



**Memphis Street Academy**  
2950 Memphis Street  
Philadelphia, Pennsylvania 19134

## **Asbestos Abatement Air Monitoring Report**

**MARCH 10, 2023**

**PREPARED FOR:**

American Paradigm Schools  
8101 Castor Avenue  
Philadelphia, PA 19152  
Attn: Ms. Jessica Bowers

**PREPARED BY:**

The Vertex Companies, LLC  
2501 Seaport Drive, Suite BH 110  
Chester, Pennsylvania 19013  
**PHONE 610.558.8902**

**VERTEX Project No: 86237**

## **EXECUTIVE SUMMARY**

In February 2023, The Vertex Companies, LLC (VERTEX) was retained by American Paradigm Schools to provide air monitoring and laboratory services in conjunction with an asbestos abatement project within Memphis Street Academy located at 2950 Memphis Street in Philadelphia, Pennsylvania.

The scope of work for this project entailed the patch & repair or removal of the following asbestos containing materials:

- Approximately <1 linear foot patch & repair of pipe insulation in Classroom 224.
- Approximately <1 linear foot patch & repair of pipe fitting insulation in Office 205.
- Approximately <1 linear foot patch & repair of pipe fitting insulation in Classroom 102, Large Closet.
- Approximately 3 linear feet patch & repair pipe insulation in Computer Room 330 Corner Closet.
- Approximately 1 linear foot patch & repair of pipe/fitting insulation in Literacy Center 206.
- Approximately <1 linear foot patch & repair of pipe insulation in Cafeteria A.
- Approximately 1 linear foot patch & repair of pipe fitting insulation in Cafeteria Kitchen.
- Approximately 4 linear feet of electric wiring removed and disposal of 14 square feet of ebony board in Room 002.

Abatement operations were performed by Diamond Huntbach Construction Corp. on February 27 & 28, 2023; encompassing 2 work shifts.

VERTEX provided full time air monitoring services which included asbestos abatement oversight and the collection of airborne asbestos samples before, during, and after the abatement project. This air monitoring program was conducted in accordance with the City of Philadelphia's Asbestos Control Regulations. Air monitoring was performed by VERTEX's licensed Asbestos Project Inspector.

## **PROJECT OVERSIGHT**

VERTEX provided an air monitoring technician for on-site inspections of the asbestos project, which included:

- (1) Monitoring the activities and work procedures of the removal contractor.
- (2) Inspection of regulated work areas prior to abatement.
- (3) Collection of air samples to determine compliance with applicable regulations.
- (4) Performing visual inspection and clearance testing inside the regulated work areas.
- (5) Verify the collection and removal of all designated asbestos containing materials that were removed.



## RESULTS

1. Final airborne concentrations collected in the regulated work areas after abatement (final clearance samples) were below 0.01 F/cc, the City of Philadelphia clearance criteria for incidental and/or minor projects.
2. The airborne fiber concentration collected outside the regulated work areas (perimeter location) during removal operations were below 0.01 F/cc.

Please refer to the attached Table I PCM Air Sampling Results for a summary of the air sample results.

## AIR MONITORING

**Phase Contrast Microscopy (PCM)** air samples were collected and analyzed in accordance with the National Institute of Safety and Health (NIOSH) Analytical Method #7400, "Asbestos Fibers in Air," using A counting rules. A segment of the collected sample filter is mounted on a slide, treated chemically to make the filter transparent, and then examined using a special microscope reticule and counting procedure with phase contrast illumination at 400 to 500 magnification. Any particle having a length to width (or aspect) ratio greater than 3:1, and a length of 5 micrometers ( $\mu\text{m}$ ) or greater is counted as a fiber. PCM analysis does not distinguish between asbestos and non-asbestos fibers.

Air samples were collected by the high-volume method in which a pump is used to draw a volume of air through a membrane filter at a known rate. Typical sampling rates for final air testing are 10 Liters per minute (L/min) for approximately 800-1,800 Liters. Samples are collected in 25-millimeter (mm) cassettes containing a mixed cellulose ester (MCE) filter with a 0.8  $\mu\text{m}$ -effective pore size for PCM analysis.

Final clearance air samples were analyzed by Phase Contrast Microscopy (PCM).

## ABATEMENT METHODOLOGY

Abatement operations were performed by Commonwealth of Pennsylvania licensed asbestos abatement workers. All licensed workers donned proper personal protective (PPE) equipment, including but not limited to TYVEK® suits and NIOSH approved half-face air purifying respirators. These respirators have a protection factor of 10, capable of affording adequate protection where fiber levels do not exceed 1.0 F/cc.

## **Glovebag Removal**

Critical barriers consisting of two layers of plastic sheeting were used to seal over all openings in the work area and prevent airborne asbestos from migrating to adjacent areas. Critical barriers were utilized to establish a secondary containment.

The pipe insulation removal process consisted of pre-wetting of the pipe insulation, taping the glovebag to the pipe, re-wetting of the asbestos insulation, cutting metal bands, removing the insulation, wetting the insulation in the glovebag, wet wiping of the pipe, followed by glovebag removal. A HEPA vacuum was utilized to establish negative pressure inside the glovebags prior to removal. All bags were double bagged for disposal as asbestos waste.

Following the completion of the abatement operations, all waste generated as part of the removal project was double-bagged and labeled for proper disposal. Asbestos waste was transported and disposed of at an EPA approved landfill.

## Summary of PCM Air Sampling Results

**American Paradigm Schools  
 Memphis Street Academy  
 2950 Memphis Street  
 Philadelphia, PA  
 Vertex Project No. 86237**

Sample #	Sample Location/Activity	Volume (L)	Fibers/ 100 Fields	Sample Result (F/cc)
<b>Date collected: 2/27/23</b>				
<b>Site Activity/Work Area: Incidental Patch &amp; Repair of Pipe/Fitting Insulation</b>				
2.27.01	Work Area as Final: Classroom 224	902.5	7	0.004
2.27.02	Work Area as Final: Classroom 224	902.5	6	0.003
2.27.03	Work Area as Final: Office 205	902.5	6	0.003
2.27.04	Work Area as Final: Office 205	902.5	5	<0.003
2.27.05	Work Area as Final: Classroom 102, Large Closet	902.5	6.5	0.004
2.27.06	Work Area as Final: Classroom 102, Large Closet	902.5	4	<0.003
2.27.07	Blank	-	0	-
2.27.08	Blank	-	0	-
<b>Date collected: 2/27/23</b>				
<b>Site Activity/Work Area: Minor Patch &amp; Repair of Pipe/Fitting Insulation</b>				
2.27.09	Final: Computer Room 330 Corner Closet	1235	5.5	0.002
2.27.10	Final: Computer Room 330 Corner Closet	1235	3	<0.002
2.27.11	Final: Computer Room 330 Corner Closet	1235	5	<0.002
2.27.12	Final: Computer Room 330 Corner Closet	1235	1.5	<0.002
2.27.13	Final: Computer Room 330 Corner Closet	1235	4	<0.002
2.27.14	Blank	-	0	-
2.27.15	Blank	-	0	-
<b>Date collected: 2/28/23</b>				
<b>Site Activity/Work Area: Incidental Patch &amp; Repair of Pipe/Fitting Insulation</b>				
2.28.01	Work Area as Final: Literacy Center 206	1275	5.5	0.002
2.28.02	Work Area as Final: Literacy Center 206	1275	6.5	0.002
2.28.03	Work Area as Final: Cafeteria A	1232.5	5	<0.002
2.28.04	Work Area as Final: Cafeteria A	1232.5	5	<0.002
2.28.05	Work Area as Final: Cafeteria Kitchen	1232.5	6	0.002
2.28.06	Work Area as Final: Cafeteria Kitchen	1232.5	7	0.003
2.28.07	Blank	-	0	-
2.28.08	Blank	-	0	-
<b>Date collected: 2/28/23</b>				
<b>Site Activity/Work Area: Minor Removal of Electric Wiring and Ebony Board</b>				
2.28.09	Final: Room 002	1235	4	<0.002
2.28.10	Final: Room 002	1235	6	0.002
2.28.11	Final: Room 002	1235	6	0.002
2.28.12	Final: Room 002	1235	5.5	0.002
2.28.13	Final: Room 002	1235	8	0.003
2.28.14	Blank	-	0	-
2.28.15	Blank	-	0	-