from Rose Valley? (8-10-2009)

The asbestos-containing material (ACM) and organic material near the ACM will be bagged and placed on a roll-off-container, which is then covered. The roll-offs are then sent to landfills in York, PA or Shippensburg, PA, both of which accept hazardous waste.

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25) What did EPA do with the wood chips from the trees that were taken down? (8-10-2009)

The wood chips from the clearing and grubbing were ground to a fine material, spread on-site, and covered with soil.

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26) Why is EPA removing the asbestos-containing material (ACM) pipe debris? (8-10-2009)

The ACM pipes on the stream banks need to be removed in order to prep the slopes for the stream bank stabilization. Once the pipes are removed, soil can be placed on the slopes to ensure a flat surface for the cabled-concrete mats to be installed.

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27) How does the amount of disturbance to the asbestos that EPA has performed differ from a full removal of the asbestos-containing material (ACM)? (8-7-2009)

EPA cannot be certain of the level of disturbance that has occurred in the past and how that would compare to a full removal of ACM at the site. It is likely that the level of asbestos in the air was highly elevated when the manufacturing facility was in operation. EPA's efforts at the site have been minimally invasive, as there has not been a large amount of excavation done at the site in comparison to a complete removal. It is likely that excavation would further increase the risk posed by the site, as well as the complexity of the cleanup.

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28) If EPA were to have started removing the waste back in June of 2008, how much asbestos-containing material would have been removed by now? (8-7-2009)

EPA is not certain how much waste could have been excavated. Excavation of waste is a potential remedy that may be evaluated during the Feasibility Study for the site.

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29) Does the lack of asbestos fibers on the air monitors during intrusive activity prove that a full removal can be obtained safely albeit with careful systematic approaches? (8-7-2009)

The feasibility of such an effort may be evaluated during the Remedial Program's Feasibility Study, which would be able to evaluate the safety of such a remedy.

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30) Is EPA considering removing the asbestos piles as a permanent solution and will EPA's work alleviate flooding issues in West Ambler? (8-7-2009)

EPA's current plan to stabilize the stream bank will address the short-term, potential risk. A remedy such as complete removal would need to be evaluated during the Remedial Investigation/Feasibility Study, as the Remedial Program will address the long-term, potential risks at the site.

The flooding problem associated with Rose Valley stem from issues upstream of the site. Although EPA currently has plans to slightly widen Rose Valley, it is not believed to significantly alleviate the flooding issues in West Ambler.

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31) Are the actions being taken by EPA's Removal Program considered a permanent remedy for the site? (8-7-2009)

EPA's current plan to stabilize the stream bank will address the short-term, potential risk. A remedy such as complete removal would need to be evaluated during the Remedial Investigation/Feasibility Study as the Remedial Program will address the long-term, potential risks at the site.

The Remedial Program does have the option to remove the current stabilization work if it is necessary to make the site more protective of human health and the environment. It is important to note that stream bank stabilization on the Wissahickon Creek has proven to be very effective during storm events.

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32) Is it possible for asbestos to float on the water and therefore, travel off site with the flowing water? (8-3-2009)

The specific gravity of asbestos in its natural mineral form is typically listed at approximately 2.0 and 3.0, depending on the type of asbestos. This is two to three times heavier than water, and, therefore, asbestos fibers are not expected to float. "Shredded" asbestos is often listed as having a specific gravity of 0.3, which being less than 1.0, would imply that shredded asbestos would be lighter than water and be expected to float. This is a misnomer. Shredding asbestos would make the mineral appear light and fluffy like raw cotton, but the asbestos fibers themselves would not change in density. The individual dense fibers would be surrounded by significant volumes of air making the whole mass less dense.
However, when shredded asbestos is wet, water replaces the air in the shredded mass, and the fibers, being still heavier than water, sink.

Note that in certain conditions small particles of dense substances can float because of the strong surface tension characteristic of water (see the high school science experiments on surface tension where a paperclip can "float" in a container of water). However, the conditions for this include the particles being dry and the water being still and clean. Movement, disturbances, or the presence of other substances in the water will interrupt the water's surface tension, causing the particles to sink. It is unlikely that rain water or water from the creek would be still, undisturbed, and free from other substances enough to float asbestos.

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33) What has EPA done to prevent asbestos materials from migrating off site? (8-3-2009)

Following the stabilizations of the stream banks, EPA's Removal Program will assess portions of the Wissahickon Creek downstream from the site, and pick up asbestos-containing material that may be associated with the site. EPA will wait until the stabilizations are complete, to ensure a more complete cleanup.

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34) Is the integrity of the reservoir being considered for the type of work being done nearby? (8-3-2009)

EPA and the owners of the reservoir, the Wissahickon Waterfowl Preserve, are in constant communication regarding work that is conducted near the reservoir. EPA's contractors are aware of any hazards that may be associated with the work being conducted at the site. EPA, in consultation with the Army Corps of Engineers, has considered the integrity of the reservoir when planning for Phase II of the Removal Action. Any questions regarding the maintenance of the reservoir should be directed to the Wissahickon Waterfowl Preserve.

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35) Asbestos materials have been observed downstream from BoRit. Where is it coming from and is it harmful? (8-3-2009)

The majority of the asbestos-containing material (ACM) found downstream from the site has been historically washed down from the slopes of the Wissahickon Creek, Rose Valley Creek, and Tannery Run. EPA's current efforts to stabilize the slopes will prevent further ACM from leaving the site. The Remedial Project Manager is aware of the ACM downstream from the site, and will plan accordingly during the Remedial Investigation.

Although there has not been significant surface water testing downstream of the site, EPA has not had a surface water sample from the Wissahickon Creek, Rose Valley, and Tannery Run above the Maximum Contaminant Level for asbestos.

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36) How much asbestos-containing material (ACM) has been removed from the site? Has anything been removed from the easement portion of the site? (5-18-2009)

Large pieces of ACM were removed, when possible, during the stream bank stabilization. Approximately 460 tons of material was sent to a landfill. It is important to note that the 460 tons includes organic material (soil, vegetation, etc.), contaminated soil, and ACM. Any soil or organic material that was suspected of being contaminated was treated as suspected waste, and disposed of properly. In addition to materials other than ACM being included in the waste amount, dust suppression was used while picking up and consolidating the pile, which made the materials wet and added to the weight.

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37) Will EPA cover exposed areas where asbestos materials are visible with hydroseed or temporarily grass the area? (9-5-2008)

Where asbestos is exposed on the surface either due to erosion or as a result of our activities (e.g., vegetation removal), EPA has been covering exposed areas with imported soil and wood chips (from tree cutting). Having said that, although this is an active construction site, we do not plan to hydro seed or temporarily grass the areas we have covered with clean fill material (soil/wood chips). We are getting ready to start the actual construction and even if we were to hydro-seeded or temporarily grassed those areas the vegetation would probably not take before we start. However, once we are done with the stabilization part, most of the stream bank will be seeded.

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38) Will EPA use a crane when removing the 70 big trees from along the Wissahickon and how will EPA keep the dust levels down? What will be done with the trees after they are felled? (9-5-2008)

Most of the large trees will be cut by hand using chainsaws. Prior to final cuts the tree will be secured by a claw attachment on the excavator which lowers the tree to the ground and transports it to a staging area where the trees are prepared to be fed into the chipper. The tree chippings will be spread on the site surface. We have and will continue to use dust suppression while cutting trees**.**

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39) Is EPA at the site when work is being done? (9-5-2008)

Yes. The EPA On-Scene Coordinator has been on-site since the first day of field activities, Monday, July 7, 2008. He has talked to some residents as they drive by the Site. Direct supervision of workers is conducted by the WRS Compass Response Manager. Additional EPA and Army Corps of Engineers personnel have also been requested.

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40) Why has the EPA chosen to construct a temporary road on the BoRit pile when there are other areas close to the Tannery run and Wissahickon creek that could provide just as easy an access? (9-5-2008)

EPA cleared the vegetation on the flat and stable surface of the Pile Property. EPA does not intend to cut into the pile to make an access road. The alternative of working from the parking lots on the east side of Tannery Run was considered but it is not feasible due to the nature of the adjoining businesses (food service and auto repairs) and the steep slope along the creek. We are evaluating different alternatives to get access to these locations.

Back to Stream Bank Stabilization List

41) Why is EPA clearing the pile? (9-5-2008)

The clearing and grubbing activities are in preparation for the stream bank stabilization work.

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42) Why did EPA start/begin grubbing at the Whitpain Park? (9-5-2008)

The park property is going to be our main staging area. Therefore, we needed to clear the brush to start mobilizing our equipment and build the access roads for when we start bringing the materials which will be used for the stream bank work.

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43) Did EPA grub 16 acres in the park and leave it uncovered? (9-5-2008)

EPA did not grub or clear the entire 16 acre park property. Brush/vegetation was cut and the dead vegetation was left on the ground surface. The subsurface soils have not been disturbed, and a soil cover over the cleared vegetation is viewed as unnecessary at this time.

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44) What percentage of asbestos is present in the Whitpain surface soil? (9-5-2008)

Results from the October 2007 soil sampling event at the Park revealed asbestos content of 0.003 percent in the first three inches. Historical sampling shows that at deeper depth the asbestos content increases.

Back to Stream Bank Stabilization List

45) Why are the earth mover contractors so high up on the "BoRit" pile with the equipment? (9-5-2008)

Those areas are being covered with dirt.

Back to Stream Bank Stabilization List

46) Is the Whitpain Park going to be a staging area for depositing materials needed to stabilize the stream bank and/or for a decontamination area? (9-5-2008)

The Park will be used for both staging and decontamination purposes.

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47) Will there be any activity before the next Community Advisory Group (CAG) meeting? If so, what will be taking place? (9-5-2008)

Yes, there will be activity before the next CAG meeting. Clearing and grubbing activities will continue along the eastern bank of the Wissahickon Creek. In addition, we might start getting the materials needed for building the access roads.

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48) Are EPA contractors going to lay down a fabric and clean soils on all working areas at the park to prevent getting to the asbestos soil? (9-5-2008)

Access roads will be built to sustain heavy traffic and to protect the soil and vegetative cover at the Park. A fabric layer will be placed on certain areas of the Park, to provide a barrier between the ground surface and the materials that will be stockpiled there.

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49) Will there be full time supervision and inspection by the Occupational Safety and Health Administration and/or other agencies?
(9-5-2008)

No, there will be no full time supervision by any other agency. However, a representative from the U.S. Army Corps of Engineers will be onsite as the construction manager. In addition, EPA is working closely with the Agency for Toxic Substances and Disease Registry, the Pennsylvania Department of Health, the Pennsylvania Department of Environmental Protection and the Montgomery County Health Department at this Site and welcome their observations and comments on the operations.

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50) What are the Army Corps (US ACE) recommendations on the creek and reservoir bank restoration; is funding available for this work? (1-2008)

The US ACE's final report (PDF) (27 pp, 5.71 MB) has been available for almost a year at the BoRit Website.

Part of the question is about funding: If EPA decides that implementation of the US ACE recommendations is necessary, funding will be requested.

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51) Is EPA proceeding with respect for the natural environment of the Wissahickon Watershed? (12-27- 2007)

EPA plans to conduct work in a responsible and respectful manner. EPA is evaluating ecologically friendly technology for use in this project and plans to construct it to withstand potentially severe weather conditions.

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52) Is EPA considering some type of dense, thorny vegetation to plant along the stream banks. Such vegetation would make it difficult for trespassers to get to the embankments, or to disturb the cover that is to be installed. This vegetation would also help stabilize the embankments and would prevent erosion. (12-27-2007)

Assuming compatibility with the chosen and necessary stabilization method, EPA plans to plant vegetation on the stream banks as it will serve a dual purpose to stabilize the banks and to deter trespassing.

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53) Will EPA coordinate with the Pennsylvania Department of Transportation (PennDOT) on the removal of the dam in the Wissahickon Creek? (12-27-2007)

Yes. EPA will coordinate with PennDOT.

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54) Does EPA plan to monitor the effectiveness of the stream bank stabilization work? (12-27-2007)

EPA intends to monitor the work done until establishment of the vegetative cover (i.e., one growing season or at least one year).

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55) Does EPA intend to comply with state laws regarding erosion and sediment control? (12-27-2007)

Generally, EPA is required by law to comply with the substantive requirements of applicable federal and state regulations. As a practical matter, EPA intends to seek the input of the County and local government on these issues.

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56) Will EPA coordinate and work with resource agencies including the U.S. Army Corps of Engineers, the Pennsylvania Department of Environmental Protection, the Pennsylvania Department of Conservation and Natural Resources, PA Fish & Boat Commission, and the PA Historical and Museum Commission? (12-27-2007)

EPA has been and will continue working closely with other government entities in this project, several of whom already have inter-agency agreements with EPA in place.

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57) Does EPA require authorization all federal, state, county, or local agencies before work begins on the proposed actions? (12-27-2007)

Generally, EPA is required by law to comply with the substantive requirements of applicable federal and state regulations. As a practical matter, EPA intends to seek the input of the County and local government on these issues.

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58) Has EPA decided how they plan to stabilize the stream bank and stop migration of asbestos? (1-24- 2007)

EPA planned to conduct a site reconnaissance to identify the area(s) in need of stabilization to stop erosion and migration of asbestos into adjacent watershed. To date, based on validated sampling results (i.e., surface water and sediment) EPA has not identified any area in which migration is occurring.

In the October 2006 public meeting, EPA explained that the U.S. Army Corps of Engineering was brought to the Site to provide EPA with some potential short and long term options for bank stabilization (the report is posted on the website).

EPA will not make a final decision about a remedy, if any, for the Site until the sampling program has been completed. At that time, EPA will decide which stabilization option, if any will be selected for the Site.

It is important to remember that EPA makes decisions based on risk calculated using validated data.

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Technical Assistance for Communities

Back to Response Categories List

1) What is the business relationship between the EPA and Ecology and Economics, Inc (E^2)? (8-13-2009)

2) Is Ecology and Economics, Inc (E^2) a non-profit 501C company? (8-13-2009)

3) Did Ecology and Economics, Inc (E^2) participate in a bid for a contract with the EPA for the BoRit Site? (8-13-2009)

4) Did Ecology and Economics, Inc (E^2) apply for a Technical Assistance Grant (TAG) of $50,000 for the BoRit Site? If so, what is the actual amount of the contract? If not, what is the nature and scope of the contract and the amount? (8-13-2009)

5) Did Ecology and Economics, Inc (E^2) apply for a Technical Assistance Services for Communities (TASC) grant? If so, what is the actual amount of the contract for the site? (8-13-2009)

6) What benefits would a Historically Underutilized Business Zone firm (HUBZone) certified woman owned small business (WOSB) receive when bidding for EPA contracts? (8-13-2009)

7) What rights does Ecology and Economics, Inc (E^2) have regarding the approval and selection process for specialists? (8-13-2009)

8) Can Ecology and Economics, Inc (E^2) deny a request from the Community Advisory Group (CAG)? (8-13- 2009)

9) How is Ecology and Economics, Inc (E^2) helping the BoRit Community Advisory Group (CAG) develop a website and what have been some of the impediments? (8-13-2009)

10) Does a designated representative of the EPA have to approve each entry onto the website? Will they delegate that responsibility to Ecology and Economics, Inc (E^2) or can the Community Advisory Group (CAG) assume responsibility? (8-13-2009)

11) Why does Ecology and Economics, Inc (E^2) get to choose the designer and the type of website? (8-13- 2009)

12) What is the amount of allowable expenses for the BoRit Community Advisory Group (CAG)? (8-13- 2009)

13) Does this amount renew yearly? (8-13-2009)

14) How much money has the BoRit Community Advisory Group (CAG) spent to date? (8-13-2009)

15) Can the Community Advisory Group (CAG) get a technical assistance grant (TAG)? (1-2008)

Back to Response Categories List

1) What is the business relationship between the EPA and Ecology and Economics, Inc (E^2)? (8-13-2009)

E^2 is an Environmental Consulting firm that conducts business primarily under contracts with the federal government. In accordance with Federal Acquisition Regulations, EPA's Office of Acquisition Management, Headquarters Contract Service Center, conducted a competitive procurement resulting in an award of a contract for Technical Assistance Services for Communities to E^2 of Charlottesville, VA, in July 2007.

Under the terms of the contract, E^2 provides independent technical services primarily to communities that are affected by hazardous waste sites regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Under the contract, technical assistance may also be provided to communities throughout the United States and its territories impacted by Resource Conservation and Recovery Act or Federal facilities or dealing with air or water problems.

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2) Is Ecology and Economics, Inc (E^2) a non-profit 501C company? (8-13-2009)

E^2, an environmental consulting firm based in Charlottesville, VA, is not a non-profit. According to the Small Business Administration, E^2 is considered a Woman-Owned Small Business and an Historically Underutilized Business Zone firm.

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3) Did Ecology and Economics, Inc (E^2) participate in a bid for a contract with the EPA for the BoRit Site? (8-13-2009)

No. EPA does not have a contract specifically for support at the BoRit Site. The Technical Assistance Services for Communities (TASC) contract covers multiple TASC activities at numerous sites across the country.

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4) Did Ecology and Economics, Inc (E^2) apply for a Technical Assistance Grant (TAG) of $50,000 for the BoRit Site? If so, what is the actual amount of the contract? If not, what is the nature and scope of the contract and the amount? (8-13-2009)

No. E^2 is ineligible to apply for a TAG for the BoRit Site, because E^2 is not considered a community group affected by a Superfund site. E^2 is an Environmental Consulting firm that conducts business primarily under contracts with the federal government.

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5) Did Ecology and Economics, Inc (E^2) apply for a Technical Assistance Services for Communities (TASC) grant? If so, what is the actual amount of the contract for the site? (8-13-2009)

No. The TASC program is not a grant program. The TASC program is administered through a contract. E^2 successfully competed for the TASC contract.

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6) What benefits would a Historically Underutilized Business Zone firm (HUBZone) certified woman owned small business (WOSB) receive when bidding for EPA contracts? (8-13-2009)

Per the Federal Acquisition Regulations (FAR) Part 19 (see 19.1305 & 19.1306), the Government may conduct a HUBZone set-aside competition, restricting the competition to HUBZone firms. The Government may also award a sole source contract to a HUBZone firm, provided that only one HUBZone firm can satisfy the requirement, with several other criteria met, including dollar thresholds. See FAR 19.1305 and FAR 19.1306 for the set-aside and sole source requirements.

The Technical Assistance Services for Communities contract was procured through a competitive HUBZone set-aside process, meaning that only HUB Zone firms were eligible to compete for the award. It was not a sole source procurement, and as a result of the competition, EPA awarded a contract to Ecology and Economics, Inc (E^2).

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7) What rights does Ecology and Economics, Inc (E^2) have regarding the approval and selection process for specialists? (8-13-2009)

In choosing subcontractors, E^2 may select qualified subcontractors according to the terms and conditions of its contract with EPA and its own corporate policies. EPA has privity of contract with E^2, not any subcontractors or consultants hired by E^2. Thus, E^2 is responsible for all the work products of its subcontractors or consultants.

E^2's website provides information to contractors interested in applying for consideration as subcontractors on any of E^2's projects (not limited to Technical Assistance Services for Communities). When EPA issues a new technical directive to E^2, the company looks, first, to its own employees for the needed expertise. If the expertise is not available in-house, E^2 turns to its subcontractors.

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8) Can Ecology and Economics, Inc (E^2) deny a request from the Community Advisory Group (CAG)? (8-13- 2009)

If this question means to ask if E^2 can refuse to use a specialist that the CAG asks them to use, the answer is "Yes." E^2 has an extensive staff and established relationships with qualified subcontractors. They are under no obligation to incur the additional expenses that would be required to confirm the qualifications of persons referred to them by CAGs or others.

Technical Assistance Services for Communities (TASC) is a contract between EPA and E^2. EPA receives requests from communities for technical assistance support, and in turn, EPA tasks E^2 with providing support. EPA seeks to satisfy all valid community requests, but at times, may not be able to meet requests if they fall outside the scope of work for the contract or if it will require greater resources than EPA has budgeted. EPA evaluates the communities' requests for assistance, and if they fall within the TASC contract scope of work, EPA can task E^2 to provide the assistance. Some examples of technical assistance provided under TASC include:

Providing a basic education on the scientific, engineering or economic concepts underlying an environmental problem and its solution. Reviewing and explaining reports and data sets generated as part of an environmental investigation.

Explaining and understanding the health risk, economic, and environmental components of hazardous contamination; and

Outlining the different reuse/redevelopment options for contaminated land.

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9) How is Ecology and Economics, Inc (E^2) helping the BoRit Community Advisory Group (CAG) develop a website and what have been some of the impediments? (8-13-2009)

EPA is providing Technical Assistance Services for Communities (TASC) services so that E^2 can assist the CAG to develop a website. E^2 has been working with the BoRit CAG's Communications Work Group to create a website for the CAG.
E^2 is waiting for EPA to determine what additional TASC services can be provided to the BoRit CAG regarding its website. E^2, under contract with EPA, must comply with EPA policies for web site production and also must ensure that the BoRit CAG's website complies with relevant EPA policies regarding information technology, information management, and content.

EPA HQ has established requirements for EPA websites and for EPA-funded websites. The requirements vary according to the funding mechanisms involved. The EPA Region 3 TASC Work Assignment Manager (WAM) and Coordinator researched the existing requirements because the BoRit CAG's website is the first website developed under the national TASC contract and the first website on which the Region 3 TASC staff worked.

EPA Region 3 must ensure it is not overlooking any established requirements or setting national precedent without careful consideration. It is also important that EPA HQ personnel who monitor website compliance understand the nature of the BoRit CAG's website so that the website is not subjected to inappropriate requirements. For example, HQ has to determine whether or not the website can be considered "EPA funded," if the website is turned over to the CAG to operate and maintain without EPA or E² assistance when the design is completed and the website is made available to the public.

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10) Does a designated representative of the EPA have to approve each entry onto the website? Will they delegate that responsibility to Ecology and Economics, Inc (E²) or can the Community Advisory Group (CAG) assume responsibility? (8-13-2009)

If a CAG purchases its own URL, neither EPA nor E² will be involved in reviewing or approving the website content. The CAG will assume the responsibility of establishing procedures to ensure that its website reflects the opinions of the entire CAG and not the opinions of a single work group or an individual member. If a CAG does not want to purchase its own URL and asks EPA to host a CAG website, EPA will control the website content, which would be limited in scope to such materials as meeting notes and events calendars.

EPA believes that most CAGs would prefer to control their own websites. To that end, EPA will provide Technical Assistance Services for Communities services to help CAGs develop and test their websites and will train CAG members to operate and maintain them when they "go live." However, to control their
websites, CAGs must own their URL addresses. URL addresses may be purchased from commercially available hosts. URL fees are estimated to cost approximately $140, or less, annually. Thus a member of a 25-member CAG would incur costs of less than $6 per year, if the members paid for a URL from their own pockets.

In addition to requiring CAGs to purchase their URLs, EPA also requires that CAG controlled websites carry prominently displayed disclaimers on every page to ensure that website visitors do not misunderstand whose information and opinions they have accessed. The disclaimers must also carry links to EPA's own official site-related websites.

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**11) Why does Ecology and Economics, Inc (E²) get to choose the designer and the type of website?
(8-13- 2009)**

E² has a contract with EPA to provide technical assistance services. It also possesses a qualified staff of technical experts. One criterion for awarding the Technical Assistance Services for Communities contract to E² was its technical expertise, and it is E²'s responsibility to determine which of its staff or subcontractor personnel can best render the required services. The initial content and design of websites is developed collaboratively between E² and the Community Advisory Groups.

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12) What is the amount of allowable expenses for the BoRit Community Advisory Group (CAG)?
(8-13- 2009)

It is important to keep in mind that Technical Assistance Services for Communities (TASC) resources are shared by all eligible organizations that request TASC support. TASC does not "earmark" funds for specific sites. Therefore, no "allowable" expense has been established for the BoRit CAG. The amount of funds provided for a specific community group depend on the level of technical assistance requested or needed by a group and the availability of resources at the time requests are received. EPA does its best to fill requests, as long as they are appropriate and funds are available.

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13) Does this amount renew yearly?
(8-13-2009)

New funds are authorized for Technical Assistance Services for Communities annually. Because funding is not allocated to specific sites, new funds are not set aside for the BoRit Community Advisory Group (CAG) - or any CAG - annually.

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14) How much money has the BoRit Community Advisory Group (CAG) spent to date? (8-13-2009)

As of March 31, 2009, approximately $69,000 had been spent to support the BoRit Technical Assistance Services for Communities (TASC) project.

The TASC program receives funding from the Superfund budget each year. To date, the dollar amount has varied each year, based on changes to the Agency's overall budget. TASC money is allocated roughly equally among the 10 EPA regions. There is flexibility to shift funds among the regions, as needed so that funds not being used in one region may be used by another region that is experiencing a greater demand for TASC services. Each region has discretion regarding how TASC money is spent within the region.

The BoRit CAG has requested specific services through TASC based on their needs. The CAG decides and agrees collectively as to which services would most benefit them as a group. Since the BoRit CAG was formed in 2007, they have requested the following TASC support:

Assistance to conduct a needs assessment.
Independent expertise in stream bank and asbestos
remediation. Expertise in land reuse and revitalization.
Assistance to develop a website.
Independent research into asbestos remediation technologies.

EPA did decline to provide TASC support to conduct independent research into asbestos remediation technologies (#5) for the following reason:

TASC resources are not designed to duplicate EPA's investigative work but to help

communities understand our work so that they are able to ask informed questions and provide input into our decision-making process. EPA has communicated this reasoning to the CAG.

As part of our Remedial Investigation and Feasibility Study (RI/FS), EPA will be researching asbestos remediation technologies and we will share that information with the CAG. At that time, the CAG will have the benefit of the full range of remediation technologies to evaluate, including any new technologies that may emerge between now and when our investigation is completed several years from now. Additionally, in order to perform a meaningful search of technologies that might be applicable to the BoRit Site, site-specific data will need to be collected. Such data will not be available until EPA's investigation is completed. TASC support will be available to assist the CAG to evaluate EPA's efforts, findings, and recommendations throughout the RI/FS, if they choose to use the TASC resource.

In response to Ms. McCormick's concern that TASC has only provided "communication people" and not technical experts, we have provided you with a factual summary of each TASC technical expert that the BoRit CAG has accessed through Ecology and Economics, Inc (E^2), their qualifications, and the services they have provided to the CAG to date.

Summary of TASC Expertise and Activities Provided to the BoRit CAG to Date:

All of the technical expertise provided to the CAG is coordinated through **Mr. Michael J. Lythcott,** E^2 Senior Associate and Work Assignment Manager for the TASC contract. He worked with the CAG to develop the requested Technical Assistance Needs Assessment which was delivered to the CAG and EPA on May 28, 2008. Mr. Lythcott holds a **B.A. in Politics and International Affairs** and is the former Vice-Chair of the Waste and Facility Siting Subcommittee of the National Environmental Justice Advisory Council (NEJAC) and Chairman of the Brownfields/Superfund/Black Land Loss Committee of the National Black Environmental Justice Network (NBEJN). Mr. Lythcott has provided numerous training, facilitation, policy and curriculum development, and relocation consulting services to industry, academia, government entities, labor unions and grass roots organizations, domestically and abroad.

Ms. Melinda Holland, who facilitated the formation of the BoRit CAG as an independent consultant and subcontractor to SRI, is now an employee of E^2. She is currently working with the BoRit CAG to assess the dynamics of the CAG and determine what will be required to help the CAG develop more productive patterns of interaction. Based on her findings, Ms. Holland is authorized to offer CAG members collaboration skills training and offer the CAG co-chairs and work group chairs training to strengthen their meeting facilitation abilities. Ms. Holland holds a **B.S. in Microbiology** from the University of South Florida and a **J.D. from the University of North Carolina School of Law.** She has 20 years of experience managing and facilitating environmental consensus-building processes involving multiple stake holders. She has 13 years experience as a scientist and an attorney working for state and local environmental agencies in hazardous waste, water, wetlands, waste-water, and other environmental programs. Ms.Holland has been a member of the U.S. Institute for Environmental Conflict Resolution's "National Roster of Environmental Conflict Resolution and Consensus-Building Professionals" since its inception.

Mr. Douglas Streaker, PE (Professional Engineer), is a Water Resources Engineer, employed by Biohabitats, Inc, a subcontractor to E^2. He is the independent adviser to the CAG who is providing oversight on the current stream bank restoration project. Among other experience, he has performed geomorphic assessments of numerous degraded streams, has designed and prepared construction documents and specifications, and coordinated permitting for many stream restoration

projects. On September 2, 2008, Mr. Streaker presented his "Summary of Stream Bank Stabilization" to EPA and the CAG. He attended numerous EPA and CAG meetings before and after completing the summary, and he was provided a site tour of EPA's stream bank remediation project on January 12, 2009. He subsequently, submitted a memo report of his observations and recommendations to EPA and the CAG.

Ms. Michele P. Benchouk is an environmental consultant employed by Booz, Allen, Hamilton and is a subcontractor to E². She is providing independent remediation expertise to the BoRit CAG. Ms Benchouk holds a **B.S. in Environmental Engineering Technology** and is currently pursuing an **M.S. in Environmental Science and Policy** from Johns Hopkins University. She has over 18 years of environmental consulting experience and her areas of expertise include hazardous and solid waste management under the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation, and Liabilities Act (CERCLA aka Superfund), and other regulatory programs. While Ms. Benchouk is not specifically an asbestos remediation expert, she has some experience in asbestos remediation and this information was discussed openly with the CAG before Ms. Benchouk was assigned to the project.

Ms. Miranda Maupin is the manager of E²'s Community Planning and Design Team. Ms Maupin worked with the BoRit CAG's Future Uses Work Group to assess current land use and infrastructure needs and develop viable reuse scenarios for the BoRit Site. Ms. Maupin presented her findings and report to the CAG and EPA in May 2009. She holds an **MLA (Masters in Landscape Architecture)** from the **University of Washington** and is the recipient of the "Excellence in Government" Award from Harvard Business School. Ms Maupin has 11 years of public-sector planning, policy development, urban redevelopment, and stakeholder involvement experience in land use and planning for Superfund and Brownfields- impacted communities. Prior to joining E², Ms Maupin was Senior Strategic Advisor for the City of Seattle, Washington. She's lead several multidisciplinary teams to initiate sustainable redevelopment projects. One of these projects was featured in a PBS series, "Eden Lost and Found", as a national example of sustainability.

Alisa Hefner assisted Ms. Maupin to develop the reuse scenarios report for the BoRit CAG. Ms. Hefner is an Associate Designer on E²'s Community Planning and Design Team. Her experience is in community- based projects such as "rails to trails" initiatives and photo-realistic simulations of alternative development scenarios demonstrating watershed protection. Prior to joining E², Ms. Hefner worked in

historic preservation. Her work focused on cultural landscape assessment and treatment recommendations to protect historic resources. Ms. Hefner has a **Masters in Landscape Architecture** with a minor in ecological restoration from North Carolina State University.

Ms. Krissy Russel-Hedstrom holds a **Ph.D.** and an **M.S. in Environmental Sciences** from the University of Virginia and a **B.S**. in Chemistry from the University of Delaware. She assisted the CAG in designing their website. She is an environmental scientist and educator and has taught chemistry and environmental science at the Colorado Rocky Mountain School in Carbondale, Colorado, where she chaired the science department. Her graduate research on wet and dry nitrogen deposition to sensitive water bodies on the mid-Atlantic coast has been published in several research journals.

Ms. Johnny Zimmerman-Ward is a Mission Support Associate with E². Her projects include web site management, conference support, and brochure development. Ms Zimmerman-Ward holds a **B.S. in Environmental Science** from the University of Virginia.

Ms Allison Frost has a **BA in Social Justice** from the University of Washington. She joined E^2 in March 2009. The majority of her work, to date, involves web site design and management and graphic design.

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15) Can the Community Advisory Group (CAG) get a technical assistance grant (TAG)? (1-2008)

No. TAG's are specifically limited to Remedial sites by law. However, the new Technical Assistance Services for Communities program is being offered to the CAG as an educational and assistance tool.

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Technology

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1) Have geocells been used as a stabilization method on other waste sites in the country? (5-18-2009)

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1) Have geocells been used as a stabilization method on other waste sites in the country? (5-18-2009)

Geocells have been successfully implemented on the former Ambler Asbestos Superfund Site. The geocells at the former Superfund site were filled with concrete. At the BoRit Superfund Site, the geocells are being filled with soil and stone. There are sections of the geocells structure at the former Superfund site that are scheduled for maintenance this Fall, but the maintenance is for repairing erosion of the stream bank around it. The geocells structure has remained intact and functional since it was installed in 1992.

It is important to note that EPA has been working closely with the United States Army Corps of Engineers on the design of the stream bank stabilization. They have supported the designs for the BoRit Superfund Site.

Any questions regarding the former Ambler Asbestos Superfund Site should be directed to the Remedial Project Manager, Gregory Voigt, at (215) 814-5737.

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Water and Aquatic Life

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1) Has EPA tested for asbestos in the drinking water in Ambler, Whitpain and Upper Dublin? (7-3-2010)

2) Has EPA studied the possibility of asbestos leaching into our groundwater? (7-3-2010)

3) Does EPA expect asbestos fibers to migrate during severe rainfall events? (8-10-2009)

4) What is being done to prevent asbestos from getting into the creek? (1-2008)

5) Can asbestos fibers in water be deposited on downstream banks during high water then become dried and eventually airborne? (1-2008)

6) Do fibers in the water pose a health threat to human beings? (5-1-2007)

7) Does EPA plan to prevent asbestos from getting into the waterways? (3-12-2007)

8) Is EPA investigating the fish kill or water contamination? (3-12-2007)

9) What is keeping the asbestos fibers out of the water? (Unknown Date)

10) ROD Issue: Several commenters expressed concern, noting that the Wissahickon Creek is listed under Section 303(d) of the Federal Clean Water Act (CWA) as impaired and is subject to total maximum daily load (TMDL) requirements for sediment and certain nutrients. Commenters requested that future land management at the Site be carried out in a way that utilizes best management practices that reduce future sediment and nutrient pollution loads to the creek. (7-28-17)

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1) Has EPA tested for asbestos in the drinking water in Ambler, Whitpain and Upper Dublin? (7-3-2010)

Under the Safe Drinking Water Act, Pennsylvania has asbestos monitoring requirements applicable to public water systems such as those serving the Ambler area. The Pennsylvania Department of Environmental Protection (PADEP) has informed EPA and the Agency for Toxic Substances and Disease Registry (ATSDR) that the Ambler Borough Public Water supply is in compliance for the asbestos monitoring requirements. PADEP recalls that Ambler Borough conducted initial asbestos monitoring in the early 1990s after EPA's rule first came out, and the results for this public water system were below the asbestos Maximum Contaminant Level. EPA and ATSDR requested any available asbestos sampling for this system from PADEP and the local water authority.

EPA is using Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authority, commonly known as Superfund, to address the conditions at the BoRit Asbestos Site. Superfund was established to address abandoned hazardous waste sites and conduct response actions that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances to the environment. The Safe Drinking Water Act is the main Federal law that ensures the quality of Americans' drinking water. In Pennsylvania, PADEP is delegated the authority for enforcing the drinking water regulations.

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2) Has EPA studied the possibility of asbestos leaching into our groundwater? (7-3-2010)

As part of our evaluation of the BoRit Asbestos Site, EPA is conducting a Remedial Investigation (RI) to determine the full nature and extent of contamination. Currently, EPA has just finished the first phase of environmental sampling for the RI (Phase I), which included soil, waste, surface water, and sediment sampling (with some nearby flood plain samples). To obtain water levels, groundwater piezometers were also installed on the Site and groundwater samples were collected. EPA is currently in the process of putting together a report summarizing all this sampling information, and it is anticipated that the report will be completed and shared with the public very soon. Furthermore, EPA has just begun scoping the extent of the Phase II sampling effort and is hoping to conduct this sampling in late summer/early fall 2010. As part of the Phase II investigation, EPA is planning to install a number of groundwater wells on the BoRit Asbestos Site to determine the nature and extent of contamination, if any, ingroundwater.

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3) Does EPA expect asbestos fibers to migrate during severe rainfall events? (8-10-2009)

EPA does not believe that asbestos would migrate significantly from the site during such a rain event. As has been mentioned several times, vehicles on site are not coming into direct contact with asbestos- containing material as they must stay on the access roads that have been.

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4) What is being done to prevent asbestos from getting into the creek? (1-2008)

EPA has developed plans to stabilize the creek sides and eroded areas near the site.

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5) Can asbestos fibers in water be deposited on downstream banks during high water then become dried and eventually airborne? (1-2008)

Current testing has shown that this is not a concern under the conditions that we have recently observed.

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6) Do fibers in the water pose a health threat to human beings? (5-1-2007)

Some fibers were found in some sediment samples (i.e., higher concentration of .10%). Results from recent sampling events (i.e., April or November 2006) showed no fibers were detected on any of the surface water samples. The only surface water in which asbestos fibers were detected was taken from the reservoir in April 2006. As far as the scenario described above, it is very unlikely.

During recent sampling events no fibers have been detected in surface water samples taken from the creeks adjacent to the Site. EPA addressed the issue of the aquatic life in its original response because we got some e-mails from concerned residents about dying fish.

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7) Does EPA plan to prevent asbestos from getting into the waterways? (3-12-2007)

As part of EPA's site assessment, we plan to evaluate the need to stop erosion and migration of asbestos into the adjacent watershed. As mentioned above, EPA did detect low concentrations of asbestos in a few sediment samples taken from the Wissahickon Creek. However, it is difficult to accurately distinguish whether it came from the Site (i.e., the asbestos was detected in sample locations both upstream and downstream from the Site) or is a result of the area's history of asbestos manufacturing, or from other sources. In addition, EPA and the Pennsylvania Department of Environmental Protection ecological staff have not expressed any concerns regarding health threats to aquatic life.

Based on the April 2006 validated results, EPA believed that stabilization of the banks and covering some bare portions of the Site were immediate actions necessary to prevent erosion into Wissahickon Creek. However, based on the recent validated results (i.e., October and November 2006); no off-site asbestos migration has been found at levels that pose an unacceptable or significant health risk. Nonetheless, EPA continues to look into different alternatives (e.g., applying some sort of stabilizing agent to the banks that appeared to be eroding into the stream). To date, EPA has not identified an agent that would be suitable for the Site. In addition, EPA is currently reviewing the different long term stabilization alternatives the U.S. Army Corps of Engineers recommended for the Site. The report is posted on EPA's BoRit website.

EPA will not make a final decision about a response action, if any, for the Site until the sampling program has been completed. At that time, EPA will decide which option, if any, will be selected for the Site.

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8) Is EPA investigating the fish kill or water contamination? (3-12-2007)

Last year's fish kills in the Wissahickon Creek were due to a chemical release. The fish kills in the Wissahickon Valley Watershed Association Reservoir were due to oxygenation and bacteriological causes. Neither of the fish kills were related to asbestos.

EPA sampled the three bodies of water (i.e., Tannery Run, Rose Valley Creek and Wissahickon Creek) adjacent to the Site in November 2006. We collected nine surface water samples and they all came back clean (no asbestos detected). We also collected 22 sediment samples. Asbestos fibers were found in 3 of 22 sediment samples (up to 0.10%). Since one of the three samples, in which asbestos was detected, was collected upstream, the results do not indicate that asbestos in the sediment necessarily came from the Site. In addition to the low concentration detected in those three sediment samples, the samples were taken from a far upstream (background) location, a far downstream location, and the remaining one was somewhere in the middle. This suggests either that the asbestos levels detected could be background levels, or that there might be a source other than the Site.

The April sampling also got hits on the upstream and downstream sediments samples. Nothing was detected in the water samples from the Wissahickon, just in a water sampling from the reservoir. In addition, the streams adjacent to the Site were surveyed.

The results of the benthic survey performed by the Pennsylvania Department of Environmental Protection (PADEP) showed that the Wissahickon Creek in the reach examined remains impaired from municipal point sources (e.g., nutrients) and non-point sources (e.g., nutrients, siltation, water and flow variability). Although disposed asbestos products were observed on the stream substrate and banks, there was no evidence that asbestos materials were contributing to these impairments (PADEP memo dated January 24, 2007(PDF))

EPA shared the water and sediments results with its Biological Technical Assistance Group (BTAG). They evaluate the ecological risk. They reviewed the validated results and did not express any concerns or a need for follow-up investigation activities.

For information about what BTAG is and its role of in ecological assessments go to https://www.epa.gov/risk/biological-technical-assistance-group-btag-screening-values

The results of the benthic survey performed by PADEP showed that the Wissahickon Creek in the reach examined remains impaired from municipal point sources (e.g., nutrients) and non-point sources (e.g., nutrients, siltation, water and flow variability). Although disposed asbestos products were observed on the stream substrate and banks, there was no evidence that asbestos materials were contributing to these impairments (PADEP memo dated January 24, 2007(PDF)).

All water sample results are available on the BoRit website.

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9) What is keeping the asbestos fibers out of the water? (Unknown Date)

EPA's water sampling revealed no asbestos fibers in the surface water, therefore there was no need to determine what mechanism was in effect to keep fibers out.

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10) ROD Issue: Several commenters expressed concern, noting that the Wissahickon Creek is listed under Section 303(d) of the Federal Clean Water Act (CWA) as impaired and is subject to total maximum daily load (TMDL) requirements for sediment and certain nutrients. Commenters requested that future land management at the Site be carried out in a way that utilizes best management practices that reduce future sediment and nutrient pollution loads to the creek.(7-28-17)

EPA Response: While EPA does not have the final say on the future land use at the Site parcels, EPA agrees that reductions in pollutant loads to Wissahickon Creek should be considered as part of future land management decisions at the Site. The ICs required under Section 13.2.6 of the ROD require maintenance of vegetative cover along streambanks and prohibit digging, dredging, or any other type of earth disturbance without prior approval from EPA, in consultation with PADEP. Enforcement of these ICs will help limit pollutant loads to Wissahickon Creek, regardless of future land use.

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