



**LIMITED INDOOR AIR QUALITY INVESTIGATION/SAMPLING REPORT**

**FOR**

**CLIENT**

**Charlotte-Mecklenburg Schools, Building Services  
3301 Stafford Drive  
Charlotte, NC 28202**

**SITE LOCATION**

**Cornelius Elementary School  
21126 Catawba Avenue  
Cornelius, NC 28031**

**INVESTIGATION/SAMPLING DATE: October 12, 2020**

**REPORT DATE: October 15, 2020**

**PERFORMED BY**

**Kay H. Horton**

**ACAC Board Certification #: 0802034**

**For**

**Crossroads Environmental, LLC  
1258 Boiling Springs Road  
Spartanburg, South Carolina 29303  
(864) 541-8736  
CRE Project # 19469-IA**

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October 15, 2020

Mr. Glenn Warren  
Environmental Health & Safety Specialist  
Charlotte-Mecklenburg Schools, Building Services  
3301 Stafford Drive  
Charlotte, NC 28202

Re: Limited Indoor Air Quality Investigation/Sampling Report  
Cornelius Elementary School  
21126 Catawba Avenue, Cornelius, NC  
CRE Project Number: 19469-IA

Dear Mr. Warren:

Crossroads Environmental, LLC (CRE) performed a limited indoor air quality investigation at Cornelius Elementary School on October 12, 2020. The investigation was performed in response to occupant concern(s) regarding mold, and as a follow-up to a previous limited indoor air quality inspection report provided by *Environmental Services Group Carolinas, LLC (ESG)*.

The inspection performed by ESG was limited to Rooms 7, 229, and 301. In summary, the report provided by ESG indicated elevated concentrations of airborne *Aspergillus/Penicillium* and *Cladosporium* in the three (3) rooms. Tape-lift samples reported *Stachybotrys* on a ceiling tile, and *Cladosporium* in the HVAC unit. No outside air sample was collected for comparison/baseline purposes.

#### **INVESTIGATION/SAMPLING PROTOCOL**

CRE performed a visual inspection and air sampling in each of the three (3) rooms previously tested. Additionally, a minimum of one (1) room was sampled in each wing in addition to the rooms previously sampled. Visual inspections were performed in multiple rooms of each wing. Rooms 101-104 section, Rooms 1-7 section, and Rooms 301-304 section are more indicative of suites or pods, but are referred to as wings for report purposes.

Temperature and relative humidity were recorded in each space entered using an Extech™ Hygro-Thermometer Psychrometer.

The air samples were collected using *Allergenco* spore traps and a Zefon™ Bio-Pump calibrated to pull fifteen (15) liters of air per minute for five (5) minutes for a total of seventy-five (75) liters of air. A total of eight (8) samples were collected from representative areas inside of the building, and two (2) samples were collected outside of the building for comparison/baseline purposes. Three (3) tape-lift samples were collected from suspect mold to determine if the discoloration was mold, and if so, what type. All samples were sealed, packaged, and shipped overnight to Hayes Microbial for analysis of fungal spores and particulates by optical microscopy.

**OBSERVATIONS**

Overall, the spaces appeared clean, and there was no musty/mold odor observed. There was visible suspect mold observed on very limited items in the Room(s) 1-7 Wing, 200 Wing, and 300 Wing. The suspect growth was limited to the bottoms of older wooden tables and/or cubbies.

For thermal comfort, the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) recommends temperatures in occupied spaces to be between 73 degrees and 79 degrees Fahrenheit in the summer months and 68 degrees to 74.5 degrees Fahrenheit in the winter months. ASHRAE also recommends maintaining relative humidity readings of between 30% to 60% in habitable spaces to minimize the growth of allergenic or pathogenic organisms. Relative humidity levels exceeded 60% in all rooms that didn't have a de-humidifier in use, with the exception of the rooms on the 100 Wing.

**Table I. Observations Summary**

SVM= Suspect Visible Mold

Room #	Temp. (°F)	Relative Humidity (%)	Visible Mold/Observations	Auxiliary Equipment
229	77	43	SVM under one table, unit off	
218	72	64	None	
211	76	64	SVM under desk	
7	74	62	SVM in book cubbies	De-humidifier full (not running)
8	75	65	SVM on corner cabinet & under teacher's desk	HEPA unit in room; De-humidifier in hallway
301	71	45	None, unit on	De-humidifier & HEPA

**Table I. Observations continued**

Room #	Temp. (°F)	Relative Humidity (%)	Visible Mold/Observations	Auxiliary Equipment
303	71	44	None, unit off	De-humidifier & HEPA
304	72	43	SVM in cubbies (heavy)	
103	73	54	None, unit on	None
104	74	54	None, unit off	None

**SITE PHOTOS**

*Visible mold growth observed was very limited. The below photos show typical growth observed.*



Photo 1-Rm. 229 under table

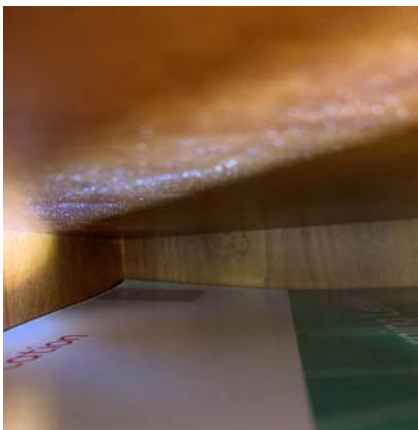


Photo 2- Rm. 7 cubby



Photo 3-Cubby shown in Photo 2

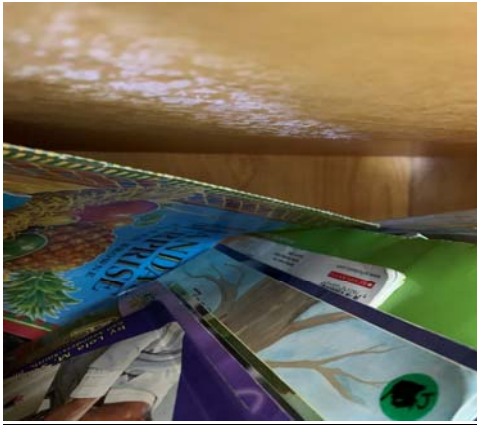


Photo 4-Rm. 304 in cubby

### **SAMPLE RESULTS/INTERPRETATION**

Interpretation of quantitative fungal levels in indoor environments is often complex and may involve a variety of parameters including chemical, microbial, and physical agents. To date, there are no regulatory requirements for indoor air quality involving fungi such as the Permissible Exposure Limits (PELs) utilized by the Occupational Safety and Health Administration (OSHA) for occupational health issues. There are, however, suggested guidelines on indoor air quality published by the American Conference of Governmental Industrial Hygienists (ACGIH), the AIHA, the New York City Department of Health-Bureau of Environmental & Occupational Disease (Guidelines on Assessment and Remediation of Fungi in Indoor Environments), the United States EPA (Mold Remediation in Schools and Commercial Buildings), and other national and international organizations and governmental agencies. Most of these guidelines do not focus on quantitative assessments (i.e., the amount of measured fungi), but rather rely on interpretation of data that focuses on identification of fungal species and genera, comparison of indoor and outdoor relationships, specific indicator species and the potential susceptibilities of exposed populations to various fungi<sup>1</sup>.

A comparison of indoor and outdoor airborne mold spore concentrations for the trap samples collected on October 12, 2020 **do not indicate overall** indoor air quality issues at the school in relation to atypical indoor airborne mold spore concentrations. There were, however, *Aspergillus/Penicillium* concentrations reported in two of the rooms tested that were higher than outdoor/baseline concentrations. *Aspergillus/Penicillium* is most commonly associated with visible growth due to

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<sup>1</sup> Janet Macher et al. (eds.), *Bioaerosols: Assessment and Control*, ACGIH, Cincinnati, Ohio, 1999, p. 19-10.

elevated indoor humidity and these findings support the determination made during the inspection that growth has been caused by prolonged periods of indoor humidity above 60%. No water damage indicators, such as *Stachybotrys*, *Chaetomium*, *Fusarium*, *Trichoderma* and *Memnoniella* were detected in the air samples collected.

The report provided by ESG states the following in their section regarding air sample results interpretation: “Generally, the total spore count should be below 2,000/m<sup>3</sup> (spores per cubic meter of air) except in areas where known outdoor air infiltration is occurring, such as areas that frequently have exterior doors opening and/or occupants have been outside and return with airborne mold spores on their clothing or hair”. It also states that “air levels in a clean indoor environment should be below 1,000/m<sup>3</sup>, *Aspergillus/Penicillium* and *Cladosporium* molds should generally be below 200/m<sup>3</sup> or at/equal to outdoor levels, or be within close ratios or percentages of the counts outdoors. No water damage target molds should be present such as *Stachybotrys*, *Chaetomium*, *Fusarium*, *Trichoderma* and *Memnoniella*”. A summary of the air results from the October 12, 2020 sampling are provided in Table II.

**Table II. Air Sample Results Summary**

Note: The full lab report is provided as an attachment. Outdoor sample results are highlighted.

Sample #	Sample Location	<i>Aspergillus/Penicillium</i> (spores/m <sup>3</sup> )	<i>Cladosporium</i> (spores/m <sup>3</sup> )	Total (spores/m <sup>3</sup> )
001	Outside main entrance	160	None	680
002	Room 229	387	None	387
004	Room 211	187	53	240
006	Room 7	93	None	160
008	Room 8 by HVAC unit	307	160	520
009	Room 8 at teacher's desk	93	93	146
010	Room 301	None	40	53
011	Outside of Room 301	67	80	854
012	Room 303	None	27	27
013	Room 104	53	None	53

Tape-lift samples, which were taken where suspect visible mold was observed, were submitted to the laboratory to determine if the suspect mold growth was mold, and if active growth indicators (mycelia) were present. Note: Mold spores are present throughout outdoor and indoor environments. Their presence alone does not indicate mold growth. In summary, from the three tape-lift samples provided, only one indicated active growth.

**Table III. Tape-Lift Results Summary**

Sample #	Sample Location	Type of Mold	Spore Estimate	Mycelial Estimate (growth indicator)
003	Rm. 229 under table	<i>Aspergillus/</i> <i>Penicillium</i> <i>Cladosporium</i>	Heavy Heavy	Few Many
004	Rm. 211 under desk	<i>Chaetomium</i>	Few	None detected
007	Room 7 cabinet	<i>Epicoccum</i> <i>Myxomycetes</i>	Rare Rare	None detected

**CONCLUSIONS**

Based on visual observations and sample results, there does not appear to currently be a significant indoor air quality issue at Cornelius Elementary School, and overall, results indicated mold levels typical of a non-problem indoor environment. There is, however, evidence of past elevated relative humidity exhibited by limited mold growth on some items, and slightly elevated airborne *Aspergillus/Penicillium* in two rooms tested. There is also current relative humidity exceeding 60% in a number of rooms, which can lead to future mold growth. There was no visible suspect mold, elevated relative humidity, or elevated airborne mold spores identified in the 100 Wing.

**RECOMMENDATIONS**

1. Ensure that HVAC units are operating such that relative humidity is maintained below 60%. If there are HVAC issues that cannot be corrected, auxiliary de-humidification is recommended.
2. Clean all furnishings exhibiting visible suspect mold growth, paying specific attention to the underside of older wooden tables, desks, and cubbies. HEPA filtration (air scrubbing) is recommended during cleaning.
  - a. Discontinue the use of the HVAC systems of each space during cleaning.



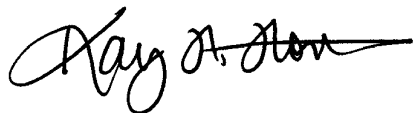
- b. During remediation proper PPE is recommended along with air scrubbing in the isolated space to remove airborne mold spores released during remediation.
  - c. Rugs present in the general area of visible mold growth, if present, should be cleaned with the use of HEPA equipped vacuums.
  - d. Maintain indoor relative humidity levels within recommended range of 30% and 60% during remediation and afterwards.
  - e. HVAC systems are recommended to be inspected for deficiencies that prevent dehumidification and/or maintaining indoor humidity below 60%.
  - f. HVAC filtration is recommended to be maintain on routine scheduling, correctly positioned for filtration, and with MERV rated filters of a minimal value of 8.
3. Follow up sampling is not necessary, but can be provided.

**CLOSING STATEMENTS**

This document was prepared at the request of the Charlotte-Mecklenburg Schools and was based on limited sampling/investigation conducted at Cornelius Elementary School on October 12, 2020. The results presented within this report are indicative of conditions only at the time of the testing. This report does not purport to include all health hazards at the site and is limited in scope to the parameters mentioned.

Crossroads Environmental, LLC appreciates the opportunity to provide Charlotte-Mecklenburg Schools with our consultative services. If you have any questions or need additional information, please do not hesitate to contact us.

Sincerely,



Kay H. Horton  
Certified Indoor Environmental Consultant

**ATTACHMENT I**  
**LABORATORY RESULTS**

Analysis Report prepared for

## Crossroads Environmental, LLC

1258 Boiling Springs Road  
Spartanburg, SC 29303

Phone: (864) 541-8736

19469-IA  
Charlotte Mecklenburg Schools  
Cornelius Elem.

Collected: **October 12, 2020**  
Received: **October 13, 2020**  
Reported: **October 13, 2020**

We would like to thank you for trusting Hayes Microbial for your analytical needs!  
We received 13 samples by FedEx in good condition for this project on October 13th, 2020.

The results in this analysis pertain only to this job, collected on the stated date, and should not be used in the interpretation of any other job. This report may not be duplicated, except in full, without the written consent of Hayes Microbial Consulting, LLC..

This laboratory bears no responsibility for sample collection activities, analytical method limitations, or your use of the test results. Interpretation and use of test results are your responsibility. Any reference to health effects or interpretation of mold levels is strictly the opinion of Hayes Microbial. In no event, shall Hayes Microbial or any of its employees be liable for lost profits or any special, incidental or consequential damages arising out of the use of these test results.



Steve Hayes, BSMT(ASCP)  
Laboratory Director  
Hayes Microbial Consulting, LLC.



EPA Laboratory ID: VA01419



Lab ID: #188863



DPH License: #PH-0198

Sample Number	1 001-4050305			2 002-4050304			4 004-4050302			6 006-4050307		
Sample Name	Outside Main Entrance			Rm 229			Rm 211			Rm 7		
Sample Volume	75.00 liter			75.00 liter			75.00 liter			75.00 liter		
Reporting Limit	13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>		
Background	2			2			2			2		
Fragments	53/m <sup>3</sup>			13/m <sup>3</sup>			ND			ND		
Organism	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total
Alternaria												
Ascospores	32	427	62.7%							2	27	16.7%
Aspergillus Penicillium	12	160	23.5%	29	387	100.0%	14	187	77.8%	7	93	58.3%
Basidiospores	7	93	13.7%									
Bipolaris Drechslera												
Chaetomium												
Cladosporium							4	53	22.2%			
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes										3	40	25.0%
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
<b>Total</b>	<b>51</b>	<b>680</b>	<b>100%</b>	<b>29</b>	<b>387</b>	<b>100%</b>	<b>18</b>	<b>240</b>	<b>100%</b>	<b>12</b>	<b>160</b>	<b>100%</b>

Water Damage Indicator      Common Allergen      Slightly Higher than Baseline      Significantly Higher than Baseline      Ratio Abnormality



Collected: **Oct 12, 2020**      Received: **Oct 13, 2020**      Reported: **Oct 13, 2020**

Project Analyst: Shareef Abdelgadir, MS *Shareef Abdelgadir*      Date: **10 - 13 - 2020**      Reviewed By: Steve Hayes, BSMT *Stephen N. Hayes*      Date: **10 - 13 - 2020**

Sample Number	8 008-4050301			9 009-4134867			10 010-4050328			11 011-4050306		
Sample Name	Rm 8 - By HVAC Unit			Rm 8 - At Teacher's Desk			Rm 301			Outside of Rm 301		
Sample Volume	75.00 liter			75.00 liter			75.00 liter			75.00 liter		
Reporting Limit	13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>		
Background	2			2			2			2		
Fragments	ND			ND			ND			ND		
Organism	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total
Alternaria												
Ascospores	1	13	2.6%	1	13	9.1%				42	560	65.6%
Aspergillus Penicillium	23	307	59.0%	3	40	27.3%				5	67	7.8%
Basidiospores										11	147	17.2%
Bipolaris Drechslera												
Chaetomium												
Cladosporium	12	160	30.8%	7	93	63.6%	3	40	75.0%	6	80	9.4%
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes	3	40	7.7%				1	13	25.0%			
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
<b>Total</b>	<b>39</b>	<b>520</b>	<b>100%</b>	<b>11</b>	<b>146</b>	<b>100%</b>	<b>4</b>	<b>53</b>	<b>100%</b>	<b>64</b>	<b>854</b>	<b>100%</b>

Water Damage Indicator      Common Allergen      Slightly Higher than Baseline      Significantly Higher than Baseline      Ratio Abnormality



Collected: **Oct 12, 2020**      Received: **Oct 13, 2020**      Reported: **Oct 13, 2020**

Project Analyst: Shareef Abdelgadir, MS *Shareef Abdelgadir*      Date: **10 - 13 - 2020**      Reviewed By: Steve Hayes, BSMT *Stephen N. Hayes*      Date: **10 - 13 - 2020**

Sample Number	12	012-4132992			13	013-4134783				
Sample Name	<b>Rm 303</b>			<b>Rm 104</b>						
Sample Volume	75.00 liter			75.00 liter						
Reporting Limit	13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>						
Background	2			2						
Fragments	ND			ND						
Organism	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total				
Alternaria										
Ascospores										
Aspergillus Penicillium				4	53	100.0%				
Basidiospores										
Bipolaris Drechslera										
Chaetomium										
Cladosporium	2	27	100.0%							
Curvularia										
Epicoccum										
Fusarium										
Memnoniella										
Myxomycetes										
Pithomyces										
Stachybotrys										
Stemphylium										
Torula										
Ulocladium										
Total	2	27	100%	4	53	100%				

Water Damage Indicator      Common Allergen      Slightly Higher than Baseline      Significantly Higher than Baseline      Ratio Abnormality

Collected: **Oct 12, 2020**

Received: **Oct 13, 2020**

Reported: **Oct 13, 2020**



Project Analyst:  
 Shareef Abdelgadir, MS *Shareef Abdelgadir*

Date:  
**10 - 13 - 2020**

Reviewed By:  
 Steve Hayes, BSMT *Stephen N. Hayes*

Date:  
**10 - 13 - 2020**

#	Bio-Tape (1.00 cm2)	Organism	Spore Estimate	Mycelial Estimate
#3	003-134180 - Rm 229 - Under Table	Aspergillus Penicillium	Heavy	Few
		Cladosporium	Heavy	Many
#5	005-134163 - Rm 211 - Under Desk	Chaetomium	Rare	ND
#7	007-134168 - Rm 7 - Cabinet	Epicoccum	Rare	ND
		Myxomycetes	Rare	ND

**Spore Trap Information**

<b>Reporting Limit</b>	The Reporting Limit is the lowest number of spores that can be detected based on the total volume of the sample collected and the percentage of the slide that is counted. At Hayes Microbial, 100% of the slide is read so the LOD is based solely on the total volume. Raw spore counts that exceed 500 spores will be estimated.					
<b>Blanks</b>	Results have not been corrected for field or laboratory blanks.					
<b>Background</b>	<p>The Background is the amount of debris that is present in the sample. This debris consists of skin cells, dirt, dust, pollen, drywall dust and other organic and non-organic matter. As the background density increases, the likelihood of spores, especially small spores such as those of Aspergillus and Penicillium may be obscured. The background is rated on a scale of 1 to 5 and each level is determined as follows:</p> <p><b>NBD:</b> No background detected due to possible pump or cassette malfunction. Recollect sample. (Field Blanks will display NBD)</p> <p><b>1 :</b> &lt;5% of field occluded. No spores will be uncountable.</p> <p><b>2 :</b> 5-25% of field occluded.</p> <p><b>3 :</b> 25-75% of field occluded.</p> <p><b>4 :</b> 75-90% of field occluded.</p> <p><b>5 :</b> &gt;90% of field occluded. Suggested recollection of sample.</p>					
<b>Fragments</b>	Fragments are small pieces of fungal mycelium or spores. They are not identifiable as to type and when present in very large numbers, may indicate the presence of mold amplification.					
<b>Control Comparisons</b>	There are no national standards for the numbers of fungal spores that may be present in the indoor environment. As a general rule and guideline that is widely accepted in the indoor air quality field, the numbers and types of spores that are present in the indoor environment should not exceed those that are present outdoors at any given time. There will always be some mold spores present in "normal" indoor environments. The purpose of sampling and counting spores is to help determine whether an abnormal condition exists within the indoor environment and if it does, to help pinpoint the area of contamination. Spore counts should not be used as the sole determining factor of mold contamination. There are many factors that can cause anomalies in the comparison of indoor and outdoor samples due to the dynamic nature of both of those environments.					
<table border="1"> <tr><td>Water Damage Indicator</td></tr> <tr><td>Common Allergen</td></tr> <tr><td>Slightly Higher than Baseline</td></tr> <tr><td>Significantly Higher than Baseline</td></tr> <tr><td>Ratio Abnormality</td></tr> </table>	Water Damage Indicator	Common Allergen	Slightly Higher than Baseline	Significantly Higher than Baseline	Ratio Abnormality	<p><b>Blue:</b> These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem.</p> <p><b>Green:</b> Although all molds are potential allergens, these are the most common allergens that may be found indoors.</p> <p><b>Orange:</b> The spore count is slightly higher than the outside count and may or may not indicate a source of contamination.</p> <p><b>Red:</b> The spore count is significantly higher than the baseline count and probably indicates a source of contamination.</p> <p><b>Violet:</b> The types of spores found indoors should be similar to the ones that were identified in the baseline sample. Significant increases (more than 25%) in the ratio of a particular spore type may indicate the presence of abnormal levels of mold, even if the total number of spores of that type is lower in the indoor environment than it was outdoors.</p>
Water Damage Indicator						
Common Allergen						
Slightly Higher than Baseline						
Significantly Higher than Baseline						
Ratio Abnormality						
<b>Color Coding</b>	Fungi that are present in indoor samples at levels lower than 200 per cubic meter are not color coded on the report, unless they are one of the water damage indicators.					



<b>Spore Estimate</b>		<b>Percentages</b>
ND	None Detected	0%
Rare	Less than 10 spores	< 1%
Light	10 - 99 spores	1-10%
Moderate	100 - 999 spores	11-25%
Heavy	1000 - 9999 spores	26-50%
Very Heavy	10000 or greater spores	51-100%

<b>Mycelial Estimate</b>	
ND	None Detected No active growth at site.
Trace	Very small amount of Mycelium Probably no active growth at site.
Few	Some Mycelium Possible active growth at site.
Many	Large amount of Mycelium Probable active growth at site.

**Organism Descriptions**

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<b>Ascospores</b>	<b>Habitat:</b> A large group consisting of more than 3000 species of fungi. Common plant pathogens and outdoor numbers become very high following rain. Most of the genera are indistinguishable by spore trap analysis and are combined on the report.
	<b>Effects:</b> Health affects are poorly studied, but many are likely to be allergenic.

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<b>Aspergillus Penicillium</b>	<b>Habitat:</b> The most common fungi isolated from the environment. Very common in soil and on decaying plant material. Are able to grow well indoors on a wide variety of substrates.
	<b>Effects:</b> This group contains common allergens and many can cause hypersensitivity pneumonitis. They may cause extrinsic asthma, and many are opportunistic pathogens. Many species produce mycotoxins which may be associated with disease in humans and other animals. Toxin production is dependent on the species, the food source, competition with other organisms, and other environmental conditions.

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<b>Basidiospores</b>	<b>Habitat:</b> A common group of Fungi that includes the mushrooms and bracket fungi. They are saprophytes and plant pathogens. In wet conditions they can cause structural damage to buildings.
	<b>Effects:</b> Common allergens and are also associated with hypersensitivity pneumonitis.

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<b>Chaetomium</b>	<b>Habitat:</b> Ascomycete fungus, commonly isolated from soil and decaying plant materials. It is cellulolytic and grows well indoors on damp sheetrock and other paper substrates. It is often found growing with Stachybotrys.
	<b>Effects:</b> It is reported to be allergenic and may produce toxins.

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<b>Cladosporium</b>	<b>Habitat:</b> One of the most common genera worldwide. Found in soil and plant debris and on the leaf surfaces of living plants. The outdoor numbers are lower in the winter and often relatively high in the summer, especially in high humidity. The outdoor numbers often spike in the late afternoon and evening. Indoors, it can be found growing on textiles, wood, sheetrock, moist window sills and in HVAC supply ducts.
	<b>Effects:</b> A common allergen, producing more than 10 allergenic antigens and a common cause of hypersensitivity pneumonitis.

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<b>Epicoccum</b>	<b>Habitat:</b> It is found in soil and plant litter and is a plant pathogen. It can grow indoors on a variety of substrates, including paper and textiles and is commonly found on wet drywall.
	<b>Effects:</b> It is a common allergen. No cases of infection have been reported in humans.

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**Myxomycetes**

**Habitat:** Found on decaying plant material and as a plant pathogen.

**Effects:** Some allergenic properties reported, but generally pose no health concerns to humans.

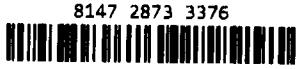
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N

SHIP: FEDEX - PAK SO  
DATE: 10-13-2020



20037312



8147 2873 3376

crossroads  
environmental, llc

- P = Particulate
- S = Swab
- T = Tape Lift
- V = VOC
- O = Other

**TURNAROUND TIME**  
N = Normal Turnaround  
R = Rush

**CROSSROADS ENVIRONMENTAL, LLC**  
1258 BOILING SPRINGS RD.  
SPARTANBURG, SC 29303  
Phone (864) 541-8736  
Fax (864) 541-8776

E-mail Results To: [results@crossroadsenv.net](mailto:results@crossroadsenv.net)  
Collected by: Kay Boston  
Analyzed by: Hayes Microbial

Project #: \_\_\_\_\_ Date: 10/12/20  
 Client: Charlotte Mecklenburg Schools  
 Project Name: Cornelius Elem.  
 Site: \_\_\_\_\_  
 Weather: warm, rained earlier

**IEQ Sampling Form**

Outside AM Temp \_\_\_\_\_ Humidity \_\_\_\_\_

Outside PM Temp \_\_\_\_\_ Humidity \_\_\_\_\_

Sample #	Type	Area	Pump #	Location	Type of Analysis	CO <sub>2</sub>	Temp. (°F)	Humidity (Rh)	Total Mins.	Time	FR (LPM)	Volume	Turn-around Time	
001-4050305	Z	2	2	Outside main entrance	fungus ID		70	80	5	12:50	15	75	24 hr.	
002-4050304	Z	1	2	Rm. 229	↓		77	43		13:04				
003-134180	T	1		Rm. 229 - under table										
004-4050302	Z	1	2	Rm. 211			76	64		13:20				
005-134163	T	1		Rm. 211 under desk						13:49				
006-4050307	Z	1	2	Rm. 7			74	62						
007-134168	T	1		Rm. 7 cabinet										
008-4050301	Z	1	2	Rm. 8 - by HVAC unit			75	65		14:05				
009-4134867	Z	1	↓	Rm. 8 - at teachers desk						14:12				
010-4050328	Z	1	↓	Rm. 301			71	45		14:30				

**SAMPLE CHAIN OF CUSTODY**

Signature of Handlers:

Relinquished By: [Signature]

Date: 10/12/20

Submitted To: Hayes Microbial

Date Sent: 10/12/20

Received By: [Signature]

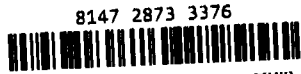
814728733376

Date: 10/13/20

Time: \_\_\_\_\_

N

SHIP: FEDEX - PAK 50  
DATE: 10-13-2020



8147 2873 3376

K

**crossroads**  
environmental, llc



20037312

Z = Outside Bldg.  
3 = Inside Containment  
4 = Outside Containment

**TURNAROUND TIME**  
N = Normal Turnaround  
R = Rush

Page 2 of 2

**CROSSROADS ENVIRONMENTAL, LLC**  
1258 BOILING SPRINGS RD.  
SPARTANBURG, SC 29303

Phone (864) 541-8736  
Fax (864) 541-8776

E-mail Results To: [results@crossroadsenv.net](mailto:results@crossroadsenv.net)

Collected by: Kay Porter  
Analyzed by: Hayes microbial

Project #: \_\_\_\_\_ Date: 10/12/20

Client: Charlotte Mecklenburg Schools

Project Name: Cornelius Elem.

Site: \_\_\_\_\_

Weather: \_\_\_\_\_

Outside AM Temp \_\_\_\_\_ Humidity \_\_\_\_\_

Outside PM Temp \_\_\_\_\_ Humidity \_\_\_\_\_

### IEQ Sampling Form

Sample #	Type	Area	Pump #	Location	Type of Analysis	CO <sub>2</sub>	Temp. (°F)	Humidity (Rh)	Total Mins.	Time	FR (LPM)	Volume	Turn-around Time
011-4050306	Z	2	2	Outside of Rm. 301	fungal ID				5	14:40	15	75	24 hr
012-4132992	Z	1	↓	Rm. 303	↓		74	43		14:55			
013-4134783	Z	1	↓	Rm. 104	↓		74	54		15:10			

#### SAMPLE CHAIN OF CUSTODY

Signature of Handlers:

Relinquished By: Kay Porter

Date: 10/12/20

Relinquished By: \_\_\_\_\_

Date: \_\_\_\_\_

Submitted To: Hayes microbial

Date Sent: 10/12/20

Received By: TM

Received By: \_\_\_\_\_

Date: 10.13.20

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Time: \_\_\_\_\_