TTI ENVIRONMENTAL, INC.
Consulting & Contracting

1253 North Church Street, Moorestown, NJ 08057
www.ttienv.com o 856-840-8800 f 856-840-8815

September 17, 2024

Mr. Scott Krisanda, M.Ed., CEFM
Director of Facilities
Pemberton Township Schools
125B Trenton Road
Browns Mills, NJ 08015

Reference: Mold Inspection and Testing
Pemberton Township - Samuel T Busansky School – Room 109
16 Scrapetown Rd, Pemberton, NJ 08068
TTI Project Number 24-1322

Dear Mr. Krisanda:

Thank you for selecting TTI Environmental, Inc. (TTI) for your environmental needs. This correspondence is being forwarded to provide the findings and results of the initial mold inspection conducted at the above referenced property.

1.0 Background

TTI arrived on site on September 13, 2024 and was provided with general information on the area of concern. The property is a public elementary school building which was occupied at the time of the inspection and is located at 16 Scrapetown Road, Pemberton, New Jersey. The mold inspection included Room 109 and TTI's inspection was performed using a high lumen flashlight, humidity/temperature meter, and a thermal camera.

The building is one story constructed of concrete slab floor with vinyl tile, cinder block walls, drop ceiling with an HVAC unit in the room.

The onsite assessment was conduct by the following personnel: Mr. Timothy Popp, Vice President of Consulting for TTI. In addition to the visual inspection, TTI collected one (1) air sample from inside the room and one from outside the building as a comparison sample. In addition, one (1) swab sample was collected of suspected surface growth.

Observations

Room 109 was inspected because staff noticed suspected mold conditions within the room. According to information obtained growth was seen in the closet, on the rug and on some wall covers which were used to cover the boards. The school custodial staff conducted some cleaning which included the rug, wall covers and built-in closets were emptied, and the surfaces were cleaned prior to TTI's site visit. TTI conducted a visual inspection of the rooms building components and contents which identified suspected mold growth located on the entrance door, under both tables, under teacher desk, and under 2 student desks which were not being used. The closet contents were placed on the desks and remained there. The temperature level in the building was normal, and the relative humidity was below 60% but was higher than the outside level.

Table 1.0 Indoor Direct Reading Parameter

Room/Area	Temperature	Relative Humidity
Room 109	70.2	59.6
Outside	87.4	42.5
Recommended Ranges	**68-79**	**>30 & <60%**

2.0 Sampling Methods and Sample Locations

A fungal spore trap air sample was collected from within Room 109 and the outside as a comparison sample. In addition, a swab surface sample was also collected. All laboratory analysis was performed by EMSL Analytical Inc. Cinnaminson, New Jersey, a certified AIHA NVLAP Laboratory. The analytical test report is attached in Appendix A. A description of sample methodology is described below:

Fungal Swab Samples

TTI collected one (1) swab sample from the entrance door. Swab samples are collected using a sterile swab provided by the laboratory, which is rolled on the surface to collect suspected fungi.

Table 1.0: Fungal Swab Sample Results Summary

Sample ID / Location	Fungal ID	Category	Comment
S-1 Room 109 Entrance Door	Aspergillus	**High**	Visible mold growth observed on door

Category: Count/per area analyzed; Rare: 1 to 10 Low: 11 to 100 Medium: 101 to 1000 High: >1000

The swab sample collected from the door revealed high concentration of Aspergillus mold.

Fungal Spore Trap Air Samples

Fungal spore trap air samples are collected by using an Air-O-Cell™ cassette attached to a high-volume vacuum pump. A volume of air is drawn through the cassette and the contents of the air are deposited upon a specially treated glass slide, which is then analyzed by a mycologist who identifies fungal types and quantity. Fungal spore trap air samples measure both viable and non-viable fungal spores as well as fungal parts and fragments. Fungal spore trap air samples are collected from the outdoors to be used as a comparison to the inside samples. There are currently no standards of reference ranges for acceptable levels of airborne microorganisms when interpreting fungal air sample results, just guidance. It is generally accepted that indoor airborne fungal concentrations should be approximately the same as found outdoors and display similar genus distribution. Elevated indoor airborne fungal concentrations as compared to outdoor concentrations are often an indicator of a fungal amplification source due to a moisture condition.

Table 2.0: Fungal Spore Trap Air Sample Results Summary

Sample Number	Location	Total Airborne Fungal Concentration (fs per m^3)	Dominant Fungi Detected			Fungal Genera of Concern Detected		
			Fungal Species and/or Fungal Parts	Concentration (fs per m^3)	Percent of Total Sample	Fungal Species	Concentration (fs per m^3)	Percent of Total Sample
A-1	Room 109	750	Aspergillus/ Penicillium	570	76	Aspergillus/ Penicillium	570	76
A-2	Outside	4,850	Basidiospores	2,100	43.3	Aspergillus/ Penicillium	300	6.2

fs/m^3: fungal structures per cubic meter ND: Non-detected

The total airborne fungal concentration level of the sample collected inside Room 109 were lower than the outside sample. The individual mold species detected in the air sample collected inside were similar to the outside and did not identify any one species to be greater than 800 fs per m^3.

Conclusions & Recommendations

- The in-depth visual inspection of Room 109 did reveal surface mold growth on some building components and contents. The mold growth was likely caused by high humidity related conditions within the room. The humidity level was higher in this classroom as compared to the outside level during the inspection, which could indicate an HVAC equipment issue.
- The fungal air sample collected in the room did not indicate an air borne mold issue within the space at this time.
- Based on the information provided and TTI's site inspection results TTI recommends that an in-depth cleaning of Room 109 and contents be conducted to remove and reduce the surface mold within the room back to a normal condition. Cleaning would include all objects seen by staff prior to TTI's visit, objects seen by TTI and a general cleaning of surfaces. Contents should be generally inspected, and HEPA vacuumed as a precaution. Cleaning procedure should include HEPA vacuuming, mild detergent damp wipe followed by HEPA vacuuming again. HEPA air scrubbers should be placed in the room during the cleaning.
- It is also recommended that reduction of contents/clutter should be considered to allow for better cleaning and air flow.
- In order to reduce the possibility of humidity related mold it is important to clean, prevent stagnant air and maintain humidity levels below 60%.
- A copy of this should be maintained in the buildings IAQ Plan and any noted corrective actions taken.

We appreciate the opportunity for allowing TTI to provide you with environmental consulting services. If you should have any questions, please feel free to contact us at any time.

Sincerely,
TTI ENVIRONMENTAL, INC.

Timothy Popp
Vice President of Consulting

Appendix A:
Analytical Test Reports

EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-0262

http://www.EMSL.com / cinnmicrolab@emsl.com

EMSL Order: 372415639
Customer ID: TTIE54
Customer PO: 039694
Project ID:

Attention: Tim Popp
TTI Environmental Inc.
1253 North Church Street
Moorestown, NJ 08057

Project: 24 - 1322 Busansky School

Phone: (856) 840-8800
Fax: (856) 840-8815
Collected Date: 09/13/2024
Received Date: 09/13/2024 02:10 PM
Analyzed Date: 09/16/2024

Test Report:Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	372415639-0001			372415639-0002		
Client Sample ID:	A-1			A-2		
Volume (L):	75			75		
Sample Location:	Room 109			Outside		
Spore Types	**Raw Count†**	**Count/m³**	**% of Total**	**Raw Count†**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	1	10*	0.2
Ascospores	-	-	-	8	300	6.2
Aspergillus/Penicillium++	14	570	76	7	300	6.2
Basidiospores	2	80	10.7	50	2100	43.3
Bipolaris++	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-
Cladosporium	3	100	13.3	39	1600	33
Curvularia	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-
Ganoderma	-	-	-	1	40	0.8
Myxomycetes++	-	-	-	-	-	-
Pithomyces++	-	-	-	1	40	0.8
Rust	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-
Paecilomyces++	-	-	-	11	450	9.3
Spegazzinia	-	-	-	1	10*	0.2
Total Fungi	**19**	**750**	**100**	**119**	**4850**	**100**
Hyphal Fragment	-	-	-	3	100	-
Insect Fragment	-	-	-	1	40	-
Pollen	-	-	-	1	10*	-
Analyt. Sensitivity 600x	-	41	-	-	41	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-

† Due to method stopping rules, extrapolated raw counts are reported in parenthesis.

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

No discernable field blank was submitted with this group of samples.

Vincent Iuzzolino

Vincent Iuzzolino, M.S., Laboratory Manager
or other Approved Signatory

EMSL Analytical, Inc. maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. EMSL Analytical, Inc. bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. Skin Fragment and Fibrous Particulate ratings are based on the percent of non-fungal material they represent: 1 (1-25%), 2 (26-50%), 3 (51-75%), or 4 (76-100%). Background ratings are based on the total area covered by non-fungal particles: 1 (1-25%), 2 (26-50%), 3 (51-75%), 4 (76-99%), or 5 (100%; overloaded). High levels of background particulate can obscure spores and other particulates, leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts >= 100 are extrapolated based on the percentage analyzed.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ AIHA LAP, LLC-EMLAP Accredited #100194

Initial report from: 09/16/2024 12:39 PM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-0262
http://www.EMSL.com / cinnmicrolab@emsl.com

EMSL Order: 372415639
Customer ID: TTIE54
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Attention: Tim Popp
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1253 North Church Street
Moorestown, NJ 08057

Phone: (856) 840-8800
Fax: (856) 840-8815
Collected Date: 09/13/2024
Received Date: 09/13/2024
Analyzed Date: 09/16/2024

Project: 24 - 1322 Busansky School

Test Report: Microscopic Examination of Fungal Spores, Fungal Structures, Hyphae, and Other Particulates from Swab Samples (EMSL Method MICRO-SOP-200)

Lab Sample Number:	**372415639-0003**				
Client Sample ID:	**T-1**				
Sample Location:	**Room 109 Door**				
Spore Types	Category				
Alternaria (Ulocladium)	-				
Ascospores	-				
Aspergillus/Penicillium++	-				
Basidiospores	-				
Bipolaris++	-				
Chaetomium++	-				
Cladosporium	-				
Curvularia	-				
Epicoccum	-				
Fusarium++	-				
Ganoderma	-				
Myxomycetes++	-				
Pithomyces++	-				
Rust	-				
Scopulariopsis/Microascus	-				
Stachybotrys/Memnoniella	-				
Unidentifiable Spores	-				
Zygomycetes	-				
Aspergillus	*High*				
Hyphal Fragment	-				
Insect Fragment	-				
Pollen	-				
Fibrous Particulate	Rare				

Category: Count/per area analyzed - Rare: 1 to 10 Low: 11 to 100 Medium: 101 to 1000 High: >1000

- Denotes Not Detected.
++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.
* = Sample contains fruiting structures and/or hyphae associated with the spores.

Vincent Iuzzolino, M.S., Laboratory Director
or other Approved Signatory

No discernable field blank was submitted with this group of samples.

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ AIHA LAP, LLC-EMLAP Accredited #100194

Initial report from: 09/16/2024 12:39 PM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

OrderID: 372415639

EMSL Chain of Custody - One Chain

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only: 372415639

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	TTI Environmental Inc
Contact Name:	Tim Popp
Street Address:	1253 North Church St
City, State, Zip:	Moorestown NJ 08057
Country:	
Phone:	609-304-3968
Email(s) for Report:	timp@ttienv.com

Billing Information

Billing ID:	
Company Name:	Same
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	24-1322 Busansky School
Purchase Order:	039694
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Tim Popp
Sampled By Signature:	
No. of Samples in Shipment:	3

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 6 Hour ☒ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only; samples must be submitted by 11:30am.

ASBESTOS

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

*Please call with your project-specific requirements.

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

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☐ **Positive Stop - Clearly Identified Homogeneous Areas (HA)** Filter Pore Size (Air Samples): ☐ 0.8um ☐ 0.45um

LEAD (PB)

Flame Atomic Absoprtion
- ☐ Chips SW846-7000B or AOAC 974.2
- ☐ Soil SW846-7000B/7420
- ☐ Air NIOSH 7082
- ☐ Wastewater SM3111B or SW846-7000B/7420
- ☐ ASTM Wipe SW846-7000B/7420
- ☐ non-ASTM Wipe SW846-7000B/7420
- ☐ TCLP SW846-1311/ 7420/ SM3111B

ICP
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)
- ☐ Chatfield SOP

MICROBIOLOGY

Swab and Bulk Samples
- ☒ Mold & Fungi - Direct Examination
- ☐ Mold & Fungi Culture (Genus Only)
- ☐ Mold & Fungi Culture (Genus & Species)
- ☐ Bacterial Count & ID (Up to 3 Types)
- ☐ Bacterial Count & ID (Up to 5 Types)

Sewage Screen
- ☐ Sewage Screen (P/A)
- ☐ Sewage Screen (Membrane Filtration)

Water Samples
- ☐ Total Coliform & E. Coli (P/A, SM 9223B)
- ☐ Heterotrophic Plate Count (PP, SM 9251B)
- ☐ Fecal Coliform (SM 9222D)

Air Samples
- ☒ Mold & Fungi (Spore Trap)
- ☐ Mold & Fungi Culture (Genus Only)
- ☐ Mold & Fungi Culture (Genus & Species)
- ☐ Bacterial Count & ID (Up to 3 Types)
- ☐ Bacterial Count & ID (Up to 5 Types)

DNA & PCR Testing: (See Analytical Guide for Code)
Test Code:

Legionella: (See Analytical Guide for Code)
Test Code:

P/A= Presence/Absence, PP= Pour Plate

MAT-SCI (TAT End of Business Day)
- ☐ Common Particle ID (large particles)
- ☐ Full Particle ID (environmental dust)
- ☐ Basic Mateiral ID (solids)
- ☐ Advanced Material ID
- ☐ Physical Testing (Tensile, Compression)
- ☐ Combustion-By-Products (Soot, Char, Etc.)
- ☐ X-Ray Flourescence (elem. Analysis)
- ☐ X-Ray Diffraction (Crystalline Part.)
- ☐ MMVF's (Fibrous Glass, RCF's)
- ☐ Particle Size (Sieve, Microscopy, Laser)
- ☐ Combustible Dust
- ☐ Petrographic Examination

IAQ (TAT End of Business Day)
- ☐ Nuisance Dust ☐ NIOSH 0500 ☐ NIOSH 0600
- ☐ Airborne Dust ☐ PM10 ☐ TSP
- Silica Analysis: ☐ All Species
- Silica Analysis - Single Species
  - ☐ Alpha Quartz ☐ Cristobalite ☐ Tridymite
- ☐ HVAC Efficiency
- ☐ Carbon Black
- ☐ Airborn Oil Mist
- Radon Testing: Call for Kit and COC

Other Test (please specify)

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 9/13 24	Received by: Angie ONeill	Date/Time: 9/13/24 2:10p
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-17 One Chain EMSL R5 2/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 372415639

EMSL Chain of Custody - One Chain

EMSL Order Number / Lab Use Only: 372415639

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

24-1322 Busansky School PO# 039694

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
A-1	Room 109	75L	9 13 24 1231
A-2	Outside	↓	↓ 113
T-1	Room 109 Door	swab	9 13 24 1240

RECEIVED
EMSL
CINNAMINSON, N.J.
2024 SEP 13 P 2:09

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time:	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-17 One Chain EMSL R5 2/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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