FIRST FIVE-YEAR REVIEW REPORT FOR BORIT ASBESTOS SUPERFUND SITE MONTGOMERY COUNTY, PENNSYLVANIA

AUGUST 2022

Prepared by

U.S. Environmental Protection Agency
Region 3
Philadelphia, Pennsylvania

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Date

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LIST OF ABBREVIATIONS AND ACRONYMS

ABS	Activity-Based Sampling
ACM	Asbestos-Containing Material
ARAR	Applicable or Relevant and Appropriate Requirement
BTAG	Biological Technical Assistance Group
CAG	Community Advisory Group
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COC	Contaminant of Concern
EPA	United States Environmental Protection Agency
ESL	Ecological Screening Level
f/cc	Fibers per Cubic Centimeter
f/l	Fibers per Liter
FYR	Five-Year Review
IC	Institutional Control
K&M	Keasby & Mattison Company
MCL	Maximum Contaminant Level
µg/kg	Microgram per Kilogram
mg/kg	Milligram per Kilogram
MFL	Million Fibers per Liter
ng/kg	Nanogram per Kilogram
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
ND	Not Detected
NOAEC	No Observed Adverse Effect Concentration
NOAEL	No Observed Adverse Effect Level
NPL	National Priorities List
NS	Not Sampled
O&M	Operation and Maintenance
OU	Operable Unit
PADEP	Pennsylvania Department of Environmental Protection
PCME	Phase Contrast Microscopy Equivalent
PLM	Polarized Light Microscopy
RAO	Remedial Action Objective
ROD	Record of Decision
RPM	Remedial Project Manager
s/cc	Structures per Cubic Centimeter
SVOC	Semi-Volatile Organic Compound
TRV	Toxicity Reference Value
UU/UE	Unlimited Use and Unrestricted Exposure
VOC	Volatile Organic Compound
WHO	World Health Organization

I. INTRODUCTION

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings and conclusions of reviews are documented in FYR Reports such as this one. In addition, FYR Reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) is preparing this FYR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii)), and considering EPA policy.

This is the first FYR for the BoRit Asbestos Superfund site (Site). The triggering action for this statutory review is the on-Site construction start date of the Operable Unit 1 (OU1) remedial action for the Site (the Site consists of only one OU). The FYR has been prepared because hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure (UU/UE). The remedial action for the Site addresses waste, soil, and reservoir sediment.

The EPA remedial project manager (RPM) led the FYR. Additional participants from EPA included the EPA community involvement coordinator, human health and ecological risk assessors, a hydrogeologist, and legal counsel. The Pennsylvania Department of Environmental Protection (PADEP) also participated in the review. Skeo provided EPA contractor support for this FYR. The review began on June 22, 2021.

Site Background

The Site is located in the Borough of Ambler, Whitpain Township, and Upper Dublin Township, Montgomery County, Pennsylvania (Figure C-1). The contamination at the Site is a result of disposal operations by the former Keasby & Mattison (K&M) Company. K&M produced asbestos products from 1897 to 1962 at their Ambler, Pennsylvania facility. K&M ceased operations in 1962.

The Site includes three adjacent parcels (see Figure 1):

- The Park Parcel, located in Whitpain Township, is about 11 acres and contains a former asbestos disposal area. In the past, this parcel was Whitpain Wissahickon Park, but the park was closed in 1984.
- The Asbestos Pile Parcel, located in Ambler Borough and Upper Dublin Township, is about 6 acres with a 3-acre asbestos waste pile in the middle of the property.
- The Reservoir Parcel, primarily located in Upper Dublin Township, is about 15 acres and contains a reservoir. The reservoir is manmade and is not used for drinking water supply.

The Site also includes portions of Wissahickon Creek, Rose Valley Creek, and Tannery Run.

Surrounding land uses are primarily residential and commercial. The Reservoir Parcel is used as a waterfowl preserve. Wissahickon Waterfowl Preserve owns the Reservoir Parcel and has installed trails and viewing platforms along West Maple Street to promote bird watching and improve the aesthetic value of the area; the trails and platforms are on uncontaminated, uncapped areas. The Park Parcel and the Asbestos Pile Parcel are currently not used. Whitpain Township is planning to build a public park on the Park Parcel. The future use of the Asbestos Pile Parcel is not known at this time.

Refer to Appendix A for additional resources and to Appendix B for the Site's chronology of events.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: BoRit Asbestos		
EPA ID: PAD981034887		
Region: 3	**State:** Pennsylvania	**City/County:** Ambler / Montgomery

SITE STATUS	
NPL Status: Final	
Multiple OUs? No	**Has the Site achieved construction completion?** Yes

REVIEW STATUS
Lead agency: EPA
Author name: Irene Shandruk, with additional support provided by Skeo
Author affiliation: EPA Region 3
Review period: 6/22/2021 - 8/1/2022
Date of site inspection: 12/16/2021
Type of review: Statutory
Review number: 1
Triggering action date: 9/25/2017
Due date *(five years after triggering action date)*: 9/25/2022

Figure 1: Detailed Site Map

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

EPA and the Pennsylvania Department of Environmental Resources (now called PADEP) conducted sampling in late 1983 and in the spring of 1984, respectively. Asbestos, specifically chrysotile, was identified as the primary contaminant at the Site.

EPA performed a preliminary assessment of the Asbestos Pile Parcel in March 1987. The Asbestos Pile was found to be fenced and vegetated, but there was evidence of trespassers. A soil sample collected from the Asbestos Pile was found to contain asbestos. For about 20 years, PADEP regulated the Asbestos Pile according to the applicable National Emission Standards for Hazardous Air Pollutants regulations for inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations. Because asbestos-containing material (ACM) had not been covered with 2 feet of clean material, these regulations required the parcel to be fenced, have a vegetated cover, and have signs indicating the presence of asbestos.

In April 2006, EPA's Site Assessment Program conducted sampling and found asbestos in the air, soil, surface water, and sediments at the Site. EPA added the Site to the Superfund program's National Priorities List (NPL) in April 2009. EPA conducted a remedial investigation for all three parcels of the Site from 2009 to 2013.

EPA's 2013 human health risk assessments and screening-level ecological risk assessment found that cleanup was necessary to protect the public health, welfare or the environment. EPA's human health risk assessments found that, without cleanup, the Site could have posed an unacceptable risk in the following scenarios:

- Maintenance workers at the Asbestos Pile Parcel and the Park Parcel.
- Swimming in Wissahickon Creek.
- Eating fish from Wissahickon Creek.
- Hypothetical future residents using contaminated groundwater.

The human health risk assessments found that the Site did not pose an unacceptable risk to nearby residents.

The screening-level ecological risk assessment indicated that several Site-related contaminants of concern (COCs) detected in waste/soil and in reservoir sediment were at levels that may cause adverse effects to ecological receptors, such as fish. Table 1 lists the Site's COCs.

Table 1: COCs by Media

COC	Media
Human Health: • asbestos Ecological: • asbestos • bis(2-ethylhexyl)phthalate • dioxins and furans • chromium • nickel • zinc	Waste/Soil
Ecological: • asbestos • carbon disulfide	Reservoir Sediment
Source: Record of Decision, Section 7.3 and Table 41	

Response Actions

EPA conducted a removal action from 2008 to 2017 to address the most immediate environmental concerns at the Site. Major components completed by the EPA Removal Program included:

- Stream bank stabilization at Rose Valley Creek, Tannery Run and Wissahickon Creek.
- Installation of cover at the Asbestos Pile Parcel.
- Installation of cover at the Park Parcel.
- Dewatering of the reservoir with treatment of surface water prior to discharge to Wissahickon Creek.
- Re-grading and lining of reservoir berm interior slopes.
- Installation of a cover on the reservoir bottom.
- Refilling of the reservoir.
- Activity-based sampling (ABS) at residences adjacent to the Site.

At all three areas of the Site, the cover consists of geotextile and a minimum of 2 feet of clean material.

EPA selected a final remedy (Selected Remedy) for the Site in a 2017 Record of Decision (ROD). The Selected Remedy addresses waste, soil, and reservoir sediment contamination associated with the Site. The ROD lists the following remedial action objectives (RAOs):

RAOs for Waste/Soil

- Protection of Human Health
    - Minimize the inhalation of asbestos associated with waste/soil disturbances such that related cancer risks from airborne asbestos fibers are within or below EPA's acceptable risk range of 1 in 10,000 (1×10^{-4}) to 1 in 1,000,000 (1×10^{-6}).
- Environmental Protection
    - Prevent direct contact (i.e., inhalation, incidental ingestion, and dermal absorption) by ecological receptors to contaminated waste and soil containing ecological COC [asbestos, bis(2-ethyhexyl)phthalate, dioxins and furans, chromium, nickel, and zinc] concentrations exceeding the respective cleanup levels.

RAOs for Reservoir Sediment

- Protection of Human Health
    - None.

- Environmental Protection
    - Prevent direct exposure of ecological receptors to contaminated sediment containing concentrations of carbon disulfide exceeding the ecological screening level of 4.1 micrograms per kilogram (µg/kg).
    - Minimize migration of asbestos from sediment to surface water to prevent surface water concentrations of asbestos exceeding the surface water screening level of 0.0001 million fibers per liter (MFL).

The Selected Remedy encompasses and enhances the removal action described above. The Selected Remedy includes capping of waste, contaminated soil, and reservoir sediment with clean material along with implementation of associated health and safety controls, erosion and sediment controls, grubbing and clearing, and regrading to meet design grade to facilitate capping. Most of the components of the Selected Remedy were implemented in the removal action described above. Additional components of the Selected Remedy that were not implemented in the removal action include:

- Implementation of institutional controls.
- Confirmation sampling.
- Long-term monitoring for Site-related COCs.
- Operation and maintenance (O&M).
- FYRs.

Table 2 lists the Site's cleanup levels.

Table 2: Cleanup Levels

COC	ROD Cleanup Level			Basis
Soil/Waste	**Soil**	**Air (ABS)**	**Air (Ambient)**	
Asbestos	--	0.04 f/cc (ABS) (PCME)	0.001 f/cc (PCME)	Human health protection
Asbestos	--	--	25 f/cc (WHO)	Ecological protection; NOAEL TRV
Bis(2-ethylhexyl)phthalate	925 µg/kg	--	--	Ecological protection; ESL
Dioxins and furans	0.199 ng/kg[a]	--	--	Ecological protection; ESL
Chromium	26 mg/kg	--	--	Ecological protection; ESL
Nickel	38 mg/kg	--	--	Ecological protection; ESL
Zinc	104 mg/kg	--	--	Ecological protection; Maximum background concentration
Reservoir Sediment	**Reservoir Sediment**	**Reservoir Surface Water**	**--**	**Basis**
Asbestos	--	0.0001 MFL	--	Ecological protection; ESL
Carbon disulfide	4.1 µg/kg	--	--	Ecological protection; ESL

COC	ROD Cleanup Level	Basis
Notes: a) Dioxin and furan concentrations are expressed as total toxicity equivalent quotients (TEQs) using conversion factors based on the toxicity of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD). Source: ROD Table 42 µg/kg = microgram per kilogram ABS = activity-based sampling ESL = ecological screening level f/cc = fibers per cubic centimeter MFL = million fibers per liter mg/kg = milligram per kilogram ng/kg = nanogram per kilogram NOAEL = no observed adverse effect level PCME = phase contrast microscopy equivalent TRV = toxicity reference value WHO = World Health Organization		

Asbestos is the dominant environmental concern and primary COC at the Site. RAOs are focused on preventing release of asbestos from source material and preventing exposure to asbestos in both source material and primary exposure media.

Status of Implementation

EPA's removal action addressed the construction activities of the Selected Remedy. The previous section of this FYR (Response Actions) lists the cleanup actions conducted as part of the Site's removal action.[1] The remedial action was completed in September 2018; it consisted of confirmation sampling and ongoing O&M of the engineering controls that were completed as part of the removal action.

EPA's contractor conducted two rounds of confirmation sampling to demonstrate that the covers are operating as designed. The sampling results are discussed in the Data Review section of this FYR.

Institutional Control (IC) Review

The Site's ROD called for implementation of the following institutional controls to restrict future use of the Site parcels and to protect the engineered remedy.

Sitewide Institutional Controls

1. Activities or modifications that could disturb or otherwise adversely impact the two-foot soil cover on the capped areas are prohibited unless prior written approval from EPA, in consultation with PADEP, is obtained authorizing the specific activity. Any proposed future use of the Site shall be reviewed by EPA, in consultation with PADEP, to ensure that such activity will not adversely impact the Selected Remedy or compromise the protection of human health and the environment.
2. Construction activities are prohibited unless prior written approval from EPA, in consultation with PADEP, is obtained authorizing the specific activity. Prohibited construction activities include, but are not limited to, piling installation, dredging, drilling, digging, excavation, or use of heavy equipment in the capped areas.
3. Any modifications to the drainage pattern on-Site are prohibited unless EPA, in consultation with PADEP, determines that such activity will not adversely impact the Selected Remedy.
4. Public access shall be restricted after significant weather events until the property has been inspected for any signs of damage or erosion, especially in the 100-year floodplain.

[1] For more information about the Site's cleanup actions, please refer to the Section 13 of the Record of Decision, available at https://semspub.epa.gov/src/document/03/2244733

5. The Selected Remedy will be protective for maintenance workers, recreational visitors, and commercial workers. Any other use of the parcels shall require further investigations and plans, which shall be reviewed and approved by EPA, in consultation with PADEP.
6. Maintain vegetation at stabilized stream banks.

Parcel-Specific Institutional Controls

Asbestos Pile Parcel

7. Construction of structures that may undermine the slope stability of the Asbestos Pile Parcel shall be prohibited unless prior written approval from EPA, in consultation with PADEP, is obtained authorizing the specific activity.
8. Trees are prohibited on the Asbestos Pile Parcel slopes.
9. Trees are prohibited on the stream banks adjacent to Tannery Run, where cable concrete mats are present to stabilize the slope.

Reservoir Parcel

10. Maintain suitable vegetation and/or water levels on the capped areas of the Reservoir Parcel (berms and reservoir floor) to ensure protection from erosion.
11. Trees are prohibited along the berm of the reservoir adjacent to the Wissahickon Creek.

Park Parcel

12. Trees are prohibited along the stream banks of Wissahickon Creek (where geocells were used to stabilize the slope), and on the stream banks of Rose Valley Creek and Tannery Run (where cable concrete mats are present to stabilize the slope).[2]

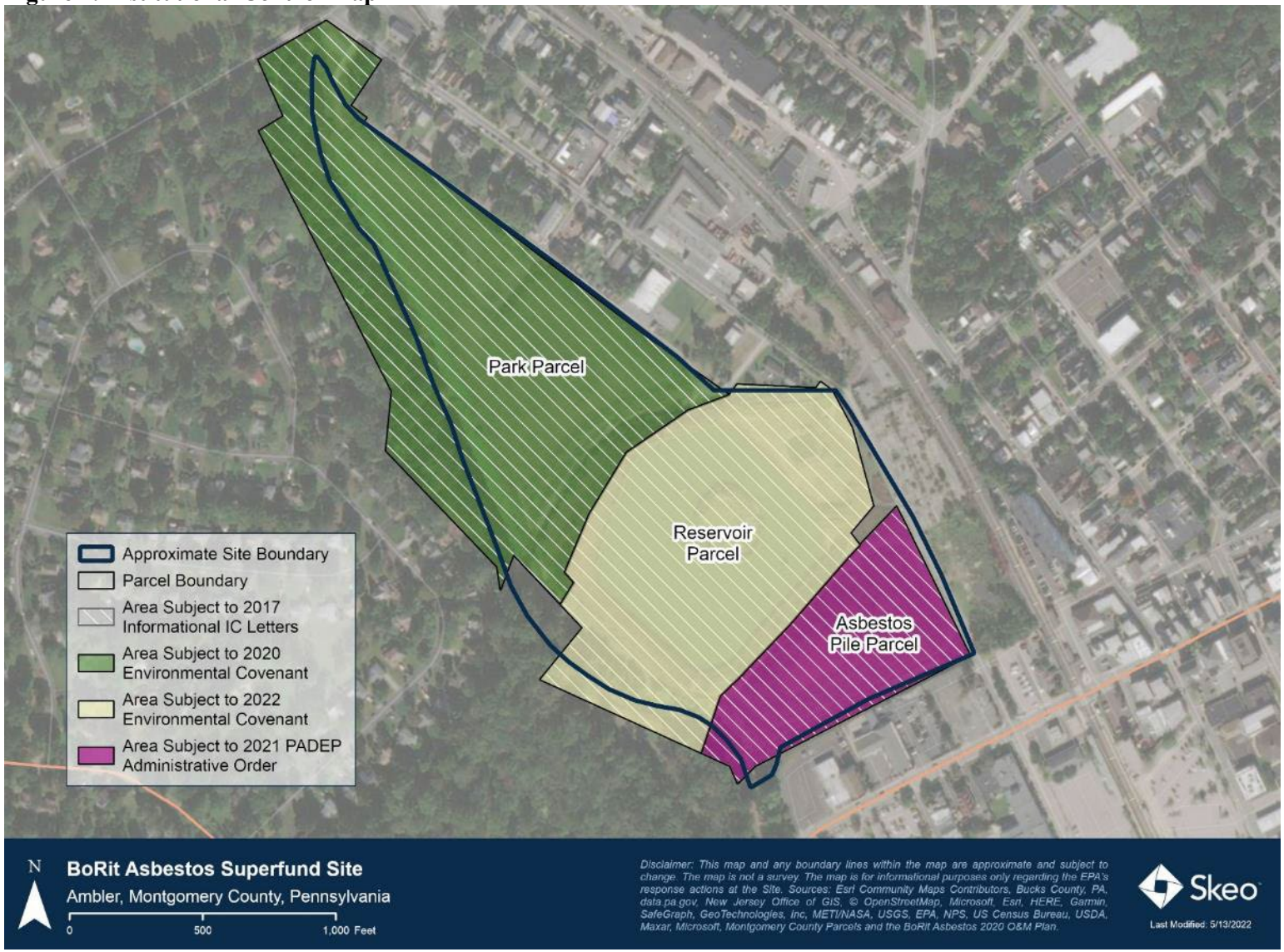
All of the required institutional controls have been implemented. Table 3 summarizes the Site's institutional controls. Figure 2 shows the areas of the Site with institutional controls. Appendix K provides copies of the institutional controls.

[2] As stated in the O&M Plan (Section 2.3.3), appropriate trees (up to 10 inches in diameter) are allowed in other areas of the stream banks to help stabilize the banks.

Table 3: Summary of Institutional Controls (ICs)

Media, Engineered Controls, and Areas That Do Not Support UU/UE Based on Current Conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel	IC Objective	Title of IC Instrument Implemented and Date
Park Parcel	Yes	Yes	Park Parcel	Implements the ICs listed above (Sitewide and Park Parcel)	Environmental Covenant, recorded 11/18/2020
				Informs the property owner about the ICs specified in the ROD	Letter from EPA to property owner, 8/2/2017
Reservoir Parcel	Yes	Yes	Reservoir Parcel	Informs the property owner about the ICs specified in the ROD	Letter from EPA to property owner, 8/2/2017
				Will implement the ICs listed above (Sitewide and Reservoir Parcel)	Environmental Covenant, recorded 5/27/2022
Asbestos Pile Parcel	Yes	Yes	Asbestos Pile Parcel	Implements the ICs listed above (Sitewide and Asbestos Pile Parcel)	PADEP Administrative Order, recorded 9/23/2021
				Informs the property owner about the ICs specified in the ROD	Letter from EPA to property owner, 8/2/2017

Figure 2: Institutional Control Map[3,4]



[3] To be consistent with the institutional control documents, this map uses real estate parcel boundaries to define the areas subject to the institutional controls. Some of the Site parcels extend outside of the Site boundary.

[4] The figure shows a few small areas within the Site boundary that are not covered by institutional controls. These areas are not capped and do not need institutional controls.

Operation and Maintenance (O&M)

PADEP conducts O&M in conjunction with the property owners for both the Park Parcel and Reservoir Parcel. PADEP conducts all of the O&M on the Pile Parcel. O&M is conducted in accordance with the July 2020 *Final Operations and Maintenance Plan, Revision 2* (O&M Plan). The O&M Plan calls for the following O&M activities:

- **Site Inspections** – Non-intrusive visual Site inspections will be conducted to ensure integrity of the cap, vegetation and stabilized stream bank areas. Site inspections will be performed at least quarterly.
- **Post-Significant Weather Event Inspection** – Following a significant weather event, a non-intrusive visual site inspection will be conducted to determine whether the integrity of the cap, vegetation and stabilized stream bank areas were impacted by the weather event.
- **Long-Term Monitoring** – Long-term monitoring is included as a component of the Selected Remedy, and it includes ABS, ambient air, soil, sediment, and surface water sampling. Long-term monitoring will be conducted annually for the first four years leading to the first FYR and then once every FYR cycle thereafter.
- **Cap and Physical Remedy Maintenance** – Damage to the cap, vegetation, and stabilized stream bank areas observed during quarterly inspections and post-significant weather event Site inspections will be repaired to eliminate potential exposure of underlying contaminated waste, soil, and reservoir sediment. ACM will be periodically removed from Wissahickon Creek and the adjacent walking trail.[5]
- **Institutional Control Evaluation and Updates** – Institutional controls will be evaluated on an annual basis at a minimum and updated as necessary to ensure protectiveness.
- **Reporting** – Routine reports summarizing O&M activities will be prepared on an annual basis. Routine reporting also involves regular review and updates as necessary to the O&M Health and Safety Plan and to as-built drawings, if necessary.

The following O&M activities were conducted during 2018-2021:

- Site Inspections
    - Monthly Site inspections by PADEP.
    - Quarterly Site inspections by Whitpain Township (Park Parcel).
- Post-Significant Weather Event Inspections
    - August 2021: Whitpain Township and PADEP inspected the Site to assess for any damage following heavy rain. No damage was observed.
    - September 2021: Whitpain Township inspected the Park Parcel and PADEP inspected the remainder of the Site to assess for any damage following heavy rain. The access gate above Rose Valley Creek was heavily damaged; it was later repaired.
- Long-Term Monitoring
    - Confirmation sampling (surface soil, surface water, reservoir sediment, ambient air, ABS air, ABS soil). Data is summarized in the Data Review section below.
    - Stream gauging station installation, maintenance, data collection, and analysis.
    - All monitoring well and piezometer abandonment.
- Cap and Physical Remedy Maintenance
    - Annual cap mowing and tree removal.
    - Cap revegetation.
    - Filling animal burrows.
    - Invasive species management.
    - ACM removal.
        - EPA completed a small cleanup in spring 2020, which was followed up by PADEP and EPA in a July 2020 cleanup. EPA and PADEP removed ACM from Wissahickon Creek

[5] ACM is periodically brought to the surface by burrowing animals, erosion from storm events, etc.

between the Butler Pike bridge and the confluence of Tannery Run with Wissahickon Creek.
        - PADEP completed ACM cleanup from Wissahickon Creek in December 2021. This cleanup was completed between the confluence of Rose Valley Creek with Wissahickon Creek and the Butler Pike bridge.
    - Repair of the Park Parcel's spillway to Rose Valley Creek and addition of a berm at the top of the ramp leading down to Wissahickon Creek to direct runoff toward the spillway.
    - Perimeter fence repair.
- Institutional Control Evaluation and Updates
- Reporting
    - Quarterly inspection reports.
    - Re-surveyed spillway ramp.

Park Parcel

Both PADEP and Whitpain Township conduct O&M activities on the Park Parcel. With regards to mowing, PADEP's 2021 O&M Report states:

> Whitpain Township mows the Park Parcel several times per year from spring to late fall. The vegetation is cut no lower than eight inches to maintain the integrity of the cap, avoid damage to the vegetation, and reduce issues caused by erosion. The most recent mowing event was completed in November 2021. The slopes to Wissahickon Creek were not trimmed in 2021.

EPA believes that the Park Parcel grass is being mowed too frequently and possibly too short (shorter than 8 inches), which is counterproductive to the health of the vegetative cap and contrary to efforts to dissuade groundhogs from using the Site. The Site's O&M Plan (Section 2.3.3) recommends mowing "no lower than 8 inches, if possible, as mowing lower will significantly damage the crown of these grasses, cause mortality, or open the Site for invasion by less desirable species." The O&M Plan also states that mowing the grass every three years, or every two years, would be better than annual mowing because "native meadow vegetation at the Site thrives on a three-year mowing cycle during the late winter."

The December 2021 FYR Site inspection found about a dozen groundhog burrows on the Park Parcel, mainly on the slope facing Wissahickon Creek along with a few burrows next to the gravel entrance road. At some of the burrows, chunks of ACM had been unearthed and were present on the ground surface. On March 4, 2022, PADEP collected the unearthed ACM and Whitpain Township filled the burrows. PADEP removed any ACM coming out of the burrows and placed it in a plastic-lined drum for future disposal off-Site. More than a dozen groundhog burrows were filled. Bentonite was placed in the bottom of the burrows and they were topped off with topsoil and hand tamped.

Pile Parcel

PADEP conducts all O&M activities on the Pile Parcel. With regard to mowing of the Pile Parcel, PADEP's 2021 O&M Report states:

> On the Pile Parcel, DEP's contractor cut the vegetation (grasses, small shrubs, weeds, etc.) on an as-needed basis, typically between the months of April and November when vegetation growth is substantial. Specific areas included along the Maple Street sidewalk, the northern fence line, access roads, and in the small viewing area between the Reservoir Parcel and Maple Street. The cap of the Pile Parcel is recommended to be mowed in rotating sections every year to promote growth of native vegetation and deter invasive species. The cap was not mowed in 2021 because it was covered with healthy native vegetation and mowing would have negatively impacted the vegetation.

Reservoir Parcel

Both PADEP and the Wissahickon Waterfowl Preserve conduct O&M activities on the Reservoir Parcel. PADEP's 2021 O&M Report states:

> In 2021, Wissahickon Trails assumed responsibility for mowing of the viewing section between the Reservoir Parcel and Maple Street. Vegetation mowing on the cap Pile Parcel will resume in spring 2022. The sidewalk, fence line, and access road areas will be maintained on an as-needed basis to prevent overgrowth.

In August 2021, EPA approved PADEP's request to modify the sampling plan for ABS soil and community (off-site) ambient air sampling. The modified sampling plan uses a phased approach to increase sampling efficiency while providing sufficient data to confirm that the remedy is effective. If asbestos is detected in soil samples, then ABS will be conducted. If asbestos is detected in both the surface soil samples and in the Site-perimeter air samples, community ambient air samples will be collected. Site-perimeter air samples will still be collected regardless of the surface soil sample results.

III. PROGRESS SINCE THE PREVIOUS REVIEW

This is the Site's first FYR.

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Community Involvement, and Site Interviews

EPA mailed a postcard to the fenceline communities in Ambler during October 2021 to inform them of the upcoming FYRs for the Ambler Asbestos Piles and BoRit Asbestos Superfund Sites. The postcard was also emailed to those who signed up to be on the Site mailing lists. To date, EPA has not received any feedback.

A public notice was published in the *Ambler Gazette* on December 5, 2021, stating that the FYR was underway and inviting the public to submit any comments to EPA. Appendix D provides a copy of the public notice and postcard. The results of the FYR and the report will be made electronically available at the Site's information repository, located at the Ambler Branch of the Wissahickon Valley Public Library, 209 Race Street, Ambler, Pennsylvania 19002, and online at www.epa.gov/superfund/boritasbestos.

During the FYR process, EPA conducted interviews to document any perceived problems or successes with the remedy that has been implemented to date. The results of these interviews are summarized below.

On December 1, 2021, representatives of EPA and PADEP met with representatives of the Community Advisory Group (CAG), via Zoom, and discussed current Site status, and the CAG's expectations for the Site moving forward. Due to time restrictions and the desires of the CAG members, the FYR interview was not conducted during the Zoom meeting. The interview questions were instead emailed to each member to respond to at their own leisure. In general, residents expressed their opinion that communications regarding Site activities could be increased. No issues were raised that would affect remedy protectiveness. EPA will continue to provide updates to the CAG on Site activities. Appendix E provides the complete interview forms.

EPA conducted additional interviews with Whitpain Township, the local Boys and Girls Club, and with a representative from the Wissahickon Waterfowl Preserve. Summaries of the interviews follow.

The CIC conducted an interview via email with Whitpain Township. EPA received responses to the interview questions on November 14, 2021. Whitpain Township is appreciative of the work EPA has done over the years at the Site(s). They mention the work performed to reduce flooding has had a positive effect on the surrounding

community. The Township did not identify any concerns, but they did mention three water rescues that occurred near the BoRit Site during Hurricane Ida. Whitpain Township feels well informed and that EPA as well as PADEP provide updates when warranted. They feel that EPA always makes sure the municipality and general community stays well informed and hopes that EPA will remain a strong partner in the community going forward.

On November 16, 2021, EPA conducted an interview via phone with a representative of the Wissahickon Boys and Girls Club, which is located on Maple Street across from the Site. The Boys and Girls Club is aware of the Site and the ongoing O&M activities. They are aware of the institutional controls in place and are saddened because they feel that it is a "beautiful piece of land" that would be ideal for a future park or playground. In general, they are not concerned about any danger from the Site but would prefer to be informed before any testing or sampling takes place. They mention that the Township has discussed the possibility of turning the Site into a parking lot in the future. They have noticed bent bars on the fences, and surmise that attempts at vandalism have been made in the past. The Township website/social media page(s) would be best way for them to stay informed about the Site.

On January 18, 2022, EPA conducted an interview via phone with the President of the Wissahickon Waterfowl Preserve. He provided the following responses to the interview questions. He feels that the Site is a great success, and that the project is currently dramatically better than in the past. He feels that general improvements in West Ambler have coincided with the cleanup efforts at the Site. He is concerned about future attempts to build housing at the Site, specifically the Pile Parcel. He expressed concern about future ownership and responsibility of this parcel. Significant incidents of vandalism have not been noticed, but he made mention of one bench that has graffiti on it near the Reservoir Parcel. He does not feel particularly well informed about the Site's current activities but clarified that he does not believe he is missing out on much information. The Wissahickon Waterfowl Preserve is pleased with the work EPA has been doing, especially with the reservoir around the Site. He mentioned that the Site is used by birdwatching enthusiasts; however, the fence that EPA erected around the Site can obstruct the view. In lieu of this, the organization is planning on building an elevated platform so the birdwatchers can have an unobstructed view.

On December 16, 2021, during the Site inspection, EPA conducted an interview with PADEP. PADEP noted that the Site is in good shape with stable vegetation, and there have not been any major issues. PADEP is aware of the community's concerns about lack of signage, lack of communication about the Site, and concerns of asbestos-containing material coming up along the Wissahickon Creek. PADEP is not aware of any incidents at the Site except for some minor damage to the fence during Hurricane Ida.

As part of the FYR process, EPA's contractor visited the Site's information repository (Wissahickon Valley Public Library-Ambler Branch) to determine whether Site documents are available for public viewing. No documents were available other than a community update pamphlet from 2009. In addition, there was no information telling community members how they can access documents online. EPA provided an update to the library in a letter dated December 20, 2021, with a reminder on how to access the documents electronically (Appendix L).

Data Review

In April-July 2018, EPA's contractor conducted one round of confirmation sampling in locations where asbestos was detected prior to capping, to determine whether the cover is operating as designed. The components of this round of confirmation sampling included:

- Surface soil sampling
- Surface water sampling
- Reservoir sediment sampling
- Ambient air sampling
- ABS air sampling

- ABS soil sampling

In February 2020, EPA's contractor conducted another round of confirmation sampling to determine whether the cover is operating as designed. The components of this round of confirmation sampling included the following:

- Surface water sampling
- Reservoir sediment sampling

In September 2021, PADEP conducted a monitoring event using the modified sampling plan described above. The monitoring event included:

- Surface soil sampling
- Sediment sampling
- Surface water sampling
- Perimeter air sampling

Surface Soil Sampling Results

Figures H-1 through H-3 in Appendix H show the 2018 surface soil sampling locations. Surface soil samples were prepared and analyzed for asbestos by polarized light microscopy (PLM). There are no cleanup levels for asbestos in soil. Rather, successful remediation of soil is assessed by achievement of the Site-specific air-based cleanup levels. Therefore, soil sample results are presented for informational purposes only. As seen on Table H-1, asbestos was not detected in any surface soil sample analyzed by PLM, which suggests that the caps are functioning as designed to prevent exposure to the waste below. However, final conclusions about remedial effectiveness for on-Site soil will be based on the results of the air monitoring.

Surface soil sample results from 2018 for bis(2-ethylhexyl)phthalate, dioxins and furans, chromium, nickel, and zinc are provided on Table H-2. Bis(2-ethylhexyl)phthalate was detected above the ROD cleanup level of 925 µg/kg in one sample (970 µg/kg) and below the cleanup level in the other samples located on the Asbestos Pile Parcel, but this COC was not detected in any of the surface soil samples on the Park Parcel or Reservoir Parcel. Dioxins and furans were detected above the cleanup level of 0.199 nanograms per kilogram (ng/kg) in the sample collected on the Asbestos Pile Parcel (at about 3 to 6 ng/kg). Chromium was detected above the cleanup level of 26 milligrams per kilogram (mg/kg) in three samples on the Asbestos Pile Parcel, nine samples on the Park Parcel, and five samples on the Reservoir Parcel, with a maximum concentration of 109 mg/kg. Nickel and zinc were detected below their respective cleanup levels in all of the surface soil samples.

EPA reviewed the 2018 surface soil ecological data and concluded that the contaminants detected in surface soils are not expected to pose an unacceptable ecological risk because of the level of exceedances and the spatial distribution of the exceedances. Growth of a healthy vegetative cover is expected to further reduce any residual ecological risk. EPA also compared the 2018 surface soil concentrations of bis(2-ethylhexyl)phthalate, dioxins and furans, and chromium (described in the previous paragraph) against EPA's current screening levels for residential soil and found that the concentrations are not a concern for human health (see Table J-2 in Appendix J).

Figures H-4 through H-7 in Appendix H show the 2021 surface soil sampling locations. The 2021 surface soil sampling results are summarized in Tables H-3 and H-4. A total of 30 soil samples were collected from across the Site.[6] Results of the September 2021 sampling event found one surface soil sample (PADEPLTM-2021-AP-SS-02) collected from the Asbestos Pile Parcel at less than 0.1% chrysotile. PADEP's sampling report noted that this

[6] EPA notes that the surface soil samples were numbered 0 through 30 across the entirety of the Site and are shown as such in Figures H-4 through H-6, whereas the soil sample results summarized in Table H-3 are numbered 0 through 10 per parcel. Therefore, surface soil sample labeled PADEPLTM-AP-SS-02 in Table H-3 corresponds to the surface soil sample location labeled PADEPLTM-2021-AP-SS-22 in Figure H-6.

concentration is below the EPA established threshold of 1% by weight for classification as asbestos containing materials, and as a result, ABS was not conducted. The 1% threshold is no longer an acceptable action limit to determine a Site response action for asbestos;[7,8] however, the corresponding visual assessment of the surrounding area indicated that the protective cap was intact. Chromium was detected above its cleanup level of 26 mg/kg on all three parcels; the highest concentration was found on the Park Parcel (186 mg/kg). The soil samples collected from the Asbestos Pile Parcel were analyzed for dioxins and furans; the results (1.9 to 10.2 ng/kg based on human and mammalian toxicity and 1.4 to 7.3 ng/kg based on avian toxicity, see Table H-5)[9] were above the ecological-based cleanup level of 0.199 ng/kg but are within the range of acceptable risk for human health based on EPA's current residential soil screening levels. Detections of bis(2-ethylhexyl)phthalate, nickel and zinc were found in surface soil samples; the concentrations were equal to or less than the cleanup levels except for one sample location on the Park Parcel with nickel detected at 61.3 mg/kg (cleanup level = 38 mg/kg). All other Site COCs were non-detect.

EPA reviewed the 2021 surface soil ecological data and concluded that the contaminants detected in surface soils are not expected to pose an unacceptable ecological risk because of the level of exceedances and the spatial distribution of the exceedances. This FYR compared the ecological-based cleanup levels from the ROD against ecological screening levels using the hierarchy of standards laid out in the Site's remedial investigation report (Appendix J). The ecological screening levels used for this evaluation are not more stringent than the cleanup levels established for the Site, supporting that the cleanup levels are still valid and protective.

Reservoir Sediment Sampling Results

Figures H-8 through H-11 in Appendix H show the reservoir sediment sampling locations from 2009, 2018, 2020 and 2021, respectively. Reservoir sediment samples were prepared and analyzed for asbestos by PLM. There are no cleanup levels for asbestos in sediment. Rather, successful remediation of sediment is assessed by achievement of the Site-specific water-based cleanup levels. Therefore, sediment sample results are presented for informational purposes only. As seen on Tables H-6, H-7 and H-8, asbestos was not detected in any of the post-cleanup (2018, 2020, and 2021) reservoir sediment samples analyzed by PLM, which suggests that the cap is functioning as designed to prevent exposure to the waste below. However, final conclusions about remedial effectiveness for reservoir sediment will be based on the results of surface water monitoring.

Reservoir sediment results from 2018, 2020, and 2021 for carbon disulfide are provided in Tables H-9, H-10 and H-11. In 2018, carbon disulfide was not detected in any of the reservoir sediment samples. The cleanup level for carbon disulfide in sediment is 4.1 µg/kg. In 2020, carbon disulfide was detected in three of the reservoir sediment samples – field duplicate (2.5J µg/kg), CSRVSD-102 (2.9J µg/kg), and CSRVSD-103 (7.2J µg/kg).[10] The remaining two reservoir sediment samples were non-detect (U-qualified) for carbon disulfide. All of the 2021 reservoir sediment samples were non-detect (U-qualified) for carbon disulfide. For the 2018, 2020 and 2021 sampling events, the quantitation limits for the non-detect results exceeded the cleanup level of 4.1 µg/kg. For the 2018 and 2020 sampling events, because U-qualified samples indicate that the carbon disulfide concentration was lower than the contract required quantification limit, but not higher than the method detection limit of 0.55 µg/kg, it is likely that the U-qualified non-detect results were below the cleanup level.[11] Additional sediment sampling will be performed in the future to confirm whether the carbon disulfide cleanup level has been achieved.

[7] *Clarifying Cleanup Goals and Identification of New Assessment Tools for Evaluating Asbestos at Superfund Cleanups*, OSWER Directive 9345.4-05, August 2004 (PDF); https://semspub.epa.gov/work/HQ/175323.pdf
[8] *Framework for Investigating Asbestos-Contaminated Environmental Response, Compensation and Liability Act Sites,* OLEM Directive No. 9200.0-90; 2021; https://semspub.epa.gov/work/HQ/100002942.pdf
[9] Dioxin and furan concentrations are expressed as total toxicity equivalent quotients (TEQs) using conversion factors based on the toxicity of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD).
[10] The "J" qualifiers after the concentrations indicate that these concentrations are estimated values.
[11] The 2021 sampling event had much higher quantitation limits than the 2018 and 2020 sampling events. The report for the 2021 sampling event noted that the quantitation limits were lower than Pennsylvania's non-residential soil medium-specific concentration (MSC).

Surface Water Sampling Results

The RAO for reservoir sediment specified a surface water-based cleanup level for asbestos. The reservoir surface water cleanup level for asbestos was set equal to the lowest no observed adverse effect concentration (NOAEC) of 0.0001 MFL for aquatic receptors. Figures H-8, H-9, H-10 and H-15 in Appendix H show the reservoir surface water sampling locations from 2009, 2018, 2020, and 2021, respectively. Figures H-12 through H-15 show the creek surface water sampling locations from 2009, 2018, 2020, and 2021, respectively. Table 4 below presents the asbestos concentrations in surface water, before and after the cleanup. As shown in the table, asbestos concentrations in surface water have decreased significantly since the cleanup was completed.

Table 4: Asbestos Concentrations in Surface Water, Before and After Cleanup

Location			Total Asbestos Results (MFL)			
2009 Sample ID	**2018-2020 Sample ID**	**2021 Sample ID**	**2009 (pre-cleanup)[a]**	**Spring 2018[b]**	**Spring 2020[c]**	**Sept. 2021[d]**
Wissahickon Creek, Rose Valley Creek, Tannery Run						
CKSW-01	CSCKSW-101	WC-SW-01	0	NS	0.033	<0.20
CKSW-02	CSCKSW-102	WC-SW-02	0	NS	<0.065	<0.20
CKSW-03	CSCKSW-103	RV-SW-02	0	NS	<0.657	0.51
CKSW-04	CSCKSW-104	WC-SW-03	1.8	<0.33 (duplicate = 7.7)	0.011	<0.20
CKSW-05	CSCKSW-105		30	0.088	0.022	
CKSW-06	CSCKSW-106	TR-SW-02	0	NS	0.022	0.34
CKSW-07	CSCKSW-107	WC-SW-04	24	0.13	0.011	1.00
CKSW-08	CSCKSW-108	NS	0.18	0.044	0.011	NS
NS	CSCKSW-113	RV-SW-01	NS	NS	<0.0657	1.70
NS	CSCKSW-114	TR-SW-01	NS	NS	0.150	0.19
NS	CSCKSW-115	NS	NS	NS	0.022	NS
NS	CSCKSW-116	NS	NS	NS	<0.218	NS
NS	CSCKSW-117	NS	NS	NS	<0.032	NS
Reservoir						
RVSW-01	CSRVSW-101	RP-SW-01	1.9	<0.66	<3.28	<10.00
RVSW-02			0			
RVSW-03	CSRVSW-103	RP-SW-03	43	2.2	<1.61	<5.10
RVSW-03D			160			
RVSW-04	CSRVSW-104	RP-SW-04	640	<16	<1.61	<10.00
RVSW-05	CSRVSW-102	RP-SW-02	28	<0.33	<3.28	<5.10

Location			Total Asbestos Results (MFL)			
2009 Sample ID	2018-2020 Sample ID	2021 Sample ID	2009 (pre-cleanup)[a]	Spring 2018[b]	Spring 2020[c]	Sept. 2021[d]

Notes:
a) Source: Remedial Investigation, Figures 3-2 and 3-3, Tables 5-8a, 5-17a, L-11 and L-13
b) Source: 2018 Remedial Action Completion Report, Figures 2-4 and 2-5, Table 4-6
c) Source: 2020 Addendum #1 to the Remedial Action Completion Report, Figures 2-1 and 2-2, Table 3-4
d) Source: 2022 Sampling Report and O&M Summary, Figure 5 and Appendix 1
Sampling locations were not exactly the same from year to year; this table matches up the locations as closely as possible.
Multiple samples were collected at some locations. The highest concentration is reported in this table.
MFL = million fibers per liter
NS = not sampled

In 2018, chrysotile asbestos was observed in four samples from Wissahickon Creek (three field samples and one field duplicate), and tremolite asbestos was also observed in the field duplicate sample. The water concentration for the field duplicate (7.7 MFL) was unexpected, because the corresponding field sample was non-detect for asbestos. The Remedial Action Completion Report noted that it is possible that the discrete sampler used to collect the water stirred up the creek bed sediment during sample collection, as multiple attempts to collect sufficient water were necessary at the duplicate location. Asbestos present in Wissahickon Creek surface water suggests that the streambed sediment may be an ongoing source of asbestos, especially when these sediments are disturbed. The mean surface water asbestos concentration in Wissahickon Creek was 2.0 MFL (see Table H-12).

In 2018, actinolite asbestos was observed in one sample from the reservoir. The mean surface water asbestos concentration in the reservoir was 0.55 MFL (see Table H-12). In 2018, the mean concentrations for surface water in both the reservoir and Wissahickon Creek were above the cleanup level.

In 2020, chrysotile asbestos was observed in six samples from Wissahickon Creek and two samples from Tannery Run (see Table H-13). No asbestos was detected in Rose Valley Creek or in reservoir surface water. Asbestos present in Wissahickon Creek and Tannery Run surface water suggests that the stream bed sediment may be an ongoing source of asbestos, especially when these sediments are disturbed. The mean surface water asbestos concentrations in Wissahickon Creek and in Tannery Run were 0.012 MFL and 0.057 MFL, respectively. The spring 2020 mean asbestos concentration of the four Wissahickon Creek surface water sample locations that were sampled previously in spring 2018 (CSCKSW-104, CSCKSW-105, CSCKSW-107, and CSCKSW-108) was 0.014 MFL, which is lower than the mean concentration from spring 2018 (2.0 MFL). All detected asbestos structures were chrysotile; no tremolite asbestos or actinolite asbestos was observed in any of the surface water samples.

The upstream detections of asbestos in Wissahickon Creek west of the Site boundary (CSCKSW-115) at concentrations higher than on-Site locations suggests off-Site sources of asbestos. Similarly, the upstream surface water location north of the Site boundary in Tannery Run (CSCKSW-114) had asbestos concentrations higher than the surface water location in Tannery Run on the Site, suggesting off-site sources of asbestos at this waterbody as well.

In 2020, the mean concentrations for asbestos in surface water in both Wissahickon Creek and Tannery Run were above the cleanup level established for reservoir surface water. In general, surface water asbestos concentrations in 2020 and 2021 were lower than those observed in 2009 (pre-cleanup), which suggests that the Selected Remedy (capping and creek bank stabilization) and manual ACM removal during creek cleanups is effectively mitigating the transport of asbestos from the source area to adjacent water bodies.

In 2021, reservoir surface water samples did not indicate any asbestos detections.[12] Asbestos was detected in the surface water of Wissahickon Creek, Tannery Run, and Rose Valley Creek. The highest concentration was

[12] Due to excessive particulate, the analytical sensitivity of 0.2 MFL as required by the method was not reached for some of the 2021 surface water samples.

detected where Rose Valley Creek enters the Site (RV-SW-01), suggesting a possible off-Site source. No asbestos was detected in Wissahickon Creek upstream of the confluence with Rose Valley Creek. EPA's Biological Technical Assistance Group (BTAG) found that the sampling results from PADEP's September 2021 sampling event do not appear to pose a potential ecological issue at this time.

Ambient Air Sampling Results

Figures H-16 and H-17 in Appendix H show the 2018 and 2021 ambient air sampling locations, respectively. Table 5 below presents asbestos concentrations in ambient air, before and after the cleanup. As shown in the table, asbestos concentrations in ambient air have decreased since the cleanup was completed. Ambient air results demonstrate that asbestos concentrations in the surrounding community continue to be low and are below the ambient air cleanup level (0.001 fibers per cubic centimeter (f/cc)).

Table 5: Asbestos Concentrations in Ambient Air, Before and After Cleanup

Location				PCME Asbestos Results (s/cc)		
Description	**2011 Sample ID**	**2018 Sample ID**	**2021 Sample ID**	**2011 (pre-cleanup)[a]**	**Spring 2018[b]**	**Sept. 2021[c]**
Green Ribbon Trail	CM01-AA	CSCMAA-101	PP-PA-03	0.0012	<0.00099	ND
Post office	CM02-AA	CSCMAA-102	NS	ND	0.00032	NS
Church/school	CM03-AA	CSCMAA-103	NS	ND	<0.00098	NS
Adult community center	CM04-AA	CSCMAA-104	NS	0.00075	<0.00097	NS
Basketball court / Cognis	CM05-AA	CSCMAA-105	PP-PA-04	ND	<0.00088	ND
Vacant lot (9 Maple Ave)	CM07B-AA	CSCMAA-107B	RP-PA-01	0.00079	<0.00099	ND
Asbestos pile	NS	NS	AP-PA-01	NS	NS	ND
Boys and Girls Club	NS	NS	PP-PA-01	NS	NS	ND
Entrance to Park Parcel	NS	NS	PP-PA-02	NS	NS	ND

Notes:
Cleanup level is 0.001 fibers per cubic centimeter (PCME).
a) Source: Remedial Investigation, Figure 3-11, Table 5-21
b) Source: 2018 Remedial Action Completion Report, Figure 2-6, Table 4-8
c) Source: 2022 Sampling Report and O&M Summary, Figure 6 and Appendix 1
s/cc = structures per cubic centimeter
ND = not detected
NS = not sampled
Multiple samples were collected at some locations. The highest concentration is reported in this table.

2018 Activity-Based Air Sampling Results

Figure H-18 in Appendix H shows the 2018 ABS sampling locations. Table H-16 presents the 2018 ABS sampling results. As shown, asbestos structures were not observed in any of the ABS air samples, and asbestos air concentrations were non-detect in all samples. As noted on Table H-16, mean concentrations were calculated for each area using the 95% upper confidence limits for non-detect results.

For the Asbestos Pile Parcel, mean ABS air concentrations are less than the cleanup level. For the Park Parcel, the mean personal ABS air concentration at the adult height is less than the cleanup level, but slightly above the cleanup level based on the child height and perimeter data. The true mean ABS air concentration is likely to be lower than the estimated mean value (i.e., the reported value represents a conservative high-end of the potential exposure). These ABS air results demonstrate that estimated exposures to airborne asbestos during soil disturbance activities would likely result in a cancer risk less than 1×10^{-4}, and that post-construction conditions are protective of human health.

All ecological ABS air samples were non-detect. This supports the conclusion that ecological exposures under post-construction conditions are protective of ecological health.

ABS soil samples were analyzed for asbestos by PLM. As shown in Table H-16, asbestos was not observed in any of the ABS soil samples, which is consistent with the ABS air sampling results.

Site Inspection

The Site inspection took place on December 16, 2021. Participants included EPA's current RPM and prior RPM, PADEP, Skeo (EPA contractor support), and Whitpain Township. The purpose of the inspection was to assess the protectiveness of the Selected Remedy. Appendix F provides the Site inspection checklist. Appendix G provides photographs from the site inspection.

Site inspection participants walked around the perimeter of the Site, including all three parcels. The cap appeared to be in good condition except for some groundhog burrows observed on the Park Parcel. About a dozen burrows were spotted, mainly on the slope facing Wissahickon Creek along with a few next to the gravel entrance road. At some of the burrows, chunks of asbestos-containing material had been unearthed and were present on the ground surface.

Access to the Site is restricted by a fence on all sides except along Wissahickon Creek. There was some damage to the Park Parcel fence along the road; some of the vertical members were bent or broken.[13] Site inspection participants did not observe any evidence of trespassing or vandalism.

Grass on the top of the Park Parcel was recently mowed to about 4 to 6 inches. The O&M section of this FYR report describes EPA's concern that the grass is being cut too short. The slopes of the Park Parcel are covered with thick shrubs about 5 to 6 feet tall. In general, no trees were observed growing on the Park Parcel except for a few small trees on the slope of the Park Parcel near Rose Valley Creek where it enters the Site. Trees are prohibited along the streambanks of Rose Valley Creek where cable concrete mats are present, so these trees should be removed if they are growing where cable concrete mats are present.

About five small trees (3 to 6 inches in diameter) were observed growing on the Reservoir Parcel slope facing Wissahickon Creek. These trees should be removed in accordance with the O&M Plan because trees are prohibited along the berm of the Reservoir Parcel adjacent to Wissahickon Creek.

The Asbestos Pile Parcel is covered with shrubs about 4 feet high. No trees are present. Near Tannery Run, there were areas where green matting was exposed.

There are signs along Wissahickon Creek telling people not to dig due to buried asbestos and providing contact information for EPA. Participants at the December 2021 Site inspection noted that the large Site sign along the road was no longer legible; a new sign was installed in January 2022.

[13] The fence was installed by EPA to prevent access while the cleanup was being completed, but the fence is not required as part of the Site's remedy. Any cap disturbance and all subsequent repairs required as a result of the removal of any fencing, signage or site security measures by the property owners (either direct such as earth disturbance, or indirect such as trespassing) will be the sole responsibility of the property owners.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

The remedy is functioning as intended by the decision document. The Site's cover prevents exposure to waste, contaminated soil and reservoir sediment. The Site's stream banks were stabilized to prevent ecological receptors from being exposed to Site contaminants.

Since EPA completed the Site's cleanup, asbestos concentrations in ambient air have decreased and are below the Site's cleanup level. Asbestos concentrations in surface water have decreased significantly since the cleanup was completed; however, the asbestos concentrations in the Site's creeks are above the cleanup level.[14] In general, surface water asbestos concentrations in 2020 were lower than those observed in 2018, which suggests that the Selected Remedy (capping and creek bank stabilization) and manual ACM removal during creek cleanups is effectively mitigating the transport of asbestos from the source area to adjacent water bodies. Creek surface water should continue to be monitored to evaluate whether asbestos concentrations increase or decrease in relation to the post-remedial baseline concentrations established in 2020 after the removal of two dams near the Site. Asbestos present in Wissahickon Creek and Tannery Run surface water suggests that the stream bed sediment may be an ongoing source of asbestos, especially when these sediments are disturbed. Detections of asbestos upstream of the Site at concentrations higher than on-Site locations suggest that there may also be off-Site sources of asbestos.

The detected asbestos concentrations in the reservoir surface water are not expected to represent an ongoing risk to ecological receptors because the results of reservoir sediment did not indicate the presence of asbestos. However, surface water samples should still be collected to monitor for exceedances of the asbestos cleanup level in the future. Repeated sampling of the top 6 inches of the reservoir bottom is not conducive to maintaining its integrity.

Surface soil confirmation sampling found that asbestos is not present in surface soil. Several ecological COCs were detected in surface soil above their cleanup levels. EPA reviewed the surface soil ecological data and concluded that the contaminants detected in surface soils are not expected to pose an unacceptable ecological risk because of the level of exceedances and the spatial distribution of the exceedances. Growth of a healthy vegetative cover is expected to further ameliorate any residual ecological risk. EPA also compared the surface soil concentrations against EPA's current screening levels for residential soil and found that the concentrations are not a concern for human health.

PADEP and Whitpain Township are conducting O&M, generally in accordance with the July 2020 O&M Plan. The December 2021 FYR Site inspection found about a dozen groundhog burrows on the Park Parcel, mainly on the slope facing Wissahickon Creek along with a few burrows next to the gravel entrance road. At some of the burrows, chunks of ACM had been unearthed and were present on the ground surface. On March 4, 2022, PADEP and Whitpain Township collected the unearthed ACM and filled the burrows. PADEP removed any ACM coming out of the burrows and placed it in a plastic-lined drum for future disposal off-Site. More than a dozen groundhog holes were filled. Bentonite was placed in the bottom of the holes and they were topped off with topsoil and hand tamped. Whitpain Township, as the entity responsible for inspections and minor cap repairs at the Park Parcel, should regularly look for and fill groundhog burrows at the Park Parcel. PADEP is conducting O&M for the Asbestos Pile Parcel.

The December 2021 FYR Site inspection also found several small trees growing on the Reservoir Parcel slope facing Wissahickon Creek. PADEP will remove these trees as prescribed in the O&M Plan. The December 2021 FYR Site inspection also found a few small trees on the slope of the Park Parcel near Rose Valley Creek where it enters the Site. These trees should be removed if they are growing where cable concrete mats are present.

[14] Asbestos concentrations in reservoir surface water were non-detect in September 2021, but the quantitation limits were elevated due to high levels of particulates in the samples.

EPA believes that the Park Parcel grass is being mowed too short, which is counterproductive to the health of the vegetative cap and contrary to efforts to dissuade groundhogs from using the Site. The Site's O&M Plan (Section 2.3.3) states "mow no lower than 8 inches, if possible, as mowing lower will significantly damage the crown of these grasses, cause mortality, or open the Site for invasion by less desirable species." The O&M Plan also states that mowing the grass every three years, or every two years, would be better than annual mowing because "native meadow vegetation at the Site thrives on a three-year mowing cycle during the late winter." EPA will coordinate with Whitpain Township and PADEP regarding the mowing height and frequency.

Long-term monitoring is a component of the Remedy. Section 13.2.8 of the ROD states that it "will be conducted annually for the first four years leading up to the first FYR," and that it "will include ABS, ambient air, soil, sediment, and surface water sampling to confirm cleanup levels continue to be achieved and to demonstrate that the capping remedy continues to perform as designed." Not all four rounds of sampling were completed leading up to the first FYR. The sampling, however, that was completed indicates that the remedy is performing as expected. Additionally, it is noted that section 13.2.8 of the ROD also allows for flexibility in modifying sampling protocols and reducing the number of samples collected if results have demonstrated that the remedy is performing as designed. It states: "The specific [long-term monitoring] protocols will be designed based on confirmation sampling conducted after remedy completion, and may be modified based on results indicating the Selected Remedy is protective of human health and the environment. It is anticipated that the number of sample locations and analyses likely will decrease as the O&M period progresses, if sample results demonstrate that the cap continues to perform as designed." EPA will coordinate with PADEP to complete the ROD-required sampling.

Institutional controls are in place to restrict future use of the Site parcels and to protect the engineered remedy. The institutional controls appear to be effective in preventing exposure and damage to the remedy. EPA installed fencing around the Site as part of the removal action to prevent access while the cleanup was being completed. Now that the cleanup has been completed, property owners can remove the fencing.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

The exposure assumptions, toxicity data, cleanup levels and remedial action objectives used at the time of remedy selection are still valid. There are plans for the Park Parcel to be used as a public park in the future; the ROD anticipated this future use.

This FYR compared the Site's cleanup levels established in the ROD against the current standards (Appendix I). The current standards are not more stringent than the cleanup levels established for the Site.

This FYR compared the ecological-based cleanup levels from the ROD against ecological screening levels using the hierarchy of standards laid out in the Site's remedial investigation report (Appendix J). The ecological screening levels used for this evaluation are not more stringent than the cleanup levels established for the Site, supporting that the cleanup levels are still valid and protective. This FYR also compared the Site's cleanup levels against EPA's current human health-based screening levels, to determine whether the cleanup levels are protective for human health (Appendix J). The Site's cleanup levels are protective for human health based on residential exposure.

QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy?

No other information has come to light that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

One issue/recommendation was identified during this FYR.

Issues and Recommendations Identified in the Five-Year Review:				
OU(s): OU-1	**Issue Category:** Monitoring			
	Issue: EPA completed one full round of ROD-required monitoring in 2018. Two additional monitoring events were conducted, however, the monitoring conducted was not exactly as prescribed by the ROD.			
	Recommendation: EPA will ensure that the ROD-required monitoring will be performed prior to the second FYR due date.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	EPA/PADEP	EPA	2/28/2027

OTHER FINDINGS

Several findings were identified during the FYR. These findings do not affect current and/or future protectiveness.

- EPA believes that the Park Parcel grass is being mowed too frequently and possibly too short, which is counterproductive to the health of the vegetative cap and contrary to efforts to dissuade groundhogs from using the Site. The Site's O&M Plan (Section 2.3.3) recommends mowing "no lower than 8 inches, if possible, as mowing lower will significantly damage the crown of these grasses, cause mortality, or open the Site for invasion by less desirable species." The O&M Plan also states that mowing the grass every three years, or every two years, would be better than annual mowing because "native meadow vegetation at the Site thrives on a three-year mowing cycle during the late winter." EPA, however, also acknowledges that while frequent mowing can be counterproductive to vegetation, under-mowing can be counterproductive to visual Site inspections of cap integrity, as vegetative growth is often dense and can exceed four feet in height. Half of the Park Parcel has a very stable and sufficient vegetative cover (western side), while the other has patchy and sparse coverage in several areas (eastern side). This could be addressed by mowing the western side of the Park Parcel and all berms every two months between May and November but the eastern side on an as-needed basis. This may keep the established vegetation in check while allowing the sparse areas opportunity to grow. The O&M Plan should be updated to reflect any changes to mowing approaches. Mowing approaches will require modification once the redevelopment of the Park Parcel has occurred. EPA will coordinate with Whitpain Township and PADEP regarding the mowing approaches.

- The December 2021 FYR Site inspection found about a dozen groundhog burrows on the Park Parcel. At some of the burrows, chunks of ACM had been unearthed and were present on the ground surface. PADEP collected and disposed of ACM unearthed from the burrows, and Whitpain Township filled in the holes on March 4, 2022. Whitpain Township will continue to inspect for animal burrows at the Park Parcel and fill the burrows as prescribed in the O&M Plan. Furthermore, Whitpain Township is in the process of awarding a contract to perform spot fumigations of active groundhog burrows on a regular basis.

- The December 2021 FYR Site inspection found several small trees growing on the Reservoir Parcel slope facing Wissahickon Creek, and a few small trees on the slope of the Park Parcel near Rose Valley Creek

where it enters the Site. On March 11, 2022, PADEP's contractor removed the trees growing on the Reservoir Parcel slope facing Wissahickon Creek. The area of the slope along Rose Valley Creek does not contain concrete cable mats, and therefore, are not prohibited from growing there. It was noted that one tree was growing close to/on the retaining wall along Rose Valley Creek. Although the O&M Plan does not explicitly state that trees are prohibited from growing close to/on the retaining walls, it is recommended that this tree be removed. Additionally, the O&M Plan should be updated to reflect that trees growing close to/on the retaining walls could impact the integrity of the retaining wall, and therefore, be prohibited from growing there.

- Invasive species are present on the Site, particularly along the slope of the Park Parcel. Invasive species should be routinely monitored and removed.

- The EPA established threshold of 1% by weight for classification as asbestos containing materials is no longer an acceptable action limit to determine a Site response action for asbestos.[15,16] Activity-based sampling should be conducted whenever there is asbestos in soil that can possibly release asbestos fibers into the air. The O&M Plan should be updated to reflect EPA's guidance and future sampling events for the Site should include ABS whenever asbestos is detected in soil.

- During the interviews, several citizens expressed concern about communications involving activities at the Site. Whitpain Township and PADEP should engage the community more frequently and inform citizens about planned activities at the Site.

VII. PROTECTIVENESS STATEMENT

Sitewide Protectiveness Statement
Protectiveness Determination: Protective
Protectiveness Statement: The remedy at the Site is protective of human health and the environment because the Site's cover prevents exposure to waste, contaminated soil and reservoir sediment; the Site's stream banks were stabilized to prevent ecological receptors from being exposed to Site contaminants; and institutional controls are in place and effective to restrict future use of the Site parcels and to protect the engineered remedy.

VIII. NEXT REVIEW

The next FYR Report for the BoRit Asbestos Superfund Site is required five years from the completion date of this review.

[15] *Clarifying Cleanup Goals and Identification of New Assessment Tools for Evaluating Asbestos at Superfund Cleanups*, OSWER Directive 9345.4-05, August 2004 (PDF); https://semspub.epa.gov/work/HQ/175323.pdf

[16] *Framework for Investigating Asbestos-Contaminated Environmental Response, Compensation and Liability Act Sites,* OLEM Directive No. 9200.0-90; 2021; https://semspub.epa.gov/work/HQ/100002942.pdf

APPENDIX A – REFERENCE LIST

Addendum #1 to Final Remedial Action Completion Report, BoRit Asbestos Superfund Site, Ambler, Pennsylvania. Prepared by CDM Smith for EPA Region 3. July 2020.

Administrative Order for Asbestos Pile Parcel. Recorded at Montgomery County Recorder of Deeds on September 23, 2021.

Environmental Covenant for Park Parcel. Recorded at Montgomery County Recorder of Deeds on November 12, 2020. Deed Book 6201, Pages 2345-2354. Instrument Number 2020100163.

Letter Regarding Institutional Controls at the Asbestos Pile Parcel. From EPA Region 3 to Property Owner. August 2017.

Letter Regarding Institutional Controls at the Park Parcel. From EPA Region 3 to Whitpain Township. August 2017.

Letter Regarding Institutional Controls at the Reservoir Parcel. From EPA Region 3 to Wissahickon Waterfowl Preserve. August 2017.

Memorandum: Assessing Protectiveness for Asbestos Sites: Supplemental Guidance to Comprehensive Five-Year Review Guidance. EPA. December 2009.

Operations and Maintenance Plan, Revision 2, BoRit Asbestos Superfund Site, Ambler, Pennsylvania. Prepared by CDM Smith for EPA Region 3. July 2020.

2021 Operations and Maintenance Report, BoRit Asbestos NPL Site, Ambler Borough, Upper Dublin Township, Whitpain Township, Montgomery County. PADEP. March 2022.

Quarterly Inspection Reports (2019-2021). Conducted by EPA / Whitpain Township.

Record of Decision, BoRit Asbestos Superfund Site, Montgomery County, Pennsylvania. EPA Region 3. July 2017.

Remedial Action Completion Report, BoRit Asbestos Superfund Site, Ambler, Pennsylvania. Prepared by CDM Smith for EPA Region 3. September 2018.

Remedial Investigation Addendum, BoRit Asbestos Superfund Site, Ambler, Pennsylvania. Prepared by CDM Smith for EPA Region 3. May 2015.

Remedial Investigation Report, BoRit Asbestos Superfund Site, Ambler, Pennsylvania. Prepared by CDM Smith for EPA Region 3. November 2013.

Sampling Report and Operation & Maintenance (O&M) Summary: June 2020 to December 2021. Prepared by AECOM for PADEP. April 2022.

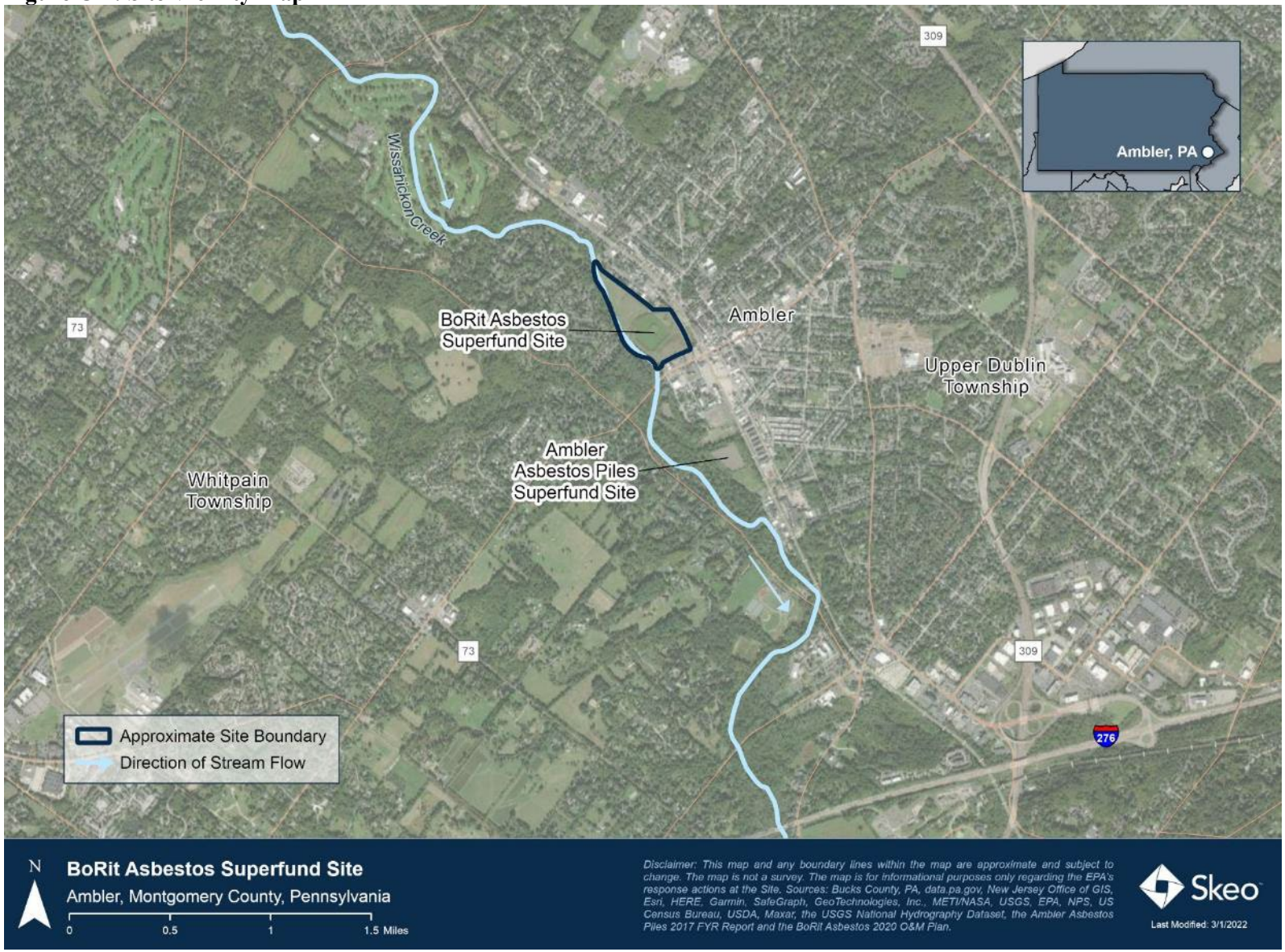
APPENDIX B – SITE CHRONOLOGY

Table B-1: Site Chronology

Event	Date
K&M produced asbestos products at their Ambler facility	1897 to 1962
EPA conducted sampling at Site	1983
Pennsylvania Department of Environmental Resources conducted sampling at the Site	1984
EPA conducted a removal action to address the most immediate environmental concerns at the Site	2008 to 2017
EPA listed the Site on the NPL	April 9, 2009
EPA completed the remedial investigation	November 2013
EPA issued a remedial investigation addendum	May 2015
EPA issued the Site's ROD	July 2017
EPA sent IC letters to owners of all three site properties	August 2017
EPA conducted the first round of confirmation sampling	April-July 2018
Site achieved the construction complete milestone	June 2018
EPA completed the remedial action	September 2018
EPA conducted second round of confirmation sampling	February 2020
Site achieved O&F	March 3, 2020
EPA revised the O&M Plan	July 2020
Environmental Covenant recorded for Park Parcel	November 18, 2020
PADEP conducted sampling event	September 2021
Administrative Order recorded containing institutional controls for Asbestos Pile Parcel	September 23, 2021
Environmental Covenant recorded for Reservoir Parcel	May 27, 2022

APPENDIX C – SITE MAP

Figure C-1: Site Vicinity Map



APPENDIX D – PUBLIC NOTICE

EPA PUBLIC NOTICE

EPA REVIEWS CLEANUP

Ambler Asbestos Piles & BoRit Asbestos Superfund Sites

The U.S. Environmental Protection Agency (EPA) is reviewing the cleanup that was conducted at the Ambler Asbestos Piles and BoRit Asbestos Superfund Sites located in Ambler, Pennsylvania. EPA conducts Five-Year Reviews to ensure that the remedies implemented continue to protect public health and the environment. EPA conducted the previous Five-Year Review for Ambler Asbestos Piles in 2017 and concluded that the remedy is working as designed and protective in the short-term, meaning no one is exposed to asbestos. The findings from this Five-Year Review will be available in June 2022. EPA has initiated the first Five-Year Review for BoRit Asbestos and findings from this review will be available by September 2022.

To access site information, including the Five-Year Review, visit:
https://www.epa.gov/ambler

For questions or to provide site-related information for the review, contact:
Eric Pollard, EPA Community Involvement Coordinator
215-814-5535 or pollard.eric@epa.gov

EPA
United States
Environmental Protection
Agency

BORIT ASBESTOS & AMBLER ASBESTOS PILES SUPERFUND SITES
COMMUNITY UPDATE
AMBLER, PA / REGION 3
October 2021

EPA Reviews Site Cleanup

The U.S. Environmental Protection Agency (EPA) is reviewing the remedies at the BoRit Asbestos and Ambler Asbestos Piles Superfund Sites, located in Ambler along Maple Street and Locust Street, respectively. EPA conducts these reviews every five years to ensure that the remedies continue to function as intended and remain protective of human health and the environment. The reviews are expected to be completed by June 2022 and September 2022, for Ambler Asbestos Piles and BoRit Asbestos, respectively.

EPA is also interviewing community members about the site remedies. To participate in an interview, contact us!

For more information, visit the link or scan the QR code: **www.epa.gov/ambler**

Would you like to receive periodic site updates via email? Sign up for the email list by contacting us.

Tim Gallagher – EPA Remedial Project Manager
Email: gallagher.tim@epa.gov
Phone: 215-814-3196

Irene Shandruk – EPA Remedial Project Manager
Email: shandruk.irene@epa.gov
Phone: 215-814-2166

Eric Pollard – Community Involvement Coordinator
Email: pollard.eric@epa.gov
Phone: 215-814-5535

United States Environmental Protection Agency, Region
1650 Arch Street (Mail Code 3RA22)
Philadelphia, PA 19103
Attn: Eric Pollard

Official Business
Penalty for Private Use, $300
Address Service Requested

FIRST-CLASS MAIL
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PAID
U.S. EPA
Permit No. [insert]

APPENDIX E – INTERVIEW FORMS

Date: 12/16/2021

Interviewee: CAG Member #1
Member; Community Advisory Group

1. **What is your overall impression of the projects?**

The EPA said how they were going to remediate the site and they accomplished what they said. They successfully maintained the site according to the plan.

2. **What effects have site operations had on the surrounding community?**

I have no firsthand knowledge regarding this question.

3. **Is the CAG aware of any community concerns regarding the site or its operation and administration?**

I am not in broad contact with the community or its governing administration to assess their concerns.

4. **Is the CAG aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities?**

I have no firsthand knowledge.

5. **Is the CAG aware of the requirement to have restrictions (ICs) limiting activities and/or land use at the site to protect the community/site users from waste left in place?**

The CAG is aware of the requirement to have restrictions that limit use and activities on the site. These were discussed many times at CAG meetings. However, speaking for myself, I am not certain that I have confidence that those restrictions will be followed in the longer term. One of my objectives is to assure that the community never forgets what is underneath the cap of this superfund site and maintaining an awareness of the importance of preserving the integrity of the cap.

6. **Is the CAG aware of ongoing operation and maintenance activities and the duration of those activities?**

Prior to the pandemic, the CAG was aware of the operation and maintenance activities as reported by the EPA at each CAG meeting. However, during the pandemic, communication has been nonexistent due to the lack of meetings and due to my not pursuing updates from the EPA. I am sure that if I approached EPA about maintenance activities, I would have received an update that I could have shared with the CAG.

7. **Does the CAG have any concerns about the cleanup or about potential risks from the site?**

Inspections of the site and the Wissahickon Creek continue to produce uncovered articles believed to contain asbestos. Although the articles are removed, it seems to be a concern. The operations plan calls for continued air sampling which is reported to show the absence of fibers in the air at the boundaries of the site. The air sampling results should provide relief to the community's concern of exposure.

Cleanup is a misnomer. The word implies that the contamination is removed or decontaminated. The word also implies that the work on the site is finished. In fact, the contamination is still there, buried under the cap requiring cap maintenance in perpetuity. This site should not be considered cleaned up but will forever be a superfund site as long as the contamination remains under the cap. Perhaps more appropriate descriptive labels to consider for characterization of the site are forms of the words sequestered, isolated, or encapsulated.

8. **What would be the most effective way to inform your community about the cleanup, O&M and/or restrictions (ICs) at the site?**

Perhaps an approach to identify the most effective way to inform the community is to meet with municipal officials, local newspapers, etc, and first determine communication needs and gaps and then explore potential solutions.

9. **Does the CAG feel well informed about the site's activities and progress?**

Prior to the pandemic, the CAG was aware of the operation and maintenance activities as reported by the EPA at each CAG meeting. However, during the pandemic, communication has been nonexistent due to the lack of meetings and due to my not pursuing updates from the EPA. I am sure that if I approached EPA about maintenance activities, I would have received an update that I could have shared with the CAG.

10. **Does the CAG have any comments, suggestions, or recommendations regarding the site's management or operation?**

There are two relevant areas of research that recently appeared in the magazine of the American Chemical Society, C&E News. One article concerned the assessment of safety concerns of construction products containing asbestos and the other concerned the containment of asbestos fibers.

The Toxic Substances Control Act of 2020, found unreasonable risks to workers and consumers of many products containing asbestos. However, they did not consider the risks from construction materials and did not consider all forms of asbestos other than chrysotile. According to this article, EPA committed to evaluate construction materials containing asbestos and forms of asbestos other than chrysotile. BoRit contains numerous buried construction materials and if this recently announced evaluation considers the degradation of buried construction materials containing asbestos, the EPA BoRit team should monitor the evaluation results. This evaluation is due to be completed by December 1, 2024 (CEN.ACS.org, Oct. 25, 2021.)

The second research effort suggested that the mobility of asbestos fibers in soil can be affected by the presence of organic components in soils. Column experiments, using BoRit soil, suggest that humic and fulvic acids and can promote the mobility of asbestos fibers in soils. The preliminary results were published in a peer reviewed article that may raise serious questions about asbestos fiber containment. Any further work in the area of asbestos fiber containment should be followed because of the direct relevance to BoRit. (CEN.ACS.org, November, 29.2021; Sanjay K. Mohanty, Ashkan Salamatipour, and Jane K. Willenbring, J. Hazardous Materials Letters, 2 (2021) 100015.)

Date: 12/02/2021

Interviewee: CAG Member# 3
Member; Community Advisory Group

1. **What is your overall impression of the projects?**

   The type remedy used for the remediation was not the one for which I had hoped. In my opinion the only true cure for the asbestos waste piles is to have the asbestos waste removed or made inert. I believe that we
   will continue to have asbestos related problems as long as the contamination is allowed to remain. In terms of dollars I believe that in the long run, because of the ongoing O&M, it may wind up costing more to have it buried, and the danger of health related issues will remain as long as the piles remain.

2. **What effects have site operations had on the surrounding community?**

   I have not personally been affected by the operations. The West Ambler community can best answer this question.

3. **Is the CAG aware of any community concerns regarding the site or its operation and administration?**

   See the above answer.

4. **Is the CAG aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities?**

   I have not personally witnessed any events of that type but have heard of problems with trespassing and vandalism.

5. **Is the CAG aware of the requirement to have restrictions (ICs) limiting activities and/or land use at the site to protect the community/site users from waste left in place?**

   I believe that the CAG is aware of that possibility.

6. **Is the CAG aware of ongoing operation and maintenance activities and the duration of those activities?**

   I believe that the CAG is aware of the O&M activities but future CAG meetings with the Agencies reps would be more helpful.

7. **Does the CAG have any concerns about the cleanup or about potential risks from the site?**

   I personally have concerns and I believe the CAG members do as well. As long as the contaminants are in place there will always be a potential risk.

8. **What would be the most effective way to inform your community about the cleanup, O&M and/or restrictions (ICs) at the site?**

   Proper signage at the site is, to me, the most obvious, and least expensive, way. Another, as Sharon Vargas pointed out at the Zoom meeting is a social media source for Ambler residents called AroundAmbler.com. It is probably the easiest way to disseminate information. The Ambler Gazette

could also be utilized but probably not as effective.

9. **Does the CAG feel well informed about the site's activities and progress?**

   I can't say that I feel "well informed". Regular CAG meetings worked better.

10. **Does the CAG have any comments, suggestions, or recommendations regarding the site's management or operation?**

    Communicate, communicate, communicate.

Date: 12/15/2021

Interviewee: CAG Member #2
Member; Community Advisory Group

1. **Is the CAG aware of any community concerns regarding the site or its operation and administration?**

   Yes, concern that potential for weather events make capping only a semi-permanent solution

2. **Is the CAG aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities?**

   The primary "door breakers" on the piles are the deer, but I have seen hunters up there.

3. **Is the CAG aware of the requirement to have restrictions (ICs) limiting activities and/or land use at the site to protect the community/site users from waste left in place?**

   Yes, but my big comment here is that more potential ACM seems to show up after every large storm and it shows up downstream from the site. Given that there is public access to Wissahickon Trails land for recreation purposes, this are needs to be included in monitoring and cleanup activities.

4. **Is the CAG aware of ongoing operation and maintenance activities and the duration of those activities?**

   Would like to be better informed.

5. **Does the CAG have any concerns about the cleanup or about potential risks from the site?**

   - More potential ACM seems to show up after every large storm and it shows up downstream from the site. Given that there is public access to Wissahickon Trails land for recreation purposes, this area (downstream from Bo-Rit) needs to be included in monitoring and cleanup activities.
   - Given this, Germantown Academy should be informed and included.
   - Given this, ACM monitoring and cleanup needs to occur after every major storm, not just yearly.
   - Given the recently posted article, which supports research presented to us pre-Covid by U Penn (also other research that injected small fibers can affect the digestive tract), we really need to think about movement of small fibers through soil, especially considering that City Of Philadelphia pulls water from the Wissahickon. At the very least, they should be informed of the possibility of fibers in stream water. Also, while I would hope that floccing and filtering would remove small fibers, this should be verified.

6. **What would be the most effective way to inform your community about the cleanup, O&M and/or restrictions (ICs) at the site?**

   1. Ambler mayor's office, 2. Ambler Gazette, 3. Our website?

7. **Does the CAG feel well informed about the site's activities and progress?**

   No, for example, there was work done on the (BoRit) park site this summer that we were not informed about.

8. Does the CAG have any comments, suggestions, or recommendations regarding the site's management or operation?

See above

Date: January 3, 2022

Interviewee: CAG Member #5 Advocacy Director, Clean Air Council

1. **What is your overall impression of the projects?**

   I am very new to this process and the project, but my general impression is that there are good practices and timeframes built into the operations and maintenance plan for the sites and that these are followed and completed. However, it is my impression that the public (and CAG members) are not regularly informed about the results of this work and that there are still issues with maintenance of the site that need to be adequately addressed in the immediate future and then monitored on an ongoing basis going forward.

2. **What effects have site operations had on the surrounding community?**

   See responses below.

3. **Is the CAG aware of any community concerns regarding the site or its operation and administration?**

   Not beyond the concerns members of the CAG have expressed. I seem to remember EPA stating on the CAG call that it was doing outreach (mailings) to residents about the 5-year review to get feedback. What outreach methods is EPA using? Has EPA done any phone calls or canvassing to talk with residents, especially those living adjacent to the sites?

4. **Is the CAG aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities?**

   No.

5. **Is the CAG aware of the requirement to have restrictions (ICs) limiting activities and/or land use at the site to protect the community/site users from waste left in place?**

   I had read this on the EPA website for this project but could not find detailed information about this. The information I saw on the website provided a general overview about what ICs are, but did not provide information about the specific ICs of these sites: https://www.epa.gov/superfund/superfund-institutional-controls I found this on the site: "PADEP issued a Section 512 Administrative Order (512 Order) to the owner of the two site parcels which defines prohibited activities at the site." Can EPA provide more information about the specific institutional controls for the asbestos piles and make this information and the order available on the website?

6. **Is the CAG aware of ongoing operation and maintenance activities and the duration of those activities?**

   It is my understanding that there are requirements for quarterly inspections for issues such as cracks, erosion, fence damage, animal burrows, fallen trees, but I am unaware of the specific outcomes of those inspections or corrective actions that may have been taken to address any issues. Are these inspections documented somewhere and publicly available via the website? It is also my understanding that air sampling for asbestos is required on an annual basis and whenever areas with asbestos could be disturbed, but I am unaware of the results of that sampling. Is this data publicly available via the website?

7. Does the CAG have any concerns about the cleanup or about potential risks from the site?

Please refer to my email (sent on November 8, 2021) for a detailed description of my concerns with photos attached. Below is a summary of those concerns. Please feel free to contact me for additional information about locations, etc.

- I found a cantaloupe-sized white ball just outside the fence of the Ambler Asbestos Piles right where Stuart Creek runs off the site. Tim Gallagher with EPA came out to investigate this and my other concerns.
- We found and collected a number of probable asbestos materials (tiles and pipe) from the trail near the Ambler Asbestos Piles. What can be done about cleaning up the rest of these materials that remain on this trail and public area?
- There are some areas of the Ambler Asbestos Piles site that have been affected by erosion and that need to be addressed/repaired (see photos for examples).
    - Damaged sediment control cloth
    - Potentially damaged gabion cages
    - Erosion and clogging/improper drainage of pipe further northwest of Stuart Creek (see photo)
- Gaps in fencing/gates around piles could not only encourage trespassing by people, but also allow animals such as deer and dogs to enter the site and disturb the piles.
- I'm concerned about future flooding, especially with increasingly intense storms like Ida and increased precipitation from climate change. The leaves on the metal fence in my photos show how high the creek came up to the piles during the flooding this summer.

8. What would be the most effective way to inform your community about the cleanup, O&M and/or restrictions (ICs) at the site?

In general, I think people need more information about the cleanup, ongoing maintenance and use restrictions. Here are three ideas related to outreach about the 5-year review, which I think is a key time to engage the public on this project.

1. EPA could consider holding a virtual town hall meeting to both present information about the sites, preliminary analysis from inspections, and to encourage participation in the 5-year review.
2. It may be helpful to create a 2 or 3 question survey (available online and in hard copy) and distribute it to fenceline neighbors, on social media, and through the CAG's local contacts.
3. Work with the borough to write an article for the Ambler newsletter about the 5-year review soliciting public input in the online survey.

9. Does the CAG feel well informed about the site's activities and progress?

I was concerned to learn that the owners of the Ambler Asbestos Piles property had brought in soil without the proper permitting and were working on digging that up and removing it over the summer.

- Did EPA or DEP notify the public or CAG members about this activity?
- How can this type of violation be prevented in the future?
- Will EPA or DEP brief the CAG and or members of the public about this removal and assure them that no asbestos was disturbed?

10. Does the CAG have any comments, suggestions, or recommendations regarding the site's management or operation?

- Address the issues and concerns listed above.
- Consider more frequent inspections to monitor for the above issues so that they can be identified and addressed more quickly.
- As was discussed on the CAG call, I think it would be beneficial to post signs with images of asbestos-containing materials and what to do/ who to contact if someone finds some.

- Organize regular cleanups of the Wissahickon Creek, trails, and park areas that get inundated with flooding to locate and remove asbestos-containing materials. Notify the public about cleanup dates and close public areas off with signs and barricades during cleanups. If there are parts of these cleanup activities that the public can safely participate in with certain health precautions, consider inviting CAG members or volunteers to help with these activities (e.g., identifying potential ACM for agency officials to properly remove and dispose of).

Date: 12/02/2021

Interviewee: CAG Member #4
Member; Community Advisory Group

1. **What is your overall impression of the projects?**

My overall opinion of the remediation of BoRit is that the EPA did the least amount of cleanup that would meet the requirements of the law. As far as I can remember, we were granted less funding than many other asbestos Superfund sites.

2. **What effects have site operations had on the surrounding community?**

When you look at the BoRit site, there is a false sense of well-being. You would never know that this site is the largest asbestos waste disposal site in America. It looks like a safe bird sanctuary that would encourage visitors. That is one reason for the ongoing gentrification.The new residents have no knowledge as to what was there before. In addition, the area around there was known to flood, as parts of the park are on a floodplain. As per the meeting last night, it is still flooding even with mitigation. I would suggest the EPA and Army Core of Engineers review the size of the piping that was installed and why some existing piping was removed. With such a great deal of depth of asbestos, the water may not be absorbed.

3. **Is the CAG aware of any community concerns regarding the site or its operation and administration?**

I don't know.

4. **Is the CAG aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities?**

That was discussed at the meeting. It appears the EPA is aware of such activities.

5. **Is the CAG aware of the requirement to have restrictions (ICs) limiting activities and/or land use at the site to protect the community/site users from waste left in place?**

There were restrictions. However, there was also discussion of Whitpain township wanting to install a playground on top of the capped asbestos. If I remember correctly, the EPA installed utility hookups on the site for future development.

6. **Is the CAG aware of ongoing operation and maintenance activities and the duration of those activities?**

There were ongoing maintenance activities to clear the creek of asbestos remains along the bank and in the creek on a yearly basis. As per the meeting last night, this has not been done in two years. There was also a 60 foot "crevice" on the Ambler Piles that was supposed to be mitigated. I would suggest the EPA investigate if there is any additional damage due to development of the site across the street.

7. Does the CAG have any concerns about the cleanup or about potential risks from the site?

Yes, I think the site will always pose a substantial risk to the community. The EPA could have experimented with new technology but chose not to utilize best efforts. They have even allowed, in conjunction with the DEP, residential construction on the factory parcel consisting of the same carcinogens. As far as my research, this has never been done before. I hope the potential renters are made aware of the potentially harmful minerals in the ground and that it is suspected that asbestos moves through the ground and water.

8. What would be the most effective way to inform your community about the cleanup, O&M and/or restrictions (ICs) at the site?

Each of the townships have a newsletter that is mailed and emailed to their residents. A truthful article could be submitted.

9. Does the CAG feel well informed about the site's activities and progress?

At this time, I do not feel well informed. With the onboarding of new personnel, I feel they were not adequately briefed as to the history of the site, nor the fact that asbestos will always leach from the site and need cleanup. Previous EPA personnel should have shared a timetable for creek cleanup, etc.

10. Does the CAG have any comments, suggestions, or recommendations regarding the site's management or operation?

Yes, I understand that this is the first five-year review. The next reviews will also be at five-year intervals. That is insufficient for this site as the remedy was not to "clean" the site, but rather to cover it up. The health team should continue to track lung cancer and related lung issues, especially among new residents and those who will live on top of the Bast parcel.

APPENDIX F – SITE INSPECTION CHECKLIST

FIVE-YEAR REVIEW SITE INSPECTION CHECKLIST

I. SITE INFORMATION

Site Name: BoRit Asbestos	**Date of Inspection:** 12/16/2021
Location and Region: Ambler, PA; Region 3	**EPA ID:** PAD981034887
Agency, Office or Company Leading the Five-Year Review: EPA Region 3	**Weather/Temperature:** partly sunny, ~60°F

Remedy Includes: (Check all that apply)

- ☒ Landfill cover/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Groundwater pump and treatment
- ☐ Surface water collection and treatment
- ☐ Other: _____
- ☐ Monitored natural attenuation
- ☐ Groundwater containment
- ☐ Vertical barrier walls

Attachments: ☒ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (check all that apply)

1. **O&M Site Manager** PADEP (Name) _____ (Title) 12/16/2021 (Date)
   Interviewed ☐ at site ☐ at office ☐ by phone Phone: _____
   Problems, suggestions ☐ Report attached: see Section IV of this FYR report

2. **O&M Staff** _____ (Name) _____ (Title) _____ (Date)
   Interviewed ☐ at site ☐ at office ☐ by phone Phone: _____
   Problems/suggestions ☐ Report attached: _____

3. **Local Regulatory Authorities and Response Agencies** (i.e., state and tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices). Fill in all that apply.

   Agency PADEP
   Contact _____ (Name) _____ (Title) 12/16/2021 (Date) _____ (Phone No.)
   Problems/suggestions ☐ Report attached: see Section IV of this FYR report

   Agency Whitpain Township
   Contact _____ (Name) _____ (Title) 11/14/2021 (Date) _____ (Phone No.)
   Problems/suggestions ☐ Report attached: see Section IV of this FYR report

   Agency _____
   Contact _____ (Name) _____ (Title) _____ (Date) _____ (Phone No.)
   Problems/suggestions ☐ Report attached: _____

   Agency _____
   Contact _____ (Name) _____ (Title) _____ (Date) _____ (Phone No.)
   Problems/suggestions ☐ Report attached: _____

   Agency _____
   Contact _____ (Name) _____ (Title) _____ (Date) _____ (Phone No.)

	Name	Title	Date	Phone No.	
	Problems/suggestions ☐ Report attached:_____				
4.	**Other Interviews** (optional) ☒ Report attached: see Section IV and Appendix E of this FYR report				
	Five CAG members				
	President of Wissahickon Waterfowl Preserve (owner of reservoir parcel)				
	Boys and Girls Club (across street from Site)				
	III. ON-SITE DOCUMENTS AND RECORDS VERIFIED (check all that apply)				
1.	**O&M Documents**				
	☒ O&M manual	☒ Readily available	☐ Up to date	☐ N/A	
	☒ As-built drawings	☒ Readily available	☐ Up to date	☐ N/A	
	☒ Maintenance logs	☒ Readily available	☐ Up to date	☐ N/A	
	Remarks: _____				
2.	**Site-Specific Health and Safety Plan**	☒ Readily available	☒ Up to date	☐ N/A	
	☒ Contingency plan/emergency response plan	☒ Readily available	☒ Up to date	☐ N/A	
	Remarks: _____				
3.	**O&M and OSHA Training Records**	☐ Readily available	☐ Up to date	☐ N/A	
	Remarks: _____				
4.	**Permits and Service Agreements**				
	☐ Air discharge permit	☐ Readily available	☐ Up to date	☒ N/A	
	☐ Effluent discharge	☐ Readily available	☐ Up to date	☒ N/A	
	☐ Waste disposal, POTW	☐ Readily available	☐ Up to date	☒ N/A	
	☐ Other permits: _____	☐ Readily available	☐ Up to date	☒ N/A	
	Remarks: _____				
5.	**Gas Generation Records**	☐ Readily available	☐ Up to date	☒ N/A	
	Remarks: _____				
6.	**Settlement Monument Records**	☐ Readily available	☐ Up to date	☒ N/A	
	Remarks: _____				
7.	**Groundwater Monitoring Records**	☐ Readily available	☐ Up to date	☒ N/A	
	Remarks: _____				
8.	**Leachate Extraction Records**	☐ Readily available	☐ Up to date	☒ N/A	
	Remarks: _____				
9.	**Discharge Compliance Records**				
	☐ Air	☐ Readily available	☐ Up to date	☒ N/A	
	☐ Water (effluent)	☐ Readily available	☐ Up to date	☒ N/A	
	Remarks: _____				

10. **Daily Access/Security Logs** ☐ Readily available ☐ Up to date ☒ N/A

Remarks: _____

IV. O&M COSTS

1. **O&M Organization**

☐ State in-house ☒ Contractor for state

☐ PRP in-house ☐ Contractor for PRP

☐ Federal facility in-house ☐ Contractor for Federal facility

☒ O&M is conducted by PADEP and Whitpain Township

2. **O&M Cost Records**

☒ Readily available ☒ Up to date

☒ Funding mechanism/agreement in place ☐ Unavailable

Original O&M cost estimate: The Site's ROD estimated that O&M costs for the Site would be $225,000 for the first two years of O&M. ☐ Breakdown attached

Total annual cost by year for review period if available

From: 03/01/2020 Date	To: 12/31/2021 Date	PADEP: $75,000 Total cost	☐ Breakdown attached
From: 04/01/2021 Date	To: 03/15/2022 Date	Whitpain Township: $7,909 Total cost	☐ Breakdown attached
From: _____ Date	To: _____ Date	_____ Total cost	☐ Breakdown attached
From: _____ Date	To: _____ Date	_____ Total cost	☐ Breakdown attached
From: _____ Date	To: _____ Date	_____ Total cost	☐ Breakdown attached

3. **Unanticipated or Unusually High O&M Costs during Review Period**

Describe costs and reasons: _____

V. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

A. Fencing

1. **Fencing Damaged** ☐ Location shown on site map ☒ Gates secured ☐ N/A

Remarks: There was some damage to the Park Parcel fence along the road; some of the vertical members are bent or broken.

B. Other Access Restrictions

1. **Signs and Other Security Measures** ☐ Location shown on site map ☐ N/A

Remarks: There are warning signs along Wissahickon Creek about buried asbestos but the large site sign along the road is no longer legible (update: a new sign was installed in January 2022).

C. Institutional Controls (ICs)

1. **Implementation and Enforcement**

Site conditions imply ICs not properly implemented ☐ Yes ☒ No ☐ N/A

Site conditions imply ICs not being fully enforced ☐ Yes ☒ No ☐ N/A

Type of monitoring (e.g., self-reporting, drive by): quarterly inspection by PADEP

Frequency: quarterly

Responsible party/agency: PADEP

Contact omitted for privacy _____ _____ _____

Name Title Date Phone no.

Reporting is up to date ☒ Yes ☐ No ☐ N/A

Reports are verified by the lead agency ☒ Yes ☐ No ☐ N/A

Specific requirements in deed or decision documents have been met ☒ Yes ☐ No ☐ N/A

Violations have been reported ☐ Yes ☒ No ☐ N/A

Other problems or suggestions: ☐ Report attached

2. **Adequacy** ☒ ICs are adequate ☐ ICs are inadequate ☐ N/A

Remarks: All of the required institutional controls have been implemented. EPA is in the process of finalizing an additional institutional control (an environmental covenant) for the Reservoir Parcel.

D. General

1. **Vandalism/Trespassing** ☐ Location shown on site map ☒ No vandalism evident

Remarks: _____

2. **Land Use Changes On Site** ☐ N/A

Remarks: Whitpain Township is planning to build a public park on the Park Parcel.

3. **Land Use Changes Off Site** ☐ N/A

Remarks: The public park planned for the Park Parcel may include a pedestrian bridge from the Boys and Girls Club to the Site.

VI. GENERAL SITE CONDITIONS

A. Roads ☒ Applicable ☐ N/A

1. **Roads Damaged** ☐ Location shown on site map ☒ Roads adequate ☐ N/A

Remarks: _____

B. Other Site Conditions

Remarks: _____

VII. LANDFILL COVERS ☒ Applicable ☐ N/A

A. Landfill Surface

1. **Settlement** (low spots) ☐ Location shown on site map ☒ Settlement not evident

Area extent: _____ Depth: _____

Remarks: _____

2.	**Cracks**	☐ Location shown on site map	☒ Cracking not evident
	Lengths: _____	Widths: _____	Depths: _____
	Remarks: _____		
3.	**Erosion**	☐ Location shown on site map	☒ Erosion not evident
	Area extent: _____		Depth: _____
	Remarks: _____		
4.	**Holes**	☐ Location shown on site map	☐ Holes not evident
	Area extent: _____		Depth: _____
	Remarks: Numerous groundhog burrows at Park Parcel capped area.		
5.	**Vegetative Cover**	☒ Grass	☒ Cover properly established
	☐ No signs of stress	☐ Trees/shrubs (indicate size and locations on a diagram)	
	Remarks: Park Parcel grass is being mowed too short. A few small trees are growing on the Reservoir Parcel slope facing Wissahickon Creek.		
6.	**Alternative Cover** (e.g., armored rock, concrete)		☒ N/A
	Remarks: _____		
7.	**Bulges**	☐ Location shown on site map	☒ Bulges not evident
	Area extent: _____		Height: _____
	Remarks: _____		
8.	**Wet Areas/Water Damage**	☒ Wet areas/water damage not evident	
	☐ Wet areas	☐ Location shown on site map	Area extent: _____
	☐ Ponding	☐ Location shown on site map	Area extent: _____
	☐ Seeps	☐ Location shown on site map	Area extent: _____
	☐ Soft subgrade	☐ Location shown on site map	Area extent: _____
	Remarks: _____		
9.	**Slope Instability**	☐ Slides	☐ Location shown on site map
	☒ No evidence of slope instability		
	Area extent: _____		
	Remarks: _____		
B. Benches		☐ Applicable	☒ N/A
	(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)		
1.	**Flows Bypass Bench**	☐ Location shown on site map	☐ N/A or okay
	Remarks: _____		
2.	**Bench Breached**	☐ Location shown on site map	☐ N/A or okay
	Remarks: _____		

3. **Bench Overtopped** ☐ Location shown on site map ☐ N/A or okay

Remarks: _____

C. Letdown Channels ☐ Applicable ☒ N/A

(Channel lined with erosion control mats, riprap, grout bags or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

1. **Settlement** (Low spots) ☐ Location shown on site map ☐ No evidence of settlement

Area extent: _____ Depth: _____

Remarks: _____

2. **Material Degradation** ☐ Location shown on site map ☐ No evidence of degradation

Material type:_____ Area extent: _____

Remarks: _____

3. **Erosion** ☐ Location shown on site map ☐ No evidence of erosion

Area extent: _____ Depth: _____

Remarks: _____

4. **Undercutting** ☐ Location shown on site map ☐ No evidence of undercutting

Area extent: _____ Depth: _____

Remarks: _____

5. **Obstructions** Type: _____ ☐ No obstructions

☐ Location shown on site map Area extent: _____

Size: _____

Remarks: _____

6. **Excessive Vegetative Growth** Type: _____

☐ No evidence of excessive growth

☐ Vegetation in channels does not obstruct flow

☐ Location shown on site map Area extent: _____

Remarks: _____

D. Cover Penetrations ☐ Applicable ☒ N/A

1. **Gas Vents** ☐ Active ☐ Passive

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ Evidence of leakage at penetration ☐ Needs maintenance ☐ N/A

Remarks: _____

2. **Gas Monitoring Probes**

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ Evidence of leakage at penetration ☐ Needs maintenance ☐ N/A

Remarks: _____

3. **Monitoring Wells** (within surface area of landfill)

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ Evidence of leakage at penetration ☐ Needs maintenance ☐ N/A

Remarks: _____

4. **Extraction Wells Leachate**

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ Evidence of leakage at penetration ☐ Needs maintenance ☐ N/A

Remarks: _____

5. **Settlement Monuments** ☐ Located ☐ Routinely surveyed ☐ N/A

Remarks: _____

E. Gas Collection and Treatment ☐ Applicable ☒ N/A

1. **Gas Treatment Facilities**

☐ Flaring ☐ Thermal destruction ☐ Collection for reuse

☐ Good condition ☐ Needs maintenance

Remarks: _____

2. **Gas Collection Wells, Manifolds and Piping**

☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Gas Monitoring Facilities** (e.g., gas monitoring of adjacent homes or buildings)

☐ Good condition ☐ Needs maintenance ☐ N/A

Remarks: _____

F. Cover Drainage Layer ☐ Applicable ☒ N/A

1. **Outlet Pipes Inspected** ☐ Functioning ☐ N/A

Remarks: _____

2. **Outlet Rock Inspected** ☐ Functioning ☐ N/A

Remarks: _____

G. Detention/Sedimentation Ponds ☐ Applicable ☒ N/A

1. **Siltation** Area extent: _____ Depth: _____ ☐ N/A

☐ Siltation not evident

Remarks: _____

2. **Erosion** Area extent: _____ Depth: _____

☐ Erosion not evident

Remarks: _____

3. **Outlet Works** ☐ Functioning ☐ N/A

Remarks: _____

4. **Dam** ☐ Functioning ☐ N/A

Remarks: _____

H. Retaining Walls ☐ Applicable ☒ N/A

1. **Deformations** ☐ Location shown on site map ☐ Deformation not evident

Horizontal displacement: _____ Vertical displacement: _____

Rotational displacement: _____

Remarks: _____

2. **Degradation** ☐ Location shown on site map ☐ Degradation not evident

Remarks: _____

I. Perimeter Ditches/Off-Site Discharge ☐ Applicable ☒ N/A

1. **Siltation** ☐ Location shown on site map ☐ Siltation not evident

Area extent: _____ Depth: _____

Remarks: _____

2. **Vegetative Growth** ☐ Location shown on site map ☐ N/A

☐ Vegetation does not impede flow

Area extent: _____ Type: _____

Remarks: _____

3. **Erosion** ☐ Location shown on site map ☐ Erosion not evident

Area extent: _____ Depth: _____

Remarks: _____

4. **Discharge Structure** ☐ Functioning ☐ N/A

Remarks: _____

VIII. VERTICAL BARRIER WALLS ☐ Applicable ☒ N/A

1. **Settlement** ☐ Location shown on site map ☐ Settlement not evident

Area extent: _____ Depth: _____

Remarks: _____

2. **Performance Monitoring** Type of monitoring: _____

☐ Performance not monitored

Frequency: _____ ☐ Evidence of breaching

Head differential: _____

Remarks: _____

IX. GROUNDWATER/SURFACE WATER REMEDIES ☐ Applicable ☒ N/A

A. Groundwater Extraction Wells, Pumps and Pipelines ☐ Applicable ☐ N/A

1. **Pumps, Wellhead Plumbing and Electrical**

☐ Good condition ☐ All required wells properly operating ☐ Needs maintenance ☐ N/A

Remarks: _____

2. **Extraction System Pipelines, Valves, Valve Boxes and Other Appurtenances**

☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Spare Parts and Equipment**

☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided

Remarks: _____

B. Surface Water Collection Structures, Pumps and Pipelines ☐ Applicable ☐ N/A

1. **Collection Structures, Pumps and Electrical**

☐ Good condition ☐ Needs maintenance

Remarks: _____

2. **Surface Water Collection System Pipelines, Valves, Valve Boxes and Other Appurtenances**

☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Spare Parts and Equipment**

☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided

Remarks: _____

C. Treatment System ☐ Applicable ☐ N/A

1. **Treatment Train** (check components that apply)

☐ Metals removal ☐ Oil/water separation ☐ Bioremediation

☐ Air stripping ☐ Carbon adsorbers

☐ Filters: _____

☐ Additive (e.g., chelation agent, flocculent): _____

☐ Others: _____

☐ Good condition ☐ Needs maintenance

☐ Sampling ports properly marked and functional

☐ Sampling/maintenance log displayed and up to date

☐ Equipment properly identified

☐ Quantity of groundwater treated annually: _____

☐ Quantity of surface water treated annually: _____

Remarks: _____

2. **Electrical Enclosures and Panels** (properly rated and functional)

☐ N/A ☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Tanks, Vaults, Storage Vessels**

☐ N/A ☐ Good condition ☐ Proper secondary containment ☐ Needs maintenance

Remarks: _____

4. **Discharge Structure and Appurtenances**

☐ N/A ☐ Good condition ☐ Needs maintenance

Remarks: _____

5. **Treatment Building(s)**

☐ N/A ☐ Good condition (esp. roof and doorways) ☐ Needs repair

☐ Chemicals and equipment properly stored

Remarks: _____

6. **Monitoring Wells** (pump and treatment remedy)

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ All required wells located ☐ Needs maintenance ☐ N/A

Remarks: _____

D. Monitoring Data

1. **Monitoring Data**

☐ Is routinely submitted on time ☐ Is of acceptable quality

2. **Monitoring Data Suggests:**

☐ Groundwater plume is effectively contained ☐ Contaminant concentrations are declining

E. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ All required wells located ☐ Needs maintenance ☐ N/A

Remarks: _____

X. OTHER REMEDIES

If there are remedies applied at the site and not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions).

The remedy is effective and functioning as designed. The Site's cover prevents exposure to waste, contaminated soil and reservoir sediment. The Site's stream banks were stabilized to prevent ecological receptors from being exposed to site contaminants. Institutional controls are in place to restrict future use of the site parcels and to protect the engineered remedy. The institutional controls appear to be effective in preventing exposure and damage to the remedy.

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

PADEP and Whitpain Township are responsible for O&M. An up-to-date O&M plan is in place. This FYR recommends several O&M actions (filling animal burrows, removing trees and reviewing the mowing frequency and height).

C.	Early Indicators of Potential Remedy Problems
	Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future. None
D.	**Opportunities for Optimization**
	Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. None identified.

Site inspection participants:
EPA's current RPM and prior RPM
PADEP
Skeo (EPA FYR contractor support)
Whitpain Township

APPENDIX G – SITE INSPECTION PHOTOS

Access road to Park Parcel

Park Parcel

Park Parcel

Damaged fence at Park Parcel

Park Parcel slope and Wissahickon Creek

Park Parcel slope facing Wissahickon Creek

Animal burrow on Park Parcel slope facing Wissahickon Creek

Animal burrow on Park Parcel slope facing Wissahickon Creek

Animal burrow on Park Parcel slope facing Wissahickon Creek

Animal burrows on Park Parcel next to access road

Park Parcel slope facing Rose Valley Creek

Rose Valley Creek where it enters the Site

Rose Valley Creek near Wissahickon Creek

Southern edge of reservoir

Recreational trail on Reservoir Parcel

Birdwatching platform on Reservoir Parcel


Trees on Reservoir Parcel slope facing Wissahickon Creek

Trees on Reservoir Parcel slope facing Wissahickon Creek

Asbestos Pile

Fence between Asbestos Pile Parcel and Maple Street

Tannery Run

Tannery Run and Maple Street bridge

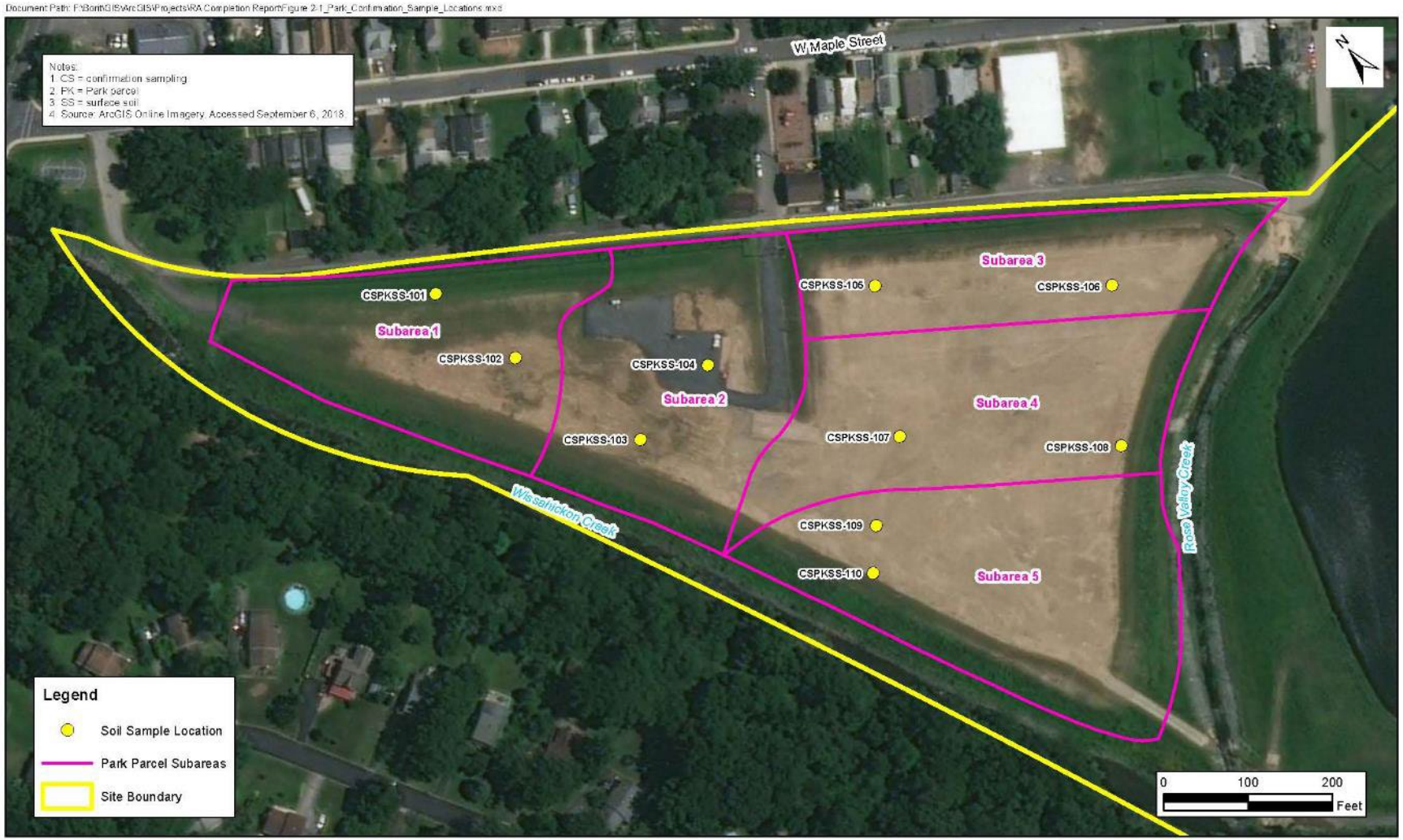
Sign along Wissahickon Creek


Site sign along road, no longer legible

New site sign (installed January 2022)

APPENDIX H – DATA REVIEW ADDITIONAL MATERIAL

Figure H-1: 2018 Surface Soil Sampling Locations, Park Parcel[17]



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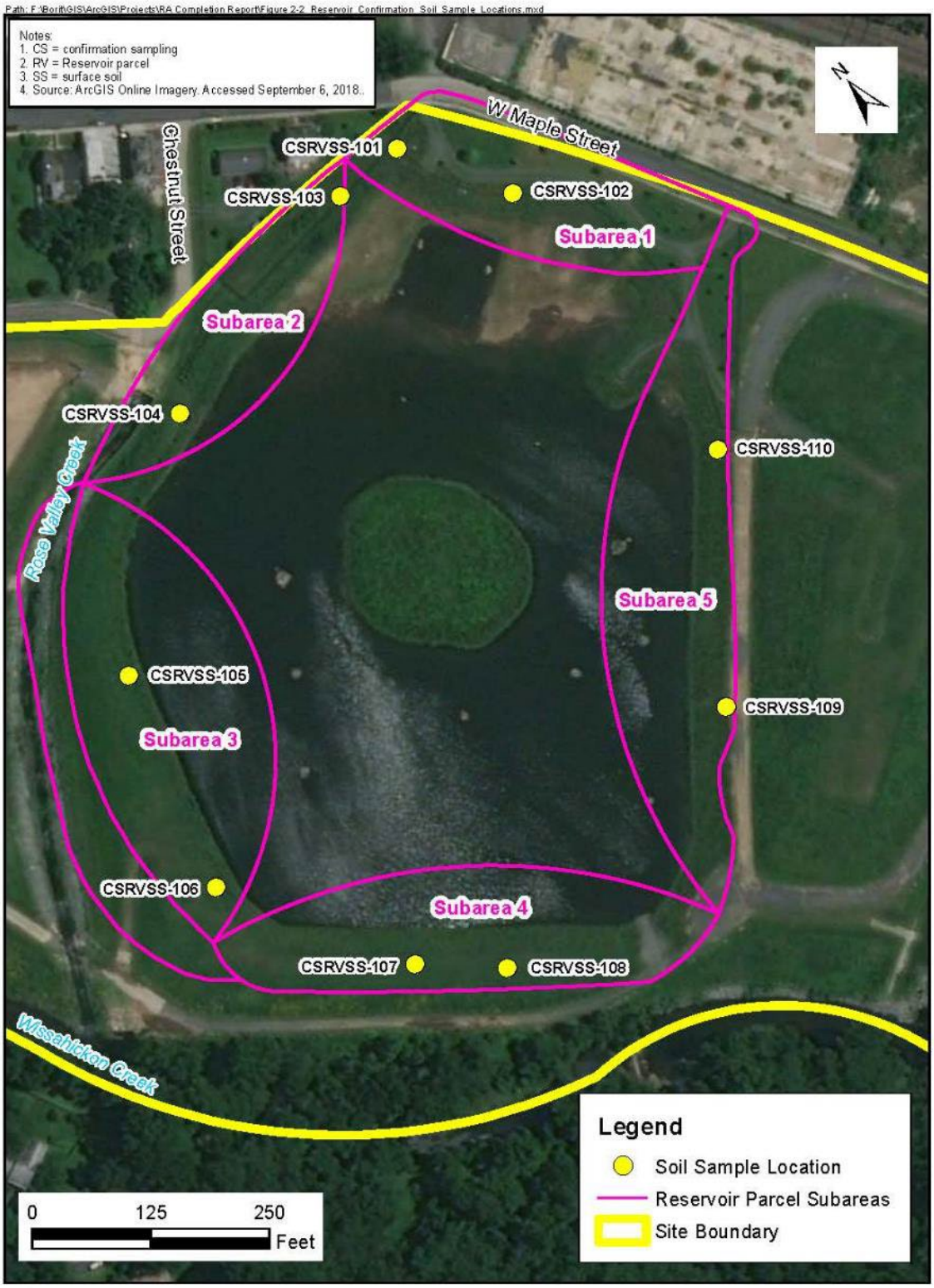
BoRit Asbestos Superfund Site
Operable Unit 1
Ambler, Pennsylvania

Figure 2-1
Confirmation Sampling Locations for
Surface Soil Sampling - Park Parcel

[17] Source: 2018 Remedial Action Completion Report

Figure H-2: 2018 Surface Soil Sampling Locations, Reservoir Parcel[18]



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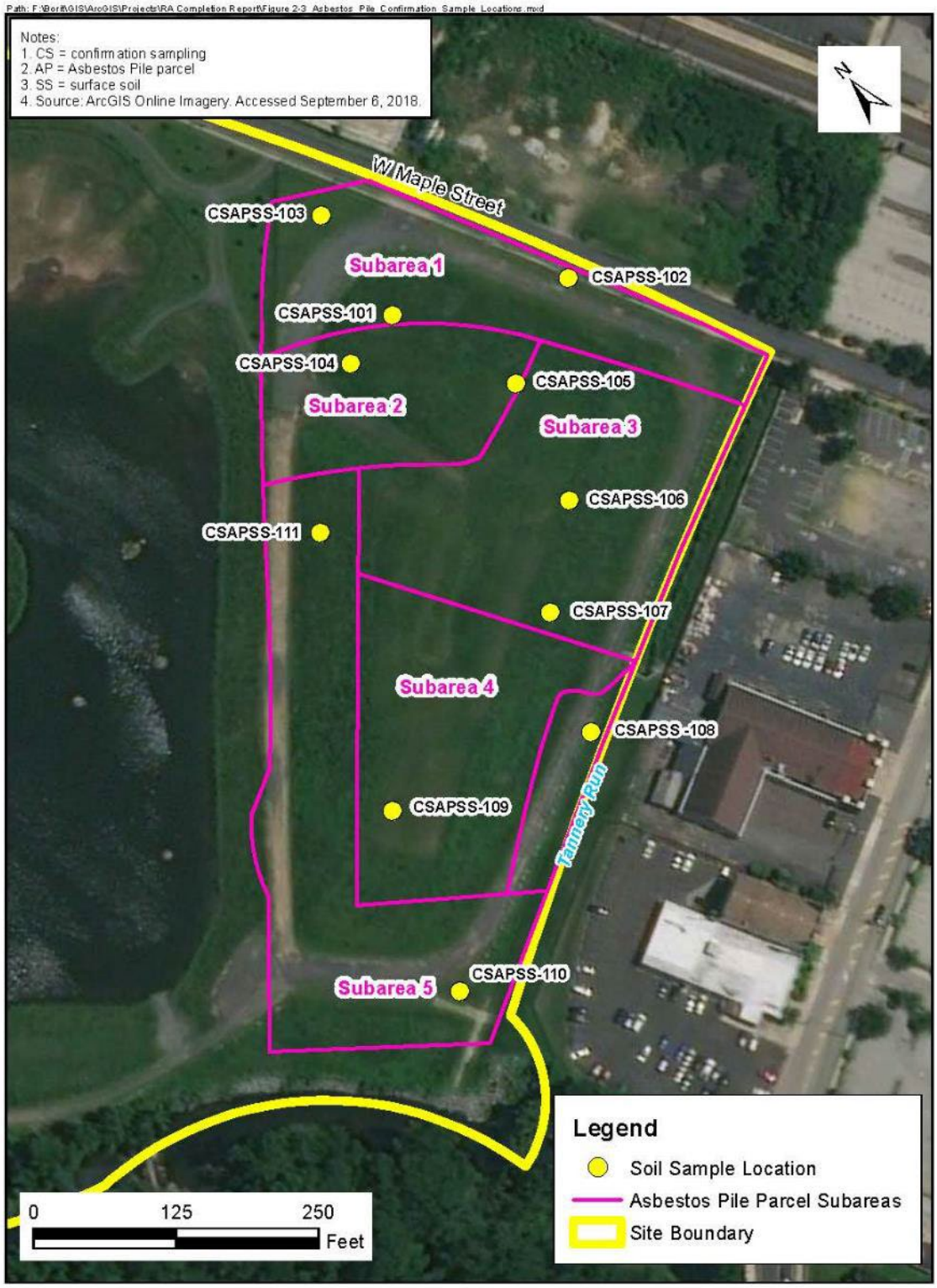
BoRit Asbestos Superfund Site
Operable Unit 1
Ambler, Pennsylvania

Figure 2-2
Confirmation Sampling Locations for
Surface Soil Sampling
Reservoir Parcel

[18] Source: 2018 Remedial Action Completion Report

Figure H-3: 2018 Surface Soil Sampling Locations, Asbestos Pile Parcel[19]



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BoRit Asbestos Superfund Site
Operable Unit 1
Ambler, Pennsylvania

Figure 2-3
Confirmation Sampling Locations for
Surface Soil Sampling
Asbestos Pile Parcel

[19] Source: 2018 Remedial Action Completion Report

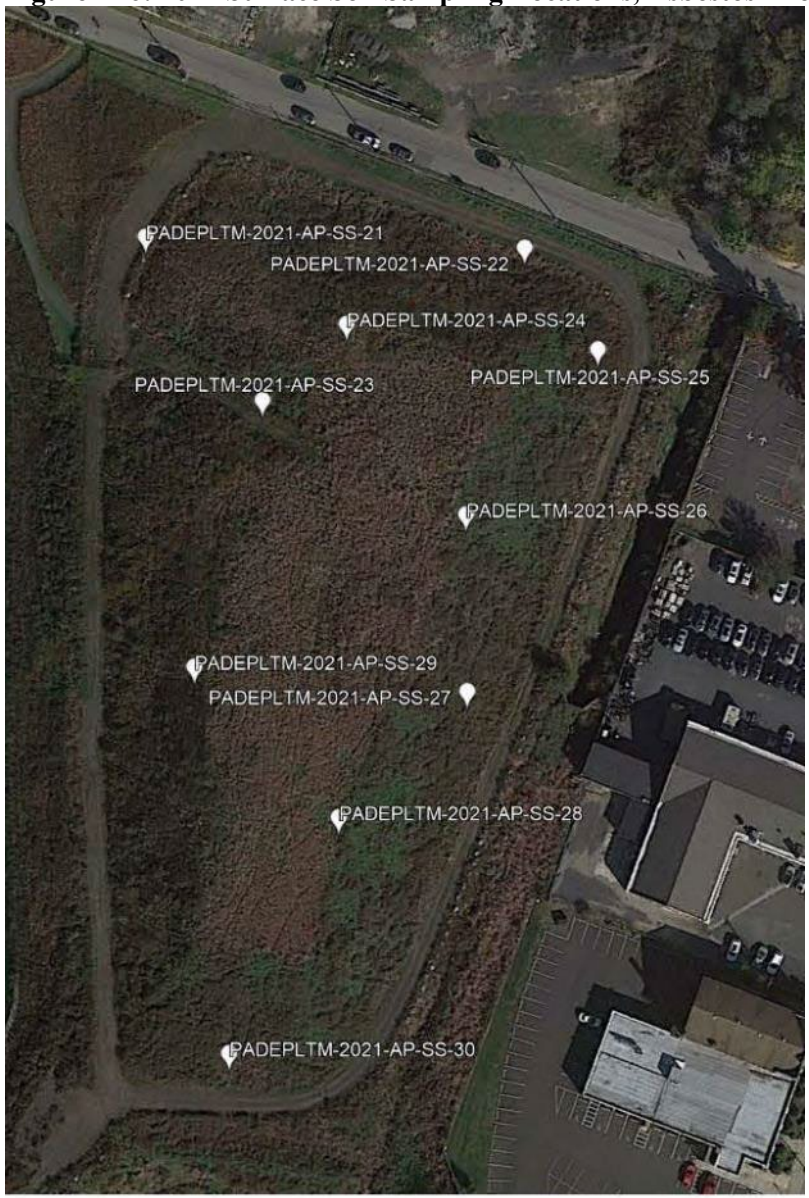
Figure H-4: 2021 Surface Soil Sampling Locations, Park Parcel[20]

[20] Source: Figure 1 from 2022 Sampling Report and O&M Summary. See Figure H-7 for the sample numbering used by the asbestos sampling contractor.

Figure H-5: 2021 Surface Soil Sampling Locations, Reservoir Parcel[21]

[21] Source: Figure 2 from 2022 Sampling Report and O&M Summary. See Figure H-7 for the sample numbering used by the asbestos sampling contractor.

Figure H-6: 2021 Surface Soil Sampling Locations, Asbestos Pile Parcel[22]



[22] Source: Figure 3 from 2022 Sampling Report and O&M Summary. See Figure H-7 for the sample numbering used by the asbestos sampling contractor.

Figure H-7: 2021 Surface Soil Sampling Locations (numbering used by asbestos contractor)[23]

[23] Source: Appendix 1 of the 2022 Sampling Report and O&M Summary

Figure H-8: 2009 Surface Water and Sediment Sampling Locations, Reservoir Parcel[24]

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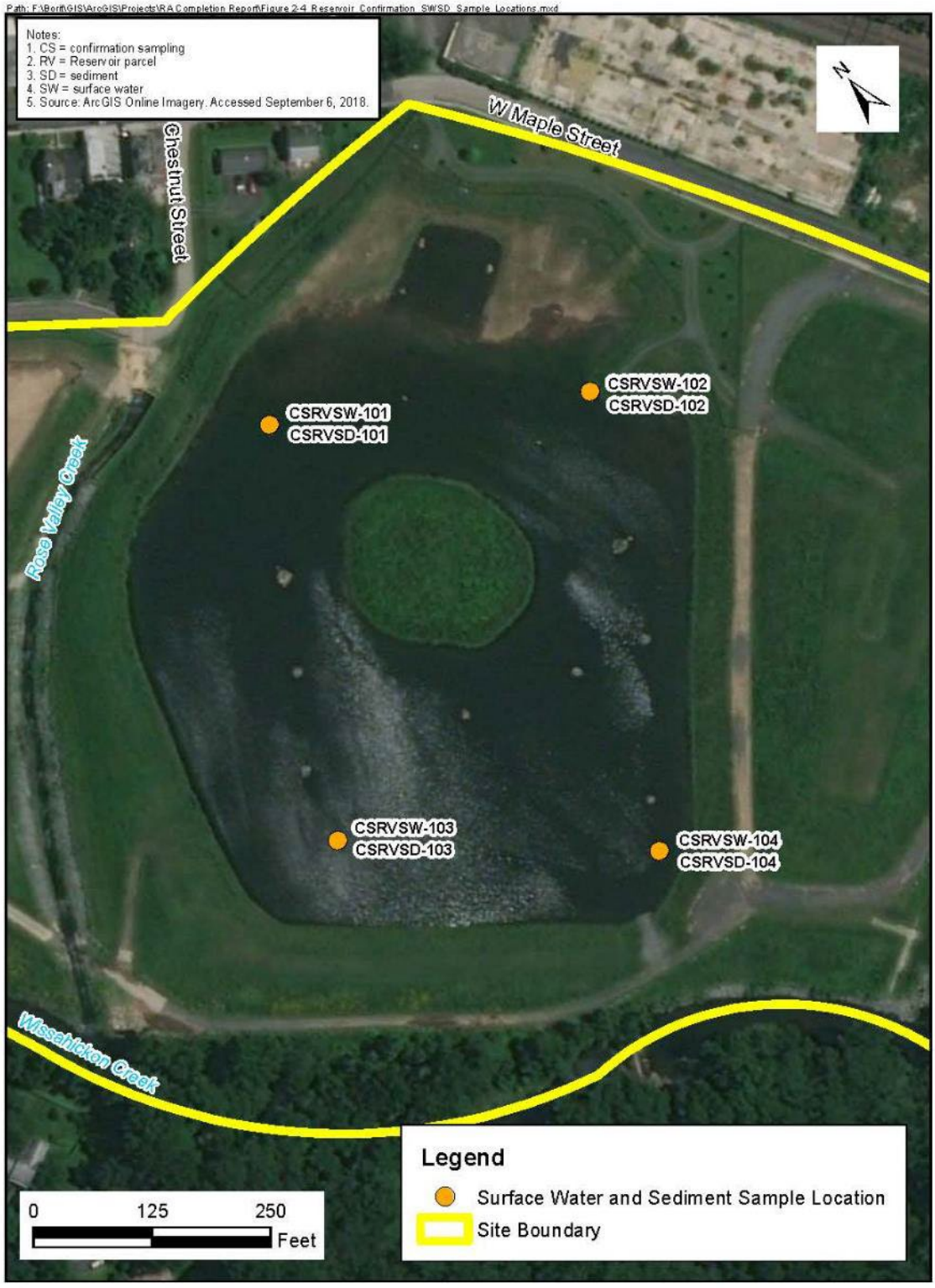
BoRit Asbestos Superfund Site, OU-1
Ambler, Pennsylvania

Figure 3-2
Reservoir Sediment, Surface Water, and Seep Sample Locations

[24] Source: 2013 Remedial Investigation Report

Figure H-9: 2018 Surface Water and Sediment Sampling Locations, Reservoir Parcel[25]



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BoRit Asbestos Superfund Site
Operable Unit 1
Ambler, Pennsylvania

Figure 2-4
Confirmation Sampling Locations for Surface Water and Sediment Sampling Reservoir Parcel

[25] Source: 2018 Remedial Action Completion Report

Figure H-10: 2020 Surface Water and Sediment Sampling Locations, Reservoir Parcel[26]

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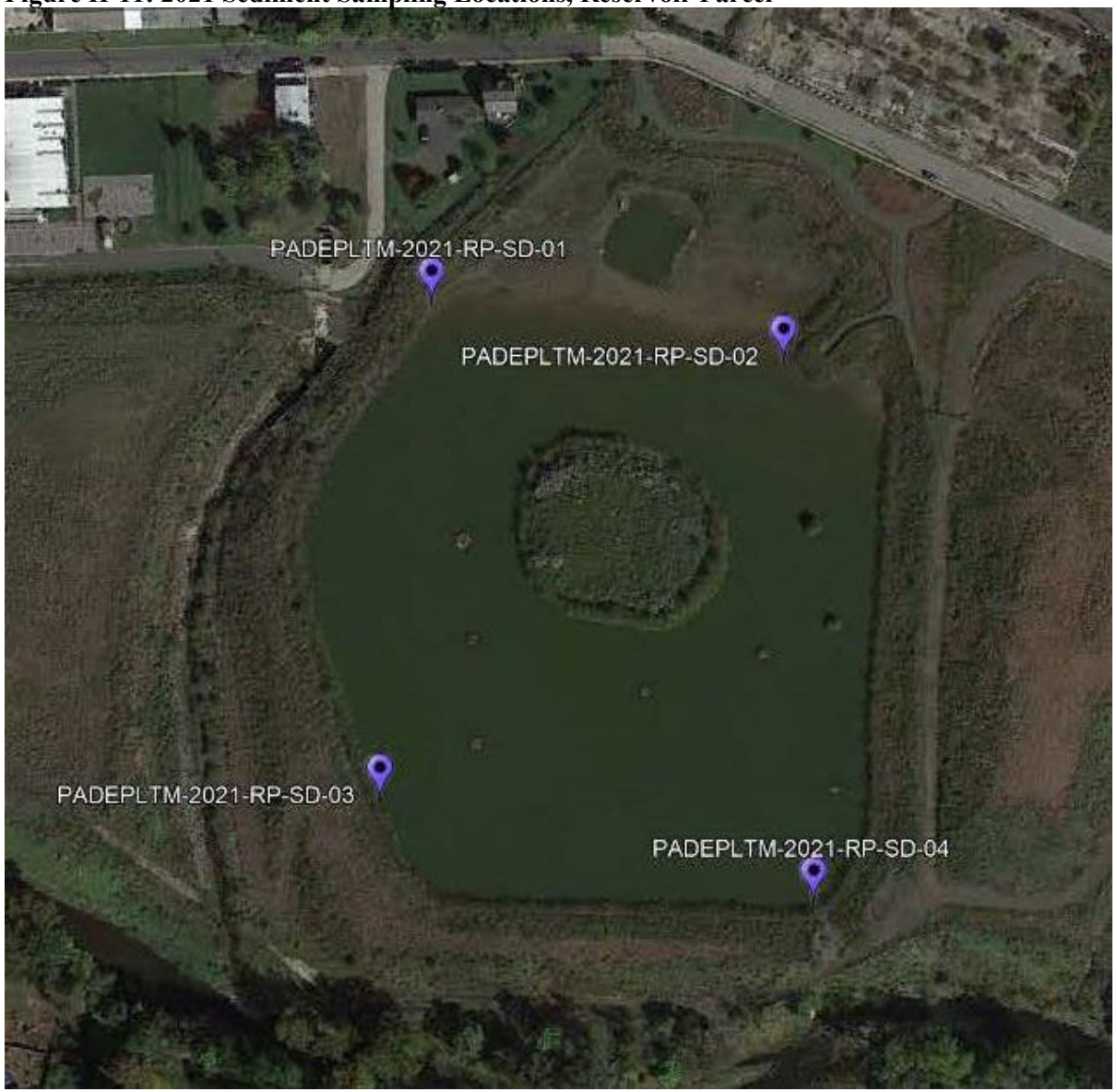
BoRit Asbestos Superfund Site
Operable Unit 1
Ambler, Pennsylvania

Figure 2-1
Confirmation Sampling Locations for
Surface Water and Sediment Sampling
Reservoir Parcel

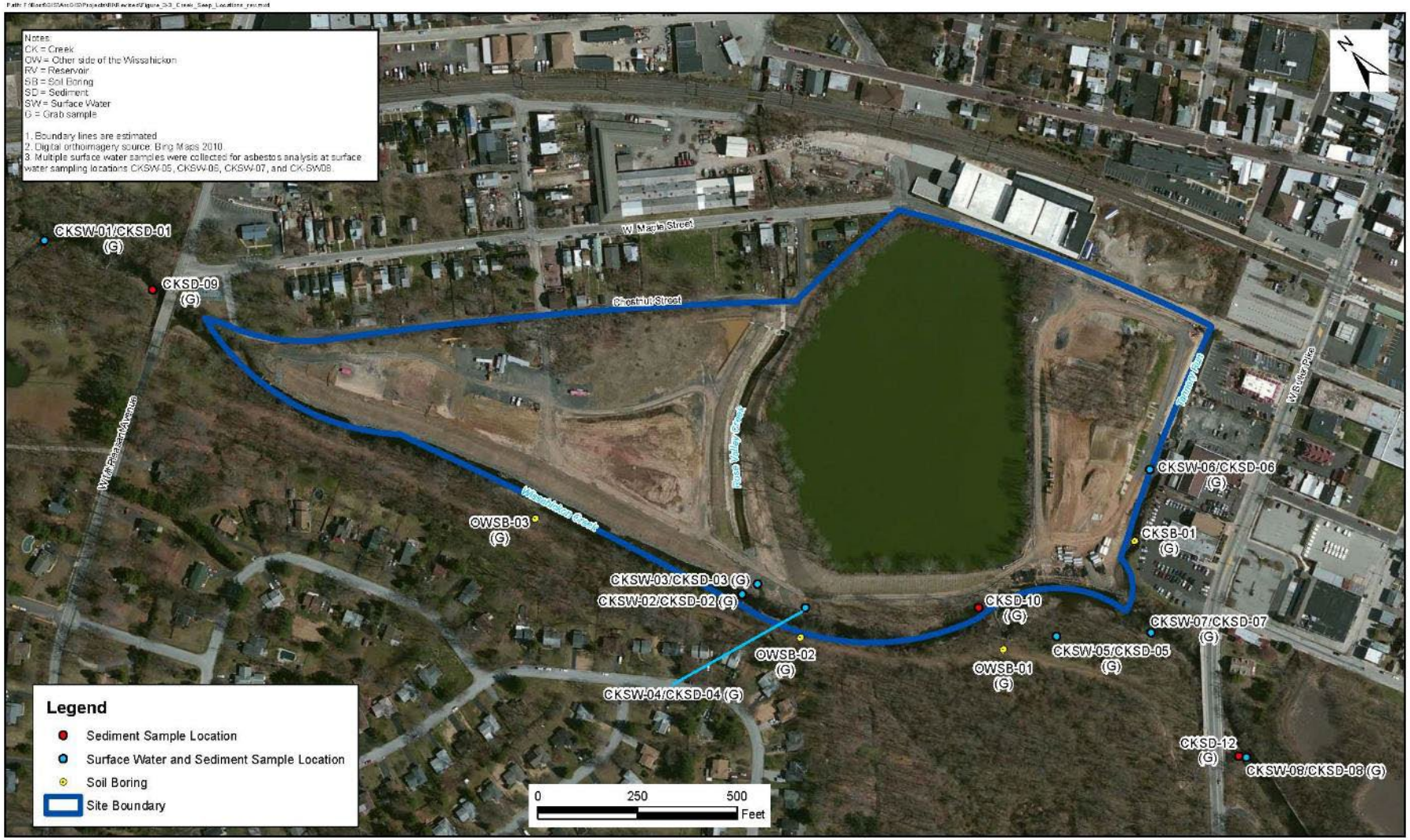
[26] Source: 2020 Addendum #1 to Final Remedial Action Completion Report

Figure H-11: 2021 Sediment Sampling Locations, Reservoir Parcel[27]



[27] Source: 2022 Sampling Report and O&M Summary

Figure H-12: 2009 Surface Water and Sediment Sampling Locations, Creeks[28]



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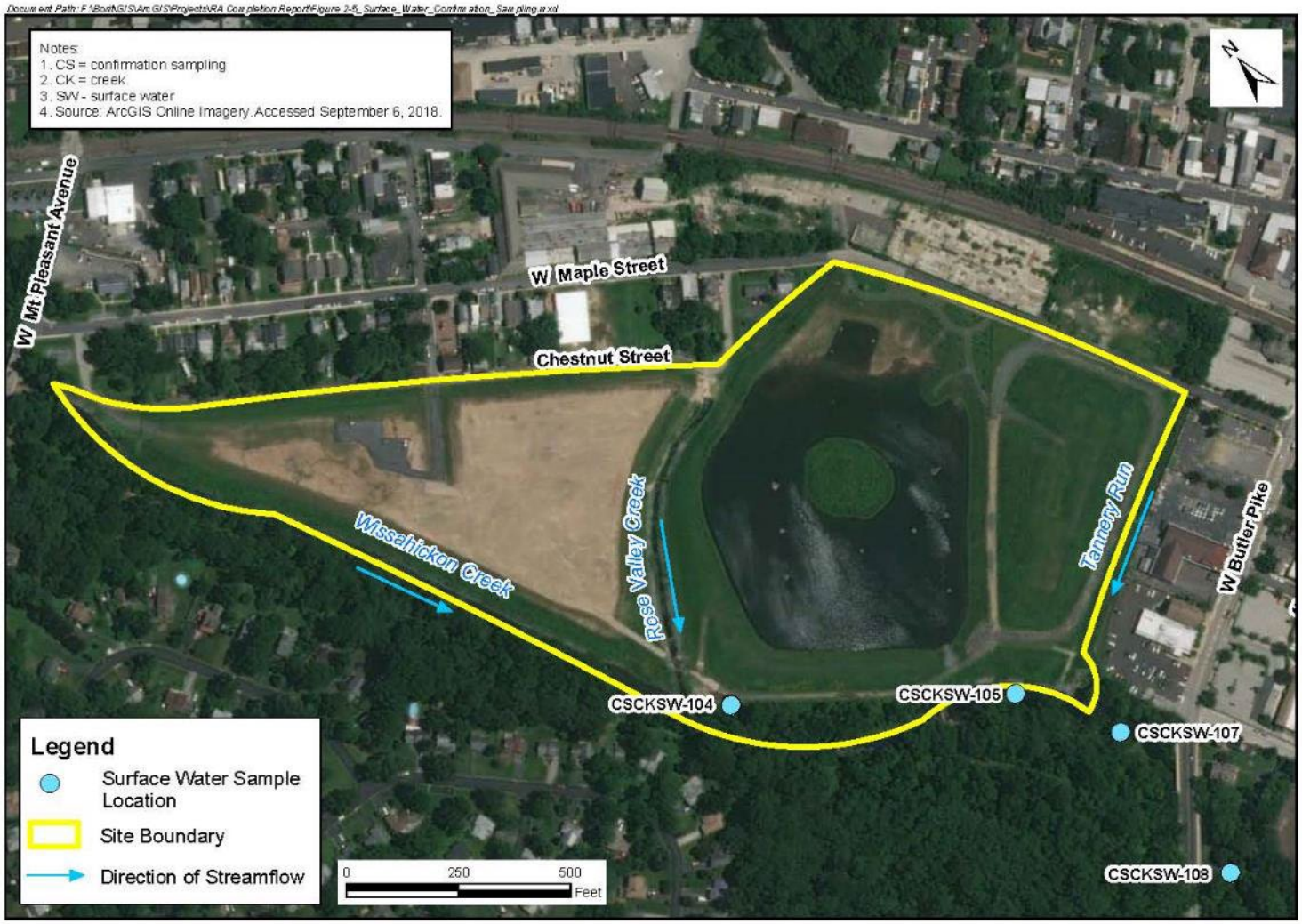
BoRit Asbestos Superfund Site, OU-1
Ambler, Pennsylvania

Figure 3-3
Creek Sediment and Surface Water Sample Locations

[28] Source: 2013 Remedial Investigation Report

Figure H-13: 2018 Surface Water Sampling Locations, Wissahickon Creek[29]



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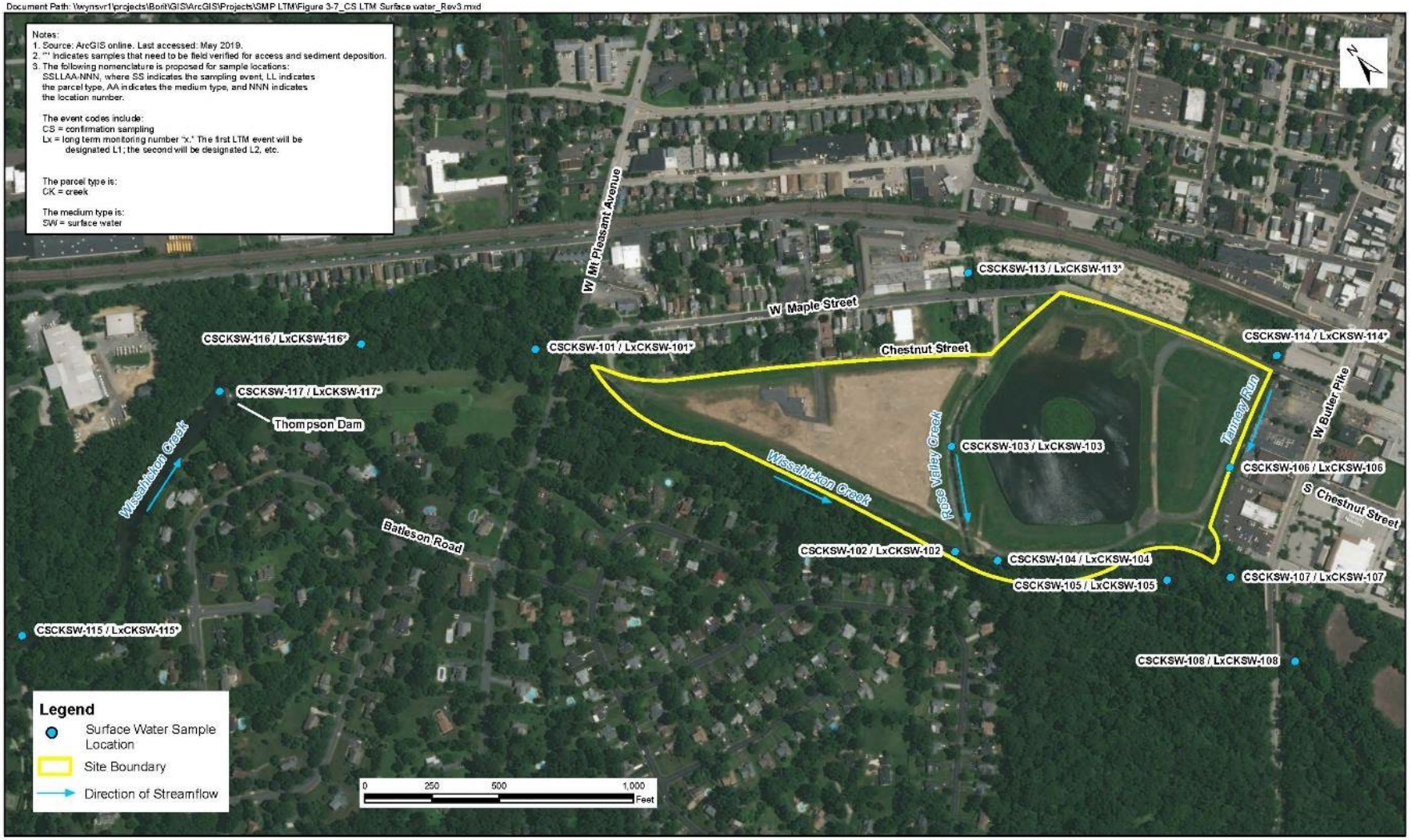
BoRit Asbestos Superfund Site
Operable Unit 1
Ambler, Pennsylvania

Figure 2-5
Confirmation Sampling Locations for
Wissahickon Creek Surface Water

[29] Source: 2018 Remedial Action Completion Report

Figure H-14: 2020 Surface Water Sampling Locations, Creeks[30]



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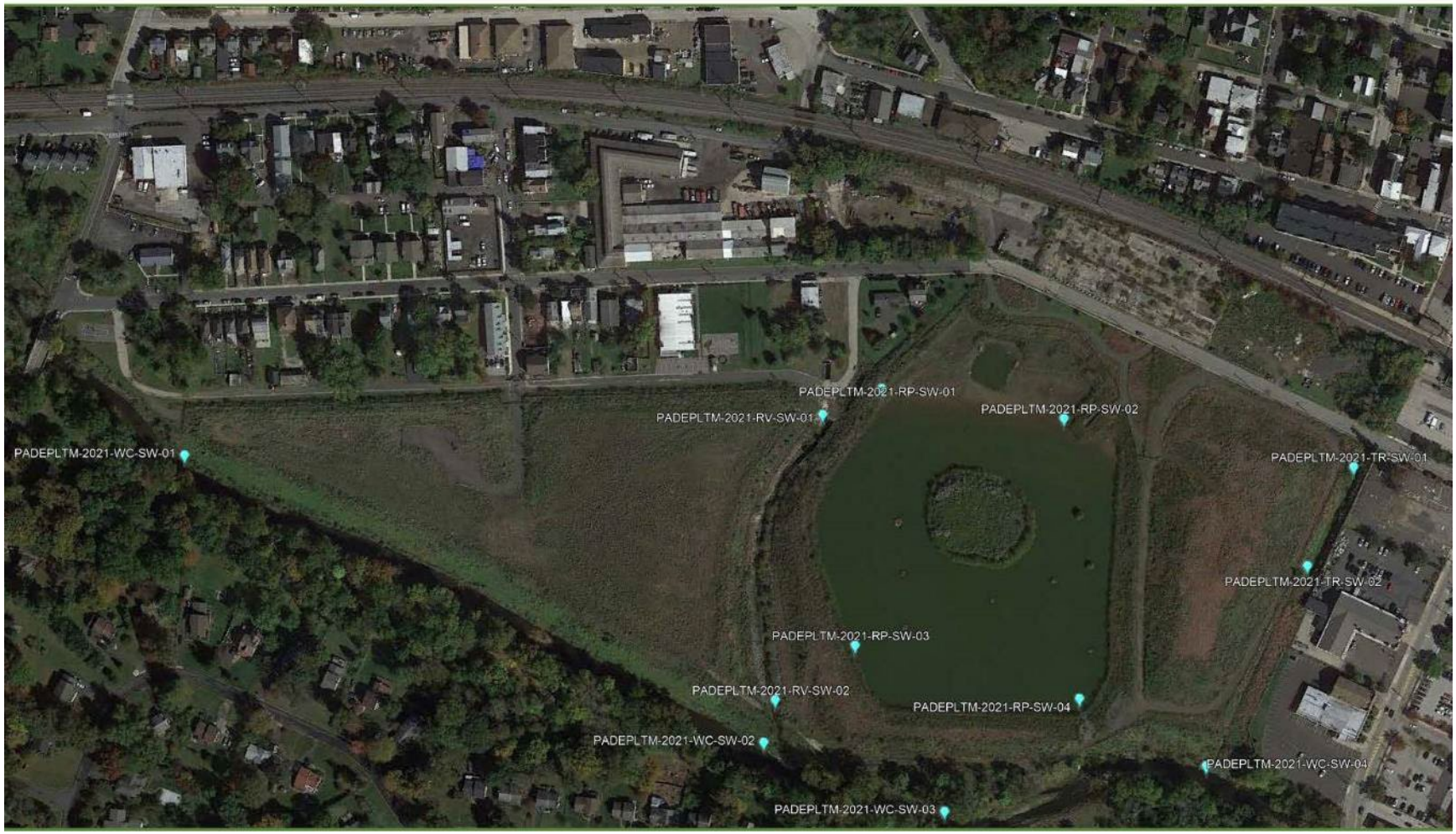
BoRit Asbestos Superfund Site
Ambler, Pennsylvania
Operable Unit 1

Figure 2-2
Confirmation Sampling Locations For Surface Water
Wissahickon Creek, Rose Valley Creek, and Tannery Run

[30] Source: 2020 Addendum #1 to Final Remedial Action Completion Report

Figure H-15: 2021 Surface Water Sampling Locations[31]



[31] Source: 2022 Sampling Report and O&M Summary

Figure H-16: 2018 Ambient Air Sampling Locations[32]

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BoRit Asbestos Superfund Site
Operable Unit 1
Ambler, Pennsylvania

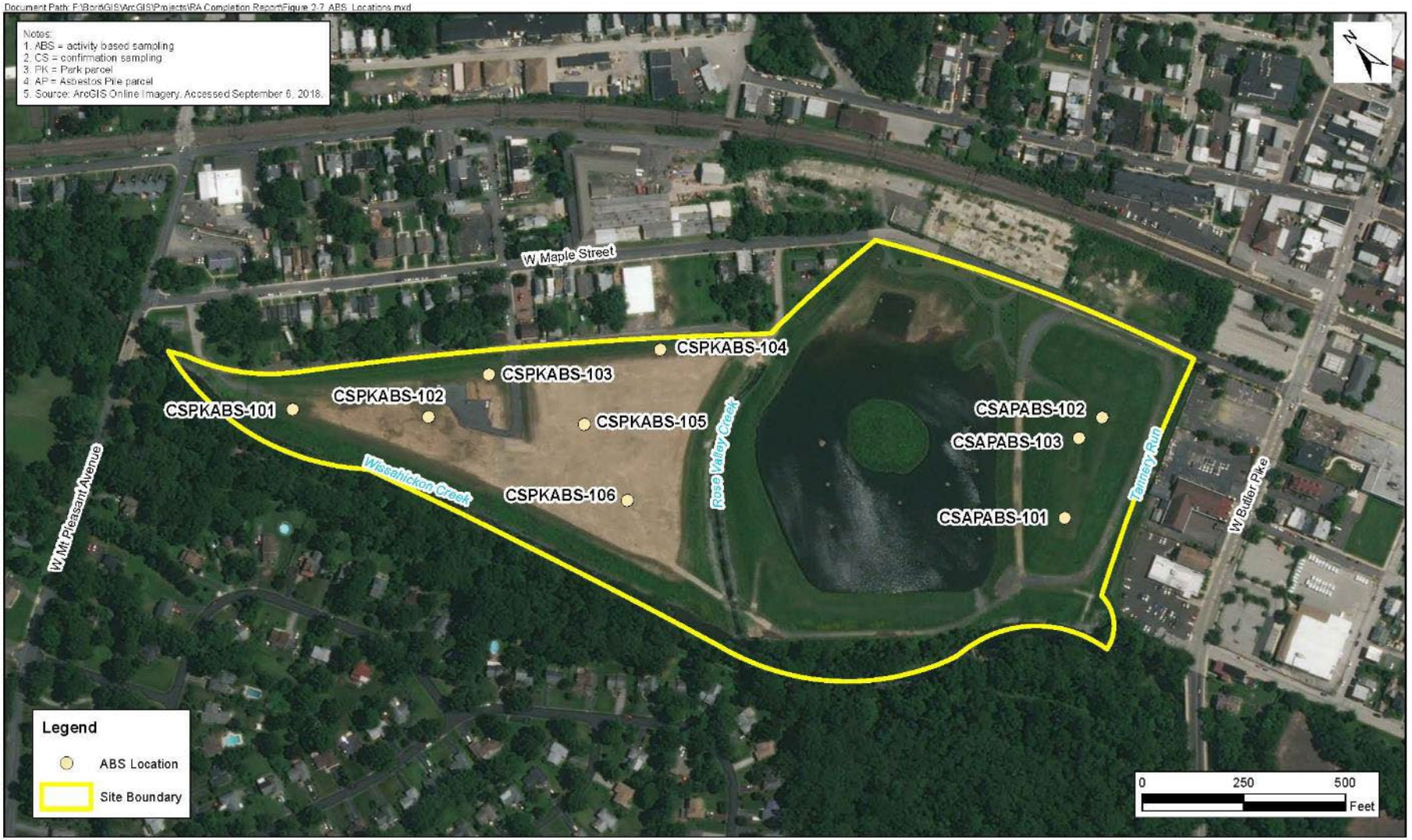
Figure 2-6
Confirmation Sampling Locations for
Ambient Air Sampling

[32] Source: 2018 Remedial Action Completion Report

Figure H-17: 2021 Ambient Air Sampling Locations[33]

[33] Source: 2022 Sampling Report and O&M Summary

Figure H-18: 2018 ABS Sampling Locations[34]



CDM Smith

BoRit Asbestos Superfund Site
Operable Unit 1
Ambler, Pennsylvania

Figure 2-7
Confirmation Sample Locations for ABS

[34] Source: 2018 Remedial Action Completion Report

Table H-1: 2018 Surface Soil Sampling Results, Asbestos[35]

Table 4-2
Confirmation Sampling, Spring 2018
Matrix: Surface Soil (0-6 inches bgs) - Asbestos Results
BoRit Asbestos Superfund Site, Operable Unit 1
Ambler, Pennsylvania

						PLM Point Count Results				
Area	Location ID	Sample ID	QC Type	QC Desc.	Sample Date	Points Counted[a]	Points with Asbestos	Area Percent[b] (%)	Asbestos Type	Qualifier
Asbestos Pile Parcel	AP01-01	CSAPSS-101	Field Sample		4/27/2018	1000	0	0%		U
	AP01-02	CSAPSS-102	Field Sample		4/27/2018	1000	0	0%		U
	AP02-01	CSAPSS-104	Field Sample		4/27/2018	1000	0	0%		U
	AP02-02	CSAPSS-105	Field Sample		4/27/2018	1000	0	0%		U
	AP03-01	CSAPSS-106	Field Sample		4/27/2018	1000	0	0%		U
	AP03-02	CSAPSS-107	Field Sample		4/27/2018	1000	0	0%		U
	AP04-01	CSAPSS-108	Field Sample		4/27/2018	1000	0	0%		U
	AP04-02	CSAPSS-109	Field Sample		4/27/2018	1000	0	0%		U
	AP05-01	CSAPSS-110	Field Sample		4/27/2018	1000	0	0%		U
	AP05-02	CSAPSS-111	Field Sample		4/27/2018	1000	0	0%		U
Park Parcel	PK01-01	CSPKSS-101	Field Sample		4/24/2018	1000	0	0%		U
	PK01-01	CSPKSS-201	Field Duplicate	CSPKSS-101	4/24/2018	1000	0	0%		U
	PK01-02	CSPKSS-102	Field Sample		4/24/2018	1000	0	0%		U
	PK02-01	CSPKSS-103	Field Sample		4/24/2018	1000	0	0%		U
	PK02-02	CSPKSS-104	Field Sample		4/24/2018	1000	0	0%		U
	PK03-01	CSPKSS-105	Field Sample		4/24/2018	1000	0	0%		U
	PK03-02	CSPKSS-106	Field Sample		4/24/2018	1000	0	0%		U
	PK04-01	CSPKSS-107	Field Sample		4/25/2018	1000	0	0%		U
	PK04-02	CSPKSS-108	Field Sample		4/25/2018	1000	0	0%		U
	PK05-01	CSPKSS-109	Field Sample		4/26/2018	1000	0	0%		U
	PK05-02	CSPKSS-110	Field Sample		4/26/2018	1000	0	0%		U
	PK05-02	CSPKSS-210	Field Duplicate	CSPKSS-110	4/26/2018	1000	0	0%		U
Reservoir Parcel	RV01-01	CSRVSS-101	Field Sample		4/26/2018	1000	0	0%		U
	RV01-02	CSRVSS-102	Field Sample		4/26/2018	1000	0	0%		U
	RV02-01	CSRVSS-103	Field Sample		4/26/2018	1000	0	0%		U
	RV02-02	CSRVSS-104	Field Sample		4/26/2018	1000	0	0%		U
	RV03-01	CSRVSS-105	Field Sample		4/26/2018	1000	0	0%		U
	RV03-02	CSRVSS-106	Field Sample		4/26/2018	1000	0	0%		U
	RV04-01	CSRVSS-107	Field Sample		4/27/2018	1000	0	0%		U
	RV04-02	CSRVSS-108	Field Sample		4/27/2018	1000	0	0%		U
	RV05-01	CSRVSS-109	Field Sample		4/26/2018	1000	0	0%		U
	RV05-02	CSRVSS-110	Field Sample		4/26/2018	1000	0	0%		U

Notes:
[a] 1,000 points were examined which results in an approximate detection limit of 0.1 percent (%).
[b] There are no soil-based cleanup levels for asbestos. Rather, successful remediation of soil will be assessed by achievement of the Site-specific air-based remediation goals. Remediation goals for air are 0.04 s/cc (ABS - human health), 0.001 s/cc (ambient - human health), and 25 s/cc (ecological).
% = percent
ABS = activity based sampling
bgs = below ground surface
Desc. = description
ID = identification
PLM = polarized light microscopy
QC = quality control
s/cc = structure per cubic centimeter
U = no asbestos detected

[35] Source: 2018 Remedial Action Completion Report

Table H-2: 2018 Surface Soil Sampling Results, SVOCs and Inorganics[36]

Table 4-3
Confirmation Sampling, Spring 2018
Matrix: Surface Soil (0-6 inches bgs) - SVOC and Inorganic Results
BoRit Asbestos Superfund Site, Operable Unit 1
Ambler, Pennsylvania

Location		AP01-01	AP01-02	AP01-03	AP01-03	AP02-01	AP02-02	AP03-01	AP03-02	AP04-01	AP04-02	AP05-01	AP05-02	PK01-01	PK01-01	PK01-02	PK02-01	PK02-02	PK03-01	PK03-02
Sample ID		CSAPSS-101	CSAPSS-102	CSAPSS-103	CSAPSS-203	CSAPSS-104	CSAPSS-105	CSAPSS-106	CSAPSS-107	CSAPSS-108	CSAPSS-109	CSAPSS-110	CSAPSS-111	CSPKSS-101	CSPKSS-201	CSPKSS-102	CSPKSS-103	CSPKSS-104	CSPKSS-105	CSPKSS-106
Sample Type		N	N	N	FD	N	N	N	N	N	N	N	N	N	FD	N	N	N	N	N
Parent Sample #	Remediation Goals	--	--	--	CSAPSS-103	--	--	--	--	--	--	--	--	--	CSPKSS-101	--	--	--	--	--
Start Sample Depth		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
End Sample Depth		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Depth Unit		in	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in
Sample Date		4/27/2018	4/27/2018	4/27/2018	4/27/2018	4/27/2018	4/27/2018	4/27/2018	4/27/2018	4/27/2018	4/27/2018	4/27/2018	4/27/2018	4/24/2018	4/24/2018	4/24/2018	4/24/2018	4/24/2018	4/24/2018	4/24/2018
Semi-Volatile Organic Compounds (µg/kg)																				
Bis(2-Ethylhexyl)Phthalate	925	470	230	--	--	150 J	110 J	140 J	970	170 J	130 J	250	170 J	200 U	200 U	200 U	200 U	190 U	210 U	190 U
Dioxans/Furans (ng/kg)																				
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	0.199	--	--	87	83	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HPCDF	0.199	--	--	8	7.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HPCDF	0.199	--	--	0.5 J	0.4 Z	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	0.199	--	--	1.1 J	0.85 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HXCDF	0.199	--	--	0.73 J	0.71 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	0.199	--	--	1.9 J	1.7 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HXCDF	0.199	--	--	0.5 J	0.51 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	0.199	--	--	1.9 J	1.8 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HXCDF	0.199	--	--	0.24 J	0.18 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran	0.199	--	--	0.42 Z	0.26 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	0.199	--	--	0.76 J	0.73 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HXCDF	0.199	--	--	0.66 Z	0.66 Z	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PECDF	0.199	--	--	0.74 J	0.67 Z	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	0.199	--	--	0.19 Z	0.16 Z	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran	0.199	--	--	0.48 J	0.47 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	0.199	--	--	9300 J	8800 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	0.199	--	--	27	23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ WHO 1998 Bird ND=0	0.199	--	--	3.79	3.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ WHO 1998 Fish ND=0	0.199	--	--	3.27	2.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ WHO 2005 ND=0	0.199	--	--	5.69	5.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Inorganics (mg/kg)																				
Chromium	26	33	25.3	--	--	25.8	25	24.3	22.9	30.3	24.8	27.6	25.7	35	28.2	28.9	109	32 J+	24.3	21.6
Nickel	38	23.6	15.4	--	--	16.2	16	15.4	17.8	18.9	14.1	20.4	24.9	20	18.1	17.9	17.2	20	15.5	14.2
Zinc	104	67.3	63.1	--	--	67.1	64.2	62.2	58.9	74.5	62.5	80	67	60.4	63.7	56.9	50.4	63.3	53.3	36.9

Notes:
BOLD and YELLOW = result is greater than the remediation goal
-- = not available
in = inches
FD = field duplicate
J = analyte present in estimated quantities
J+ = analyte present in estimated quantitites and is biased high
mg/kg = milligrams per kilograms
N = normal field sample
ng/kg = nanograms per kilograms
U = analyte not detected above quantitation limit
µg/kg = micrograms per kilograms
Z = The isomer was identified with an ion ratio outside the 15% theoretical ion abundance ratio; the associated numerical value is reported as the Estimated Maximum Possible Concentration (EMPC) and is considered estimated.

[36] Source: 2018 Remedial Action Completion Report

Table 4-3
Confirmation Sampling, Spring 2018
Matrix: Surface Soil (0-6 inches bgs) - SVOC and Inorganic Results
BoRit Asbestos Superfund Site, Operable Unit 1
Ambler, Pennsylvania

Location		PK04-01	PK04-02	PK05-01	PK05-02	PK05-02	RV01-01	RV01-02	RV02-01	RV02-02	RV03-01	RV03-02	RV04-01	RV04-02	RV05-01	RV05-02
Sample ID		CSPKSS-107	CSPKSS-108	CSPKSS-109	CSPKSS-110	CSPKSS-210	CSRVSS-101	CSRVSS-102	CSRVSS-103	CSRVSS-104	CSRVSS-105	CSRVSS-106	CSRVSS-107	CSRVSS-108	CSRVSS-109	CSRVSS-110
Sample Type		N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N
Parent Sample #	Remediation Goals	--	--	--	--	CSPKSS-110	--	--	--	--	--	--	--	--	--	--
Start Sample Depth		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
End Sample Depth		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Depth Unit		in	in	in	in	in	in	in	in	in	in	in	in	in	in	in
Sample Date		4/25/2018	4/25/2018	4/25/2018	4/25/2018	4/25/2018	4/25/2018	4/25/2018	4/25/2018	4/25/2018	4/25/2018	4/25/2018	4/27/2018	4/27/2018	4/25/2018	4/25/2018
Semi-Volatile Organic Compounds (µg/kg)																
Bis(2-Ethylhexyl)Phthalate	925	200 U	210 U	200 U	210 U	200 U	200 U	210 U	210 U	210 U	210 U	210 U	210 U	220 U	210 U	210 U
Dioxans/Furans (ng/kg)																
1,2,3,4,6,7,8-Heptachlorodibenzo-p-Dioxin	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HPCDF	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HPCDF	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-Dioxin	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HXCDF	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-Dioxin	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HXCDF	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-Dioxin	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HXCDF	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-Dioxin	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HXCDF	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PECDF	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ WHO 1998 Bird ND=0	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ WHO 1998 Fish ND=0	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ WHO 2005 ND=0	0.199	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Inorganics (mg/kg)																
Chromium	26	**29.1 J+**	**26.4**	22.5	**26.9**	**27.8**	**28.6**	23.3	**27.3**	23.3	25.2	**29.2**	18.9	22.2	**28.8**	**27**
Nickel	38	17.4	18.7	14.9	18.1	19.5	22.5	17.9	19.8	13.7	14.7	19.9	14.8	15.7	19.6	18.1
Zinc	104	56.7	61.7	41.2	63	56.2	62.8	49.2	52.9	48.9	61	72.2	50.4	54.2	60.5	56.4

Notes:
BOLD and YELLOW = result is greater than the remediation goal
-- = not available
in - inches
FD = field duplicate
J = analyte present in estimated quantities
J+ = analyte present in estimated quantitites and is biased high
mg/kg = milligrams per kilograms
N = normal field sample
ng/kg = nanograms per kilograms
U = analyte not detected above quantitation limit
µg/kg = micrograms per kilograms
Z = The isomer was identified with an ion ratio outside the 15% theoretical ion abundance ratio; the associated numerical value is reported as the Estimated Maximum Possible Concentration (EMPC) and is considered estimated.

Table H-3: 2021 Surface Soil Sampling Results, Asbestos[37]

Area	Sample ID	PLM Point Count Results
Asbestos Pile Parcel	PADEPLTM-2021-AP-SS-01	None Detected
	PADEPLTM-2021-AP-SS-02	<0.1% Chrysotile
	PADEPLTM-2021-AP-SS-03	None Detected
	PADEPLTM-2021-AP-SS-04	None Detected
	PADEPLTM-2021-AP-SS-05	None Detected
	PADEPLTM-2021-AP-SS-06	None Detected
	PADEPLTM-2021-AP-SS-07	None Detected
	PADEPLTM-2021-AP-SS-08	None Detected
	PADEPLTM-2021-AP-SS-09	None Detected
	PADEPLTM-2021-AP-SS-10	None Detected
Park Parcel	PADEPLTM-2021-PP-SS-01	None Detected
	PADEPLTM-2021-PP-SS-02	None Detected
	PADEPLTM-2021-PP-SS-03	None Detected
	PADEPLTM-2021-PP-SS-04	None Detected
	PADEPLTM-2021-PP-SS-05	None Detected
	PADEPLTM-2021-PP-SS-06	None Detected
	PADEPLTM-2021-PP-SS-07	None Detected
	PADEPLTM-2021-PP-SS-08	None Detected
	PADEPLTM-2021-PP-SS-09	None Detected
	PADEPLTM-2021-PP-SS-10	None Detected
Reservoir Parcel	PADEPLTM-2021-RP-SS-01	None Detected
	PADEPLTM-2021-RP-SS-02	None Detected
	PADEPLTM-2021-RP-SS-03	None Detected
	PADEPLTM-2021-RP-SS-04	None Detected
	PADEPLTM-2021-RP-SS-05	None Detected
	PADEPLTM-2021-RP-SS-06	None Detected
	PADEPLTM-2021-RP-SS-07	None Detected
	PADEPLTM-2021-RP-SS-08	None Detected
	PADEPLTM-2021-RP-SS-09	None Detected
	PADEPLTM-2021-RP-SS-10	None Detected

[37] Source: 2022 Sampling Report and Operation & Maintenance (O&M) Summary

Table H-4: 2021 Surface Soil Sampling Results, Bis(2-ethylhexyl)phthalate and Inorganics[38]

PARCEL	Sampling Location (PADEPLTM-2021-...)	Contaminants of Concern			
		Bis-2 EHP	Chromium	Nickel	Zinc
ROD Remediation Goal		925 ug/kg	26 mg/kg	38 mg/kg	104 mg/kg
PARK PARCEL	PP-SS-01	ND	20.2	11.2	78.3
	PP-SS-02	ND	20.9	12.8	72.6
	PP-SS-03	560	25.4	10.9	75.8
	PP-SS-04	ND	25.9	11.4	65.2
	PP-SS-05	ND	24.9	11.3	51.4
	PP-SS-06	ND	186.0	61.3	66.2
	PP-SS-07	ND	31.7	12.8	85.0
	PP-SS-08	450	36.9	16.8	104.0
	PP-SS-09	ND	21.8	10.4	64.6
	PP-SS-09DUP	ND	15.7	8.54	47.2
	PP-SS-10	ND	30.8	16.6	70.6
RESERVOIR PARCEL	RP-SS-11	ND	20.9	10.9	41.1
	RP-SS-12	ND	28.9	9.34	64.2
	RP-SS-13	ND	27.1	19.6	52.0
	RP-SS-14	ND	30.6	21.1	44.3
	RP-SS-15	ND	26.4	14.8	54.6
	RP-SS-16	ND	30.8	18.0	71.1
	RP-SS-17	ND	31.2	20.5	61.2
	RP-SS-18	ND	29.8	19.6	50.9
	RP-SS-19	ND	33.5	17.5	65.0
	RP-SS-20	ND	28.4	16.3	54.4
PILE PARCEL	AP-SS-21	ND	32.7	13.9	76.4
	AP-SS-22	ND	37.7	23.9	78.7
	AP-SS-23	ND	39.1	21.1	78.4
	AP-SS-23DUP	ND	65.1	33.7	104.0
	AP-SS-24	ND	40.8	12.8	79.7
	AP-SS-25	ND	21.3	13.2	55.6
	AP-SS-26	ND	21.6	11.5	58.4
	AP-SS-27	ND	28	15.5	68.7
	AP-SS-28	ND	25.1	11.1	57.8
	AP-SS-29	ND	23.5	11.9	53.9
	AP-SS-30	ND	21.4	13.5	50.6

ND = Non-Detect
mg/kg = milligrams per kilogram; ug/kg = micrograms per kilogram
Bis-2 EHP = bis(2-ethylhexyl) phthalate

[38] Source: Table 4 from 2021 O&M Report with several transcription errors corrected after checking the table against the laboratory analytical reports (zinc values for PP-SS-05 and PP-SS-09, chromium value for RP-SS-14)

Table H-5: 2021 Soil Sampling Results, Dioxins and Furans[39]

	Toxicity Equivalence Factors			AP-SS-21					AP-SS-22					AP-SS-23				
Analyte	Human Health (1)	Mammals (2)	Birds (2)	Result (ng/kg)	Qualifier	EDL (ng/kg)	TEQ (human/ mammal)	TEQ (bird)	Result (ng/kg)	Qualifier	EDL (ng/kg)	TEQ (human/ mammal)	TEQ (bird)	Result (ng/kg)	Qualifier	EDL (ng/kg)	TEQ (human/ mammal)	TEQ (bird)
1,2,3,4,6,7,8-HpCDD	0.01	0.01	0.001	200	B	0.65	2	0.2	50	B	0.35	0.5	0.05	37	B	0.26	0.37	0.037
1,2,3,4,6,7,8-HpCDF	0.01	0.01	0.01	57		0.13	0.57	0.57	5.3	JI	0.037	0.053	0.053	3.5	J	0.019	0.035	0.035
1,2,3,4,7,8,9-HpCDF	0.01	0.01	0.01	3.0	JIB	0.17	0.03	0.03	0.42	JB	0.033	0.0042	0.0042	0.23	JIB	0.020	0.0023	0.0023
1,2,3,4,7,8-HxCDD	0.1	0.1	0.05	3.6	J	0.10	0.36	0.18	0.54	JI	0.012	0.054	0.027	0.39	JI	0.0097	0.039	0.0195
1,2,3,4,7,8-HxCDF	0.1	0.1	0.1	3.2	JI	0.088	0.32	0.32	0.3	JI	0.034	0.03	0.03	0.23	JI	0.0065	0.023	0.023
1,2,3,6,7,8-HxCDD	0.1	0.1	0.01	7.1	B	0.10	0.71	0.071	1.3	JB	0.011	0.13	0.013	1.3	JB	0.0094	0.13	0.013
1,2,3,6,7,8-HxCDF	0.1	0.1	0.1	3.2	JB	0.093	0.32	0.32	0.36	JIB	0.034	0.036	0.036	0.2	JIB	0.0067	0.02	0.02
1,2,3,7,8,9-HxCDD	0.1	0.1	0.1	6.3	B	0.10	0.63	0.63	1.6	JIB	0.014	0.16	0.16	1.1	JIB	0.0090	0.11	0.11
1,2,3,7,8,9-HxCDF	0.1	0.1	0.1	0.57	JI	0.12	0.057	0.057	ND		0.014	0.0014	0.0014	0.22	JI	0.0075	0.022	0.022
1,2,3,7,8-PeCDD	1	1	1	2.2	JI	0.017	2.2	2.2	0.60	JI	0.021	0.6	0.6	0.44	JI	0.021	0.44	0.44
1,2,3,7,8-PeCDF	0.03	0.03	0.1	0.81	J	0.040	0.0243	0.081	0.19	JI	0.035	0.0057	0.019	0.21	J	0.015	0.0063	0.021
2,3,4,6,7,8-HxCDF	0.1	0.1	0.1	3.6	JB	0.086	0.36	0.36	0.57	JB	0.010	0.057	0.057	0.4	JB	0.0065	0.04	0.04
2,3,4,7,8-PeCDF	0.3	0.3	1	0.92	J	0.035	0.276	0.92	0.33	JI	0.027	0.099	0.33	0.17	J	0.012	0.051	0.17
2,3,7,8-TCDD	1	1	1	ND		0.021	0.021	0.021	ND		0.017	0.017	0.017	ND		0.016	0.016	0.016
2,3,7,8-TCDF	0.1	0.1	1	0.56	JI	0.018	0.056	0.56	ND		0.016	0.0016	0.016	0.22	JI	0.011	0.022	0.22
OCDD	0.0003	0.0003	0.0001	7400	B	1.4	2.22	0.74	2900	B	0.17	0.87	0.29	1900	B	0.13	0.57	0.19
OCDF	0.0003	0.0003	0.0001	95	B	0.031	0.0285	0.0095	14	B	0.0076	0.0042	0.0014	11	B	0.010	0.0033	0.0011
TOTAL TEQs:							**10.2**	**7.3**				**2.6**	**1.7**				**1.9**	**1.4**

Notes:

Analytical results in this table were obtained from the laboratory analytical reports in Appendix 2 of PADEP's April 2022 "Sampling Report and Operation & Maintenance (O&M) Summary June 2020 to December 2021"

TEQ = Concentration * TEF
For non-detect (ND) results, the EDL was used to calculate the TEQ, as a conservative screening approach.

(1) Toxicity equivalence factors for human health were obtained from EPA's December 2010 "Recommended Toxicity Equivalence Factors (TEFs) for Human Health Risk Assessments of 2,3,7,8-Tetrachlorodibenzo-p-dioxin and Dioxin-Like Compounds," available at https://www.epa.gov/sites/default/files/2013-09/documents/tefs-for-dioxin-epa-00-r-10-005-final.pdf

(2) Ecological toxicity equivalence factors were obtained from Table 2 in EPA's June 2008 "Framework for Application of the Toxicity Equivalence Methodology for Polychlorinated Dioxins, Furans, and Biphenyls in Ecological Risk Assessment," available at https://www.epa.gov/sites/default/files/2013-09/documents/tefs-draft-052808-0804.pdf. The avian TEF for 1,2,3,4,6,7,8-HpCDD is listed as <0.001.

TEF = toxicity equivalence factor

EDL = estimated detection limit

ng/kg = nanograms per kilogram

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

I = Value is EMPC (estimated maximum possible concentration).

B = Analyte was found in the blank.

*5- = Isotope dilution analyte is outside acceptance limits, low biased.

[39] Source: Appendix 2 of the 2022 Sampling Report and Operation & Maintenance (O&M) Summary

AP-SS-24					AP-SS-25					AP-SS-26					AP-SS-27				
Result (ng/kg)	Qualifier	EDL (ng/kg)	TEQ (human/ mammal)	TEQ (bird)	Result (ng/kg)	Qualifier	EDL (ng/kg)	TEQ (human/ mammal)	TEQ (bird)	Result (ng/kg)	Qualifier	EDL (ng/kg)	TEQ (human/ mammal)	TEQ (bird)	Result (ng/kg)	Qualifier	EDL (ng/kg)	TEQ (human/ mammal)	TEQ (bird)
120	B	0.51	1.2	0.12	91	B	0.46	0.91	0.091	110	B	0.47	1.1	0.11	110	B	0.35	1.1	0.11
8.2		0.038	0.082	0.082	5.2	J	0.044	0.052	0.052	4.9	J	0.031	0.049	0.049	8.9		0.044	0.089	0.089
0.56	JIB	0.047	0.0056	0.0056	0.36	JB	0.051	0.0036	0.0036	0.44	JB	0.035	0.0044	0.0044	0.66	JIB	0.052	0.0066	0.0066
1.6	JI	0.050	0.16	0.08	0.97	JI	0.044	0.097	0.0485	1.4	J	0.051	0.14	0.07	1.4	JI	0.056	0.14	0.07
1.1	JI	0.014	0.11	0.11	0.71	JI	0.013	0.071	0.071	0.69	J	0.020	0.069	0.069	1	JI	0.017	0.1	0.1
3.2	JB	0.053	0.32	0.032	1.9	JIB	0.043	0.19	0.019	2.3	JIB	0.052	0.23	0.023	3.3	JB	0.056	0.33	0.033
0.93	JB	0.015	0.093	0.093	0.59	JIB	0.014	0.059	0.059	0.42	JIB	0.021	0.042	0.042	0.83	JIB	0.019	0.083	0.083
2.6	JB	0.055	0.26	0.26	2.1	JIB	0.045	0.21	0.21	2.4	JB	0.050	0.24	0.24	2.6	JB	0.057	0.26	0.26
0.15	J	0.017	0.015	0.015	0.15	J	0.017	0.015	0.015	ND		0.026	0.0026	0.0026	ND		0.024	0.0024	0.0024
ND		0.042	0.042	0.042	ND		0.039	0.039	0.039	0.57	JI	0.044	0.57	0.57	0.69	JI	0.044	0.69	0.69
0.41	JI	0.030	0.0123	0.041	0.26	JI	0.029	0.0078	0.026	0.33	JI	0.012	0.0099	0.033	0.51	JI	0.019	0.0153	0.051
1.2	JIB	0.013	0.12	0.12	0.65	JB	0.012	0.065	0.065	0.74	JIB	0.019	0.074	0.074	1.4	JB	0.018	0.14	0.14
0.57	JI	0.024	0.171	0.57	0.52	JI	0.023	0.156	0.52	0.45	JI	0.0096	0.135	0.45	0.78	JI	0.015	0.234	0.78
ND		0.016	0.016	0.016	ND		0.018	0.018	0.018	ND		0.014	0.014	0.014	ND		0.012	0.012	0.012
ND		0.015	0.0015	0.015	ND		0.026	0.0026	0.026	ND		0.013	0.0013	0.013	0.43	JI	0.017	0.043	0.43
8900	B	1.3	2.67	0.89	8600	B	1.3	2.58	0.86	8800	B	1.4	2.64	0.88	7400	B	1.1	2.22	0.74
18	B	0.031	0.0054	0.0018	13	B	0.030	0.0039	0.0013	12	IB	0.019	0.0036	0.0012	17	B	0.019	0.0051	0.0017
			5.3	**2.5**				**4.5**	**2.1**				**5.3**	**2.6**				**5.5**	**3.6**

AP-SS-28					AP-SS-29					AP-SS-30					AP-SS-23 DUP				
Result (ng/kg)	Qualifier	EDL (ng/kg)	TEQ (human/ mammal)	TEQ (bird)	Result (ng/kg)	Qualifier	EDL (ng/kg)	TEQ (human/ mammal)	TEQ (bird)	Result (ng/kg)	Qualifier	EDL (ng/kg)	TEQ (human/ mammal)	TEQ (bird)	Result (ng/kg)	Qualifier	EDL (ng/kg)	TEQ (human/ mammal)	TEQ (bird)
140	B	0.53	1.4	0.14	110	B	0.32	1.1	0.11	120	B	0.25	1.2	0.12	44	B	0.17	0.44	0.044
12		0.055	0.12	0.12	6.2		0.046	0.062	0.062	5.9		0.031	0.059	0.059	3.4	J	0.020	0.034	0.034
0.87	JB	0.063	0.0087	0.0087	0.52	JB	0.051	0.0052	0.0052	0.31	JIB	0.035	0.0031	0.0031	0.32	JB	0.024	0.0032	0.0032
2	J	0.070	0.2	0.1	1.4	J	0.047	0.14	0.07	1.4	JI	0.051	0.14	0.07	0.86	JI	0.028	0.086	0.043
1.6	J	0.023	0.16	0.16	0.89	JI	0.014	0.089	0.089	0.84	J	0.054	0.084	0.084	0.44	JI	0.028	0.044	0.044
4.5	JB	0.070	0.45	0.045	3.2	JB	0.045	0.32	0.032	2.2	JB	0.051	0.22	0.022	1.4	JB	0.029	0.14	0.014
0.81	JB	0.022	0.081	0.081	0.62	JIB	0.014	0.062	0.062	0.6	JB	0.055	0.06	0.06	0.31	JIB	0.028	0.031	0.031
3.2	JIB	0.069	0.32	0.32	2.5	JIB	0.047	0.25	0.25	2.9	JB	0.050	0.29	0.29	1.5	JB	0.030	0.15	0.15
0.16	JI	0.027	0.016	0.016	0.16	J	0.016	0.016	0.016	0.26	JI	0.055	0.026	0.026	0.2	J	0.029	0.02	0.02
1.4	JI	0.048	1.4	1.4	0.77	JI	0.025	0.77	0.77	1.2	J	0.021	1.2	1.2	0.59	JI	0.016	0.59	0.59
0.75	JI	0.018	0.0225	0.075	0.23	J	0.029	0.0069	0.023	0.65	J	0.020	0.0195	0.065	0.17	JI	0.013	0.0051	0.017
1.6	JB	0.022	0.16	0.16	1	JIB	0.013	0.1	0.1	0.82	JB	0.050	0.082	0.082	0.42	JIB	0.025	0.042	0.042
0.56	J	0.015	0.168	0.56	0.53	JI	0.024	0.159	0.53	0.85	J	0.015	0.255	0.85	0.28	JI	0.010	0.084	0.28
ND		0.022	0.022	0.022	ND		0.016	0.016	0.016	ND		0.028	0.028	0.028	ND		0.021	0.021	0.021
0.87	J	0.014	0.087	0.87	0.38	J	0.023	0.038	0.38	ND		0.028	0.0028	0.028	0.18	JI	0.027	0.018	0.18
9900	*5- B	1.7	2.97	0.99	7900	B	0.94	2.37	0.79	11000	B	0.82	3.3	1.1	2500	B	0.12	0.75	0.25
23	B	0.036	0.0069	0.0023	13	B	0.016	0.0039	0.0013	17	B	0.043	0.0051	0.0017	9.4	JB	0.027	0.00282	0.00094
			7.6	**5.1**				**5.5**	**3.3**				**7.0**	**4.1**				**2.5**	**1.8**

Table H-6: 2018 Sediment Sampling Results, Asbestos[40]

Table 4-4
Confirmation Sampling, Spring 2018
Matrix: Sediment - Asbestos Results
BoRit Asbestos Superfund Site, Operable Unit 1
Ambler, Pennsylvania

						PLM Point Count Results				
Area	Location ID	Sample ID	QC Type	QC Desc.	Sample Date	Points Counted[a]	Points with Asbestos	Area Percent[b] (%)	Asbestos Type	Qualifier
Reservoir Parcel	RV-01	CSRVSD-101	Field Sample		4/26/2018	1000	0	0%		U
	RV-02	CSRVSD-102	Field Sample		4/26/2018	1000	0	0%		U
	RV-03	CSRVSD-103	Field Sample		4/26/2018	1000	0	0%		U
	RV-04	CSRVSD-104	Field Sample		4/26/2018	1000	0	0%		U
	RV-01	CSRVSD-201	Field Duplicate	CSRVSD-101	4/26/2018	1000	0	0%		U

Notes:
[a] 1,000 points were examined which results in an approximate detection limit of 0.1 percent (%).
[b] There are no sediment-based cleanup levels for asbestos. Rather, successful remediation of sediment will be assessed by achievement of the Site-specific surface water-based remediation goals (0.0001 MFL).
% = percent
bgs = below ground surface
Desc. = description
ID = identification
MFL = million fibers per liter
PLM = polarized light microscopy
QC = quality control
U = no asbestos detected

[40] Source: 2018 Remedial Action Completion Report

Table H-7: 2020 Sediment Sampling Results, Asbestos[41]

Table 3-2
Confirmation Sampling, Spring 2020
Matrix: Sediment - Asbestos Results
BoRit Asbestos Superfund Site, Operable Unit 1
Ambler, Pennsylvania

						PLM Point Count Results			
Area	Location ID	Sample ID	QC Type	QC Desc.	Sample Date	Points Counted[a]	Points with Asbestos	Area Percent[b] (%)	Qualifier
Reservoir Parcel	RV-01	CSRVSD-101	Field Sample		2/18/2020	1000	0	0%	U
	RV-02	CSRVSD-102	Field Sample		2/18/2020	1000	0	0%	U
	RV-03	CSRVSD-103	Field Sample		2/18/2020	1000	0	0%	U
	RV-04	CSRVSD-104	Field Sample		2/18/2020	1000	0	0%	U
	RV-01	CSRVSD-201	Field Duplicate	CSRVSD-101	2/18/2020	1000	0	0%	U

Notes:
[a] 1,000 points were examined which results in an approximate detection limit of 0.1 percent (%).
[b] There are no sediment-based cleanup levels for asbestos. Rather, successful remediation of sediment will be assessed by achievement of the Site-specific surface water-based remediation goals (0.0001 MFL).
% = percent
Desc. = description
ID = identification
MFL = million fibers per liter
PLM = polarized light microscopy
QC = quality control
U = no asbestos detected

[41] Source: 2020 Addendum #1 to Final Remedial Action Completion Report

Table H-8: 2021 Sediment Sampling Results, Asbestos[42]

Area	Sample ID	PLM Point Count Results
Reservoir Parcel	PADEPLTM-2021-RP-SD-01	None Detected
	PADEPLTM-2021-RP-SD-02	None Detected
	PADEPLTM-2021-RP-SD-03	None Detected
	PADEPLTM-2021-RP-SD-04	None Detected

[42] Source: 2022 Sampling Report and Operation & Maintenance (O&M) Summary

Table H-9: 2018 Sediment Sampling Results, VOCs[43]

Table 4-5
Confirmation Sampling, Spring 2018
Matrix: Sediment - VOC and TOC Results
BoRit Asbestos Superfund Site, Operable Unit 1
Ambler, Pennsylvania

Location	Remediation Goals	RV-101	RV-101	RV-102	RV-103	RV-104
Sample ID		CSRVSD-101	CSRVSD-201	CSRVSD-102	CSRVSD-103	CSRVSD-104
Sample Type		N	FD	N	N	N
Parent Sample #		--	CSRVSD-101	--	--	--
Start Sample Depth		0	0	0	0	0
End Sample Depth		0.5	0.5	0.5	0.5	0.5
Depth Unit		ft bgs	ft bgs	ft bgs	ft bgs	ft bgs
Sample Date		4/26/2018	4/26/2018	4/26/2018	4/26/2018	4/26/2018
Volatile Organic Compounds (µg/kg)						
Carbon Disulfide[a]	4.1	12 U	11 U	13 U	9.3 U	19 U
Total Organic Carbon (mg/kg)						
Total Organic Carbon	--	16800	18400	19500 J	10600	25000

Notes:
[a] Samples with detected concentrations for target analytes less than CRQLs are estimated and have been qualified "J".
Non-detect (U-qualified) samples indicate that the concentration was lower than the CRQL, but not higher than the MDL of 0.55 ug/kg.
-- = not available
CRQLs = contract required quantitation limits
FD = field duplicate
ft bgs = feet below ground (sediment) surface
J = analyte present in estimated quantities
J+ = analyte present in estimated quantitites and is biased high
MDL = method detection limits
mg/kg = milligrams per kilograms
N = normal field sample
RG = remedial goal
U = analyte not detected above quantitation limit
µg/kg = micrograms per kilograms

[43] Source: 2018 Remedial Action Completion Report

Table H-10: 2020 Sediment Sampling Results, VOCs[44]

Table 3-3
Confirmation Sampling, Spring 2020
Matrix: Sediment - VOC Results
BoRit Asbestos Superfund Site, Operable Unit 1
Ambler, Pennsylvania

Location	Remediation Goals	RV-101	RV-101	RV-102	RV-103	RV-104
Sample ID		CSRVSD-101	CSRVSD-201	CSRVSD-102	CSRVSD-103	CSRVSD-104
Sample Type		N	FD	N	N	N
Parent Sample #		--	CSRVSD-101	--	--	--
Start Sample Depth		0	0	0	0	0
End Sample Depth		0.5	0.5	0.5	0.5	0.5
Depth Unit		ft bgs	ft bgs	ft bgs	ft bgs	ft bgs
Sample Date		2/18/2020	2/18/2020	2/18/2020	2/18/2020	2/18/2020
Volatile Organic Compounds (µg/kg)						
Carbon Disulfide[a]	4.1	17 U	2.5 J	2.9 J	7.2 J	24 U

Notes:

[a] Samples with detected concentrations for target analytes less than CRQLs are estimated and have been qualified "J"'. Non-detect (U-qualified) samples indicate that the concentration was lower than the CRQL, but not higher than the MDL of 0.55 ug/kg.

-- = not available

CRQL = contract required quatitation limit

FD = field duplicate

ft bgs = feet below ground (sediment) surface

J = analyte present in estimated quantities

MDL = method detection limit

N = normal field sample

U = analyte not detected above quantitation limit

µg/kg = micrograms per kilogram

[44] Source: 2020 Addendum #1 to Final Remedial Action Completion Report

Table H-11: 2021 Sediment Sampling Results, VOCs[45]

			CLIENT ID:	PADEPLTM-2021-RP-SD-01		PADEPLTM-2021-RP-SD-02		PADEPLTM-2021-RP-SD-02DUP		PADEPLTM-2021-RP-SD-03		PADEPLTM-2021-RP-SD-04	
			COLLECTION DATE:	9/20/2021		9/20/2021		9/20/2021		9/20/2021		9/20/2021	
			SAMPLE MATRIX:	Soil		Soil		Soil		Soil		Soil	
			SAMPLE UNITS:	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
		Non-Residential MSC 0'-2'	USEPA Remediation Goals										
CAS#	Analyte	mg/Kg	mg/Kg	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
	Volatiles												
630-20-6	1,1,1,2-Tetrachloroethane	300	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
71-55-6	1,1,1-Trichloroethane	10,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
79-34-5	1,1,2,2-Tetrachloroethane	38	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
79-00-5	1,1,2-Trichloroethane	16	NL	ND	0.312	ND	0.401	ND	0.554	ND	0.644	ND	0.329
75-34-3	1,1-Dichloroethane	1400	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
75-35-4	1,1-Dichloroethene	10000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
563-58-6	1,1-Dichloropropene	NA	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
87-61-6	1,2,3-Trichlorobenzene	NA	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
96-18-4	1,2,3-Trichloropropane	3	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
120-82-1	1,2,4-Trichlorobenzene	3,100	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
95-63-6	1,2,4 Trimethylbenzene	4,700	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
96-12-8	1,2-Dibromo-3-chloropropane	0.37	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
106-93-4	1,2-Dibromoethane	3.7	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
95-50-1	1,2-Dichlorobenzene	10,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
107-06-2	1,2-Dichloroethane	86	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
78-87-5	1,2-Dichloropropane	220	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
108-67-8	1,3,5-Trimethylbenzene	4,700	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
541-73-1	1,3-Dichlorobenzene	10,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
542-75-6	1,3-Dichloropropane	550	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
106-46-7	1,4-Dichlorobenzene	200	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
594-20-7	2,2-Dichloropropane	NA	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
78-93-3	2-Butanone (Methyl Ethyl Ketone)	10,000	NL	ND	0.781	ND	1	ND	1.38	ND	1.61	ND	0.822
591-78-6	2-Hexanone	2,400	NL	ND	0.781	ND	1	ND	1.38	ND	1.61	ND	0.822
99-87-6	4-Isopropyltoluene	NA	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
108-10-1	4-Methyl-2-pentanone	10,000	NL	ND	0.781	ND	1	ND	1.38	ND	1.61	ND	0.822
67-64-1	Acetone	10,000	NL	ND	0.781	ND	1	ND	1.38	ND	1.61	ND	0.822
71-43-2	Benzene	290	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
108-86-1	Bromobenzene	4,700	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
74-97-5	Bromochloromethane	3,200	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
75-27-4	Bromodichloromethane	60	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
75-25-2	Bromoform	2,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
74-83-9	Bromomethane	400	NL	ND	0.625	ND	0.802	ND	1.11	ND	1.29	ND	0.658
75-15-0	Carbon disulfide	10,000	0.0041	ND	**0.156**	ND	**0.2**	ND	**0.277**	ND	**0.322**	ND	**0.164**
56-23-5	Carbon tetrachloride	370	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
108-90-7	Chlorobenzene	4,000	NL	ND	0.469	ND	0.602	ND	0.83	ND	0.966	ND	0.493
75-00-3	Chloroethane	10,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
67-66-3	Chloroform	97	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
74-87-3	Chloromethane	1,200	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
156-59-2	cis-1,2-Dichloroethene	6,400	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
10061-01-5	cis-1,3-Dichloropropene	560	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
110-82-7	Cyclohexane	10,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
124-48-1	Dibromochloromethane	82	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
74-95-3	Dibromomethane	310	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
75-71-8	Dichlorodifluoromethane	8,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
75-09-2	Dichloromethane	10,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
100-41-4	Ethylbenzene	890	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
87-68-3	Hexachlorobutadiene	1,200	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
98-82-8	Isopropylbenzene	10,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
179601-23-1	m&p-Xylenes	8,000	NL	ND	0.312	ND	0.401	ND	0.554	ND	0.644	ND	0.329
1634-04-4	Methyl-t-butyl ether	8,600	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
91-20-3	Naphthalene	760	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
104-51-8	n-Butylbenzene	10,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
103-65-1	n-Propylbenzene	10,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
95-49-8	o-Chlorotoluene	10,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
	PCTFB	NL	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
95-47-6	o-Xylene	8,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
135-98-8	Sec-Butylbenzene	10,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
100-42-5	Styrene	10,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
75-60-0	t-Butyl alcohol	NA	NL	ND	1.56	ND	2	ND	2.7	ND	3.22	ND	1.64
540-88-5	tert-Butyl Acetate	NA	NL	ND	0.781	ND	1	ND	1.38	ND	1.61	ND	0.822
98-06-6	Tert-Butylbenzene	10,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
127-18-4	Tetrachloroethene	3,200	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
109-99-9	Tetrahydrofuran	1,100	NL	ND	0.312	ND	0.401	ND	0.554	ND	0.644	ND	0.329
108-88-3	Toluene	10,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
156-60-5	trans-1,2-Dichloroethene	4,800	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
10061-02-6	trans-1,3-Dichloropropene	560	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
79-01-6	Trichloroethene	160	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
75-69-4	Trichlorofluoromethane	10,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
75-01-4	Vinyl chloride	61	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
108-05-4	Vinyl Acetate	10,000	NL	ND	0.156	ND	0.2	ND	0.277	ND	0.322	ND	0.164
1330-20-7	Xylenes (Total)	8,000	NL	ND	0.312	ND	0.554	ND	0.554	ND	0.644	ND	0.329

Notes:
1.CAS=Chemical Abstracts Service Number
2.mg/Kg = Milligram per kilogram
3.MSC=Medium Specific Concentration
4.ND = Not detected above the laboratory reporting limit shown
5. Exceedances of the PADEP MSC or USEPA Remedial Goal are highlighted and in boldface.
6. The laboratory detection limit exceeded the US EPA Remedial Goal
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
FL = MS and/or MSD recovery below control limits.
^c = CCV Recovery is outside acceptance limits

[45] Source: Table 4 from the 2022 Sampling Report and Operation & Maintenance (O&M) Summary

Table H-12: 2018 Surface Water Sampling Results, Asbestos[46]

Table 4-6
Confirmation Sampling, Spring 2018
Matrix: Surface Water - Asbestos Results
BoRit Asbestos Superfund Site, Operable Unit 1
Ambler, Pennsylvania

Area	Location ID	Sample ID	QC Type	QC Desc.	Sample Date	TEM EPA 100.1 Analysis Results								
							Total Asbestos Structures				Asbestos Structures > 10 µm in Length			
						Sensitivity (L^{-1})	Number of Structures	Water Conc. (MFL)[a]	Asbestos Type	Qualifier	Number of Structures	Water Conc. (MFL)[a]	Asbestos Type	Qualifier
Wissahickon Creek	CKSW-04	CSCKSW-104	Field Sample		4/27/2018	1.1E+05	0	< 0.33		U	0	< 0.33		U
		CSCKSW-204	Field Duplicate	CSCKSW-104	4/27/2018	3.0E+05	26	7.7	CH (25), TR (1)		2	0.59	CH	
	CKSW-05	CSCKSW-105	Field Sample		4/27/2018	4.4E+04	2	0.088	CH		0	< 0.13		U
	CKSW-07	CSCKSW-107	Field Sample		4/27/2018	2.2E+04	6	0.13	CH		4	0.088	CH	
	CKSW-08	CSCKSW-108	Field Sample		4/27/2018	2.2E+04	2	0.044	CH		1	0.022	CH	
	FB-01	CSCKSW-401	Field Blank		4/27/2018	1.1E+04	0	< 0.033		U	0	< 0.033		U
	Mean Water Conc. [d,e]:							**2.0**						
Reservoir[b]	RVSW-01	CSRVSW-101	Field Sample		4/25/2018	2.2E+05 [c]	0	< 0.66		U	0	< 0.66		U
	RVSW-02	CSRVSW-102	Field Sample		4/25/2018	1.1E+05	0	< 0.33		U	0	< 0.33		U
	RVSW-03	CSRVSW-103	Field Sample		4/25/2018	2.2E+06 [c]	1	2.2	AC		0	< 6.6		U
	RVSW-04	CSRVSW-104	Field Sample		4/25/2018	5.5E+06 [c]	0	< 16		U	0	< 16		U
	Mean Water Conc. [d,e]:							**0.55**						

Notes:
BOLD and YELLOW = result is greater than the remediation goal

[a] When no structures were observed, the concentration shown is the Poisson 95% upper confidence limit based on a count of zero.
[b] Collected near bottom of the water column
[c] Poor sensitivity is due to a low volume of water applied to the filter, presumably due to the turbidity of the water collected.
[d] Remediation goal = 0.0001 MFL (based on total structures)
[e] Mean concentration across field samples, treating non-detects as zero. The higher of the field duplicate and the parent sample is used in the calculation

< = less than
AC = actinolite
CH = chrysotile
EPA = U.S. Environmental Protection Agency
ID = identification
L^{-1} = per liter
MFL = million fibers per liter
QC = quality control
TEM = transmission electron microscopy
TR = tremolite

[46] Source: 2018 Remedial Action Completion Report

Table H-13: 2020 Surface Water Sampling Results, Asbestos[47]

Table 3-4
Confirmation Sampling, Spring 2020
Matrix: Surface Water - Asbestos Results
BoRit Asbestos Superfund Site, Operable Unit 1
Ambler, Pennsylvania

Area	Location ID	Sample ID	QC Type	QC Desc.	Sample Date	TEM EPA 100.1 Analysis Results								
							Total Asbestos Structures				Asbestos Structures > 10 µm in Length			
						Sensitivity (L^{-1})	Number of Structures	Water Conc. (MFL)[a]	Asbestos Type	Qualifier	Number of Structures	Water Conc. (MFL)[a]	Asbestos Type	Qualifier
Wissahickon Creek	CKSW-101	CSCKSW-101	Field Sample		2/20/2020	1.1E+04	3	0.033	CH		1	0.011	CH	
	CKSW-102	CSCKSW-102	Field Sample		2/19/2020	2.2E+04	0	<0.065		U	0	<0.065		U
	CKSW-104	CSCKSW-104	Field Sample		2/19/2020	1.1E+04	1	0.011	CH		0	<0.032		U
	CKSW-105	CSCKSW-105	Field Sample		2/20/2020	1.1E+04	2	0.022	CH		0	<0.032		U
	CKSW-107	CSCKSW-107	Field Sample		2/20/2020	1.1E+04	1	0.011	CH		0	<0.032		U
	CKSW-108	CSCKSW-108	Field Sample		2/19/2020	1.1E+04	1	0.011	CH		0	<0.032		U
	CKSW-115	CSCKSW-115	Field Sample		2/20/2020	1.1E+04	2	0.022	CH		0	<0.032		U
	CKSW-116	CSCKSW-116	Field Sample		2/20/2020	7.3E+04	0	<0.218		U	0	<0.218		U
	CKSW-117	CSCKSW-117	Field Sample		2/20/2020	1.1E+04	0	<0.032		U	0	<0.032		U
	Mean Water Conc. [d,e]:							0.012						
Rose Valley Creek	CKSW-103	CSCKSW-103	Field Sample		2/19/2020	2.2E+05 [c]	0	<0.657			0	<0.657		U
	CKSW-113	CSCKSW-113	Field Sample		2/19/2020	2.2E+04	0	<0.0657		U	0	<0.065		U
	Mean Water Conc. [d,e]:							0.000						
Tannery Run	CKSW-106	CSCKSW-106	Field Sample		2/19/2020	1.1E+04	2	0.022	CH		1	0.011	CH	
	CKSW-114	CSCKSW-114	Field Sample		2/19/2020	1.1E+04	14	0.150	CH		1	0.011	CH	
	FB-01	CSCKSW-408	Field Blank		2/19/2020	1.1E+04	0	<0.032		U	0	<0.032		U
	Mean Water Conc. [d,e]:							0.057						
Reservoir[b]	RVSW-101	CSRVSW-101	Field Sample		2/18/2020	5.4E+05 [c]	0	<1.61		U	0	<1.61		U
		CSRVSW-201	Field Duplicate	CSRVSW-101	2/18/2020	1.1E+06 [c]	0	<3.28		U	0	<3.28		U
	RVSW-102	CSRVSW-102	Field Sample		2/18/2020	1.1E+06 [c]	0	<3.28		U	0	<3.28		U
	RVSW-103	CSRVSW-103	Field Sample		2/18/2020	5.4E+05 [c]	0	<1.61		U	0	<1.61		U
	RVSW-104	CSRVSW-104	Field Sample		2/18/2020	5.4E+05 [c]	0	<1.61		U	0	<1.61		U
	Mean Water Conc. [d,e]:							0.00						

Notes:
BOLD and YELLOW = result is greater than the remediation goal

[a] When no structures were observed, the concentration shown is the Poisson 95% upper confidence limit based on a count of zero.
[b] Collected near bottom of the water column
[c] Poor sensitivity is due to a low volume of water applied to the filter, presumably due to the turbidity of the water collected.
[d] Remediation goal = 0.0001 MFL (based on total structures)
[e] Mean concentration across field samples, treating non-detects as zero. The higher of the field duplicate and the parent sample is used in the calculation.

< = less than
CH = chrysotile
EPA = U.S. Environmental Protection Agency
ID = identification
L^{-1} = per liter
MFL = million fibers per liter
QC = quality control
TEM = transmission electron microscopy
µm = micrometer
U = analyte not detected above quantitation limit
desc. = description
% = percent
conc. = concentration

[47] Source: 2020 Addendum #1 to Final Remedial Action Completion Report

Table H-14: 2021 Surface Water Sampling Results, Asbestos[48]

Area	Sample ID	Determination of Asbestos Structures in Waste Water Performed by the EPA 100.1 Method					
		# Asbestos Fibers	# Non-Asbestos Fibers	Type(s) of Asbestos	Analytical Sensitivity (MFL)	Confidence Limits	Concentration of Asbestos Fibers (MFL)
Wissahickon Creek	WC-SW-01	0			0.20	0.00-0.75	<0.20
	WC-SW-02	0			0.20	0.00-0.75	<0.20[a]
	WC-SW-03	0			0.20	0.00-0.75	<0.20[a]
	WC-SW-04	2	27	Chrysotile	0.51[b]	0.12-3.70	1.00[a]
Rose Valley Creek	RV-SW-01	1	8	Chrysotile	1.70[b]	0.04-9.40	1.70[a]
	RV-SW-02	1	10	Chrysotile	0.51[b]	0.01-2.80	0.51[a]
Tannery Run	TR-SW-01	1	7	Chrysotile	0.19	0.01-1.00	0.19[a]
	TR-SW-02	2	2	Chrysotile	0.17	0.04-1.20	0.34[a]
Reservoir	RP-SW-01	0	1		10.00[b]	0.00-38.00	<10.00
	RP-SW-02	0			5.10[b]	0.00-19.00	<5.10
	RP-SW-03	0			5.10[b]	0.00-19.00	<5.10
	RP-SW-04	0			10.00[b]	0.00-38.00	<10.00

Notes:
a) Sample ozonated prior to analysis due to lab receipt time exceeding 48hr method hold time.
b) Due to excessive particulate, the analytical sensitivity of 0.2 MFL as required by the method was not reached.
MFL = million fibers per liter

[48] Source: 2022 Sampling Report and Operation & Maintenance (O&M) Summary, Figure 5 and Appendix 1

Table H-15: 2018 Surface Water Sampling Results, Inorganics[49]

Table 4-7
Confirmation Sampling, Spring 2018
Matrix: Surface Water - Inorganic, General Chemistry, Microbial, and Water Quality Results
BoRit Asbestos Superfund Site, Operable Unit 1
Ambler, Pennsylvania

Location	RV-101	RV-102	RV-103	RV-104
Sample ID	CSRVSW-101	CSRVSW-102	CSRVSW-103	CSRVSW-104
Sample Type	N	N	N	N
Start Depth	3.01	2.5	5.8	6
Depth Unit	ft	ft	ft	ft
Sample Date	4/25/2018	4/25/2018	4/25/2018	4/25/2018
Inorganic Compounds (µg/l)				
Aluminum	62500 J	28000 J	8360 J	28500 J
Calcium	96900	61100	38800	66900
Iron	98700 J	44400 J	12200 J	46800 J
Magnesium	57200	34300	16300	25800
Manganese	21100	4080	1310	3880
General Chemistry (mg/l)				
Alkalinity	128	129	135	127
Hardness	477	294	164	273
Phosphorus	0.223 J	2.61 J	0.172 J	0.388 J
Sulfate	16.6	16	16.2	16.4
Total Dissolved Solids	286	270	273	250
Total Nitrogen	1 UJ	1 UJ	1 UJ	1 UJ
Total Organic Carbon	23.4	19.3 J	26.6	24.7
Microbial Analysis (mpn/100ml)				
Escherichia Coli	150	180	130	210 J
Total Coliforms	> 24000	1000	> 24000	2000 J
Water Quality *				
Dissolved Oxygen	13.32	13.99	12.29	1.41
Oxidation-Reduction Potential	20.3	0.4	61.7	-37.7
pH	9.41	9.26	8.9	7.68
Specific Conductance	0.453	0.454	0.451	0.503
Temperature	14.58	14.62	14.57	9.58
Turbidity	15.6	21.2	16.5	19

Notes:
-- = not available
* = water quality units: dissolved oxygen - mg/l; Oxidation-Reduction Potential - millivolts; pH - standard units; specific conductance - millisiemens per centimeter; temperature - degrees celcius; turbidity - nephelometric turbidity unit
> = greater than
ft = feet
J = analyte present in estimated quantities
mg/l = milligrams per liter
mpn/100ml = most probably number per 100 milliliters
N = normal field sample
UJ = analyte not detected above quantitation limit, quantitation limit is estimated
µg/l = micrograms per liter

[49] Source: 2018 Remedial Action Completion Report

Table H-16: 2018 ABS Sampling Results[50]

Table 4-9a
Confirmation Sampling, Summer 2018
Matrix: Activity-Based Sampling Air - Asbestos Results (Human Health)
BoRit Asbestos Superfund Site, Operable Unit 1
Ambler, Pennsylvania

FIELD SAMPLES

Area	Location	ABS Type	Sample ID		Air Pump Location	Sample Date	Sample Duration (min)	Sample Volume (L)	Preparation Method	Sensitivity (cc^{-1})	TEM ISO PCME Asbestos Results[a]			
			High Volume	Low Volume							N Structures	Conc. (s/cc)[b]	Asbestos Type	Qualifier
Asbestos Pile Parcel	AP-101	Perimeter	CSAPABSP-101-AH101	CSAPABSP-101-AL101	Upwind	7/20/2018	120	465	Direct	1.1E-02	0	< 0.033	--	U
			CSAPABSP-101-AH102	CSAPABSP-101-AL102	Downwind	7/20/2018	120	479	Direct	1.3E-02	0	< 0.038	--	U
		Personal	CSAPABSA-101-AH101	CSAPABSA-101-AL101	Adult Height	7/20/2018	120	563	Direct	1.1E-02	0	< 0.033	--	U
			CSAPABSA-101-CH101	CSAPABSA-101-CL101	Child Height	7/20/2018	120	574	Direct	1.1E-02	0	< 0.032	--	U
	AP-102	Perimeter	CSAPABSP-102-AH101	CSAPABSP-102-AL101	Upwind	7/19/2018	120	242	Direct	1.2E-02	0	< 0.037	--	U
			CSAPABSP-102-AH102	CSAPABSP-102-AL102	Downwind	7/19/2018	120	262	Direct	1.3E-02	0	< 0.038	--	U
		Personal	CSAPABSA-102-AH101	CSAPABSA-102-AL101	Adult Height	7/19/2018	120	308	Direct	1.2E-02	0	< 0.036	--	U
			CSAPABSA-102-CH101	CSAPABSA-102-CL101	Child Height	7/19/2018	120	289	Direct	1.3E-02	0	< 0.038	--	U
	AP-103	Perimeter	CSAPABSP-103-AH101	CSAPABSP-103-AL101	Upwind	7/19/2018	120	246	Direct	1.2E-02	0	< 0.036	--	U
			CSAPABSP-103-AH102	CSAPABSP-103-AL102	Downwind	7/19/2018	120	254	Direct	1.3E-02	0	< 0.039	--	U
		Personal	CSAPABSA-103-AH101	CSAPABSA-103-AL101	Adult Height	7/19/2018	120	316	Direct	1.2E-02	0	< 0.035	--	U
			CSAPABSA-103-CH101	CSAPABSA-103-CL101	Child Height	7/19/2018	120	302	Direct	1.2E-02	0	< 0.037	--	U
									Asbestos Pile Parcel, Mean PCME Air Conc.[c]		Perimeter, downwind:	< 0.038[d]		
											Personal, Adult:	< 0.034[d]		
											Personal, Child:	< 0.036[d]		
Park Parcel	PK-101	Perimeter	CSPKABSP-101-AH101	CSPKABSP-101-AL101	Upwind	7/20/2018	120	247	Direct	1.2E-02	0	< 0.036	--	U
			CSPKABSP-101-AH102	CSPKABSP-101-AL102	Downwind	7/20/2018	120	481	Indirect - Ashed	1.3E-02	0	< 0.039	--	U
		Personal	CSPKABSA-101-AH101	CSPKABSA-101-AL101	Adult Height	7/20/2018	120	301	Direct	1.2E-02	0	< 0.037	--	U
			CSPKABSA-101-CH101	CSPKABSA-101-CL101	Child Height	7/20/2018	120	302	Direct	1.2E-02	0	< 0.037	--	U
	PK-102	Perimeter	CSPKABSP-102-AH101	CSPKABSP-102-AL101	Upwind	7/19/2018	120	480	Indirect - Ashed	1.3E-02	0	< 0.039	--	U
			CSPKABSP-102-AH102	CSPKABSP-102-AL102	Downwind	7/19/2018	120	482	Indirect - Ashed	2.8E-02	0	< 0.085	--	U
		Personal	CSPKABSA-102-AH101	CSPKABSA-102-AL101	Adult Height	7/19/2018	120	552	Indirect - Ashed	1.3E-02	0	< 0.039	--	U
			CSPKABSA-102-CH101	CSPKABSA-102-CL101	Child Height	7/19/2018	120	544	Indirect - Ashed	2.5E-02	0	< 0.076	--	U
	PK-103	Perimeter	CSPKABSP-103-AH101	CSPKABSP-103-AL101	Upwind	7/20/2018	120	236	Direct	1.3E-02	0	< 0.038	--	U
			CSPKABSP-103-AH102	CSPKABSP-103-AL102	Downwind	7/20/2018	120	256	Direct	1.3E-02	0	< 0.039	--	U
		Personal	CSPKABSA-103-AH101	CSPKABSA-103-AL101	Adult Height	7/20/2018	120	314	Direct	1.2E-02	0	< 0.036	--	U
			CSPKABSA-103-CH101	CSPKABSA-103-CL101	Child Height	7/20/2018	120	307	Direct	1.2E-02	0	< 0.036	--	U
	PK-104	Perimeter	CSPKABSP-104-AH101	CSPKABSP-104-AL101	Upwind	7/20/2018	129	520	Indirect - Ashed	2.7E-02	0	< 0.08	--	U
			CSPKABSP-104-AH102	CSPKABSP-104-AL102	Downwind	7/20/2018	120	490	Indirect - Ashed	1.3E-02	0	< 0.039	--	U
		Personal	CSPKABSA-104-AH101	CSPKABSA-104-AL101	Adult Height	7/20/2018	129	589	Indirect - Ashed	1.3E-02	0	< 0.038	--	U
			CSPKABSA-104-CH101	CSPKABSA-104-CL101	Child Height	7/20/2018	129	602	Indirect - Ashed	1.3E-02	0	< 0.039	--	U
	PK-105	Perimeter	CSPKABSP-105-AH101	CSPKABSP-105-AL101	Upwind	7/19/2018	120	482	Indirect - Ashed	1.3E-02	0	< 0.038	--	U
			CSPKABSP-105-AH102	CSPKABSP-105-AL102	Downwind	7/19/2018	120	484	Indirect - Ashed	1.3E-02	0	< 0.038	--	U
		Personal	CSPKABSA-105-AH101	CSPKABSA-105-AL101	Adult Height	7/19/2018	120	547	Indirect - Ashed	1.3E-02	0	< 0.039	--	U
			CSPKABSA-105-CH101	CSPKABSA-105-CL101	Child Height	7/19/2018	120	535	Indirect - Ashed	2.6E-02	0	< 0.077	--	U
	PK-106	Perimeter	CSPKABSP-106-AH101	CSPKABSP-106-AL101	Upwind	7/20/2018	120	478	Direct	1.3E-02	0	< 0.038	--	U
			CSPKABSP-106-AH102	CSPKABSP-106-AL102	Downwind	7/20/2018	120	486	Indirect - Ashed	2.8E-02	0	< 0.085	--	U
		Personal	CSPKABSA-106-AH101	CSPKABSA-106-AL101	Adult Height	7/20/2018	120	535	Indirect - Ashed	1.3E-02	0	< 0.039	--	U
			CSPKABSA-106-CH101	CSPKABSA-106-CL101	Child Height	7/20/2018	120	524	Indirect - Ashed	5.3E-02	0	< 0.16	--	U
									Park Parcel, Mean PCME Air Conc.[c]		Perimeter, downwind:	< 0.054[d]		
											Personal, Adult:	< 0.038[d]		
											Personal, Child:	< 0.070[d]		

FIELD BLANKS

Area	Location	ABS Type	Sample ID		Air Pump Location	Sample Date	Sample Duration (min)	Sample Volume (L)	Preparation Method	Sensitivity (cc^{-1})	TEM ISO PCME Asbestos Results[a]			
			High Volume	Low Volume							N Structures	Conc. (s/cc)	Asbestos Type	Qualifier
Field QC	Field Blank	--	CSPKABS-401	--	--	7/19/2018	0	0	Direct	---	0	---		
			CSPKABSA-402	--	--	7/20/2018	0	0	Direct	---	0	---		

Notes:

filter analyzed

[a] Filters were prepared and analyzed in basic accordance with TEM ISO 10312:1995(E) (ISO 1995).
[b] When no structures were observed, the concentration shown is the Poisson 95% upper confidence limit based on a count of zero.
[c] Remediation goal = 0.04 s/cc
[d] Because all samples were non-detect, the mean is reported as less than the average across the Poisson 95% upper confidence limits for each personal sample (both adult and child height).

-- = not applicable
< = less than
ABS = activity-based sampling
cc^{-1} = per cubic centimeter
GO = grid opening
HV = high volume
L = liter
LV = low volume
mL = milliliter
mm^2 = square millimeter
N = number
PCME = phase contrast microscopy-equivalent
s/cc = structure per cubic centimeter
U = asbestos not detected

[50] Source: 2018 Remedial Action Completion Report

Table 4-9b
Confirmation Sampling, Summer 2018
Matrix: Activity-Based Sampling Air - Asbestos Results (Ecological)
BoRit Asbestos Superfund Site, Operable Unit 1
Ambler, Pennsylvania

Area	Location	Sample ID	Air Pump Location	Sample Date	Sample Duration (min)	Sample Volume (L)	Preparation Method	Sensitivity (cc^{-1})	TEM ISO PCME Asbestos Results[a]			
									N Structures	Conc. (s/cc)[b,c]	Asbestos Type	Qualifier
Asbestos Pile Parcel	AP-101	CSAPABSE-101-ML101	Mammal Height	7/20/2018	120	259	Direct	2.9E-02	0	< 0.088	--	U
	AP-102	CSAPABSE-102-ML101	Mammal Height	7/19/2018	120	255	Direct	2.9E-02	0	< 0.087	--	U
	AP-103	CSAPABSE-103-ML101	Mammal Height	7/19/2018	120	256	Direct	2.9E-02	0	< 0.087	--	U
Park Parcel	PK-101	CSPKABSE-101-ML101	Mammal Height	7/20/2018	120	242	Direct	3.1E-02	0	< 0.092	--	U
	PK-102	CSPKABSE-102-ML101	Mammal Height	7/19/2018	120	246	Indirect - Ashed	1.1E+00	0	< 3.3	--	U
	PK-103	CSPKABSE-103-ML101	Mammal Height	7/20/2018	120	260	Direct	2.9E-02	0	< 0.086	--	U
	PK-104	CSPKABSE-104-ML101	Mammal Height	7/20/2018	129	266	Indirect - Ashed	1.0E+00	0	< 3.1	--	U
	PK-105	CSPKABSE-105-ML101	Mammal Height	7/19/2018	120	249	Indirect - Ashed	2.2E+00	0	< 6.5	--	U
	PK-106	CSPKABSE-106-ML101	Mammal Height	7/20/2018	120	238	Indirect - Ashed	2.3E+00	0	< 6.9	--	U

Notes:
[a] Filters were prepared and analyzed in basic accordance with TEM ISO 10312:1995(E) (ISO 1995).
[b] When no structures were observed, the concentration shown is the Poisson 95% upper confidence limit based on a count of zero.
[c] Remediation goal = 25 s/cc

-- = not applicable
< = less than
ABS = activity-based sampling
cc^{-1} = per cubic centimeter
GO = grid opening
HV = high volume
L = liter
LV = low volume
mL = milliliter
mm^2 = square millimeter
N = number
PCME = phase contrast microscopy-equivalent
s/cc = structure per cubic centimeter
U = asbestos not detected

Table 4-10
Confirmation Sampling, Summer 2018
Matrix: Activity-Based Sampling Surface Soil (0-3 inches bgs) - Asbestos Results
BoRit Asbestos Superfund Site, Operable Unit 1
Ambler, Pennsylvania

Area	Location ID	Sample ID	QC Type	Sample Date	PLM Point Count Results				
					Points Counted[a]	Points with Asbestos	Area Percent[b] (%)	Asbestos Type	Qualifier
Asbestos Pile Parcel	APABS-101	CSAPABSS-101	Field Sample	7/18/2018	1000	0	0%	--	U
	APABS-102	CSAPABSS-102	Field Sample	7/18/2018	1000	0	0%	--	U
	APABS-103	CSAPABSS-103	Field Sample	7/18/2018	1000	0	0%	--	U
Park Parcel	PKABS-101	CSPKABSS-101	Field Sample	7/18/2018	1000	0	0%	--	U
	PKABS-102	CSPKABSS-102	Field Sample	7/18/2018	1000	0	0%	--	U
	PKABS-103	CSPKABSS-103	Field Sample	7/18/2018	1000	0	0%	--	U
	PKABS-104	CSPKABSS-104	Field Sample	7/18/2018	1000	0	0%	--	U
	PKABS-105	CSPKABSS-105	Field Sample	7/18/2018	1000	0	0%	--	U
	PKABS-106	CSPKABSS-106	Field Sample	7/18/2018	1000	0	0%	--	U

Notes:
[a] 1,000 points were examined which results in an approximate detection limit of 0.1 percent (%).
[b] There are no soil-based cleanup levels for asbestos. Rather, successful remediation of soil will be assessed by achievement of the Site-specific air-based remediation goals. Remediation goals for air are 0.04 s/cc (ABS - human health), 0.001 s/cc (ambient - human health), and 25 s/cc (ecological).
-- = not applicable
% = percent
ABS - activity based sampling
bgs = below ground surface
Desc. = description
ID = identification
PLM = polarized light microscopy
QC = quality control
s/cc = structure per cubic centimeter
U = no asbestos detected

APPENDIX I – ARAR REVIEW

CERCLA Section 121(d)(1) requires that Superfund remedial actions attain "a degree of cleanup of hazardous substances, pollutants, and contaminants released into the environment and control of further release at a minimum which assures protection of human health and the environment." The remedial action must achieve a level of cleanup that at least attains those requirements that are legally applicable or relevant and appropriate. In performing the FYR for compliance with applicable or relevant and appropriate requirements (ARARs), only those ARARs that address the protectiveness of the remedy are reviewed.

The 2017 ROD (Table 45c) established the Pennsylvania Statewide Health Standards as chemical-specific ARARs for soil (25 PA Code § 250.305(b)-(f)) and surface water (25 PA Code § 250.309(c)). Risk-based levels were established for some COCs and are discussed further in Appendix J. Table I-1 compares the Site's cleanup levels established in the ROD against the current values. To be conservative, Table I-1 uses the residential standards. Table I-1 shows that the cleanup levels established for the Site are more stringent than the current standards.

Table I-1: Cleanup Levels ARARs Review

COC	ROD Cleanup Level[a]		Current Pennsylvania Statewide Health Standards (November 20, 2021)		Is Current Standard More Stringent than ROD Cleanup Level?
	Soil	Reservoir Surface Water	Soil[b]	Surface Water	
Asbestos	--	0.0001 MFL	--	--[c]	No
Bis(2-ethylhexyl)phthalate	925 µg/kg	--	1,300,000 µg/kg	--	No
Dioxins and furans	0.199 ng/kg	--	140 ng/kg[d]	--	No
Chromium	26 mg/kg	--	37 mg/kg[e]	--	No
Nickel	38 mg/kg	--	4,400 mg/kg	--	No
Zinc	104 mg/kg	--	66,000 mg/kg	--	No

Notes:

a) Source: Table 42 of the ROD

b) Residential direct contact (0-15 feet) standards. Source: Pennsylvania Statewide Health Standards, available at: https://www.dep.pa.gov/Business/Land/LandRecycling/Standards-Guidance-Procedures/Pages/Statewide-Health-Standards.aspx (accessed 2/8/2022).

c) Asbestos is not listed in Pennsylvania's Statewide Health Standards for Surface Water (Chapter 93) available at https://www.dep.pa.gov/Business/Water/CleanWater/WaterQuality/Pages/default.aspx (accessed 2/8/2022).

d) Standard for 2,3,7,8-tetrachlorodibenzo-p-dioxin.

e) Standard for the more toxic form of chromium (chromium VI).

APPENDIX J – SCREENING-LEVEL RISK REVIEW

Cleanup Level Based on Human Health Risk

The surrogate human health cleanup level established in the ROD for asbestos in soil was a site-specific value that was calculated by the EPA Region 3 toxicologist for asbestos in air during ABS and is based on human health risks (ROD Section 8.2.1). For asbestos, successful remediation of source waste material and soil will be assessed by achievement of the site-specific air cleanup level.

Cleanup Levels Based on Ecological Risk

The cleanup levels established in the ROD for soil contaminated with bis(2-ethylhexyl)phthalate, dioxins and furans, chromium and nickel and for sediment contaminated with carbon disulfide were based on ecological screening levels since the remedy is based primarily on containment and therefore eliminated ecological exposure pathways. Ecological screening levels for asbestos are not available. For asbestos in air, the surrogate ecological cleanup level is based on the no observed adverse effect level (NOAEL) toxicity reference value (TRV) for inhalation. Even though asbestos was not detected in reservoir sediment at levels that potentially posed a risk in the screening level ecological risk assessment, the reservoir bench study demonstrated that reservoir surface water is directly affected by reservoir sediment. Therefore, EPA used a conservative approach and assumed that asbestos is also a potential ecological risk in reservoir surface water. The surface water ecological screening level (ESL) was the proposed cleanup level for asbestos in reservoir sediment. Table J-1 compares the ecological-based cleanup levels from the ROD against the current ecological screening levels, using the hierarchy of standards laid out in the Site's 2013 Screening Level Ecological Risk Assessment (Appendix B of the 2013 Remedial Investigation Report). Table J-1 shows that the current ESLs are not more stringent than those previously used (Table J-1). The soil cleanup level for zinc was based on the maximum background concentration, so it is not evaluated in this risk review.

This FYR also compared the Site's cleanup levels against EPA's current human health-based screening levels, to determine whether the cleanup levels are protective for human health. As shown in Table J-2, the Site's cleanup levels are protective for human health based on residential exposure.

Table J-1: Ecological Screening Level Evaluation

COC	ROD Cleanup Level[a]				Current ESL[b]	Is Current ESL More Stringent than ROD Cleanup Level?
Soil/Waste	**Soil**	**Air (Ambient)**	**Reservoir Sediment**	**Reservoir Surface Water**		
Asbestos	--	25 f/cc (WHO)	--	--	25 f/cc[c] (WHO)	No
Bis(2-ethylhexyl)phthalate	925 µg/kg	--	--	--	925 µg/kg[iii]	No
Dioxins and furans	0.199 ng/kg	--	--	--	0.199 ng/kg[iii]	No
Chromium	26 mg/kg	--	--	--	26 mg/kg[i]	No
Nickel	38 mg/kg	--	--	--	38 mg/kg[i]	No
Reservoir						
Asbestos	--	--	--	0.0001 MFL	0.0001 MFL[vii]	No
Carbon disulfide	--	--	4.1 µg/kg[d]	--	0.851 µg/kg[iv]	No[d]

Notes:

a. Source: Table 42 of the ROD

b. Ecological screening values from the following references were applied using the following hierarchy (from the Site's 2013 Screening Level Ecological Risk Assessment, pages 4-1 to 4-2):

I. Soil

i. EPA Ecological Soil Screening Levels; lowest value used – available at https://www.epa.gov/sites/default/files/2015-09/documents/eco-ssl_chromium.pdf, https://www.epa.gov/sites/default/files/2015-09/documents/eco-ssl_nickel.pdf (accessed 2/4/2022).

ii. Oak Ridge National Laboratory, Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Terrestrial Plants: 1997 Revision – available at, https://rais.ornl.gov/documents/tm85r3.pdf and Toxicological Benchmarks for Contaminants of Potential Concern for Effects on Soil and Litter Invertebrates and Heterotrophic Process: 1997 Revision – available at, https://info.ornl.gov/sites/publications/Files/Pub57854.pdf (accessed 2/4/2022). The lowest value was used.

iii. EPA Region 5 RCRA Ecological Screening Values – available at, https://archive.epa.gov/region5/waste/cars/web/pdf/ecological-screening-levels-200308.pdf (accessed 2/4/2022).

II. Sediment

iv. EPA 2006b. Region 3 Biological Technical Assistance Group (BTAG) Freshwater Sediment Screening Benchmarks – available at https://www.epa.gov/sites/default/files/2015-09/documents/r3_btag_fw_sediment_benchmarks_8-06.pdf (accessed 2/9/2022).

III. Surface Water

v. EPA 2006. Region 3 BTAG Freshwater Screening Benchmarks – available at https://www.epa.gov/sites/default/files/2015-09/documents/r3_btag_fw_benchmarks_07-06.pdf (accessed 2/9/2022).

vi. EPA 2009. National Recommended Water Quality Criteria – available at https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table (accessed 2/9/2022).

vii. For asbestos, several laboratory studies exposing freshwater aquatic invertebrates or fish to chrysotile asbestos are available. Data are limited to two invertebrate species and five fish species. The lowest reported asbestos concentrations associated with adverse effects to growth, reproduction or survival were identified from Belanger at al. (1986). The juvenile Asiatic clam *Corbicula fluminea* exposed for 30 days to chrysotile asbestos had significantly less shell and tissue growth at 10^4 f/l and above in winter and 10^5 f/l and above in summer. Exposures to 10^2 f/l asbestos were not associated with adverse effects related to growth, reproduction or survival. Thus, a NOAEL of 0.0001 MFL was identified as the screening level toxicity benchmark, or ESL, for asbestos in surface water protective of aquatic life.

c. There is no soil screening level available for asbestos. For asbestos in air, the surrogate ecological cleanup level is based on the NOAEL TRV for inhalation. The NOEL TRV for asbestos was selected for mammals based on the results reported for amosite asbestos at 25 WHO f/cc. These results represent the most conservative values reported.

d. Table 2-3 of the Site's Screening Level Ecological Risk Assessment (Appendix B of the RI report) notes that the screening value for carbon disulfide was adjusted for carbon content using the total organic carbon concentration from the location used in the screening exercise. Given that the Screening-Level Ecological Risk Assessment was conducted after the current ESL (BTAG freshwater sediment screening level) was released in 2006, this table concludes that the ROD cleanup level for carbon disulfide in reservoir sediment is consistent with the BTAG freshwater sediment screening level of 0.851 µg/kg.

µg/kg = micrograms per kilogram
ESL = ecological screening level
f/cc = fibers per cubic centimeter
f/l = fibers per liter
MFL = million fibers per liter
mg/kg = milligrams per kilogram
ng/kg = nanograms per kilogram
WHO = World Health Organization

Table J-2: Human Health Screening Level Evaluation

COC	ROD Cleanup Level[a]					Current RSLs[b]		Is Current RSL More Stringent than ROD Cleanup Level?
Soil/Waste	Soil	Air (ABS)	Air (Ambient)	Reservoir Sediment	Reservoir Surface Water	Residential		
						Cancer-based	Non-cancer Based	
Asbestos[c]	--	0.04 f/cc (ABS) (PCME)	0.001 f/cc (PCME)	--	--	no RSL	no RSL	No
Bis(2-ethylhexyl)phthalate	925 µg/kg	--	--	--	--	39,000 µg/kg	1,300,000 µg/kg	No
Dioxins and furans	0.199 ng/kg	--	--	--	--	4.8 ng/kg[d]	51 ng/kg[d]	No
Chromium[e]	26 mg/kg	--	--	--	--	no RSL	120,000 mg/kg	No
Nickel	38 mg/kg	--	--	--	--	15,000 mg/kg	1,500 mg/kg	No
Zinc	104 mg/kg	--	--	--	--	no RSL	23,000 mg/kg	No
Reservoir								
Asbestos	--	--	--	--	0.0001 MFL	no RSLs exist MCL = 7 MFL[f]		No
Carbon disulfide	--	--	--	4.1 µg/kg	--	no RSL	770,000 µg/kg[g]	No

Notes:

a. Source: Table 42 of the ROD

b. November 2021 RSLs available at https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables.

c. Site-specific value calculated by EPA Region 3 toxicologist for asbestos in air based on human health risks (ROD Section 8.2.1).

d. Value for 2,3,7,8-TCDD.

e. Values in table are for the less toxic species of chromium (chromium III). The Site's remedial investigation did not conduct speciation studies to determine what forms of chromium were present, but noted that it is not likely that all of the chromium present was the more toxic species (chromium VI). Comparing the soil cleanup level (26 mg/kg) against the more stringent RSLs for chromium VI (residential soil screening levels of 0.3 mg/kg for cancer risk and 230 mg/kg for non-cancer hazard) shows that the cleanup level is within EPA's range of acceptable risk.

f. MCLs are available at https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations (accessed 3/2/2022).

g. RSL for soil.

µg/kg = micrograms per kilogram
f/cc = fibers per cubic centimeter
MCL = EPA Maximum Contaminant Level
MFL = million fibers per liter
mg/kg = milligrams per kilogram
ng/kg = nanograms per kilogram
WHO = World Health Organization

APPENDIX K – INSTITUTIONAL CONTROLS

Figure K-1: Park Parcel Environmental Covenant

DEED BK 6201 PG 02345 to 02354
INSTRUMENT # : 2020100163
RECORDED DATE: 11/18/2020 09:22:53 AM

5821065-00130

RECORDER OF DEEDS
MONTGOMERY COUNTY
Jeanne Sorg

One Montgomery Plaza
Swede and Airy Streets ~ Suite 303
P.O. Box 311 ~ Norristown, PA 19404
Office: (610) 278-3289 ~ Fax: (610) 278-3869

MONTGOMERY COUNTY ROD

OFFICIAL RECORDING COVER PAGE Page 1 of 10

Document Type:	Deed Miscellaneous	**Transaction #:**	6137827 - 1 Doc (s)
Document Date:	10/15/2020	**Document Page Count:**	9
Reference Info:		**Operator Id:**	charris

RETURN TO: (Mail)
RUDOLPH CLARKE LLC
7 NESHAMINY INTERPLEX DR
STE 200
TREVOSE, PA 19053

PAID BY:
RUDOLPH CLARKE LLC

*** PROPERTY DATA:**
Parcel ID #: 66-00-04408-00-8
Address: 40 W MT PLEASANT AVE

PA
Municipality:
School District:

*** ASSOCIATED DOCUMENT(S):**

FEES / TAXES:

Recording Fee:Deed Miscellaneous	$73.75
Additional Pages Fee	$10.00
Rejected Document Fee	$10.00
Total:	$93.75

DEED BK 6201 PG 02345 to 02354
Recorded Date: 11/18/2020 09:22:53 AM
I hereby CERTIFY that this document is recorded in the Recorder of Deeds Office in Montgomery County, Pennsylvania.

RECORDER'S OFFICE MONTGOMERY COUNTY PA

Jeanne Sorg
Recorder of Deeds

Rev1a 2016-01-29

PLEASE DO NOT DETACH

THIS PAGE IS NOW PART OF THIS LEGAL DOCUMENT

NOTE: If document data differs from cover sheet, document data always supersedes.
***COVER PAGE DOES NOT INCLUDE ALL DATA, PLEASE SEE INDEX AND DOCUMENT FOR ANY ADDITIONAL**

RECORDER OF DEEDS
MONTGOMERY COUNTY

2020 NOV 12 A 10: 53

When recorded, return to:
Robert D. Fox, Esq.
Manko, Gold, Katcher, and Fox LLP
401 City Avenue, Suite 901
Bala Cynwyd, PA 19004
484.430.2312
rfox@mankogold.com

The County Parcel Identification No. of the Property is: 66-00-04408-00-8
GRANTOR: Whitpain Township
PROPERTY ADDRESS: 40 W. Mt. Pleasant Avenue, Ambler, PA 19002

ENVIRONMENTAL COVENANT

This Environmental Covenant is executed pursuant to the Pennsylvania Uniform Environmental Covenants Act, Act No. 68 of 2007, 27 Pa. C.S. §§ 6501 – 6517 (UECA). This Environmental Covenant subjects the Property identified in Paragraph 1 to the activity and/or use limitations in this document. As indicated later in this document, this Environmental Covenant has been approved by the United States Environmental Protection Agency (EPA).

1. **Property affected**. The property affected (Property) by this Environmental Covenant is located in Whitpain Township, Montgomery County.

The postal street address of the Property is: 40 W. Mt. Pleasant Avenue, Ambler, Pennsylvania.
The latitude and longitude of the center of the Property affected by this Environmental Covenant is: Latitude: 40.156859; Longitude: -75.230235
The Property has been known by the following name(s): BoRit Asbestos Superfund Site Property – Park Parcel

The EPA ID # is: PAD981034887

A complete description of the Property is attached to this Environmental Covenant as **Exhibit A**. A map of the Property is attached to this Environmental Covenant as **Exhibit B**.

2. **Property Owner / GRANTOR/GRANTEE**. Whitpain Township is the owner of the Property and the GRANTOR and GRANTEE of this Environmental Covenant. This Environmental Covenant is binding on Grantor, its successors and assigns, all successors in title, and its tenants, occupants, or licensees. This Environmental Covenant is made pursuant to the Record of Decision issued by EPA on July 28, 2017 (ROD), a copy of which is attached hereto and incorporated by reference herein.

3. The mailing address for the owner is: Whitpain Township, 960 Wentz Road, Blue Bell, PA 19422.

MONTGOMERY COUNTY COMMISSIONERS REGISTRY
66-00-04408-00-8 WHITPAIN
40 W MT PLEASANT AVE
WHITPAIN TOWNSHIP
B 024 U 006 L 9940 DATE: 11/12/2020
$15.0
JU

1

4. **Description of Contamination & Remedy.**

- The Property is part of the BoRit Asbestos Superfund Site (Site) and is more commonly referred to as the Park Parcel.
- Starting as early as 1937, Keaseby & Mattison, a former owner of the Property, disposed of an estimated 195,000 cubic yards of out-of-specification asbestos manufacturing products and other solid wastes on the Property. Although used as a public park from at least 1973, the Property was officially closed to the public in September 1984.
- In April 2006, EPA's Site Assessment Program conducted sampling on the Park and Asbestos Pile parcels and found asbestos in the air, soil, surface water, and sediments at the Site. EPA continued to collect and analyze air, soil, surface water, and sediment samples throughout 2006 and 2007.
- In 2009, EPA listed the Site, which includes the Property, on the Superfund National Priorities List by publication in the Federal Register (74 Fed. Reg. 16126, April 9, 2009), due to the presence of groundwater contamination with hazardous substances, including volatile organic compounds, underlying portions of the Property.
- In April 2008, EPA initiated a Removal Action to address the most immediate environmental concerns at the Site. Between 2008 and 2017, all three parcels underwent a Removal Action to cover asbestos-containing material in accordance with applicable NESHAP regulations.
- While EPA's Removal Program conducted the Removal Action, EPA's Remedial Program concurrently performed a remedial investigation and feasibility study (RI/FS) based on pre-Removal conditions. After evaluating the alternatives and a 90-day public comment period, EPA issued a ROD on July 28, 2017, selecting a remedy for remediation of the Site (Selected Remedy). The Selected Remedy, which encompassed and enhanced the Removal Action at the Site, included all of the items performed during the Removal Action, as well as implementation of institutional controls, confirmation sampling, long term monitoring, O&M, and five-year reviews.
- The Selected Remedy has been implemented at the Site, and with respect to the Property, will be maintained by the Pennsylvania Department of Environmental Protection (Department) and Whitpain Township.

A complete description of the contamination and remedy at the Property is contained in the ROD, identified in Paragraph 2 of this Environmental Covenant. The administrative record pertaining to the ROD is located at the locations listed below:

EPA Administrative Records Room,
Attention: Administrative Coordinator
1650 Arch Street
Philadelphia, PA
(215) 814-3157

Wissahickon Valley Library Ambler Branch
209 Race Street
Ambler, PA 19002
(215) 646-1072

The administrative record is also available online at: https://semspub.epa.gov/src/collection/03/AR64805.

5. **Activity & Use Limitations**. The Property is subject to the following activity and use limitations, which the current and future owner(s) of the Property, and its tenants, agents, employees and other persons under its control, shall abide by:

(1) Activities or modifications that could disturb or otherwise adversely impact the two-foot soil cover on the capped areas are prohibited unless prior written approval from EPA, in consultation with the Department, is obtained authorizing the specific activity. Any proposed future use of the Site shall be reviewed by EPA, in consultation with the Department, to ensure that such activity will not adversely impact the Selected Remedy or compromise the protection of human health and the environment.

(2) Construction activities are prohibited unless prior written approval from EPA, in consultation with the Department, is obtained authorizing the specific activity. Prohibited construction activities include, but are not limited to, piling installation, dredging, drilling, digging, excavation, or use of heavy equipment in the capped areas.

(3) Any modifications to the drainage pattern on-Site are prohibited unless EPA, in consultation with the Department, determines that such activity will not adversely impact the Selected Remedy.

(4) Public access shall be restricted after significant weather events until the property has been inspected for any signs of damage or erosion, especially in the 100-year floodplain.

(5) The Selected Remedy will be protective for maintenance workers, recreational visitors, and commercial workers. Any other use of the parcels shall require further investigations and plans, which shall be reviewed and approved by EPA, in consultation with the Department.

(6) Maintain vegetation at stabilized stream banks.

(7) Trees are prohibited along the stream banks of Wissahickon Creek (where geocells were utilized to stabilize the slope), and on the stream banks of Rose Valley Creek and Tannery Run (where CCM[1] is present to stabilize the slope).

A complete description of activity and use limitations is contained in the ROD identified in Paragraph 2 of this Environmental Covenant.

6. **Notice of Limitations in Future Conveyances**. Each instrument hereafter conveying any interest in the Property subject to this Environmental Covenant shall contain a notice of the activity and use limitations and owner responsibilities set forth in this Environmental Covenant and shall provide the recorded location of this Environmental Covenant.

7. **Compliance Reporting**. By the end of every January following EPA's approval of this Environmental Covenant, the then current owner of the Property shall submit to EPA, the Department, and any Holder listed in Paragraph 3, written documentation stating whether or not the activity and use limitations in this Environmental Covenant are being abided by. Within thirty days after a) written

[1] Cable-concrete mats

request by EPA or Department, b) transfer of title of the Property or of any part of the Property affected by this Environmental Covenant, c) noncompliance with Paragraph 5 (Activity and Use Limitations), or application for a permit or approval for any building or site work that could affect contamination on any part of the Property, the then current owner shall send a report to EPA, the Department, and the Holder. The report shall state whether or not there is compliance with Paragraph 5. If there is noncompliance, the report will state the actions that will be taken to assure compliance.

8. **Access by EPA and the Department**. In addition to any rights already possessed by EPA and the Department, this Environmental Covenant grants to EPA, the Department, and those authorized by EPA and the Department, a right of reasonable access of the Property in connection with implementation or enforcement of this Environmental Covenant.

9. **Recording and Notification of Recording**. Within thirty days after the date of EPA's approval of this Environmental Covenant, the Property owner shall file this Environmental Covenant with the Recorder of Deeds for Montgomery County, and send a file-stamped copy of this Environmental Covenant to EPA and the Department within 90 days of EPA's approval of this Environmental Covenant. Within 90 days after this Environmental Covenant has been filed with the Recorder of Deeds for Montgomery County, the Property owner also shall send a file-stamped copy to each of the following:

- EPA;
- Whitpain Township;
- Montgomery County; and
- the Department.

10. **Termination or Modification**. This Environmental Covenant runs with the land unless terminated or modified in accordance with 27 Pa. C.S. §§ 6509 or 6510. The then current owner of the Property shall provide EPA with written notice of the pendency of any proceeding that could lead to a foreclosure, as referred to in 27 Pa. C.S. § 6509(a)(4), within seven calendar days of the owner's receiving notice of the pendency of such proceeding.

11. **EPA and the Department**

(a) Notification. The then current owner shall provide EPA and the Department with written notice of:

(1) the pendency of any proceeding that could lead to a foreclosure as referred to in 27 Pa. C.S. § 6509(a)(4), within seven calendar days of the owner's receiving notice of such pendency;

(2) any judicial action referred to in 27 Pa. C.S. § 6509(a)(5), within seven calendar days of the owner's receiving notice of such judicial action;

(3) any judicial action referred to in 27 Pa. C.S. § 6509(b), within seven calendar days of the owner's receiving notice of such judicial action; and

(4) termination or amendment of this Environmental Covenant pursuant to 27 Pa. C.S. § 6510, within seven calendar days of the owner's becoming aware of such termination or amendment.

(b) Enforcement. A civil action for injunctive or other equitable relief for violating this Environmental Covenant may be maintained by EPA or the Department.

12. **EPA and the Department's addresses**. Communications with EPA and the Department regarding this Environmental Covenant shall be sent to:

Timothy M. Gallagher, P.E., Remedial Project Manager
Superfund & Emergency Management Division
Eastern PA Remedial Section
United States Environmental Protection Agency – Region 3
1650 Arch Street
Philadelphia, PA 19103

Regional Manager, Environmental Cleanup
Pennsylvania Department of Environmental Protection
DEP Southeast Regional Office
2 East Main Street
Norristown, PA 19401.

13. **Severability**. The paragraphs of this Environmental Covenant shall be severable and should any part hereof be declared invalid or unenforceable, the remainder shall continue in full force and effect between the parties.

ACKNOWLEDGMENTS

WHITPAIN TOWNSHIP, Grantor/Grantee

Date: Oct. 19, 2020

ROMAN M. PRONCZAK
Whitpain Township Manager
960 Wentz Road
Blue Bell, PA 19422
(610) 277-2400

COMMONWEALTH OF PENNSYLVANIA)
)
COUNTY OF MONTGOMERY) SS:

On this 19th day of October, 2020, before me, the undersigned officer, personally appeared ROMAN M. PRONCZAK who acknowledged himself to be the Whitpain Township Manager and the person whose name is subscribed to this Environmental Covenant, and acknowledged that he executed same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

Notary Public

Commonwealth of Pennsylvania - Notary Seal
Virginia M. Papale, Notary Public
Montgomery County
My commission expires September 24, 2022
Commission number 1285909
Member, Pennsylvania Association of Notaries

APPROVED, by the United States Environmental Protection Agency

Date: October 15, 2020

Paul Leonard, Director
Superfund & Emergency Management Division
US Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103

COMMONWEALTH OF PENNSYLVANIA)
)
COUNTY OF Philadelphia) SS:

On this 15 day of October, 2020, before me, the undersigned officer, personally appeared Paul Leonard, Director of the Superfund Emergency and Management Division, U.S. Environmental Protection Agency, Region III, and whose name is subscribed to this Environmental Covenant, and acknowledged that he freely executed the same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

Bettina L Dunn
Notary Public

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
BETTINA L. DUNN, Notary Public
City of Philadelphia, Phila. County
My Commission Expires December 17, 2020

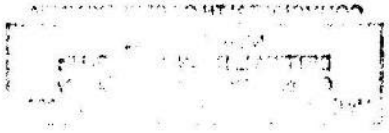


EXHIBIT "A"

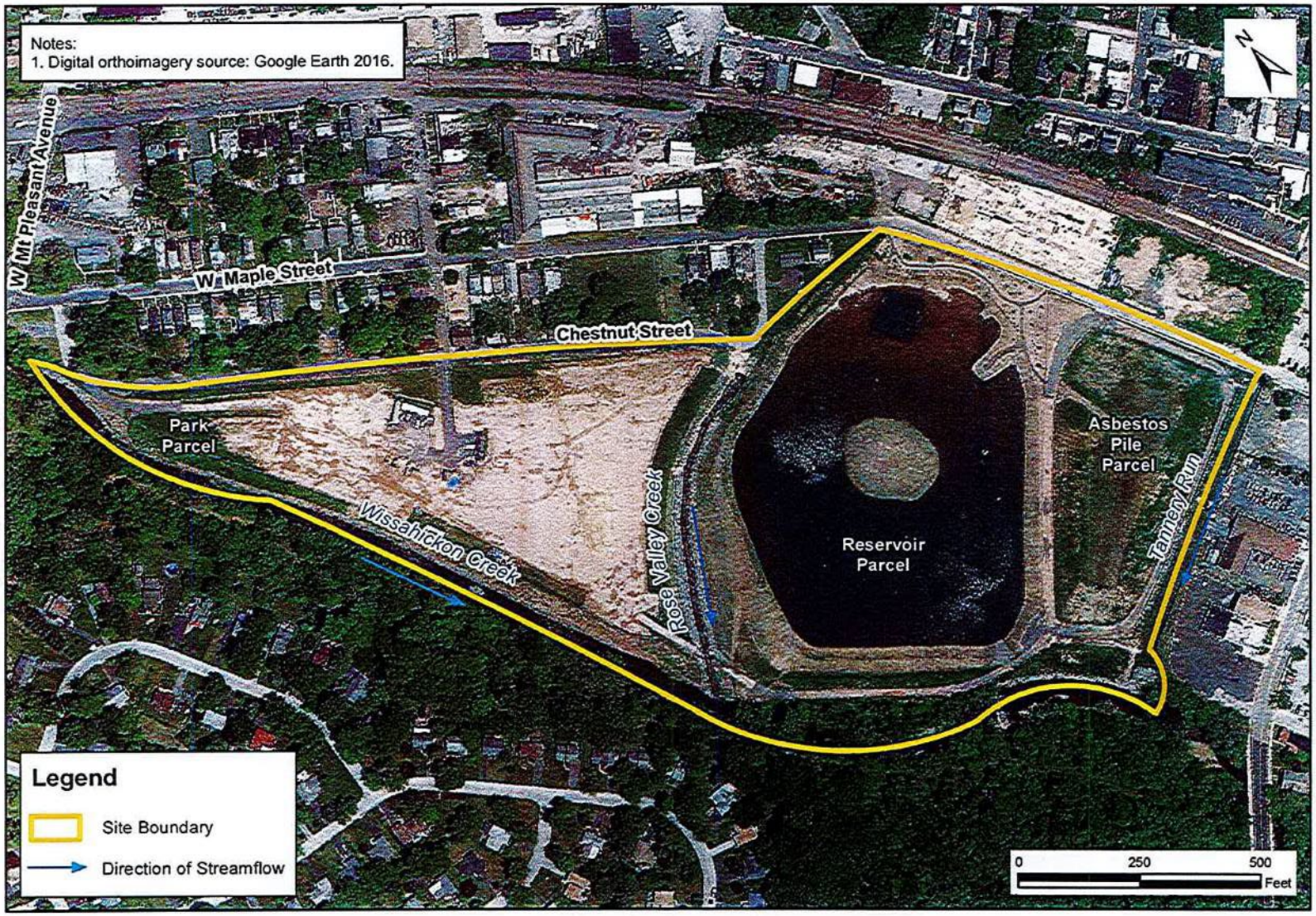
ALL THAT CERTAIN piece or parcel of ground Situate in Whitpain Township, Montgomery County, Pennsylvania and described according to a Lot Location Plan made for Keasbey and Mattison Co. by C. Raymond Weir Associates, Ind. dated November 14, 1962 as follows, to wit:

BEGINNING at a point formed by the intersection of the center line of Mt. Pleasant Avenue (33 feet wide) with the center line of Maple Avenue (40 feet wide) thence extending from said point of beginning South 48 degrees 32 minutes East along the center line of Maple Avenue crossing a certain Sanitary Sewer, as shown on said Plan, 204.73 feet to a point; thence extending South 39 degrees 18 minutes West crossing the Southwesterly side of Maple Avenue 171.44 feet to an iron pin; thence extending South 47 degrees 28 minutes East 57.04 feet to an iron pin on the Northeasterly side of a certain 20.00 feet wide Alley; thence extending South 42 degrees 39 minutes West crossing the head of the aforesaid 20.00 feet wide Alley, crossing the bed of Wissahickon Creek, crossing another Sanitary Sewer as shown on said Plan 249.22 feet to an old iron pin; thence extending North 18 degrees 43 minutes West partly along lands now or late of Whitpain Properties, Inc. and lands now or later of Arthur Lefkon crossing the Southeasterly side of Mt. Pleasant Avenue aforesaid 415.05 feet to a point in the center line of same; thence extending North 65 degrees 44 minutes East along the center line of Mt. Pleasant Avenue recrossing the aforesaid last above mentioned Sanitary Sewer also recrossing the bed of the aforesaid Wissahickon Creek 235.67 feet to the first mentioned point of intersection and place of beginning.

BEING the same premises which by Deed dated December 20, 1962 and recorded in Montgomery County, in Deed Book 3272, page 549, Keasby & Mattison Company, a Pennsylvania corporation, conveyed to Whitpain Township Municipal Improvement Authority, in fee.

BEING Parcel No. 66-00-04408-00-8.

TOGETHER with all and singular the rights, liberties, privileges, hereditaments and appurtenances whatsoever thereunto belonging, or in any wise appertaining, and the reversions and remainders, rents, issues and profits thereof; and also, all the estate, right, title, interest, property claim and demand whatsoever, of them, the said Grantor in law, or equity, or otherwise howsoever, of, in to, or out of the same.



CDM Smith

BoRit Asbestos Superfund Site
Ambler, Pennsylvania

Figure 1
Site Map

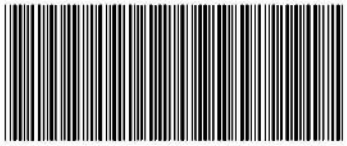
EXHIBIT "B"

Figure K-2: Reservoir Parcel Environmental Covenant

RECORDER OF DEEDS
MONTGOMERY COUNTY
Jeanne Sorg

One Montgomery Plaza
Swede and Airy Streets ~ Suite 303
P.O. Box 311 ~ Norristown, PA 19404
Office: (610) 278-3289 ~ Fax: (610) 278-3869

DEED BK 6284 PG 01671 to 01684
INSTRUMENT # : 2022059151
RECORDED DATE: 05/27/2022 12:47:58 PM



6112541-0024J

MONTGOMERY COUNTY ROD

OFFICIAL RECORDING COVER PAGE Page 1 of 14

Document Type:	Deed Miscellaneous	**Transaction #:**	6593873 - 1 Doc(s)
Document Date:	03/16/2022	**Document Page Count:**	13
Reference Info:		**Operator Id:**	dkrasley

RETURN TO: (Simplifile)
Timoney Knox, LLP
400 Maryland Dr
Fort Washington, PA 19034-2502
(215) 646-6000

PAID BY:
TIMONEY KNOX LLP

*** PROPERTY DATA:**

Parcel ID #:	54-00-11581-00-2	66-00-04409-00-7
Address:	MAPLE AVE	W MT PLEASANT AVE
	PA	PA
Municipality:	Upper Dublin Township (100%)	Whitpain Township (0%)
School District:	Upper Dublin	Wissahickon

*** ASSOCIATED DOCUMENT(S):**

FEES / TAXES:

Recording Fee:Deed Miscellaneous	$73.75
Additional Pages Fee	$18.00
Additional Parcels Fee	$15.00
Unique Muni Fee	$5.50
Total:	$112.25

DEED BK 6284 PG 01671 to 01684
Recorded Date: 05/27/2022 12:47:58 PM

I hereby CERTIFY that this document is recorded in the Recorder of Deeds Office in Montgomery County, Pennsylvania.

Jeanne Sorg
Recorder of Deeds

Rev1 2016-01-29

PLEASE DO NOT DETACH

THIS PAGE IS NOW PART OF THIS LEGAL DOCUMENT

NOTE: If document data differs from cover sheet, document data always supersedes.
***COVER PAGE DOES NOT INCLUDE ALL DATA, PLEASE SEE INDEX AND DOCUMENT FOR ANY ADDITIONAL INFORMATION**

MONTGOMERY COUNTY COMMISSIONERS REGISTRY
54-00-11581-00-2 UPPER DUBLIN TOWNSHIP
MAPLE AVE
WISSAHICKON WATERFOWL PRESERVE $15.00
B 035 L U 006 5910 05/25/2022 JH

MONTGOMERY COUNTY COMMISSIONERS REGISTRY
66-00-04409-00-7 WHITPAIN TOWNSHIP
W MT PLEASANT AVE
WISSAHICKON WATERFOWL PRESERVE $15.00
B 024 L U 027 5910 05/25/2022 JH

When recorded, return to:
Timothy J. Bergere, Esq.
Armstrong Teasdale LLP
2005 Market Street, 29th Floor
One Commerce Square
Philadelphia, PA 19103
TBergere@atllp.com

The County Parcel Identification Nos. of the Property are: 54-00-11581-00-2 and 66-00-04409-00-7
GRANTOR: Wissahickon Waterfowl Preserve; GRANTEE: Wissahickon Waterfowl Preserve
PROPERTY ADDRESS: 356 Maple Street, Ambler, PA 19002
Dated: March 16, 2022

ENVIRONMENTAL COVENANT

This Environmental Covenant is executed pursuant to the Pennsylvania Uniform Environmental Covenants Act, Act No. 68 of 2007, 27 Pa. C.S. §§ 6501 – 6517 (UECA). This Environmental Covenant subjects the Property identified in Paragraph 1 to the activity and/or use limitations in this document. As indicated later in this document, this Environmental Covenant has been approved by the United States Environmental Protection Agency (EPA) and the Pennsylvania Department of Environmental Protection (the Department), collectively the Agencies.

1. **Property Affected**. The property affected by this Environmental Covenant (Property) is located in Whitpain Township and Upper Dublin Township, Montgomery County. The Property is part of the BoRit Asbestos Superfund Site.

- The postal street address of the Property is: 356 Maple Street in Ambler, Pennsylvania.
- The latitude and longitude of the center of the Property affected by this Environmental Covenant is: Latitude: 40.1545528; Longitude: -75.228222.
- The Property has been known by the following name(s): BoRit Asbestos Superfund Site– Reservoir Parcel.

- The EPA Site ID # is: PAD981034887

- The Department's eFACTS Primary Facility ID# for the Site is: 618307

A complete description of the Property is attached to this Environmental Covenant as **Exhibit A**. A map of the Property is attached to this Environmental Covenant as **Exhibit B**.

2. **Property Owner / GRANTOR/GRANTEE**. Wissahickon Waterfowl Preserve is the owner of the Property and the GRANTOR and GRANTEE, and a "Holder," as that term is defined in 27 Pa. C.S. § 6502, of this Environmental Covenant.

3. **Mailing Address**. The mailing address for the owner is: Wissahickon Waterfowl Preserve, c/o Wissahickon Trails, 12 Morris Road, Ambler, PA 19002-5499.

4. **Description of Contamination & Remedy**.

- The Property is one of three parcels that comprise the BoRit Asbestos Superfund Site (Site): (i) the Asbestos Pile Parcel, (ii) the Park Parcel, and (iii) the Reservoir Parcel. The Property subject to this Environmental Covenant is identified and referred to as the Reservoir Parcel in EPA's documents for the Site. This Environmental Covenant is made pursuant to the Record of Decision issued by EPA on July 28, 2017 (ROD), a copy of which can be found at https://semspub.epa.gov/work/03/2244733.pdf.
- The Property was formerly owned and used by Keasbey & Mattison to provide process water for its adjacent manufacturing facility. The berm around the reservoir was constructed of asbestos-containing shingles, asbestos-containing millboard, and soil. Other asbestos-containing products manufactured by Keasbey & Mattison, including water pipes and tiles, were observed surrounding the reservoir and along or within the adjoining stream banks.
- In 2009, EPA listed the Site, which includes the Property, on the Superfund National Priorities List by publication in the Federal Register (74 Fed. Reg. 16126, April 9, 2009), due to the presence of asbestos-containing materials exposed on the ground surface at the Property.
- In April 2008, EPA initiated a Removal Action to address certain immediate environmental concerns. Between 2008 and 2017, all three Site parcels underwent a Removal Action to manage asbestos-containing material in accordance with applicable National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations. The stream banks along the Rose Valley and Wissahickon Creeks were stabilized, and both the Asbestos Pile and Park parcels were capped. The reservoir was drained before the berms were covered with a geotextile fabric, a minimum of two feet of clean material, and a layer of topsoil to support a vegetative cover (on the berms). Certain areas of the reservoir berm include up to ten feet of clean material. Cover installation on the reservoir bottom was completed in October 2015 and included a geotextile fabric and a minimum of two feet of clean material. The reservoir was refilled after this work was completed.

- While EPA's Removal Program conducted the Removal Action, EPA's Remedial Program concurrently performed a remedial investigation and feasibility study (RI/FS) based on pre-Removal conditions. After evaluating the alternatives and a 90-day public comment period, EPA issued a ROD on July 28, 2017, selecting a remedy for remediation of the Site (the Selected Remedy). The Selected Remedy, which encompassed and enhanced the Removal Action at the Site, included all of the items performed during the Removal Action, as well as implementation of institutional controls, confirmation sampling, long-term monitoring, Operation and Maintenance (O&M), and five-year reviews.
- The Selected Remedy has been implemented at the Site, and with respect to the Property, will be maintained by the Pennsylvania Department of Environmental Protection (Department) and Wissahickon Waterfowl Preserve (as provided herein).

A complete description of the contamination on the Property and the Selected Remedy for the Site are contained in the ROD. The administrative record pertaining to the ROD is available at the Wissahickon Valley Library Ambler Branch, 209 Race Street, Ambler, PA 19002, (215) 646-1072. The administrative record is also available online at: https://semspub.epa.gov/src/collection/03/AR64805.

5. **Activity and Use Limitations**. The Property is subject to the following activity and use limitations, as set forth in Section 13.2.6 of the ROD, which the current and future owner(s) of the Property, and its tenants, agents, employees and other persons under its control, shall abide by:

a. Activities or modifications that could disturb or otherwise adversely impact the two-foot soil cover on the capped areas are prohibited unless prior written approval from EPA, in consultation with the Department, is obtained authorizing the specific activity. Any proposed future use of the Property shall be reviewed by EPA, in consultation with the Department, to ensure that such activity will not adversely impact the Selected Remedy or compromise the protection of human health and the environment.

b. Construction activities are prohibited unless prior written approval from EPA, in consultation with the Department, is obtained authorizing the specific activity. Prohibited construction activities include, but are not limited to, piling installation, dredging, drilling, digging, excavation, or use of heavy equipment in the capped areas.

c. Any modifications to the drainage pattern on the Property are prohibited unless EPA, in consultation with the Department, determines that such activity will not adversely impact the Selected Remedy.

d. Public access shall be restricted after significant weather events until the Property has been inspected for any signs of damage or erosion, especially in the 100-year floodplain.

e. The Selected Remedy will be protective for maintenance workers, recreational visitors, and commercial workers. Any other use of the parcels shall require further investigations and plans, which shall be reviewed and approved by EPA, in consultation with the Department.

f. Maintain vegetation at stabilized stream banks.

g. Maintain suitable vegetation and/or water levels on the capped areas of the Property (berms and reservoir floor) to ensure protection from erosion.

h. Trees are prohibited along the berm of the reservoir adjacent to the Wissahickon Creek.

6. **O&M Activities**. The then current owner of the Property shall perform the following O&M activities on the Property, which are described more fully in the EPA Final O&M Plan (O&M Plan) for the Site, which can be found at https://semspub.epa.gov/work/03/2309972.pdf.

a. Inspect the reservoir berm, at least quarterly, and remove any tree growth before such trees exceed 2-inches in diameter (determined at breast height), in accordance with Section 2.2.1.2 of the O&M Plan.

b. Inspect the Property for any erosion, animal burrows, debris, or asbestos-containing materials in accordance with Section 2.2.1.2 of the O&M Plan.

c. Inspect the integrity of stream bank stabilization for Rose Valley Creek, in accordance with Section 2.2.2 of the O&M Plan.

d. Restrict access to the public after significant weather event, and within 48 hours after such significant weather event, pending safe access to the Property, inspect the Property, in accordance with Section 2.2.3 of the O&M Plan.

e. Repair minor breaches to the soil cap that are due to general wear and tear (e.g., rutting, depressions, damage to grass) that do not require additional excavation of contaminated soil, in accordance with Section 2.3.1 of the O&M Plan.

f. Maintain vegetation (i.e., grass and plants) and trees, in accordance with Section 2.3.3 of the O&M Plan.

g. Repair breaches to protective covers due to underground utility modifications/repairs, in accordance with Section 2.3.4 of the O&M Plan.

h. Prepare and submit routine reports (e.g., quarterly inspection reports, annual O&M reports), as identified in Section 4.1 of the O&M Plan.

i. Prepare and submit special reports, as needed (i.e., unforeseen events/conditions), and identified in Section 4.2 of the O&M Plan.

7. **Notice of Limitations in Future Conveyances**. Each instrument hereafter conveying any interest in the Property subject to this Environmental Covenant shall contain a notice of the activity and use limitations and owner responsibilities set forth in this Environmental Covenant and shall provide the recorded location of this Environmental Covenant.

8. **Compliance Reporting**. After written request by either EPA or the Department, the then current owner of the Property shall submit to the Agencies written documentation stating whether or not the activity and use limitations and the O&M activities in this Environmental Covenant are being abided by. In addition, within one (1) month after any of the following events, the then current owner of any of the Properties shall submit to both Agencies written documentation of: (i) noncompliance with Paragraph 5 (Activity and Use Limitations) and/or Paragraph 6 (O&M Activities); (ii) transfer of the Property; (iii) changes in use of the Property; or (iv) the filing of applications for building permits for the Property and any proposals for any construction work on the Property, if the building or proposed construction work may affect the contamination or the remedial action on the Property, as described in Paragraph 4.

9. **Access by the Agencies**. In addition to any rights already possessed by EPA and the Department, this Environmental Covenant grants to the Agencies, and those authorized by the Agencies, a right of reasonable access to the Property, in connection with implementation or enforcement of this Environmental Covenant and the effectiveness of the Selected Remedy.

10. **Recording and Notification of Recording**. Within thirty days after the date of EPA's approval of this Environmental Covenant, the Wissahickon Waterfowl Preserve shall file this Environmental Covenant with the Recorder of Deeds for Montgomery County, and send a file-stamped copy of this Environmental Covenant to the Agencies within 90 days of EPA's approval of this Environmental Covenant. Within 90 days after this Environmental Covenant has been filed with the Recorder of Deeds for Montgomery County, the Wissahickon Waterfowl Preserve shall send a file-stamped copy to each of the following: Whitpain Township; Upper Dublin Township; Montgomery County, PA; and any other persons as required by EPA.

11. **Termination or Modification**.

a. This Environmental Covenant runs with the land unless terminated or modified in accordance with 27 Pa. C.S. §§ 6509 or 6510, or other applicable law. The then current owner of the Property shall provide EPA and the Department with written notice of the pendency of any proceeding that could lead to a foreclosure, as referred to in 27 Pa. C.S. § 6509(a)(4), within seven calendar days of the owner's receiving notice of the pendency of such proceeding.

b. In accordance with 27 Pa. C.S. § 6510(a)(3)(i), Grantor hereby waives the right to consent to any amendment or termination of the Environmental Covenant by consent; it being intended that any amendment to or termination of this Environmental Covenant by consent in accordance with this Paragraph requires only the following signatures on the instrument amending or terminating this Environmental Covenant: (i) the Holder at the time of such amendment or termination; (ii) the then current owner of the Property; and (iii) EPA.

12. **EPA and the Department**

(a) Notification. The then current owner shall provide the Agencies with written notice of:

(1) the pendency of any proceeding that could lead to a foreclosure as referred to in 27 Pa. C.S. § 6509(a)(4), within seven calendar days of the owner's receiving notice of such pendency;

(2) any judicial action referred to in 27 Pa. C.S. § 6509(a)(5), within seven calendar days of the owner's receiving notice of such judicial action;

(3) any judicial action referred to in 27 Pa. C.S. § 6509(b), within seven calendar days of the owner's receiving notice of such judicial action; and

(4) termination or amendment of this Environmental Covenant pursuant to 27 Pa. C.S. § 6510, within seven calendar days of the owner's becoming aware of such termination or amendment.

(b) Enforcement. A civil action for injunctive or other equitable relief for violating this Environmental Covenant may be maintained by the Department or by the Attorney General of the United States, on behalf of EPA. In addition, the Department and EPA reserve their regulatory authorities under any law to enforce the activity and use limitations described in Paragraph 5, above.

13. **EPA and the Department's Addresses**. Communications with EPA and the Department regarding this Environmental Covenant shall be sent to:

HSCA Group Manager
Pennsylvania Department of Environmental Protection
DEP Southeast Regional Office
2 East Main Street
Norristown, PA 19401.
484.250.5960
RA-EP-SEROECB@pa.gov

Remedial Project Manager – BoRit Asbestos
United States Environmental Protection Agency – Region III
Superfund Emergency and Management Division

Until May 1, 2022:	*After May 1, 2022:*
1650 Arch Street	1600 John F. Kennedy Boulevard
Philadelphia, PA 19103	Philadelphia, PA 19103

14. **Severability**. The paragraphs of this Environmental Covenant shall be severable and should any part hereof be declared invalid or unenforceable, the remainder shall continue in full force and effect between the parties.

ACKNOWLEDGMENTS by Owners/Grantor and Holder/Grantee in the following form:

WISSAHICKON WATERFOWL PRESERVE,
Owner/Grantor/Holder/Grantee

Date: March 16, 2022

David Froehlich
DAVID FROEHLICH
President
Wissahickon Waterfowl Preserve, Inc.
12 Morris Road
Ambler, PA 19002

COMMONWEALTH OF PENNSYLVANIA)
)
COUNTY OF Bucks) SS:

On this 16 day of March, 2022, before me, the undersigned officer, personally appeared David Froehlich, who acknowledged himself to be the President of the Wissahickon Waterfowl Preserve, Inc., whose name is subscribed to this Environmental Covenant, and acknowledged that he executed same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

COMMONWEALTH OF PENNSYLVANIA - NOTARY SEAL
Kevin Moore, NOTARY PUBLIC
Montgomery County
My Commission Expires 08/28/2025
Commission Number 1277481

Notary Public

APPROVED, by the United States Environmental Protection Agency:

Date: 03-23-22

Paul Leonard, Director
Superfund and Emergency Management Division
US Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103

COMMONWEALTH OF PENNSYLVANIA)
) SS
COUNTY OF Philadelphia)

On this 23 day of March, 2022, before me, the undersigned officer, personally appeared Paul Leonard, who acknowledged himself to be the Director of the Superfund and Emergency Management Division of the U.S. Environmental Protection Agency, Region III, whose name is subscribed to this Environmental Covenant, and acknowledged that he freely executed the same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

Bettina L Dunn
Notary Public

Commonwealth of Pennsylvania - Notary Seal
BETTINA L. DUNN, Notary Public
Philadelphia County
My Commission Expires December 17, 2024
Commission Number 1273658

APPROVED, by Commonwealth of Pennsylvania, Department of Environmental Protection

Date: 03-17-2022 By: _____

Name: Ragesh R. Patel
Title: Environmental Cleanup & Brownfields Program Manager of the Commonwealth of Pennsylvania, Department of Environmental Protection, Southeast Regional Office

COMMONWEALTH OF PENNSYLVANIA)
) SS
COUNTY OF Montgomery)

On this 17th day of March, 2022, before me, the undersigned officer, personally appeared Ragesh R. Patel, who acknowledged himself to be the Environmental Cleanup & Brownfields Program Manager of the Commonwealth of Pennsylvania, Department of Environmental Protection, Southeast Regional Office, whose name is subscribed to this Environmental Covenant, and acknowledged that he executed same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

_____
Notary Public

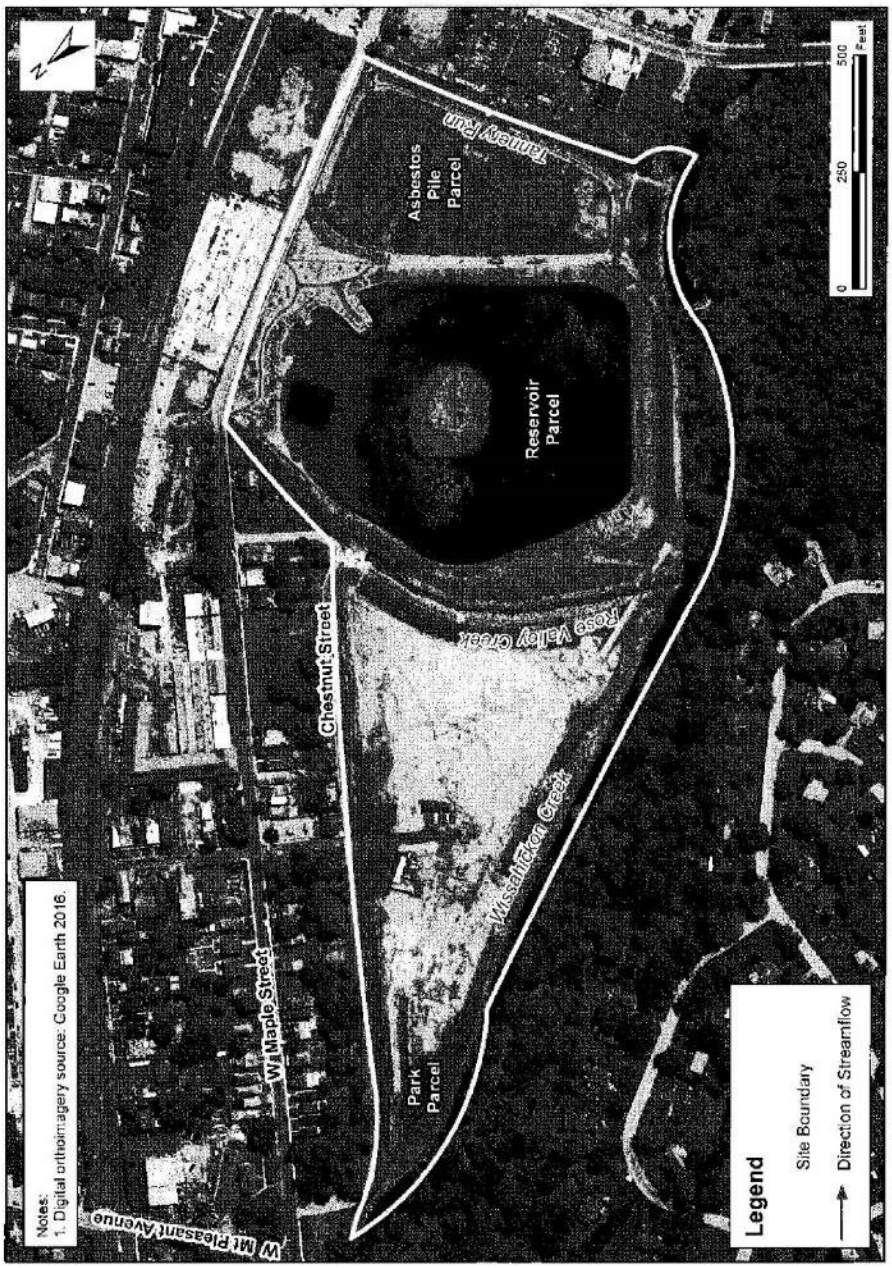
Commonwealth of Pennsylvania - Notary Seal
Vanetta Bouknight Ross, Notary Public
Montgomery County
My commission expires December 1, 2025
Commission number 1193448
Member, Pennsylvania Association of Notaries

Exhibit A

BEGINNING at a point in the center line of Maple Avenue (40 feet wide), said point being at the distance of 727.10 feet measured North 20 degrees 21 minutes West along the center line of Maple Avenue from its point of intersection with a line in the bed of Butler Avenue (50 feet wide); thence extending from said point of beginning South 50 degrees 04 minutes 30 seconds West crossing the Southwesterly side of Maple Avenue partly along the Southeasterly side of a certain 10 feet wide right of way, also crossing a certain 24 inch pipe easement 225.85 feet to an iron pin; thence extending along the aforesaid 10 feet wide right of way the three following courses and distances: (1) South 45 degrees 29 minutes 30 seconds West 260.07 feet to a point, (2) South 48 degrees 43 minutes 56 seconds West crossing the Borough Line dividing the Borough of Ambler and Upper Dublin Township 184.74 feet to an iron pin and (3) South 46 degree 50 minutes 15 seconds West crossing a certain 10 inch pipe easement, also crossing an electric power line easement, also crossing the bed of Wissahickon Creek 235.46 feet to a point in line of lands now or late of Louise Brown; thence extending North 59 degrees 50 minutes 30 seconds West along the aforesaid lands of Brown crossing the bed of the aforesaid 10 feet wide right of way, also crossing a stream 505.60 feet to an iron pin, a corner of lands now or late of Whitpain Properties, Inc.; thence extending along the aforesaid lands of Whitpain Properties, Inc., the two following courses and distances: (1) North 40 degrees 15 minutes East recrossing the Southwesterly side of Wissahickon Creek 168.30 feet to a point in the bed of said Creek and (2) North 35 degrees 47 minutes West crossing the approximate Township line dividing Upper Dublin Township and Whitpain Township through the bed of Wissahickon Creek 64.77 feet to a point on the Southeasterly side of a certain 20 feet wide right of way for Keasby and Mattison Company; thence extending along the aforesaid 20 feet wide right of way the seven following courses and distances: (1) North 40 degrees 15 minutes East recrossing the Northeasterly side of Wissahickon Creek along lands now of late of Whitpain Township Muncipal Improvements Authority 63.08 feet to a point, (2) North 35 degrees 47 minutes West still along the aforesaid lands of Whitpain Township Muncipal Improvement Authority 47.11 feet to a point, (3) North 27 degrees 13 minutes East, still along the last mentioned lands 191.61 feet to a point, (4) North 36 degrees 15 minutes East still along the last mentioned lands 200.72 feet to a point, (5) North 68 degrees 30 minutes East still along the last mentioned lands and partly through the bed of Rose Valley creek 203 feet to an iron pin on the Southwesterly side of North Chestnut Street (vacated), (6) North 79 degrees 09 minutes East partly through the bed of the aforesaid Rose Valley Creek and recrossing the Southeasterly side of same, also along the Southeasterly side of North Chestnut Street (vacated) 171.47 feet to a point on the approximate Township line dividing Upper Dublin Township and Whitpain Township and (7) North 44 degrees 30 minutes East along die Southeasterly side of North Chestnut Street (40 feet wide) along the aforesaid approximate Township line dividing Upper Dublin Township and Whitpain Township 32.95 feet to a point, a corner of lands now or late of Gregorio Marincola; thence extending along the aforesaid lands of Marincola the two following courses and distances: (1) South 80 degrees 55 minutes East 172.18 feet to a point and (2) North 42 degrees 32 minutes East recrossing the Southwesterly side of Maple Avenue 76 feet to a point in the center line of same; thence extending along the center line of Maple Avenue the two following courses and distances: (1) South 47 degrees 28 minutes East recrossing the aforesaid 24 inch pipe easement 133.72 feet to a point, an angle in Maple Avenue and (2) South 20 degrees 21 minutes East recrossing the Borough Line dividing the Borough of Ambler and Upper Dublin Township 332.85 feet to the first mentioned point and place of beginning.

CONTAINING in area 15.047 acres, more or less.

Exhibit B


Notes:
1. Digital orthoimagery source: Google Earth 2016.
W Mt Pleasant Avenue
W Maple Street
Chestnut Street
Park Parcel
Wissahickon Creek
Rose Valley Creek
Reservoir Parcel
Asbestos Pile Parcel
Tannery Run
0
250
500
Feet
Legend
Site Boundary
Direction of Streamflow
N
CDM Smith
BoRit Asbestos Superfund Site
Ambler, Pennsylvania
Figure 1
Site Map

pennsylvania (EX) MOD-06-15 (FI)

1830019105

RECORDER'S USE ONLY
State Tax Paid:
Book: Page:
Instrument Number:
Date Recorded:

REV-183

BUREAU OF INDIVIDUAL TAXES
PO BOX 280603
HARRISBURG, PA 17128-0603

REALTY TRANSFER TAX STATEMENT OF VALUE

COMPLETE EACH SECTION

SECTION I TRANSFER DATA

Date of Acceptance of Document					
05/18/2022					
Grantor(s)/Lessor(s)	Telephone Number		Grantee(s)/Lessee(s)	Telephone Number	
Wissahickon Waterfowl Preserve			Wissahickon Waterfowl Preserve		
Mailing Address			Mailing Address		
12 Morris Road			12 Morris Road		
City	State	ZIP Code	City	State	ZIP Code
Ambler	PA	19002	Ambler	PA	19002

SECTION II REAL ESTATE LOCATION

Street Address	City, Township, Borough	
356 Maple Street	Upper Dublin and Whitpain Township	
County	School District	Tax Parcel Number
Montgomery	Upper Dublin and Wissahickon	540011581002 and 660004409007

SECTION III VALUATION DATA

Was transaction part of an assignment or relocation? ○ YES ● NO

1. Actual Cash Consideration	2. Other Consideration	3. Total Consideration
0.00	+ 0.00	= 0.00
4. County Assessed Value	5. Common Level Ratio Factor	6. Computed Value
41,360.00	x 2.24	= 92,646.00

SECTION IV EXEMPTION DATA - Refer to instructions for exemption status.

1a. Amount of Exemption Claimed	1b. Percentage of Grantor's Interest in Real Estate	1c. Percentage of Grantor's Interest Conveyed
$ 92,646.00	100 %	0 %

2. Fill in the Appropriate Oval Below for Exemption Claimed.

- ○ Will or intestate succession. _____ (Name of Decedent) _____ (Estate File Number)
- ○ Transfer to a trust. (Attach complete copy of trust agreement and all amendments.)
- ○ Transfer from a trust. (Attach complete copy of trust agreement and all amendments.)
- ○ Transfer between principal and agent/straw party. (Attach complete copy of agency/straw party agreement.)
- ○ Transfers to the commonwealth, the U.S. and instrumentalities by gift, dedication, condemnation or in lieu of condemnation. (If condemnation or in lieu of condemnation, attach copy of resolution.)
- ○ Transfer from mortgagor to a holder of a mortgage in default. (Attach copy of mortgage and note/assignment.)
- ○ Corrective or confirmatory deed. (Attach complete copy of the deed to be corrected or confirmed.)
- ○ Statutory corporate consolidation, merger or division. (Attach copy of articles.)
- ● Other (Provide a detailed explanation of exemption claimed. If more space is needed attach additional sheets.)

Environmental Covenant

SECTION V CORRESPONDENT INFORMATION - All inquiries may be directed to the following person:

Name		Telephone Number
Catherine M. Harper, Esquire		(215) 646-6000
Mailing Address	City	State / ZIP Code
400 Maryland Drive, P.O. Box 7544	Ft. Washington	PA 19034

Under penalties of law, I declare that I have examined this statement, including accompanying information, and to the best of my knowledge and belief, it is true, correct and complete.

Signature of Correspondent or Responsible Party — Date 5.24.2022

FAILURE TO COMPLETE THIS FORM PROPERLY OR ATTACH REQUESTED DOCUMENTATION MAY RESULT IN THE RECORDER'S REFUSAL TO RECORD THE DEED.

1830019105 1830019105

PAGE 1

Figure K-3: Asbestos Pile Parcel Administrative Order

Prepared By: Adam N. Bram, Supervisory Counsel Com. of Pennsylvania, PADEP, SERO Office of Chief Counsel 2 East Main Street Norristown, PA 19401 Return To: Adam N. Bram, Supervisory Counsel Com. of Pennsylvania, PADEP, SERO Office of Chief Counsel 2 East Main Street Norristown, PA 19401 (484) 250-5930 Parcel # 01-00-02939-00-3 Parcel # 54-00-11581-20-9	Montgomery County SEP 2 3 2021 Recorder of Deeds

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the Matter Of:	:	**Hazardous Site Cleanup Act**
	:	**Section 512 Order**
Kane Core, Inc.	:	**Section 1102 Order**
c/o Griggs Properties	:	
519 Main Street, Suite C	:	
Royersford, PA 19468	:	**BoRit Asbestos Superfund Site**
	:	**Asbestos Piles Parcel**
and	:	**Tax Parcel Number 01-00-02939-00-3**
	:	**Tax Parcel Number 54-00-11581-20-9**
Montgomery County Recorder of Deeds	:	
One Montgomery Plaza, 3rd Floor,	:	
Suite 303		
Norristown, PA 19404		

ADMINISTRATIVE ORDER

The Commonwealth of Pennsylvania, Department of Environmental Protection ("Department") hereby issues this Administrative Order pursuant to Sections 503, 512, and 1102 of the Pennsylvania Hazardous Sites Cleanup Act ("HSCA"), 35 P.S. §§ 6020.503, 6020.512, and 6020.1102, based upon the following:

FINDINGS

NOW, this 23rd day of September 2021, the Department has found and determined the following:

A. The Department is the agency of the Commonwealth with the duty and authority to administer and implement the provisions of HSCA, 35 P.S. §§ 6020.101 et seq., the Land Recycling and Environmental Remediation Standards Act ("Act 2"), 35 P.S. §§ 6026.101 et seq., Section 1917-A of the Administrative Code of 1929, P.L. 177, as amended, 71 P.S. § 510-17 ("Administrative Code"), and the rules and regulations promulgated thereunder. The Department is also the agency of the Commonwealth vested with the duty and authority to participate with the United States Environmental Protection Agency ("EPA") in implementing and enforcing the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. §§ 9601 et seq., and the rules and regulations promulgated thereunder. See 35 P.S. § 6020.301(2).

B. The BoRit Asbestos Piles Superfund Site ("Site") is a "site" within the meaning of Section 103 of HSCA, 35 P.S. § 6020.103, as defined therein, and a "facility" within the meaning of Section 101 of CERCLA, 42 U.S.C. § 9601. The Site is located in the Borough of Ambler, Upper Dublin Township, and Whitpain Township in Montgomery County, Pennsylvania. The Site includes three adjacent parcels (the Park parcel, the Reservoir parcel, and the Asbestos Pile parcel) near the intersection of West Maple Street and Butler Pike.

1. The Park parcel, located in Whitpain Township, is approximately eleven acres and contains a former asbestos disposal area (now the closed Whitpain Wissahickon Park) with asbestos-containing materials that have not been removed by EPA.

2. The Reservoir parcel, primarily located in Upper Dublin Township, is approximately 15 acres and contains a reservoir that was formerly used for process water in a nearby manufacturing facility and contains asbestos-containing materials that have not been removed by EPA.

3. The Asbestos Pile parcel, located in Ambler Borough and Upper Dublin Township, is approximately six acres and contains a waste pile of approximately three acres, in the middle of the property, with asbestos-containing materials that have not been removed by EPA.

C. Kane Core, Inc. ("Kane Core") is a registered corporation in Pennsylvania with a registered mailing address of 11 Bragg Road, Schwenksville, PA 19473 and is the owner of the Asbestos Piles parcel. However, upon information and belief, having sold that property to an individual that is not an agent of Kane Core, Kane Core no longer has any physical presence at that property and receives no mail at that address, while never updating its mailing address with the Pennsylvania Department of State. Upon information and belief, Kane Core's President, David F. Kane, receives mail at the following addresses: c/o Griggs Properties, 519 Main Street, Suite C, Royersford, PA 19468 and dave@griggsproperties.com.

D. The Asbestos Pile parcel is identified as Montgomery County Tax Parcel No. 01-00-02939-00-3 (Ambler), also known as 54-00-11581-20-9 (Upper Dublin). The Asbestos Pile parcel address is 6 North Maple Avenue, Ambler, PA 19002, also known as 6 Maple Street, Upper Dublin, PA 19002 (the "Property").

E. Based on observations from a 1930s historical aerial photograph, Keasbey & Mattison Company began disposing a slurry of spent magnesium and calcium, as well as waste asbestos products, in a former reservoir located in what is now known as the Asbestos Pile,

which is located on the Property. Prior to the EPA Removal Action, which occurred between 2008 and 2017, the elevation of the waste in the Asbestos Pile was approximately 20 to 30 feet above the surrounding land. During a period of time in the 1980s and 1990s, portions of the Property were used as a trash transfer station or trash storage location (including slag disposal) and for local Fire Department training.

F. In 2008, EPA initiated a Removal Action to address the most immediate environmental concerns at the Site. Between 2008 and 2017, the Site, including the Property, underwent a Removal Action to cover asbestos-containing material ("ACM") in accordance with applicable National Emission Standards for Hazardous Air Pollutants regulations. The design for the Asbestos Pile involved cutting the slopes back to a stable 3 horizontal: 1 vertical gradient, placing a geotextile fabric, covering the area with a minimum of two feet of clean material, and approximately six inches of topsoil to support a vegetative cover. The major components of Asbestos Pile work, completed by the EPA Removal Program, are:

1. Clearing Activities – The area was cleared of trees and ACM material, and access roads were constructed;

2. Excavation activities – ACM waste was re-located to different areas on the Asbestos Pile to create the desired subgrade prior to the placement of geotextile, clean fill, and topsoil. All areas with exposed ACM were covered with clean material, straw mats, or geotextile fabric (if the desired subgrade had been achieved);

3. Cover Installation – Waste cells were graded, covered with geotextile fabric, and then covered with lifts of compacted clean fill to a depth of two feet to match the grade of the rest of the Asbestos Pile. The cover installation was completed with an

application of the topsoil layer across the Asbestos Pile, which was then hydroseeded and covered with straw mats for erosion control;

4. Fencing – Permanent chain-link fence was installed along the West Maple Street side of the Asbestos Pile and tied into existing fencing on the portion between Butler Pike and Tannery Run; and

5. Stream Bank Stabilization – A portion of the Tannery Run stream bed and bank, downstream from Maple Street, was re-graded at a constant slope and stabilized with cable concrete mats. The remaining section of Tannery Run, was enclosed in an eight-foot diameter pipe that terminates at the confluence of Wissahickon Creek.

G. While EPA's Removal Program conducted the Removal Action, EPA's Remedial Program concurrently performed a remedial investigation and feasibility study based on pre-Removal conditions. After evaluating the alternatives and providing a 90-day public comment period, EPA issued a Record of Decision ("ROD") for the Site on July 28, 2017, selecting a remedy for remediation of the Site ("Selected Remedy"). The Selected Remedy, which encompassed and enhanced the Removal Action at the Site, included all of the items performed during the Removal Action, as well as implementation of institutional controls, confirmation sampling, long term monitoring, O&M, and five-year reviews.

H. The ROD requires the implementation of institutional controls, which will prohibit certain activities on the Site unless appropriate investigations are conducted, and the activities are approved by EPA, in consultation with the Department. The ROD identified several mechanisms to implement the institutional controls, including, but not limited to, the issuance of administrative orders, such as an order by the Department of an Administrative Order pursuant to Sections 512(a) and 1102 of HSCA, 35 P. S. §§ 6020.512(a) and 6020.1102.

I. The institutional controls selected by EPA in the ROD are as follows:

1. Activities or modifications that could disturb or otherwise adversely impact the two-foot soil cover on the capped areas are prohibited unless prior written approval from EPA, in consultation with the Department, is obtained authorizing the specific activity. Any proposed future use of the Property shall be reviewed by EPA, in consultation with the Department, to ensure that such activity will not adversely impact the Selected Remedy or compromise the protection of human health and the environment.

2. Construction activities are prohibited unless prior written approval from EPA, in consultation with the Department, is obtained authorizing the specific activity. Prohibited construction activities include, but are not limited to, piling installation, dredging, drilling, digging, excavation, or use of heavy equipment in the capped areas.

3. Any modifications to the drainage pattern on the Property are prohibited unless EPA, in consultation with the Department, determines that such activity will not adversely impact the Selected Remedy.

4. Public access shall be restricted after significant weather events until the Property has been inspected for any signs of damage or erosion, especially in the 100-year floodplain.

5. The Selected Remedy will be protective for maintenance workers, recreational visitors, and commercial workers. Any other use of the Property shall require further investigations and plans, which shall be reviewed and approved by EPA, in consultation with the Department.

6. Maintain vegetation at stabilized stream banks.

7. Construction of structures that may undermine the slope stability of the Asbestos Pile, which is located on the Property, shall be prohibited unless prior written approval from EPA, in consultation with the Department, is obtained authorizing the specific activity.

8. Trees are prohibited on the Asbestos Pile slopes.

9. Trees are prohibited on the stream banks adjacent to Tannery Run, where the cable concrete mat is present to stabilize the slope.

J. The Administrative Record pertaining to the remedial response activities described in the ROD are located at Wissahickon Valley Public Library, Ambler Branch, 209 Race Street, Ambler, PA 19002 and online at https://semspub.epa.gov/src/collection/03/AR64805.

K. As part of its responsibility under CERCLA and HSCA, the Department has incurred response costs in relation to the Site and could continue to incur response costs, as that term is defined under CERCLA and HSCA.

L. The past and present conditions at the Site constitute a "release" or "threatened release" of "hazardous substances," as those terms are defined in Section 103 of HSCA, 35 P.S. § 6020.103, and are used throughout HSCA.

M. Section 503(f) of HSCA, 35 P.S. § 6020.503(f), provides that the Department may issue an order to enforce its ability to gain access and entry to a site, place, or property and to gain access to information, pursuant to HSCA, including requiring entry onto property and restraining interference with any response action, may apply to a court to enforce such an order,

or may apply immediately to a court for the same requested relief without the Department issuing an order.

N. Section 512(a) of HSCA, 35 P.S. § 6020.512(a), states in pertinent part:

> The [D]epartment shall have the authority to issue an order precluding or requiring cessation. of activity at a facility which the [D]epartment finds would disturb or be inconsistent with the response action implemented. *** The [D]epartment shall require the recorder of deeds to record an order under this subsection in a manner which will assure disclosure in the ordinary course of a title search of the subject property. An order under this subsection, when recorded, shall be binding upon subsequent purchasers.

O. As used herein, "inconsistent" uses of the Property include those activities that diverge or contrast with engineering controls or other response actions, including, but not limited to, geotextile cover, cable concrete mats, streambank stabilization, proper vegetation, tree removal, and other remedies, as set forth in EPA's ROD and as described, above, in Paragraph H.

P. Pursuant to Section 512(b) of HSCA, 35 P.S. § 6020.512(b):

> [T]he grantor, in every deed for the conveyance of property on which a hazardous substance is either presently being disposed or has ever been disposed by the grantor or to the grantor's actual knowledge, shall include in the property description section of the deed an acknowledgment of the hazardous substance disposal. To the extent the information is available, the acknowledgment shall include, but not be limited to, the surface area size and exact location of the disposed substances and a description of the types of hazardous substances contained therein. This property description shall be made a part of the deed for all future conveyances or transfers of the subject property. A description of any response undertaken with respect to disposal of the hazardous substance . . . shall also be made a part of the deed.

Q. Sections 701(a) and 702 of HSCA, 35 P.S. §§ 6020.701(a) and 6020.702, provide that owners of or operators at real properties during the time of release or threatened release of hazardous substances shall be liable for damages and/or response costs incurred by the

Department and damages to natural resources. In addition, Section 107(a)(l) of CERCLA, 42 U.S.C. § 9607(a)(l), provides that the owner or operator of a site shall be liable for all costs of remedial activities incurred by the Commonwealth.

R. Pursuant to Section 1102 of HSCA, 35 P.S. § 6020.1102, the Department is authorized to issue orders to persons when it deems necessary to aid in the enforcement of the provisions of HSCA. In addition, Section 1102 of HSCA provides that "[t]he power of the Department to issue an order under this section is in addition to any other remedy which may be afforded to the Department under this act or any other statute."

ORDER

NOW, THEREFORE, this 23rd day of September, 2021, pursuant to the authority of Sections 503, 512, and 1102 of HSCA, 35 P.S. §§ 6020.503, 6020.512, and 6020.1102, the Department hereby ORDERS the following:

1. From the date of this Administrative Order, Kane Core, its agents, successors, or assigns, or subsequent holders of title or any interest to the properties comprising the Site, or any portions thereof, shall not put the Site, or any portion thereof, to any use which is inconsistent (as described in Paragraph H, herein) with, impairs, contrary to, or adversely affects the integrity or protectiveness of, the remedial measures identified in the ROD for the Site, or as modified by any Operation and Maintenance Plan for the Site or any Explanation of Significant Difference.

2. No activities shall be conducted on the Property, or any portions, thereof, that would in any manner interfere with or impair any response actions taken at the Site, including, but not limited to, the remedial response actions, described in Paragraph H and the ROD. Specifically, unless appropriate investigations are conducted and written plans are submitted by

Kane Core, its agents, successors, or assigns, or subsequent holders of title or any interest to the properties comprising the Site, or any portions thereof, and approved in advance in writing by EPA and the Department, the following activities shall be prohibited:

(a) Activities or modifications to the Property that would disturb or otherwise adversely impact any capped or covered areas;

(b) Construction activities, including, but not limited to, piling installation, dredging, drilling, digging, excavation, or use of heavy equipment in the capped areas.

(c) Any modifications to the drainage pattern on the Property;

(d) Access by the public after significant weather events until the Property has been inspected for any signs of damage or erosion, especially in the 100-year floodplain;

(e) Any disturbance of the vegetative growth that stabilizes the caps and surfaces of the Property;

(f) Maintain vegetation at stabilized stream banks;

(g) Construction of any structures that may undermine the slope stability of the Asbestos Pile, which is located on the Property;

(h) Planting or allowing the growth of trees on the Asbestos Pile slopes;

(i) Planting or allowing the growth of trees on the stream banks adjacent to Tannery Run, where the cable concrete mat is present to stabilize the slope;

(j) Any modification of the Site fencing; and

(k) Any activity that could potentially disturb or interfere with the continued stability and integrity of the existing remedies.

3. Kane Core, its agents, successor, or assigns, or subsequent holders of title or any interest to the Site, or any portions thereof, shall provide access to the Site at reasonable-times to

the Department and EPA, as well as their agents, contractors, and subcontractors, for the purpose of ongoing Site inspections and investigations, operation and maintenance activities, the implementation of any additional response actions or containment at the Site, or to determine the extent of any release of a hazardous substance or contaminant on a nearby property.

4. The Recorder of Deeds for Montgomery County shall within thirty (30) days of the date of this Administrative Order record this Administrative Order upon the property deed of the parcel of land upon which the Site is situated and found for Montgomery County Tax Parcel No. 01-00-02939-00-3, also known as Montgomery County Tax Parcel No. 54-00-11581-20-9, in a manner that will assure its disclosure in the ordinary course of a title search of the subject property and any subsequently subdivided parcel of the properties.

5. Kane Core, its agents, successor, or assigns, or subsequent holders of title or any interest to the Site, or any portions thereof, shall provide the Department and EPA with sixty (60) days advance written notice of any proposal to use or perform any work on the Property or any portion thereof.

7. Kane Core, its agents, successor, or assigns, or subsequent holders of title or any interest to the Site, or any portions thereof, shall provide the Department's Southeastern Regional Environmental Cleanup and Brownfields Program Manager and the EPA with written notice of any conveyance, transfer, or assignment of any interest in the Property, comprising the Site, or any portions thereof, within twenty (20) days of such transfer.

6. Unless and until the Department gives written notice to the contrary, all notices, requests, reports, or other correspondence required to be submitted by the Administrative Order to the Department shall be addressed as follows:

Environmental Cleanup Program Manager
Environmental Cleanup and Brownfields Program
Department of Environmental Protection
Southeast Region
2 East Main Street
Norristown, Pennsylvania 19401

and to the EPA as follows:

Remedial Project Manager (BoRit Asbestos Superfund Site)
U.S. EPA, Region III

Until March 1, 2022:

1650 Arch Street
Philadelphia, PA 19103

After March 1, 2022:

1600 John F. Kennedy Boulevard
Philadelphia, PA 19103

7. Kane Core, its agents, successors, or assigns, or subsequent holders of title or any interest to the Property, or any portions thereof, may apply in writing to the Department for an amendment of this Order. A copy of such application shall be provided, via certified mail, to the addresses listed in Paragraph 6 above. However, no changes, additions, modifications, or amendments of this Order shall be effective unless they are set out in writing, signed by the Department, and recorded upon the deed of the property by the Montgomery County Recorder of Deeds.

8. This Administrative Order shall be binding upon all subsequent purchasers and interest holders of the properties comprising the Site, or any portions thereof once this Administrative Order has been recorded.

9. This Order shall take effect upon filing with the Recorder of Deeds, Montgomery County, Pennsylvania.

Any person aggrieved by this action may appeal the action to the Environmental Hearing Board (Board) pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. § 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A. The Board's address is:

Environmental Hearing Board
Rachel Carson State Office Building, Second Floor
400 Market Street
P.O. Box 8457
Harrisburg, PA 17105-8457

TDD users may contact the Board through the Pennsylvania Relay Service, 800-654-5984.

Appeals must be filed with the Board within 30 days of receipt of notice of this action unless the appropriate statute provides a different time. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

A Notice of Appeal form and the Board's rules of practice and procedure may be obtained online at http://ehb.courtapps.com or by contacting the Secretary to the Board at 717-787-3483. The Notice of Appeal form and the Board's rules are also available in braille and on audiotape from the Secretary to the Board.

IMPORTANT LEGAL RIGHTS ARE AT STAKE. YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD AT 717-787-3483 FOR MORE INFORMATION. YOU DO NOT NEED A LAWYER TO FILE A NOTICE OF APPEAL WITH THE BOARD.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST BE FILED WITH AND RECEIVED BY THE BOARD WITHIN 30 DAYS OF RECEIPT OF NOTICE OF THIS ACTION.

FOR THE COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Rajesh R. Patel, Manager
Environmental Cleanup and Brownfields Program

09/23/2021
Date

ACKNOWLEDGMENT by the Commonwealth of Pennsylvania, Department of Environmental Protection, in the following form:

Commonwealth of Pennsylvania,
Department of Environmental Protection

Date: 09/23/2021 By: _____

Name: Ragesh R Patel

Title: Environmental Cleanup & Brownfield Program Manager

COMMONWEALTH OF PENNSYLVANIA)
)
COUNTY OF MONTGOMERY)
) SS:

On this 23 day of September, 2021 before me, the undersigned officer, personally appeared Ragesh R. Patel, who acknowledged himself to be the Environmental Cleanup and Brownfields Program Manager of the Commonwealth of Pennsylvania, Department of Environmental Protection, Southeastern Regional Office, whose name is subscribed to this Administrative Order and acknowledged that he executed same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

Vanetta Bouknight Ross
Notary Public

Commonwealth of Pennsylvania - Notary Seal
Vanetta Bouknight Ross, Notary Public
Montgomery County
My commission expires December 1, 2021
Commission number 1193448
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Figure K-4: Park Parcel Institutional Control Letter

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

AUG 0 2 2017

Mr. Roman Pronczak
Manager, Whitpain Township
960 Wentz Road
Blue Bell, Pennsylvania, 19422

RE: Institutional Controls at the BoRit Asbestos Superfund Site – Park Parcel

Dear Mr. Pronczak,

This letter is to inform you that the United States Environmental Protection Agency (EPA) selected the final remedial action for the BoRit Asbestos Superfund Site (Site) when it executed its Record of Decision (ROD) on July 28, 2017. A copy of the final ROD is enclosed for your records. The Selected Remedy for the Site includes the following components that have already been completed by the EPA Removal Program:

- Stream bank stabilization at Rose Valley Creek, Tannery Run, and Wissahickon Creek
- Installation of cover at Asbestos Pile
- Installation of cover at Park
- Dewatering of Reservoir with treatment of surface water prior to discharge
- Re-grading and lining of Reservoir berm interior slopes
- Installation of a cover on the Reservoir bottom
- Refilling of the Reservoir
- ABS at residences adjacent to the Site

The Selected Remedy also includes several components that will be completed by the EPA Remedial Program, including:

- Implementation of Institutional Controls (ICs)
- Confirmation sampling
- Long-Term Monitoring for Site-related Contaminants of Concern
- Operations and Maintenance (O&M)
- Five Year Reviews

Under Section 107(a) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9607(a), as amended (CERCLA), a person may be liable for cleanup costs incurred or to be incurred by EPA if they are, among other things, (1) a current owner of the Site, or (2)

an owner or operator of the Site at the time hazardous substances were disposed of. However, the 2002 Brownfields Amendments to Superfund provide conditional CERCLA liability protection to landowners who qualify as an innocent landowner (ILO).

Sections 107(b)(3) and 101(35)(A)(ii) of CERCLA provide a defense to Superfund liability. To assert a "third party defense" under CERCLA § 107(b)(3), a property owner must show by a preponderance of the evidence, that: 1) another party was the "sole cause" of the release of hazardous substances and the damages caused thereby; 2) the responsible party did not cause the release in connection with a "contractual relationship" with the property owner; and 3) the property owner exercised due care and guarded against the foreseeable acts or omissions of the responsible party. In addition, a property owner who has a "contractual relation" with the responsible party must establish that it is an ILO. A government entity can be considered an ILO if it: (1) acquired the property after all disposal occurred and can demonstrate that at the time it acquired the property it had no knowledge and no reason to know of the disposal of hazardous substances at the facility; or (2) acquired the facility by escheat, or through any other involuntary transfer or acquisition.

On June 20, 2008, Whitpain Township (Whitpain) sent EPA a letter, detailing its analysis of its potential liability for the Site's Park parcel, and asserting a defense to liability under Section 107(b)(3), suggesting that it is an innocent landowner. In order to prove an ILO defense, a property owner must show that (1) it exercised due care with respect to the hazardous substance concerned, taking into consideration its characteristics, in light of all relevant facts and circumstances; and (2) it made no action or omission causing or contributing to the release or threat of release of hazardous substances at the property. The ILO factors are discussed in more detail in EPA's *"Guidance on Landowner Liability under Section 107(a)(1) of CERCLA,"* issued on June 6, 1989, and found at: https://www.epa.gov/enforcement/guidance-landowner-liability-under-section-107a1-cercla-de-minimis-settlements-under.

In addition to the factors surrounding acquisition of the property, the ILO defense also requires a property owner to take due care – reasonable steps – with respect to the hazardous substances concerned, and to avoid causing or contributing to the release or threat of release of hazardous substances at the property. Reasonable steps include the criteria outlined in the *"Interim Guidance: Common Elements of the Landowner Criteria to Qualify for BFPP, CPO or ILO Superfund Liability Limitations,"* found at: https://www.epa.gov/enforcement/interim-guidance-common-elements-landowner-criteria-qualify-bfpp-cpo-or-ilo-superfund, such as stopping continuing releases, preventing threatened future releases, and preventing or limiting human, environmental, or natural resources exposure to earlier releases as required by CERCLA § 101(4)(D). With respect to the Site, reasonable steps also include compliance with any land use restrictions placed on the property and not impeding the effectiveness or integrity of any IC selected in connection with the response action.

At this time, EPA has selected a remedy in the ROD that incorporates the EPA Removal Program's response action, which placed a cap over the asbestos containing material on the Park parcel. As part of the Selected Remedy, EPA also identified the need for continuing obligations, such as operations and maintenance (i.e., mowing, etc.) and institutional controls that will ensure that the Selected Remedy remains protective of human health and the environment.

As the current owner of the Site's Park parcel, Whitpain must comply with the ICs identified in the ROD. EPA would like to take this opportunity to explain its expectations with regard to implementation and enforcement of the ICs that are required as part of the Site's Selected Remedy. As explained in the ROD, the Site-Wide ICs for the Selected Remedy are as follows:

Site Wide ICs

1. Activities or modifications that could disturb or otherwise adversely impact the two-foot soil cover on the capped areas are prohibited, unless prior written approval from EPA, in consultation with PADEP, is obtained authorizing the specific activity. Any proposed future use of the Site shall be reviewed by EPA, in consultation with PADEP, to ensure that such activity will not adversely impact the Selected Remedy or compromise the protection of human health and the environment.

2. Construction activities are prohibited unless prior written approval from EPA, in consultation with PADEP, is obtained authorizing the specific activity. Prohibited construction activities include, but are not limited to, piling installation, dredging, drilling, digging, excavation, or use of heavy equipment in the capped areas.

3. Any modifications to the drainage pattern on-Site are prohibited unless EPA, in consultation with PADEP, determines that such activity will not adversely impact the Selected Remedy.

4. Public access shall be restricted after significant weather events until the property has been inspected for any signs of damage or erosion, especially in the 100-year floodplain.

5. The Selected Remedy will be protective for maintenance workers, recreational visitors, and commercial workers. Any other use of the parcels shall require further investigations and plans, which shall be reviewed and approved by EPA, in consultation with PADEP.

6. Maintain vegetation at stabilized stream banks.

Additionally, the Selected Remedy includes ICs that are specific to the Park Parcel, which are as follows:

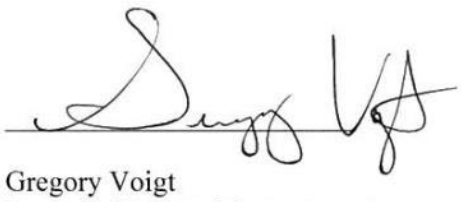
Park Parcel

1. Trees are prohibited along the stream banks of Wissahickon Creek (where geocells were utilized to stabilize the slope), and on the stream banks of Rose Valley Creek and Tannery Run (where CCM is present to stabilize the slope).

Whitpain has expressed its interest in entering a settlement agreement with EPA to perform certain O&M activities on the Park parcel, implement ICs on the Park parcel, and execute an Environment Covenant for the Park parcel. EPA will reach out to you shortly regarding these requests.

I hope this information is helpful, and look forward to working with you to ensure the BoRit Site remains protective of human health, both now and into the future. Please note that I have taken over for Jill Lowe as Remedial Project Manager for the Site. If you have any questions or concerns regarding this letter or the Site, please contact me at 215-814-5737, or voigt.gregory@epa.gov.

Sincerely,



Gregory Voigt
Remedial Project Manager
USEPA, Region III

Enclosure

cc: Robert Fox, Esq., Manko Gold Katcher and Foxx

Figure K-5: Reservoir Parcel Institutional Control Letter

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

AUG 0 2 2017

Mr. David Froehlich
Wissahickon Waterfowl Preserve
12 Morris Road
Ambler, PA 19002

RE: Institutional Controls at the BoRit Asbestos Superfund Site – Reservoir Parcel

Dear Mr. Froehlich,

This letter is to inform you that the United States Environmental Protection Agency (EPA) selected the final remedial action for the BoRit Asbestos Superfund Site (Site) when it executed its Record of Decision (ROD) on July 28, 2017. A copy of the final ROD is enclosed for your records. The Selected Remedy for the Site includes the following components that have already been completed by the EPA Removal Program:

- Stream bank stabilization at Rose Valley Creek, Tannery Run, and Wissahickon Creek
- Installation of cover at Asbestos Pile
- Installation of cover at Park
- Dewatering of Reservoir with treatment of surface water prior to discharge
- Re-grading and lining of Reservoir berm interior slopes
- Installation of a cover on the Reservoir bottom
- Refilling of the Reservoir
- ABS at residences adjacent to the Site

The Selected Remedy also includes several components that will be completed by the EPA Remedial Program, including:

- Implementation of Institutional Controls (ICs)
- Confirmation sampling
- Long-Term Monitoring for Site-related Contaminants of Concern
- Operations and Maintenance (O&M)
- Five Year Reviews

Under Section 107(a) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9607(a), as amended (CERCLA), a person may be liable for cleanup costs incurred or to be incurred by EPA if they are, among other things, (1) a current owner of the Site, or (2)

an owner or operator of the Site at the time hazardous substances were disposed of. However, CERCLA was amended in 2002 to allow certain parties who purchase contaminated or potentially contaminated properties to buy such properties and to avoid potential CERCLA liability if they qualify as a "bona fide prospective purchaser" (BFPP). The BFPP provision provides that a person meeting the criteria of CERCLA §§ 101(40) and 107(r)(1) and who purchases after January 11, 2002 will not be liable as an owner or operator under CERCLA. The BFPP provision is designed to be self-implementing, meaning the purchaser is responsible for achieving and maintaining BFPP status.

In order to maintain BFPP status, a party must meet certain continuing obligations, including compliance with any land use restrictions placed on the property and not impeding the effectiveness or integrity of any institutional control (IC) selected in connection with the response action. In addition, BFPPs are required to take "reasonable steps" on their property to stop continuing releases, prevent threatened future releases, and prevent or limit exposure to previous releases of hazardous substances.

WWP purchased the Reservoir parcel on March 31, 2006. On September 21, 2006, EPA sent a CERCLA Section 104(e) information request letter to the Wissahickon Valley Watershed Association (WVWA) seeking information about its acquisition of the property and to determine whether it met the BFPP criteria. WWP responded on October 2, 2006, stating that it, not the WVWA, owned the Reservoir Parcel. In its response, WWP detailed the steps it had taken, in the interest of due diligence, prior to acquiring the Reservoir parcel, including the performance of both a Phase 1 and a Phase 2 environmental assessment and meetings with EPA and DEP to discuss the property's environmental conditions and prior inspections.

At this time, EPA has selected a remedy in the ROD that incorporates the EPA Removal Program's response action, which placed a cap over the asbestos containing material on the Reservoir parcel. As part of the Selected Remedy, EPA also identified the need for continuing obligations, such as operations and maintenance (i.e., mowing, etc.) and institutional controls that will ensure that the Selected Remedy remains protective of human health and the environment.

As the current owner of the Site's Reservoir Parcel, WWP must comply with the ICs identified in the ROD. EPA would like to take this opportunity to explain its expectations with regard to implementation and enforcement of the ICs that are required as part of the Site's Selected Remedy. As explained in the ROD, the Site-Wide ICs for the Selected Remedy are as follows:

Site Wide ICs

1. Activities or modifications that could disturb or otherwise adversely impact the two-foot soil cover on the capped areas are prohibited, unless prior written approval from EPA, in consultation with PADEP, is obtained authorizing the specific activity. Any proposed future use of the Site shall be reviewed by EPA, in consultation with PADEP, to ensure that such activity will not adversely impact the Selected Remedy or compromise the protection of human health and the environment.

2. Construction activities are prohibited unless prior written approval from EPA, in consultation with PADEP, is obtained authorizing the specific activity. Prohibited construction activities include, but are not limited to, piling installation, dredging, drilling, digging, excavation, or use of heavy equipment in the capped areas.

3. Any modifications to the drainage pattern on-Site are prohibited unless EPA, in consultation with PADEP, determines that such activity will not adversely impact the Selected Remedy.

4. Public access shall be restricted after significant weather events until the property has been inspected for any signs of damage or erosion, especially in the 100-year floodplain.

5. The Selected Remedy will be protective for maintenance workers, recreational visitors, and commercial workers. Any other use of the parcels shall require further investigations and plans, which shall be reviewed and approved by EPA, in consultation with PADEP.

6. Maintain vegetation at stabilized stream banks.

Additionally, the Selected Remedy includes ICs that are specific to the Reservoir Parcel, which are as follows:

Reservoir Parcel

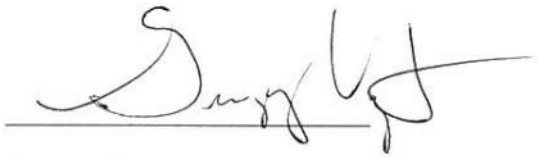
1. Maintain suitable vegetation and/or water levels on the capped areas of the Reservoir parcel (berms and Reservoir floor) to ensure protection from erosion.

2. Trees are prohibited along the berm of the Reservoir adjacent to the Wissahickon Creek.

EPA will reach out to you shortly to begin discussions regarding implementation of these ICs.

I hope this information is helpful, and look forward to working with you to ensure the BoRit Site remains protective of human health, both now and into the future. Please note that I have taken over for Jill Lowe as Remedial Project Manager for the Site. If you have any questions or concerns regarding this letter or the Site, please contact me at 215-814-5737, or voigt.gregory@epa.gov.

Sincerely,



Gregory Voigt
Remedial Project Manager
USEPA, Region III

Enclosure

cc: Tim Bergere, Esq., Montgomery, McCracken, Walker & Rhoads LLP

Figure K-5: Asbestos Pile Parcel Institutional Control Letter

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

AUG 0 2 2017

Mr. David Kane
Griggs Properties
519 Main Street
Royersford, PA 19468

RE: Institutional Controls at the BoRit Asbestos Superfund Site – Asbestos Pile Parcel

Dear Mr. Kane,

This letter is to inform Kane Core, Inc. ("Kane Core" or "you") that the United States Environmental Protection Agency ("EPA") selected the final remedial action for the BoRit Asbestos Superfund Site ("Site") when it executed its Record of Decision ("ROD") on July 28, 2017. A copy of the final ROD is enclosed for your records. The Selected Remedy for the Site includes the following components that have already been completed by the EPA Removal Program:

- Stream bank stabilization at Rose Valley Creek, Tannery Run, and Wissahickon Creek
- Installation of cover at Asbestos Pile
- Installation of cover at Park
- Dewatering of Reservoir with treatment of surface water prior to discharge
- Re-grading and lining of Reservoir berm interior slopes
- Installation of a cover on the Reservoir bottom
- Refilling of the Reservoir
- ABS at residences adjacent to the Site

The Selected Remedy also includes several components that will be completed by the EPA Remedial Program, including:

- Implementation of Institutional Controls ("ICs")
- Confirmation sampling
- Long-Term Monitoring for Site-related Contaminants of Concern
- Operations and Maintenance ("O&M")
- Five Year Reviews

Under Section 107(a) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9607(a), as amended ("CERCLA"), a person may be liable for cleanup costs incurred or to be incurred by EPA if they are, among other things, (1) a current owner of the Site, or (2)

an owner or operator of the Site at the time hazardous substances were disposed of. However, CERCLA was amended in 2002 to allow certain parties who purchase contaminated or potentially contaminated properties to buy such properties and to avoid potential CERCLA liability if they qualify as a "bona fide prospective purchaser" ("BFPP"). The BFPP provision provides that a person meeting the criteria in CERCLA §§ 101(40) and 107(r)(1) and who purchases after January 11, 2002 will not be liable as an owner or operator under CERCLA. The BFPP provision is designed to be self-implementing, meaning the purchaser is responsible for achieving and maintaining BFPP status.

In order to maintain BFPP status, a party must meet certain continuing obligations, including compliance with any land use restrictions placed on the property and not impeding the effectiveness or integrity of any ICs selected in connection with the response action. In addition, BFPPs are required to take "reasonable steps" on their property to stop continuing releases, prevent threatened future releases, and prevent or limit exposure to previous releases of hazardous substances.

On October 5, 2004, Kane Core purchased a 6.056-acre parcel that comprises a portion of the Site known as the Asbestos Pile parcel. On September 21, 2006, EPA sent you a CERCLA Section 104(e) information request letter seeking information about Kane Core's acquisition of the property and to determine whether it met the BFPP criteria. EPA received no response to the September 21, 2006 104(e) letter.

On January 6, 2016, EPA sent you an update on the status of activities performed at the Site, including activities performed on the Asbestos Pile Parcel. Specifically, EPA described the Removal Action it had been performing and the remedial action process. The letter also stated that the remedy EPA selects may include ICs, which we explained "are restrictions that prevent an owner from inappropriately developing or using the site property in a way that could damage the selected remedy and are designed to prevent harm to workers (i.e., those digging in the area) or restrict those activities that would impact the effectiveness of the remedy."

On December 4, 2016, EPA released its Proposed Remedial Action Plan ("Proposed Plan") to the public for a period of 60 days. Notice of the public comment period was published in the Ambler Gazette on December 4, 2016, and an in-depth fact sheet describing the Proposed Plan was published in the Ambler Gazette on December 11, 2017. EPA extended the comment period another 30 days, to close on March 3, 2017. Remedial Project Manager ("RPM") Jill Lowe contacted you by email on January 5, 2017, forwarding you a link to the Proposed Plan to ensure you were aware of the document's release and notifying you of the public meeting discussing the alternatives. I understand that you and RPM Lowe spoke briefly immediately after she sent you the email on January 5, 2017. On January 10, 2017, EPA held a public meeting to discuss the Proposed Plan and accept oral comments. RPM Lowe sent you another email on March 2, 2017, reminding you that the public comment period closed at midnight on March 3, 2017. EPA received no response to the March 2, 2017 email, nor did EPA receive a comment from you on the Proposed Plan.

At this time, EPA has selected a remedy in the ROD that incorporates the EPA Removal Program's response action, which placed a cap over the asbestos containing material on the Asbestos Pile parcel. As part of the Selected Remedy, EPA also identified the need for continuing obligations, such as operations and maintenance (i.e., mowing, etc.) and institutional controls that will ensure that the Selected Remedy remains protective of human health and the environment.

As the current owner of the Site's Asbestos Pile Parcel, Kane Core must comply with the ICs identified in the ROD. EPA would like to take this opportunity to explain its expectations with regard to implementation and enforcement of the ICs that are required as part of the Site's Selected Remedy. As explained in the ROD, the Site-Wide ICs for the Selected Remedy are as follows:

Site-Wide ICs

1. Activities or modifications that could disturb or otherwise adversely impact the two-foot soil cover on the capped areas are prohibited, unless prior written approval from EPA, in consultation with PADEP, is obtained authorizing the specific activity. Any proposed future use of the Site shall be reviewed by EPA, in consultation with PADEP, to ensure that such activity will not adversely impact the Selected Remedy or compromise the protection of human health and the environment.

2. Construction activities are prohibited unless prior written approval from EPA, in consultation with PADEP, is obtained authorizing the specific activity. Prohibited construction activities include, but are not limited to, piling installation, dredging, drilling, digging, excavation, or use of heavy equipment in the capped areas.

3. Any modifications to the drainage pattern on-Site are prohibited unless EPA, in consultation with PADEP, determines that such activity will not adversely impact the Selected Remedy.

4. Public access shall be restricted after significant weather events until the property has been inspected for any signs of damage or erosion, especially in the 100-year floodplain.

5. The Selected Remedy will be protective for maintenance workers, recreational visitors, and commercial workers. Any other use of the parcels shall require further investigations and plans, which shall be reviewed and approved by EPA, in consultation with PADEP.

6. Maintain vegetation at stabilized stream banks.

Additionally, the Selected Remedy includes ICs that are specific to the Asbestos Pile Parcel, which are as follows:

Asbestos Pile Parcel:

1. Construction of structures that may undermine the slope stability of the Asbestos Pile parcel shall be prohibited unless prior written approval from EPA, in consultation with PADEP, is obtained authorizing the specific activity.

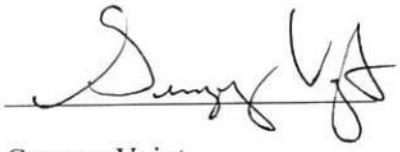
2. Trees are prohibited on the Asbestos Pile parcel slopes.

3. Trees are prohibited on the stream banks adjacent to Tannery Run, where CCM (cable concrete mat) is present to stabilize the slope.

EPA will reach out to you shortly to begin discussions regarding implementation of these ICs.

I hope this information is helpful, and look forward to working with you to ensure the BoRit Site remains protective of human health, both now and into the future. Please note that I have taken over for Jill Lowe as RPM for the Site. If you have any questions or concerns regarding this letter or the Site, please contact me at 215-814-5737, or voigt.gregory@epa.gov.

Sincerely,



Gregory Voigt
Remedial Project Manager
USEPA, Region III

Enclosure

APPENDIX L – LETTER TO INFORMATION REPOSITORY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103

December 20, 2021

Anne Hall
Wissahickon Valley Public Library
Ambler Branch
209 Race Street
Ambler, PA 19002

Dear Anne,

The U.S. Environmental Protection Agency is required by law to establish administrative records "at or near a facility at issue." The administrative record consists of information upon which the Agency bases its selection of a response action for Superfund sites.

By providing the public with greater access to these records, we hope that they will be better equipped to comment constructively on site activities and to understand the issues related to the selection of the response action at the site.

We appreciate Wissahickon Public Library – Ambler Branch serving as a designated field repository for the BoRit Asbestos Superfund Site. The site's two (2) Administrative Records have previously been established and are available on the Internet at https://semspub.epa.gov. An Index of Documents for each Administrative Record is enclosed. Please refer parties interested in reviewing the record to the SEMS-Pub site and provide them with the Index. Additional site related material has also been made available to the public on SEMS-Pub. A quick reference search guide is attached to assist users of SEMS-Pub.

To ensure the receipt of the above information, I would appreciate your completion of the attached Notification of SEMS-Pub Availability Acknowledgment form. Please return this form upon receipt.

Again, I would like to thank you for your cooperation with the U.S. Environmental Protection Agency in serving as a field repository. If you have any questions or comments, please contact the Superfund & Emergency Management Division Records Center at (215) 814-3024.

Sincerely,

Reed, Claudette

Digitally signed by Reed, Claudette
Date: 2021.12.20 13:00:58 -05'00'

Claudette Reed
Chief, Program Support & Cost Recovery Branch
Superfund & Emergency Management Division
EPA Region III (3SD40)
1650 Arch Street
Philadelphia, PA 19103-2029

Enclosures

Date: December 20, 2021

To: Anne Hall
Wissahickon Valley Public Library
Ambler Branch
209 Race Street
Ambler, PA 19002

I acknowledge that I have received notice and Index of Documents from the U.S. Environmental Protection Agency Region III Office. I am aware that the Administrative Record file is available on SEMS-Pub at https://semspub.epa.gov. I attest that Wissahickon Valley Public Library - Ambler Branch can accommodate individuals wishing to utilize the Internet to view these documents.

Administrative Record Name(s) –

OU 1 REMEDIAL ADMINISTRATIVE RECORD FILE
REMOVAL ADMINISTRATIVE RECORD FILE

Signed:

Date:

Please return this form to:

U.S. Environmental Protection Agency
Region III
Attn: Claudette Reed (3SD40)
Superfund & Emergency Management Division
EPA Region III
1650 Arch Street
Philadelphia, PA 19103

SEMS-Pub Search Help

1. Type in https://semspub.epa.gov in your web browser's URL field.
2. Select Region "03."
3. Select Collection Type "Administrative Record."
4. Select State "Pennsylvania."
5. Select Site "BORIT ASBESTOS."
6. Click the Submit button.
7. The Superfund Records Collections page lists all the available Administrative Record (AR) Collections for the site.
8. Click on a Collection Description.
9. You arrive at the page with the list of documents. At the top of the page is a link to the Index of Documents - the same document you have in paper format. The balance of documents on the page appear on the Index of Documents and make up the Administrative Record File. The default sort on the webpage is reverse chronological order with the most recently dated document at the top.
10. Use the Index to guide you through the document list on the web page.
11. You can re-sort the documents using the up or down triangles at the top of any column.
12. For additional documents, return to https://semspub.epa.gov. Follow steps 1-7 above, and then select a different Collection Description.
13. To access other site related documents, return to https://semspub.epa.gov in your web browser's URL field.
14. Select Region "03."
15. Select Collection Type "Special Collection."
16. Select State "Pennsylvania."
17. Select Site "BORIT ASBESTOS."
18. Click the Submit button.
19. Click on the Collection Description, "PUBLICLY AVAILABLE DOCUMENTS."
20. You arrive at the page with the list of documents. The default sort on the webpage is reverse chronological order with the most recently dated document at the top (and only ever preceded by any documents which may be "Undated.")

21. For more site information, go to https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0301842

    a. A list of current site contacts can be found by clicking on "Site Contacts" on the left-hand side of the page. There are also current site contacts listed in a sidebar on the right-hand side of the page. For further questions regarding the site, reach out to the contacts listed here.

    b. A listing of the site documents can alternatively be found by clicking on "Site Documents & Data" on the left-hand side of the page. (These are the same documents found on https://semspub.epa.gov.)

BORIT ASBESTOS
OU 1 REMEDIAL ADMINISTRATIVE RECORD FILE *
INDEX OF DOCUMENTS

III. REMEDIAL RESPONSE PLANNING

1. Report: Revised Final Site Management Plan, Remedial Investigation/Feasibility Study, BoRit Asbestos Superfund Site, Operable Unit 1, Montgomery County, Pennsylvania, prepared by CDM, 11/12/09. P. 300001-300467. A cover letter to Ms. Stacie Pratt, U.S. EPA, from Ms. Lynne France, CDM, is attached.

2. Report: Phase 1 Data Evaluation Report, BoRit Asbestos Superfund Site, Operable Unit 1, Montgomery County, Ambler, Pennsylvania, prepared by CDM, 6/18/10. P. 300468-301094. A cover letter to Ms. Stacie Pratt, U.S. EPA, from Ms. Lucinda Pype, CDM, is attached.

3. Report: Final Site Management Plan for Remedial Investigation, Phase 2, BoRit Asbestos Superfund Site, Operable Unit 1, Ambler, Pennsylvania, prepared by CDM, 9/24/10. P. 301095-301702. A cover letter to Ms. Stacie Pratt, U.S. EPA, from Ms. Lucinda Pype, CDM, is attached.

4. Presentation, Thermochemical Conversion Technology, Asbestos Destruction & Recycling, A Briefing for the Community of Stratford, CT, 4/29/11. P. 301703-301731.

5. Ambler Borough Code, Chapter 27, Zoning, 5/18/11. P. 301732-302000.

6. Letter Report to Ms. Kristine Matzko, U.S. EPA, from Ms. Lucinda Pype, CDM, re: Addendum to the Final Phase 2 Site Management Plan, 6/22/11. P. 302001-302010.

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* Administrative Record File available 11/30/16, updated 8/11/17. The *BoRit Asbestos Tailings Pile Site Removal Administrative Record* dated 11/10/16 is incorporated herein by reference. The Index of Documents is attached.

7. Letter Report to Ms. Kristine Matzko, U.S. EPA, from Ms. Lucinda Pype, CDM Smith, re: Revised Phase 3 Addendum to the Final Phase 2 Site Management Plan, 2/8/13. P. 302011-302030.

8. Report: Final Phase 2 Data Evaluation Report, BoRit Asbestos Superfund Site, Operable Unit 1, Ambler, Pennsylvania, prepared by CDM Smith, 8/20/13. P. 302031-302321. A transmittal letter to Ms. Jill Lowe, U.S. EPA, from Ms. Lucinda Pype, CDM Smith, is attached.

9. Report: Reservoir Hydraulics and Berm Stability Investigation, BoRit Asbestos Superfund Site, Ambler, PA, prepared by U.S. Army Corps of Engineers (UACE) Philadelphia District, 9/13. P. 302322-302533.

10. Applicable or Relevant and Appropriate Requirements (ARARs) for Clean-Up Response and Remedial Actions in Pennsylvania, Pennsylvania Department of Environmental Protection (PADEP), 10/26/13. P. 302534-302576. A July 2, 2015, cover letter to Ms. Jill Lowe, U.S. EPA, from Mr. Colin Wade, PADEP, is attached.

11. Report: Final Remedial Investigation Report, Volumes 1 & 2, BoRit Asbestos Superfund Site, Operable Unit 1, Ambler, Pennsylvania, prepared by CDM Smith, 11/27/13. P. 302577-304253. A cover letter to Ms. Jill Lowe, U.S. EPA, from Ms. Lucinda Pype, CDM Smith, is attached.

12. Letter Report to Ms. Jill Lowe, U.S. EPA, from Ms. Lucinda Pype, CDM Smith, re: Addendum 2 to the Final Site Management Plan for RI Phase 2 Field Investigation, 8/1/14. P. 304254-304274.

13. Report: Final Remedial Investigation Addendum, BoRit Asbestos Superfund Site, Operable Unit 1, Ambler, Pennsylvania, prepared by CDM Smith, 5/22/15. P. 304275-304433. A transmittal letter to Ms. Jill Lowe, U.S. EPA, from Ms. Lucinda Pype, CDM Smith, is attached.

14. Letter to Mr. Colin Wade, PADEP, from Ms. Jill Lowe, U.S. EPA, re: Request for Identification of Applicable and Relevant and Appropriate Requirements for the Site, 6/22/15. P. 304434-304434.

15. Report: Green and Sustainable Remediation Assessment of Proposed Remedial Alternatives, BoRit Asbestos Superfund Site, Operable Unit 1, Ambler, PA, prepared by CDM Smith, 12/11/15. P. 304435-304451. A transmittal letter to Ms. Jill Lowe, U.S. EPA, from Ms. Lucinda Pype, CDM Smith, is attached.

16. Letter to Mr. Colin Wade, PADEP, from Ms. Jill Lowe, U.S. EPA, re: Request for Comments on the Draft Proposed Plan for the Site, 3/17/16. P. 304452-304452.

17. Memorandum to File, from Ms. Jill Lowe, U.S. EPA, re: Region's Compliance with National Emission Standards for Hazardous Air Pollutants (NESHAPs) at the Site, 4/19/16. P. 304453-304455.

18. Memorandum to Ms. Betsy Smidinger, U.S. EPA, from Ms. Karen Melvin, U.S. EPA, re: Region III's position with respect to the cleanup and future use of the Site, 7/7/16. P. 304456-304464.

19. FEMA Flood Map Service Center: Search by Address: "West Maple Street Ambler PA," Products for Whitpain, Township of, Flood Map No. 42091C0286G, effective on 3/2/2016, Letter of Map Change, 15-03-2420P-420708, updated 8/1/16. https://msc.fema.gov/portal/search?AddressQuery=west%20maple%20street%20ambler%20pa#searchresultsanchor. P. 304465-304481.

20. FEMA Flood Map Service Center: Search by Address: "West Maple Street Ambler PA," Products for Whitpain, Township of, Flood Map No. 42091C0286G, effective on 3/2/2016, Letter of Map Change, 15-03-2420P-420713, updated 8/1/16. https://msc.fema.gov/portal/search?AddressQuery=west%20maple%20street%20ambler%20pa#searchresultsanchor. P. 304482-304502A.

21. FEMA Flood Map Service Center: Search by Address: "West Maple Street Ambler PA," Products for Whitpain, Township of, Flood Map No. 42091C0286G, effective on 3/2/2016, Letter of Map Change, 15-03-2420P-420947, updated 8/1/16. https://msc.fema.gov/portal/search?AddressQuery=west%20maple%20street%20ambler%20pa#searchresultsanchor. P. 304503-304519.

22. FEMA Flood Map Service Center: Search by Address: "West Maple Street Ambler PA," Products for Whitpain, Township of, Flood Map No. 42091C0286G, effective on 3/2/2016, Letter of Map Change, 15-03-2420P-420953, updated 8/1/16. https://msc.fema.gov/portal/search?AddressQuery=west%20maple%20street%20ambler%20pa#searchresultsanchor. P. 304520-304557.

23. Memorandum to Ms. Linda Dietz, U.S. EPA, from Ms. Jill Lowe, & Ms. Robin Eiseman, U.S. EPA, re: Protectiveness Analysis of Asbestos Regulations for the BoRit Proposed Remedial Alternative, 11/18/16. P. 304558-304564.

24. Report: Final Feasibility Study Report, Operable Unit 1, BoRit Asbestos Superfund Site, Ambler, Pennsylvania, prepared by CDM Smith, 11/18/16. P. 304565-304788. A transmittal letter to Ms. Jill Lowe, U.S. EPA, from Ms. Lucinda Pype, CDM Smith, is attached.

25. Superfund Program Proposed Plan, BoRit Asbestos Superfund Site, Ambler, Pennsylvania, 12/1/16. P. 304789-304870.

26. Report: Final Remedial Investigation/Feasibility Study Report, Ambler Asbestos Piles, Ambler, Pennsylvania, Volume I, 8/88. P. 304871-306292.

27. Report: Environmental Site characterization (Phase II), 6 Maple Avenue Site (BO/RIT), Ambler, PA, prepared by Gilmore & Associates, Inc., 11/01. P. 306293-306476. **

28. Report: Phase I Environmental Site Assessment/ Limited Sampling, 15-Acre Reservoir Property, Upper Dublin and Whitpain Townships, PA, prepared by O'Brien & Gere Engineers, Inc., 7/9/04. P. 306477-306769. **

** Document has been redacted due to confidential business information and/or to protect the privacy of individuals. Redactions are evident from the face of the document.

29. Report: Final Trip Report for the Borit Asbestos Tailings Pile Site, Ambler, Montgomery County, Pennsylvania, prepared by Tetra Tech EM Inc., 9/18/06. P. 306770-306829. A transmittal letter to Ms. Charlene Creamer, U.S. EPA, from Tetra Tech EM Inc., is attached. **

30. Agency for Toxic Substances and Disease Registry (ATSDR) Record of Activity (AROA), Health Consultation, Borit Asbestos Site, Ambler, Montgomery County, PA, 12/20/06. ***

31. Memorandum Report to Mr. Philip Campagna, U.S. EPA, from Lockheed Martin Technology Services (Lockheed Martin), re: Trip Report Event 1 - Work Assignment #0-218, 2/27/07. P. 306830-307104. **

32. Memorandum Report to Mr. Philip Campagna, U.S. EPA, from Lockheed Martin, re: Trip Report Event 2 - Work Assignment #0-218, 3/1/07. P. 307105-307342. **

33. Memorandum Report to Mr. Philip Campagna, U.S. EPA, from Lockheed Martin, re: Trip Report Event 3 - Work Assignment #0-218, 4/18/07. P. 307343-307498. **

34. Report: Trip Report for the Borit Asbestos Site, Ambler, Montgomery County, Pennsylvania, prepared by Tetra Tech EM Inc., 5/21/07. P. 307499-307613. **

35. Memorandum Report to Mr. Philip Campagna, U.S. EPA, from Lockheed Martin, re: Trip Report Event 4 - Work Assignment #0-218, 7/13/07. P. 307614-307747. **

36. Memorandum Report to Mr. Philip Campagna, U.S. EPA, from Lockheed Martin, re: Trip Report Event 5 - Work Assignment #0-218, 9/21/07. P. 307748-307878. **

37. Memorandum Report to Mr. Philip Campagna, U.S. EPA, from Lockheed Martin, re: Trip Report Event 6 - Work Assignment #0-218, 11/1/07. P. 307879-307962. **

*** Document is incorporated by reference from the *Borit Asbestos Tailings Pile Site Removal Administrative Record File*.

38. Memorandum Report to Mr. Philip Campagna, U.S. EPA, from Lockheed Martin, re: Trip Report Event 7 - Work Assignment #0-218, 11/7/07. P. 307963-308102. **

39. Memorandum Report to Mr. Philip Campagna, U.S. EPA, from Lockheed Martin, re: Trip Report Event 8 - Work Assignment #0-218, 11/16/07. P. 308103-308261. **

40. Public Summary, Ambler Water Department, 12/27/07. P. 308262-308268.

41. Request for Proposals, Professional Community Planning and Engineering Services Associated with Development of a Plan of Action and Milestones for the West Ambler Neighborhood, Whitpain Township, Montgomery County, Pennsylvania, 1/20/12. P. 308269-308297.

42. Electronic memorandum to Ms. Kristine Matzko, U.S. EPA, from Ms. Dawn Ioven, U.S. EPA, re: Residential ABS data, 5/15/12. P. 308298-308299. Related electronic memoranda are attached. **

43. Memorandum Report for Files, U.S. EPA, from U.S. Army Corps of Engineers, re: Trip Report of Flow Paths to the Reservoir, 8/15/14. P. 308300-308311. **

44. Flooding and Stormwater Management Plan for Ambler Area Watersheds, prepared by Center for Sustainable Communities, Temple University Ambler, 12/14. P. 308312-308417.

45. Table, National Recommended Water Quality Criteria, Human Health Criteria Table, 3/11/15. http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm#hhtable. P. 308418-308421.

46. Table, Regional Screening Level (RSL) Summary Table June 2017, Chemical Contaminants at Superfund Sites, EPA Region III, 6/17. P. 308422-308443.

47. Letter to Ms. Karen Melvin, U.S. EPA, from Mr. Patrick Patterson, PADEP, re: State Concurrence of the Record of Decision (ROD), 6/29/17. P. 308444-308445.

48. Record of Decision, Borit Asbestos Superfund Site, 7/28/17. P. 308446-308678.

V. COMMUNITY INVOLVEMENT/CONGRESSIONAL CORRESPONDENCE/IMAGERY

1. Report: Revitalization & Action Plan - Appendix Item - Planning for the Future: Reuse Assessment for the BoRit Asbestos Site, Ambler, Pennsylvania, prepared by E^2 Inc., 4/09. Excerpt from http://www.whitpaintownship.net/pdfs/westambler action plan appendix.pdf. P. 500001-500024.

2. Letter to Mr. Fred Conner, from Ms. Sharon McCormick, Citizens for a Better Ambler, re: Citizens for a Better Ambler (CBA) comments regarding a dirt cap on the Whitpain Park Parcel of the BoRit, 6/15/09. P. 500025-500026. **

3. Letter to Ms. Stacie Pratt, U.S. EPA, from Mr. Eric Lindhult, BoRit Asbestos Community Advisory Group (CAG), re: Request to increase perimeter air monitoring and off-site soil sampling, 3/31/10. P. 500027-500027.

4. Letter to Mr. Eric Lindhult, BoRit Asbestos CAG, from Ms. Stacie Pratt, U.S. EPA, re: Response to March 31, 2010, letter requesting increased perimeter air monitoring and off-site soil sampling, 4/14/10. P. 500028-500028.

5. Letter to Ms. Stacie Pratt, U.S. EPA, from The BoRit CAG, re: Transmittal of Comments on review of the *Phase I Data Evaluation Report*, 8/6/10. P. 500029-500032. CAG Response, Phase I Data Evaluation Report, prepared by CAG RR&M Group, and Summary of the Discussion the HERS workgroup held on July 26, 2010, are attached.

6. Questions from Mr. Philip Getty (hydro-geologist) for EPA, 12/11. http://www.boritcag.org/pdf/Philip%20Getty%20Questions%20to%20EPA%20December%202011.pdf. P. 500033-500035. February 1, 2012, Questions and Responses about Groundwater at the BoRit Superfund Site, are attached. http://www.boritcag.org/pdf/EPA%20response%20to%20Hydro%20geologist%20questions%20Feb%201st%202012.pdf.

** Document has been redacted to protect the privacy of individuals. Redactions are evident from the face of the document.

7. Electronic memorandum to Ms. Nancy Roncetti, from Mr. Gordon Chase, BoRit CAG, re: Response to January 30, 2012, email regarding Ambler Borough water testing exemptions, 4/23/12. P. 500036-500036.

8. Electronic memorandum to Ms. Kristine Matzko, U.S. EPA, from Mr. Gordon Chase, BoRit CAG, re: Pond seep monitoring, 4/26/12. P. 500037-500037.

9. Summary and Review of the *Preliminary Phase II Groundwater Report for the BoRit Asbestos Superfund Site*, prepared by Skeo Solutions, 6/12. P. 500038-500046.

10. Presentation, Review of Preliminary Phase II Groundwater Report, prepared by Keating Environmental Management Inc., 9/12/12. P. 500047-500071.

11. Electronic memorandum to Ms. Kristine Matzko, U.S. EPA, Mr. Robert (Bob) Adams, Wissahickon Valley Watershed Association (WVWA), and Ms. Lora Werner, Centers for Disease Control and Prevention (CDC), from Mr. David Froehlich and Mr. Bob Adams, BoRit CAG, re: Ground water testing, 9/21/12. P. 500072-500072.

12. U.S. EPA Response to CAG Request for Pump Test, 2/13. P. 500073-500073.

13. Memorandum to BoRit Community Advisory Group, from BoRit Asbestos Site Team, U.S. EPA, re: Ballpark Estimate on Cost and Duration for Excavating, Removing and Disposing of Asbestos-Containing Material from the Site, 6/13. http://www.boritcag.org/pdf/Ballpark%20Estimate%20Memo%20Final%206.4.pdf. P. 500074-500075.

14. Report: Monitoring Options for Detection of Airborne Asbestos, BoRit Asbestos Superfund Site, prepared by Skeo Solutions, 3/28/14. P. 500076-500089.

15. BoRit Feasibility Study Review, *Draft Final Feasibility Study Report*, October 9, 2015, prepared by Skeo Solutions, 5/6/16. P. 500090-500111.

16. EPA Response to Summary of TASC Comments, Feasibility Study Review, BoRit Asbestos Superfund Site, 6/1/16. http://www.boritcag.org/pdf/TASC%20Responses.pdf. P. 500112-500113.

17. Response to Susan Curry, Member of the CAG, Questions/Comments on the Phase 2 Field Investigation Planning Guide, (undated). http://www.boritcag.org/pdf/EPA%20Response%20to%20Susan%20Curry%27s%20Qs%20re%20Phase%20II%20Remedial%20Investigation%20Work%20Plans.pdf. P. 500114-500124.

18. Meeting Minutes, Removal, Remediation and Monitoring, (RR&M) Meeting Minutes February 12th 2014, BoRit Community Action Group (CAG), 2/12/14. P. 500125-500128.

GUIDANCE DOCUMENTS

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2. Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, prepared by OERR, 10/1988.
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3. Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A), Interim Final, prepared by OERR, 12/1989.
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4. Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions, prepared by OSWER, 4/22/1991.
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5. Supplemental Guidance to RAGS: Calculating the Concentration Term, prepared by OSWER, 5/1992.
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6. Selecting Exposure Routes and Contaminants of Concern by Risk-Based Screening, prepared by EPA Region III, 1/1993.
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8. Human Health Toxicity Values in Superfund Risk Assessments, prepared by OSWER, 12/5/2003.
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9. Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment), Final, prepared by OSRTI, 2004.
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10. Clarifying Cleanup Goals and Identification for New Assessment Tools for Evaluating Asbestos at Superfund Cleanups, prepared by OSRTI, 8/10/2004.
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11. Framework for Investigating Asbestos-Contaminated Superfund Sites, prepared by the Asbestos Committee of the Technical Review Workgroup of OSWER, 9/2008.
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12. Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment), Final, prepared by OSRTI, 1/2009.
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13. Consideration of Greener Cleanup Activities in the Superfund Cleanup Process, prepared by OLEM and OECA, 8/2/2016.

14. PLM Validation Process Guidelines for Asbestos Data Review, prepared by OSRTI, 10/2016.
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15. TEM Validation Process Guidelines for Asbestos Data Review, prepared by OSRTI, 10/2016.
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BORIT ASBESTOS TAILINGS PILE SITE
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3. U.S. Pollution Report # 1 - Special Bulletin A, Borit Asbestos Tailing Pile, 8/14/06. P. 100009-100014.

4. Air Sample Results - 10/06. P. 100015-100097.

5. Air Sampling Location Directory - Chain of Custody Record, 11/07/06. P. 100098-100102.

6. Soil Sampling Results, 10/25/2006. P. 100103-100121. December 15, 2006 cover letter to Mr. Eduardo Rovira, U.S. EPA, from Ms. Marian Murphy, Tetra Tech EM Inc, is attached.

7. Soil & Sediment Sampling Results, 11/30/06. P. 100122-100131. January 4, 2007 cover letter to Mr. Eduardo Rovira, U.S. EPA, from Ms. Marian Murphy, Tetra Tech EM Inc, is attached.

8. Map: Sediment, Soil (Flood Prone Area) & Surface Water Sampling Location Map - Figure 4, 01/22/07. P. 100132-100133.

9. Surface Water Sampling Results, 11/30/06. P. 100134-100149. January 18, 2007 cover letter to Mr. Eduardo Rovira, U.S. EPA, from Ms. Marian Murphy, Tetra Tech EM Inc, is attached.

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* Administrative Record available 7/15/09, updated 8/6/14, 1/20/16, and 11/10/16.

10. Map: Soil Sampling Location Map - Figure 3, 01/22/07. P. 100150-100151.

11. Agency for Toxic Substances and Disease Registry ATSDR Record of Activity (AROA) Health Consultation, Borit Asbestos Site, Ambler PA 12/20/06. P. 100152-100179.

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12. Memorandum to File, from Mr. Eduardo Rovira, Jr., U.S. EPA, re: BoRit Asbestos NPL Site, 9/7/16. P. 100180-100183.

IV. DECISION DOCUMENTS

1. Memorandum to Mr. James Burke, U.S. EPA, from Mr. Eduardo Rovira, Jr., U.S. EPA, re: Request for Additional Funds and Exemption from $2 Million and 12-Month Statutory Limit for Removal Action at Site, 4/14/08. P. 200001-200037.

2. Memorandum to Ms. Kathryn Hodgkiss, U.S. EPA, from Mr. Eduardo Rovira, U.S. EPA, re: Request for Additional Funds and Exemption from the $2 Million and 12-Month Statutory Limit for Removal Action at Site, 10/15/09. P. 200038-200048. An undated memorandum to Mr. Mathy Stanislaus, U.S. EPA, from Ms. Kathryn Hodgkiss, U.S. EPA, regarding request for additional funding and exemption from statutory limits for a Removal Action at the Site, is attached.

3. Memorandum to Mr. Dennis Carney, U.S. EPA, from Mr. Eduardo Rovira, U.S. EPA, re: Request for Additional Funds to Continue the Removal Action at the Site, 4/8/11. P. 200049-200062. An undated memorandum to Mr. Mathy Stanislaus, U.S. EPA, from Mr. Dennis Carney, U.S. EPA, regarding request for additional funds to continue the Removal Action at the Site, is attached.

4. Memorandum to Mr. Dennis Carney, U.S. EPA, from Mr. Eduardo Rovira, Jr., U.S. EPA, re: Request for Additional Funds to Continue the Removal Action at the Site, 7/19/12. P. 200063-200092. A July 19, 2012, memorandum to Mr. Mathy Stanislaus, U.S., from Mr. Dennis Carney, U.S. EPA, regarding request for additional funds to continue the Removal Action at the Site, and a summary of Removal Activities as of May 2012, are attached.

5. Memorandum to Mr. David Wright, U.S. EPA, from Mr. Eduardo Rovira, Jr., U.S. EPA, re: Request for Additional Funds to Continue the Removal Action at the Site, 4/3/14. P. 200093-200103. A memorandum to Mr. Mathy Stanislaus, U.S., from Mr. David Wright, U.S. EPA, regarding request for additional funds to continue the Removal Action at the Site, is attached.

6. Memorandum to Ms. Bonnie Gross, U.S. EPA, from Mr. Eduardo Rovira, U.S. EPA, re: Request for Additioanl Funds to Continue the Removal Action, 8/24/15. P. 200104-200112.

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7. Memorandum to Mr. Shawn Garvin, U.S. EPA, from Ms. Bonnie Gross, U.S. EPA, re: Request for Additional Funds and Change of Scope to Continue the Removal Action, 9/28/16. P. 200113-200123.