SYNERTECH
ENVIRONMENTAL LLC

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February 23, 2023

Mr. Matt Wasco
Philadelphia Performing Arts
1600 Vine Street
Philadelphia, PA 19102

Report for AHERA 6-Month Surveillance
Philadelphia Performing Arts Charter School
1600 Vine Street, Philadelphia, PA 19102
Synertech Environmental LLC Project No. 603-021

Dear Mr. Wasco:

As directed by your office, *Synertech Environmental LLC* conducted an AHERA 6-Month Surveillance at the Philadelphia Performing Arts Charter School located at 1600 Vine Street in Philadelphia, Pennsylvania. The scope of the surveillance focused on assessing the condition of asbestos containing materials (ACMs). No lead-based paint (LBP) was reported during the original inspection of the property. This report is a summary of the 6-Month Surveillance, and is supplementary to the March 12th, 2020 report entitled "Report for Asbestos and Lead Based Paint Investigation & Sampling" prepared by *Synertech, Incorporated*.

I. Asbestos Inspection

The purpose of the inspection was to assess the condition of assumed ACMs on all exposed areas within the interior spaces of the structure. The building was inspected to generate the data provided in this report for the purposes of establishing conclusions regarding the type, quantity, locations, and condition of the assumed ACMs observed. An EPA accredited Asbestos Building Inspector/City of Philadelphia Licensed Asbestos Investigator performed the surveillance using the data generated during a February 2020 inspection.

When conducting an asbestos inspection, the various suspect asbestos containing building materials are grouped into "homogeneous areas" for sampling and assessment. A homogenous area is defined as an area of a particular material that is uniform in color, texture, application, date of installation and function, and is believed to be similar in all other aspects. Samples of each homogenous area (material) are then collected to determine its asbestos content.

Note that exploratory demolition was not performed to locate and quantify concealed ACMs. The building was occupied and functional during the survey, and every effort was employed to maintain the integrity of architectural surfaces, operating mechanical systems, and structural components. Bulk samples were not collected from any homogenous area that would cause aesthetic damage or where the Asbestos Investigator determined that the material is fiberglass, foam glass, rubber, metal, or wood.

An ACM is defined as one that has a composition of greater than 1% asbestos by weight. Upon confirmation of a material to be asbestos containing, a physical assessment is provided to document its quantity, condition, and friability classification. The friability of a material is a term used to describe a physical property of suspect asbestos containing materials. A friable material is one that can be crushed and reduced to a powder by hand pressure. Conversely, a non-friable material is one that cannot be crushed and reduced to a powder by hand pressure. Refer to more detailed definitions of friable and non-friable asbestos containing materials presented below.

- **EPA Category I Non-friable ACM (NF1)**
  ACMs that cannot be reduced to a powder by hand pressure or crumbled between the fingers, limited to asbestos-containing gaskets, packings, resilient floor coverings, resilient floor covering mastic, and asphalt roofing products. Asphalt roofing products which may contain asbestos include built-up roofing; asphalt-containing single-ply membrane systems; asphalt shingles; asphalt-containing underlayment felts; asphalt-containing roof coatings and mastics; and asphalt- containing base flashings. ACM roofing products that use other bituminous or resinous binders (such as coal tars or pitches) are also considered to be EPA Category I Non-friable ACM. In an EPA Category I Non-friable ACM, the asbestos fibers remain bound within the matrix of the material. These types of materials pose no hazard of releasing asbestos fibers into the air unless rendered friable by activities including sanding, grinding, pulverizing, penetrating or cutting with power tools, or otherwise reducing to a powder. Mere cracking or minor breakage does not constitute the type of damage that would be considered as rendering these types of asbestos materials friable.

- **EPA Category II Non-friable ACM (NF2)**
  ACMs that cannot be reduced to a powder by hand pressure or crumbled between the fingers, and includes all other non-friable ACMs that are not classified as an EPA Category I Non-friable ACM. EPA Category II Non-friable ACMs include, but are not limited to, asbestos-cement shingles, asbestos cement tiles, cementitious “transite” boards or panels and cementitious laboratory table tops. In an EPA Category II Non-friable ACM, the asbestos fibers remain bound within the matrix of the material. These types of materials pose no hazard of releasing asbestos fibers into the air unless rendered friable by activities including breaking, sanding, grinding, pulverizing, penetrating or cutting with power tools, or otherwise reducing the panels or table tops to a powder. However, minor breakage does constitute the type of damage that would be considered as rendering these types of materials friable, as asbestos fibers may be released along the fractured surfaces or from the edges exposed by the breakage. Generally speaking, EPA Category II Non-friable ACMs is more likely to become friable when damaged than an EPA Category I Non-friable ACM.

- **EPA Regulated Friable ACM (FRI)**
  ACMs that can be reduced to a powder by hand pressure or crumbled between the fingers including, but not limited to, thermal insulation (e.g. - pipe, boiler, tank insulation) and surfacing materials (e.g. acoustical plaster, acoustic ceiling tiles, fireproofing). These ACMs pose a significant hazard of releasing asbestos fibers into the air when impacted or damaged in any way.

Summary of Findings – Asbestos Investigation

The following table lists the homogeneous materials identified during the inspection:

Waterview Recreation Center - Homogeneous Building Materials Identified				
HM ID	**SAMPLE #**	**DESCRIPTION**	**SAMPLE LOCATION**	**CLASSIFICATION**
A	01, 02	Ceramic Floor Tile	Installed in Bakery/Pastry Lab – Taken from Storage Closet	Non-Asbestos
B	03, 04	Ceramic Backsplash		
C	05, 06	Prism Rapid Setting Cement Grout		
D	07, 08	TEC Fast Setting Powder Grout		

All bulk samples taken during the 6-Month Surveillance were analyzed by iATL of Pennsauken, NJ (NIST-NVLAP No. 101165-0; AIHA Lab No. 100188). Bulk samples were analyzed via Polarized Light Microscopy (PLM), method EPA 600/R-93/116, the standard method of analysis for asbestos content in building materials. Reference the attached Asbetsos Bulk Sample Chain of Custody Log and Laboratory Certificates of Analysis for individual results.

II. Lead Based Paint Inspection

XRF testing for Lead Based Paint was conducted in the February 2020 inspection. No results greater than 0.7 mg/cm², the City of Philadelphia Department of Health threshold level for LBP, were found at this time.

Synertech Environmental LLC is pleased to have been given the opportunity to provide you with our professional environmental services. If you have any questions regarding the information and results in this correspondence, feel free to contact our office at (215) 755-2305.

Sincerely,

Ryan Hutsell
Project Manager
PA BI #056574
Phila. Asb. Inv. #AIC15-000019
PA Lead RA #054512

Attachment 1

Chain of Custody &
Laboratory Certificate of Analysis

9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: Synertech Environmental LLC
228 Moore Street
Philadelphia PA 19148

Client: SYN177

Report Date: 2/20/2023
Report No.: 678232 - PLM
Project: PPACS: 1600 Vine St
Project No.: 603-021

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7571361
Client No.: 01A
Analyst Observation: White/Grey Ceramic Tile
Client Description: Ceramic Floor Tile
Location: Installed in Bakery/Pastry Lab - Taken From Storage Closet
Facility:

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 7571362
Client No.: 02A
Analyst Observation: White/Grey Ceramic Tile
Client Description: Ceramic Floor Tile
Location: Installed in Bakery/Pastry Lab - Taken From Storage Closet
Facility:

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 7571363
Client No.: 03B
Analyst Observation: White/Grey Ceramic Tile
Client Description: Ceramic Backsplash
Location: Installed in Bakery/Pastry Lab - Taken From Storage Closet
Facility:

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 7571364
Client No.: 04B
Analyst Observation: White/Grey Ceramic Tile
Client Description: Ceramic Backsplash
Location: Installed in Bakery/Pastry Lab - Taken From Storage Closet
Facility:

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 7571365
Client No.: 05C
Analyst Observation: White Grout
Client Description: Prism Rapid Setting Cement Grout
Location: Installed in Bakery/Pastry Lab - Taken From Storage Closet
Facility:

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 7571366
Client No.: 06C
Analyst Observation: White Grout
Client Description: Prism Rapid Setting Cement Grout
Location: Installed in Bakery/Pastry Lab - Taken From Storage Closet
Facility:

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 2/16/2023
Date Analyzed: 02/20/2023
Signature: David Hayes
Analyst: David Hayes

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

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Client: SYN177

Report Date: 2/20/2023
Report No.: 678232 - PLM
Project: PPACS: 1600 Vine St
Project No.: 603-021

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7571367
Client No.: 07D

Analyst Observation: Lt Grey Grout
Client Description: TEC Fast Setting Powder Grout

Location: Installed in Bakery/Pastry Lab - Taken From Storage Closet
Facility:

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Lab No.: 7571368
Client No.: 08D

Analyst Observation: Lt Grey Grout
Client Description: TEC Fast Setting Powder Grout

Location: Installed in Bakery/Pastry Lab - Taken From Storage Closet
Facility:

Percent Asbestos:	Percent Non-Asbestos Fibrous Material:	Percent Non-Fibrous Material:
None Detected	None Detected	100

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 2/16/2023
Date Analyzed: 02/20/2023
Signature: David Hayes
Analyst: David Hayes

Approved By:
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Client:	Synertech Environmental LLC	Report Date:	2/20/2023
	228 Moore Street	Report No.:	678232 - PLM
	Philadelphia PA 19148	Project:	PPACS: 1600 Vine St
		Project No.:	603-021
Client:	SYN177		

Appendix to Analytical Report

Customer Contact:
Method: 40 CFR Appendix E to Subpart E of Part 763, interim method for the Determination of Asbestos in Bulk Insulation Samples, USEPA 600, R93-116 and NYSDOH ELAP 198.1 as needed.

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

iATL Customer Service: customerservice@iatl.com
iATL Office Manager: wchampion@iatl.com
iATL Account Representative: Shirley Clark
Sample Login Notes: See Batch Sheet Attached
Sample Matrix: Bulk Building Materials
Exceptions Noted: See Following Pages

General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at www.iATL.com and ir our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

Information Pertinent to this Report:

Analysis by US EPA 600 93-116: Determination of Asbestos in Bulk Building Materials by Polarized Light Microscopy (PLM).

Certifications:

- NIST-NVLAP No. 101165-0
- NYSDOH-ELAP No. 11021
- AIHA-LAP, LLC No. 100188

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. PC Trace represents a <0.25% amount. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analytical Methodology Alternatives: Your initial request for analysis may not have accounted for recent advances in regulatory requirements or advances in technology that are routinely used in similar situations for other qualified projects. You may have the option to explore additional analysis for further information. Below are a few options, listed as the matrix followed by the appropriate methodology. Also included are links to more information on our website.

Bulk Building Materials that are Non-Friable Organically Bound (NOB) by Gravimetric Reduction techniques employing PLM and TEM: ELAP 198.6 (PLM-NOB), ELAP 198.4 (TEM-NOB) See additional information at the end of this appendix.

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	228 Moore Street	Report No.:	678232 - PLM
	Philadelphia PA 19148	Project:	PPACS: 1600 Vine St
		Project No.:	603-021
Client:	SYN177		

Loose Fill Vermiculite Insulation, Attic Insulation, Zonolite (copyright), etc.: US EPA 600 R-4/004 (multi-tiered analytical process)
Sprayed On Insulation/Fireproofing with Vermiculite (SOF-V): ELAP 198.8 (PLM-SOF-V)

Soil, sludge, sediment, aggregate, and like materials analyzed for asbestos or other elongated mineral particles (ex. erionite, etc.): ASTM D7521, CARB 435, and other options available

Asbestos in Surface Dust according to one of ASTM's Methods (very dependent on sampling collection technique – by TEM): ASTM D 5755, D5756, or D6480

Various other asbestos matrices (air, water, etc.) and analytical methods are available.

Disclaimers / Qualifiers:

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a list with highlighted disclaimers that may be pertinent to this project. For a full explanation of these and other disclaimers, please inquire at **customerservice@iatl.com**.

1) Note: No mastic provided for analysis.
2) Note: Insufficient mastic provided for analysis.
3) Note: Insufficient material provided for analysis.
4) Note: Insufficient sample provided for QC reanalysis.
5) Note: Different material than indicated on Sample Log / Description.
6) Note: Sample not submitted.
7) Note: Attached to asbestos containing material.
8) Note: Received wet.
9) Note: Possible surface contamination.
10) Note: Not building material. 1% threshold may not apply.
11) Note: Recommend TEM-NOB analysis as per EPA recommendations.
12) Note: Asbestos detected but not quantifiable.
13) Note: Multiple identical samples submitted, only one analyzed.
14) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.080%.
15) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.125%.
16) Note: This sample contains >10% vermiculite mineral. See Appendix for Recommendations for Vermiculite Analysis.

Recommendations for Vermiculite Analysis:

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites).Please contact your client representative for pricing and turnaround time options available.

iATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004).

For New York State customers, NYSDOH requires disclaimers and qualifiers for various vermiculite containing samples that direct analysis via ELAP198.6 and ELAP198.8 for samples that contain >10% vermiculite mineral where ELAP198.6 may be used to evaluate the asbestos content of the material. However, any test result using ELAP198.6 will be reported with the following disclaimer: “ELAP198.6 method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing >10% vermiculite.”

Further information on this method and other vermiculite and asbestos issues can be found at the following: Agency for Toxic Substances and Disease Registry (ATSDR) www.atsdr.cdc.gov, United States Geological Survey (USGS) www.minerals.usgs.gov/minerals/, US EPA www.epa.gov/asbestos. The USEPA also has an informative brochure "Current Best Practices for Vermiculite Attic Insulation" EPA 747F03001 May 2003, that may assist the health and remediation professional. NYS customers please follow current NYSDOH ELAP requirements per policy on subject of surfacing and vermiculite, May 6, 2016, Testing Requirements for Surfacing Material Containing Vermiculite (https://www.wadsworth.org/sites/default/files/WebDoc/I198_8_02_2.pdf)

The following is a summary of the analytical process outlines in the EPA 600/R-04/004 Method:

1)**Analytical Step/Method:** Initial Screening by PLM, EPA 600R-93/116
Requirements/Comments: Minimum of 0.1 g of sample. ~0.25% for most samples.

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		Project No.:	603-021
Client:	SYN177		

2)**Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.

3)**Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Floats" only.

4)**Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.

5)**Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Suspension" only.
*With advance notice and confirmation by the laboratory.
**Approximately 1 Liter of sample in double-bagged container (~9x6 inch bag of sample).

New York State Department of Health requires that samples originating from NYS that they categorize as Non-friable Organically Bound materials can only be confirmed as None Detected for asbestos by method 198.4. See the table below for a list of those materials. (ENVIRONMENTAL LABORATORY APPROVAL PROGRAM CERTIFICATION MANUAL - ITEM No. 198.1, Revision Date 5/6/16)

*Asphalt Shingles, Caulking, Ceiling Tiles with Cellulose, Duct Wrap, Glazing, Mastic, Paint Chips, Resilient Floor Tiles, Rubberized Asbestos Gaskets, Siding Shingles, Vinyl Asbestos Tile, NOB materials (other that SM-V) with <10% vermiculite, Any material (Friable or NOB other than SM-V) with >10% vermiculite.

Statistically derived uncertainty with any measure should be taken into consideration when reviewing and interpreting all reported data and results. A more comprehensive listing of accuracy, precision, and uncertainty as it impacts this method is available upon request.

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Chain of Custody Transmittal – Asbestos Bulk Samples

Project Name: PPACS: 1600 Vine Street, Philadelphia, PA **Project No.** 603-021 **Laboratory:** iATL

Analysis: ☒ PLM ☐ Other ☐ Test Until Positive Per HMID **Turnaround Time:** ☐ 6 hour RUSH ☐ 24 hours ☐ 72 hours ☒ Other 48 hours

Samples Collected By: R. Hutsell **Date/Time** 02/16/2023 **Transmitted to Lab By:** R. Hutsell **Date/Time** 02/16/2023

Received in Lab By: **Date/Time** **Received in Lab By:** **Date/Time**

Report Results To:

Sample #	HMID	Lab Sample #	C/D	Material Description	Location
01	A	7571361		Ceramic Floor Tile	Installed in Bakery/Pastry Lab – Taken from Storage Closet
02	A	7571362		Ceramic Floor Tile	Installed in Bakery/Pastry Lab – Taken from Storage Closet
03	B	7571363		Ceramic Backsplash	Installed in Bakery/Pastry Lab – Taken from Storage Closet
04	B	7571364		Ceramic Backsplash	Installed in Bakery/Pastry Lab – Taken from Storage Closet
05	C	7571365		Prism Rapid Setting Cement Grout	Installed in Bakery/Pastry Lab – Taken from Storage Closet
06	C	7571366		Prism Rapid Setting Cement Grout	Installed in Bakery/Pastry Lab – Taken from Storage Closet
07	D	7571367		TEC Fast Setting Powder Grout	Installed in Bakery/Pastry Lab – Taken from Storage Closet
08	D	7571368		TEC Fast Setting Powder Grout	Installed in Bakery/Pastry Lab – Taken from Storage Closet

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HMID = Homogenous Material Identification
C = Composite- Samples indicated as composite should be analyzed/reported as a single material.
D = Discrete Stratum- Samples indicated as discrete stratum should be analyzed/reported by layer.