

EHS ENVIRONMENTAL, INC.

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ASBESTOS ABATEMENT AIRBORNE SAMPLE ANALYSIS REPORT


CLIENT: Centennial School District
433 Centennial Road
Warminster, PA 18974

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA 18974

PROJECT NUMBER: 5-18-21197

CONTACT PERSON: Mr. Tom Golden

DATE OF REPORT: May 19, 2018

REPORT REVIEWED BY: 

Jack F. Carney, President

EXECUTIVE SUMMARY

EHS Environmental, Inc. was contracted by Centennial School District to provide sample collection and analytical services for airborne asbestos during and after the removal of specified asbestos containing materials at the Log College Middle School located at 730 North Norristown Road in Warminster, Pennsylvania.

This project entailed the removal of approximately:

- 27 pipe fittings from Room 203;
- 130 square feet of floor tile from the Mechanical Room 203;
- 14 fitting from Mechanical Room 46-0;
- 12 fittings from Storage Room 241;
- 27 fittings from Storage Room 240;
- 28 fitting from Storage Room 52;
- 58 fittings from Storage and Mechanical Room 112;
- 620 square feet of floor tile from Mechanical Room 230;
- 750 square feet of mastic from Mechanical Room 230;
- 211 pipe fittings from the Second Floor Hallway between Rooms 42 and 33/34;
- 11 fittings from Mechanical Storage Room 138;
- 85 fittings from Block C, Room L34 Boys Toilet-Plumbing Chase and Shower Area;
- 17 fittings from Block C, Storage Room 161;
- 100 square feet of floor tile from Block C, Storage Room 161;
- 130 square feet of mastic from Storage Room 161;
- 31 pipe fittings from the Wrestling Room Mechanical Area L34;
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Removal operations were performed by Power Component Systems, Inc. of Camp Hill, Pennsylvania. EHS was directed to removal locations by the client.

Results indicate that samples collected following removal activities (greater than (260) 40 linear feet or (160) 80 square feet) were below 0.00554 Fibers per cubic centimeter of air (F/cc), the current City of Philadelphia re-occupancy standard utilizing Transmission Electron Microscopy (TEM) for analysis. In areas were less than 40 linear feet or 80 square feet were removed; results indicate that samples collected following removal activities were below 0.00554 F/cc, the current City of Philadelphia re-occupancy standard utilizing NIOSH Method 7400, Phase Contrast Microscopy for analysis.

METHODS

Asbestos Sampling

Airborne asbestos samples were collected using calibrated equipment and NIOSH recommended sampling procedures. Asbestos fibers were collected on mixed cellulose membrane filters with 0.80 micron pore size mounted in a 3 stage filter cassette. Sample collection was performed in the open face position by drawing a known volume of air through the filter with a calibrated sampling pump. Final air samples were collected utilizing aggressive air sampling techniques.

Asbestos Analysis

Airborne asbestos samples collected before and during asbestos removal were analyzed per NIOSH Method 7400 using the 'A' counting rules. This method identifies total number of fibers by Phase Contrast Microscopy using 400 x magnifications. This method does not distinguish between asbestos and non-asbestos fibers (i.e., fiberglass, mineral wool, cellulose, etc.). All fibers with a length to diameter ratio of 3 to 1 or greater and a length of greater than 5 microns are considered to be asbestos fibers and are counted as such. The NIOSH Method 7400 requires 5.5 fibers per 100 fields to be counted to be considered "detectable."

Air samples collected following removal activities, which were analyzed via Transmission Electron Microscopy (TEM), were analyzed at IATL Analytical, Inc. located in Mt. Laurel, New Jersey.

Asbestos Standards

OSHA Standard is 0.10 F/cc: (applies to workers inside the work area and work area samples) 0.10 Fibers per cubic centimeters of air (F/cc) averaged over an 8-hour time period.

Clearance Criteria is 0.01 F/cc: (applies to samples collected inside the change room of the decontamination unit, outdoors, outside the work area, and final air samples collected following removal activities).

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Room 203

ACTIVITY: Preparation & Removal

COLLECTION DATE: May 7, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|---|-----------------------------|
| 21197-1a | Clean room of decon | 0.005 |
| 21197-2a | Perimeter – at entrance to decon | 0.004 |
| 21197-3a | Perimeter – in hallway at entrance to Room 40 | 0.003 |
| 21197-4a | Perimeter – in hallway at entrance to Room 43 | <0.002 |
| 21197-5a | Work area – center of Room 203 | 0.007 |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Room 203

ACTIVITY: Final Air Tests

COLLECTION DATE: May 7, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|-----------------------------|-----------------------------|
| 21197-6a | North side | 0.004 |
| 21197-7a | East side | <0.002 |
| 21197-8a | Center | 0.003 |
| 21197-9a | South side | <0.002 |
| 21197-10a | West side | <0.002 |
| 21197-11a | Field Blank | 0.0 Fibers/100 Fields |
| 21197-12a | Field Blank | 0.0 Fibers/100 Fields |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Rooms 203

ACTIVITY: Final Air Tests

COLLECTION DATE: May 8, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|-----------------------------|-----------------------------|
| 21197-1b | North side | 0.002 |
| 21197-2b | East side | <0.002 |
| 21197-3b | Center | 0.003 |
| 21197-4b | South side | <0.002 |
| 21197-5b | West side | 0.002 |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Room 46-0

ACTIVITY: Preparation & Removal

COLLECTION DATE: May 8, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|---|-----------------------------|
| 21197-6b | Clean room of decon | 0.004 |
| 21197-7b | Perimeter – at entrance to decon | 0.003 |
| 21197-8b | Perimeter – in hallway at entrance to Room 46 | <0.003 |
| 21197-9b | Perimeter – in hallway at entrance to Room 47 | <0.003 |
| 21197-10b | Work area – center of Room 46-0 | 0.007 |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Room 46-0

ACTIVITY: Final Air Tests

COLLECTION DATE: May 8, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|-----------------------------|-----------------------------|
| 21197-11b | North side | 0.004 |
| 21197-12b | East side | 0.003 |
| 21197-13b | Center | 0.002 |
| 21197-14b | South side | 0.004 |
| 21197-15b | West side | <0.002 |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Room 241

ACTIVITY: Final Air Tests

COLLECTION DATE: May 8, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|-----------------------------|-----------------------------|
| 21197-16 | North side | 0.005 |
| 21197-17 | East side | 0.003 |
| 21197-18 | Center | 0.004 |
| 21197-19 | South side | 0.004 |
| 21197-20 | West side | 0.006 |
| 21197-21 | Field Blank | 0.0 Fibers/100 Fields |
| 21197-22 | Field Blank | 0.0 Fibers/100 Fields |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Room 240

ACTIVITY: Preparation & Removal

COLLECTION DATE: May 9, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|-----------------------------------|-----------------------------|
| 21197-23 | Clean room of decon | 0.006 |
| 21197-24 | Perimeter – at entrance to decon | 0.004 |
| 21197-25 | Perimeter – in hallway at Room 38 | 0.003 |
| 21197-26 | Perimeter – in hallway at Room 55 | 0.004 |
| 21197-27 | Work area – center of Room 240 | 0.007 |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Rooms 240 & 52

ACTIVITY: Final Air Tests

COLLECTION DATE: May 9, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|-----------------------------|-----------------------------|
| | Room 240 | |
| 21197-28 | North side | 0.004 |
| 21197-29 | East side | <0.002 |
| 21197-30 | Center | 0.002 |
| 21197-31 | South side | <0.002 |
| 21197-32 | West side | <0.002 |
| | Room 52 | |
| 21197-33 | North side | 0.004 |
| 21197-34 | East side | 0.003 |
| 21197-35 | Center | 0.005 |
| 21197-36 | South side | 0.003 |
| 21197-37 | West side | 0.004 |
| 21197-38 | Field Blank | 0.0 Fibers/100 Fields |
| 21197-39 | Field Blank | 0.0 Fibers/100 Fields |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Mechanical Room 112

ACTIVITY: Preparation & Removal

COLLECTION DATE: May 10, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|---|-----------------------------|
| 21197-40 | Clean room of decon | 0.004 |
| 21197-41 | Perimeter – at entrance to decon | 0.005 |
| 21197-42 | Perimeter – in hallway at entrance to Rooms 19 & 20 | 0.004 |
| 21197-43 | Perimeter – in hallway at entrance to Room 17 | 0.003 |
| 21197-44 | Work area – center of Mechanical Room 112 | 0.005 |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Mechanical Room 112

ACTIVITY: Final Air Tests

COLLECTION DATE: May 10, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|-----------------------------|-----------------------------|
| 21197-45 | North side | 0.006 |
| 21197-46 | East side | 0.004 |
| 21197-47 | Center | 0.005 |
| 21197-48 | South side | 0.003 |
| 21197-49 | West side | 0.004 |
| 21197-50 | Field Blank | 0.0 Fibers/100 Fields |
| 21197-51 | Field Blank | 0.0 Fibers/100 Fields |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Mechanical Room 230

ACTIVITY: Preparation & Removal

COLLECTION DATE: May 11, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|---|-----------------------------|
| 21197-52 | Clean room of decon | 0.004 |
| 21197-53 | Perimeter – at entrance to decon | 0.003 |
| 21197-54 | Perimeter – in hallway at entrance to Rooms 40/41 | 0.004 |
| 21197-55 | Perimeter – in hallway at entrance to Room 43 | 0.002 |
| 21197-56 | Work area – center of Mechanical Room 230 | 0.006 |
| 21197-57 | Field Blank | 0.0 Fibers/100 Fields |
| 21197-58 | Field Blank | 0.0 Fibers/100 Fields |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Room 203

ACTIVITY: Final Air Tests – TEM

COLLECTION DATE: May 12, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|-----------------------------|-----------------------------|
| 21197-59 | In work area – north side | <0.0041 |
| 21197-60 | In work area – east side | <0.0041 |
| 21197-61 | In work area – center | <0.0041 |
| 21197-62 | In work area – south side | <0.0041 |
| 21197-63 | In work area – west side | <0.0041 |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
2nd Floor Hallway

ACTIVITY: Preparation & Removal

COLLECTION DATE: May 12, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|--|-----------------------------|
| 21197-64 | Clean room of decon | 0.002 |
| 21197-65 | Perimeter – at entrance to decon | 0.004 |
| 21197-66 | Perimeter – in hallway at critical barrier near Room 33 | 0.003 |
| 21197-67 | Perimeter – in hallway at critical barrier near Room 39 | 0.002 |
| 21197-68 | Work area – 2 nd floor hallway, center near Rooms 36 & 37 | 0.006 |
| 21197-69 | Field Blank | 0.0 Fibers/100 Fields |
| 21197-70 | Field Blank | 0.0 Fibers/100 Fields |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
2nd Floor Hallway

ACTIVITY: Final Air Tests

COLLECTION DATE: May 12, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|--|-----------------------------|
| 21197-71 | 2 nd floor hallway at Room 39 | 0.005 |
| 21197-72 | 2 nd floor hallway at Room 38 | 0.003 |
| 21197-73 | 2 nd floor hallway at Room 55 | 0.004 |
| 21197-74 | 2 nd floor hallway at Rooms 37 & 36 | 0.003 |
| 21197-75 | 2 nd floor hallway at Rooms 33 & 34 | 0.004 |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Mechanical Room 138

ACTIVITY: Preparation & Removal

COLLECTION DATE: May 14, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|---|-----------------------------|
| 21197-76 | Clean room of decon | 0.004 |
| 21197-77 | Perimeter – at entrance to decon | 0.003 |
| 21197-78 | Perimeter – in hallway at Room 17 | <0.003 |
| 21197-79 | Perimeter – in hallway at Rooms 19 & 20 | 0.004 |
| 21197-80 | Work area – center of Mechanical Room 138 | 0.006 |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Mechanical Room 138

ACTIVITY: Final Air Tests

COLLECTION DATE: May 14, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|-----------------------------|-----------------------------|
| 21197-81 | North side | <0.002 |
| 21197-82 | East side | 0.003 |
| 21197-83 | Center | <0.002 |
| 21197-84 | South side | <0.002 |
| 21197-85 | West side | 0.002 |
| 21197-86 | Field Blank | 0.0 Fibers/100 Fields |
| 21197-87 | Field Blank | 0.0 Fibers/100 Fields |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Room L34

ACTIVITY: Preparation & Removal

COLLECTION DATE: May 15, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|--|-----------------------------|
| 21197-88 | Clean room of decon | 0.004 |
| 21197-89 | Perimeter – at entrance to decon | 0.005 |
| 21197-90 | Perimeter – in hallway near bathroom | 0.005 |
| 21197-91 | Perimeter – in hallway to pool area | 0.002 |
| 21197-92 | Work area – center of pipe chase work area | 0.006 |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Room L54

ACTIVITY: Final Air Tests

COLLECTION DATE: May 15, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|-------------------------------------|-----------------------------|
| 21197-93 | North side of pipe chase work area | 0.003 |
| 21197-94 | East side of pipe chase work area | 0.005 |
| 21197-95 | Center side of pipe chase work area | 0.004 |
| 21197-96 | South side of pipe chase work area | 0.006 |
| 21197-97 | West side of pipe chase work area | 0.004 |
| 21197-98 | Field Blank | 0.0 Fibers/100 Fields |
| 21197-99 | Field Blank | 0.0 Fibers/100 Fields |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Storage Room 161

ACTIVITY: Preparation & Removal

COLLECTION DATE: May 16, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|---|-----------------------------|
| 21197-100 | Clean room of decon | 0.004 |
| 21197-101 | Perimeter – at entrance to decon | 0.005 |
| 21197-102 | Perimeter – in hallway near bay locker room | 0.004 |
| 21197-103 | Perimeter – in hallway near pool | 0.003 |
| 21197-104 | Work area – center of Storage Room 161 | 0.006 |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Storage Room 161

ACTIVITY: Final Air Tests

COLLECTION DATE: May 16, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|-----------------------------|-----------------------------|
| 21197-105 | North side | 0.004 |
| 21197-106 | East side | 0.002 |
| 21197-107 | Center | 0.003 |
| 21197-108 | South side | 0.005 |
| 21197-109 | West side | 0.004 |
| 21197-110 | Field Blank | 0.0 Fibers/100 Fields |
| 21197-111 | Field Blank | 0.0 Fibers/100 Fields |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Storage Rom 161 & Wrestling Room

ACTIVITY: Preparation & Removal

COLLECTION DATE: May 17, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|--|-----------------------------|
| 21197-112 | Clean room of decon | 0.003 |
| 21197-113 | Perimeter – at entrance to decon | 0.005 |
| 21197-114 | Perimeter – in hallway near Storage Room 161 | 0.004 |
| 21197-115 | Perimeter – in hallway near pool | 0.003 |
| 21197-116 | Work area – center of Wrestling Room work area | 0.006 |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Storage Room 161 & Wrestling Room

ACTIVITY: Final Air Tests

COLLECTION DATE: May 17, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|-----------------------------|-----------------------------|
| | Storage Room 161 | |
| 21197-117 | North side | 0.005 |
| 21197-118 | East side | 0.007 |
| 21197-119 | Center | 0.004 |
| 21197-120 | South side | 0.004 |
| 21197-121 | West side | 0.006 |
| | Wrestling Room | |
| 21197-122 | North side | 0.003 |
| 21197-123 | East side | 0.004 |
| 21197-124 | Center | 0.002 |
| 21197-125 | South side | 0.005 |
| 21197-126 | West side | <0.002 |
| 21197-127 | Field Blank | 0.0 Fibers/100 Fields |
| 21197-128 | Field Blank | 0.0 Fibers/100 Fields |

AIRBORNE SAMPLING RESULTS

CLIENT: Centennial School District

PROJECT NUMBER: 5-18-21197

LOCATION: Log College Middle School
730 North Norristown Road
Warminster, PA
Room L54

ACTIVITY: Final Air Tests

COLLECTION DATE: May 15, 2018 – 2nd Shift

| SAMPLE# | LOCATION/DESCRIPTION | CONCENTRATION (F/cc) |
|----------------|-----------------------------|-----------------------------|
| 21197-1 | | |
| 21197-1 | | |
| 21197-1 | | |
| 21197-1 | | |
| 21197-1 | | |
| 21197-1 | Field Blank | 0.0 Fibers/100 Fields |
| 21197-1 | Field Blank | 0.0 Fibers/100 Fields |