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*Certified Mold Inspections
Mold Consultations & Remediation*



LIMITED MOLD INSPECTION REPORT

(HMC #18014805, 18014810, 18014812, 18014806, 18014808,
18014809, 18014816, 18014807, 18014841, 18014840, 18014858,
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Report Prepared For:
Anthony Correctional Center
WV Division of Corrections
Property Inspected:
May 9,10,18, 2018
Neola , West Virginia

Inspection and Report Analysis by:

A handwritten signature in black ink, appearing to read 'Roland S. Jones'. The signature is fluid and cursive.

Roland S. Jones, CMI, CMRC, CMIA, CIAQT
WV License # HI79710839-1006
Expiration: 10/31/20018

DUNS #034123462; CAGE# 76JAO

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Credentials and Certification

The subject limited sampling mold inspection was conducted by Roland S. Jones, CMI, CMIA, CMRC, CIAQT, CRMI, CCMi, CMR, State Licensed Inspector for InspectRite Services, Inc. on May 9, 10 & 18, 2018. We have in excess of forty years experience in the building construction industry, mold inspections and remediation. We are nationally certified as MICRO “Certified Mold Inspectors” “Certified Mold Remediation Contractors”, ESA “Certified Mold Inspector & Assessor.” and PMII “Certified Residential Mold Inspector” and “Certified Mold Remediator”. Additionally, we are members in good standing of the International Association of Certified Air Consultants. Hours of continuing education courses and continual research each year keeps us current with the latest techniques in mold inspection and remediation.

InspectRite Services strictly adheres to the standards set by the above organizations and practices strict moral, ethical and professional principles in our conduct of business.

Visual Inspection Process

The first step in properly evaluating a potential mold problem is the visual inspection. Throughout this phase, we are looking for three things: (1) evidence of previous moisture intrusion, (2) evidence of mold growth and (3) areas with a potential for future mold infestation.

The vacuum pumps used for this air sampling are Zefon® BioPumps, Model 200 which is tested and calibrated periodically by the manufacturer. Prior to capturing any samples under this project, the BioPumps were field calibrated by use of a TSI®, Model 4046 electronic calibrator flowmeter. This flowmeter has been factory calibrated at the TSI Flowmeter Calibration Facility (TSI9120254) using the procedures outlined in TSI 9010471 which maintains NIST traceability in accordance with TSI 9120254.

The numbers (test results) received from the AIHA laboratory alone do not give us enough information to accurately determine the level of interior contamination. Outside control samples are needed to identify the quantity of mold found in the natural environment. Indoor levels are normally found at approximately 50% of outside samples. Under certain conditions, an indoor level equal to the outdoor level (100%) may be tolerated. Any level above 100% normally indicates that these spores are being re-produced within the structure and the level is not simply a amplification of the outdoor level.

An assessment is performed on the interior space. In the interior assessment, we are looking for mold growth and/or signs of water penetration/moisture intrusion that may eventually lead to mold growth. The results of these visual inspections will determine the extent of the testing that we undertake.

Background Information

On November 4, 2016, a very limited mold inspection was conducted in Building

“A” in Dorms #1,3,4,5,6 and in Hallways “A”, “B” and “C” and the Sally Port of that building. In Building “B, Dorms # 7 & 8 were tested for abnormal levels of mold. Three (3) areas in Building “A” were found to be contaminated with **Stachybotrys**. It appeared in 2016 that most of the mold contamination originated as a consequence of water leaks in the roof structure and uncontrolled condensation in the attic areas

Surface Sampling

Surface sampling is used to identify a mold type at a specific location. This technique is useful also in ruling out possible discolorations or staining that sometimes exhibit mold-like characteristics. Typically a cotton swab or bio-tab is used to collect a small quantity of material. In turn, this is analyzed with a fungi screen, culture analysis or microscopic examination. *Hayes Microbial Consulting*, an AIHA-accredited environmental microbiology laboratory, performs requisite testing procedures and returns the results to InspectRite for interpretation in conjunction with the on-site inspection.

Air Sampling Procedure

Air sampling is the most effective method for determining whether a mold infestation is potentially creating an unsafe living/working environment. Our testing procedure incorporates the Air-O-Cell® cassette. Air quality is tested by drawing 15 liters of air per minute and impacting the airborne particles over a glass substrate. Typically, the process runs for 5 minutes producing a sample size of 75 liters. Subsequently, the cassette is sent to an AIHA-accredited laboratory where the spores are microscopically identified and counted.

“Limited Mold Inspection” Defined

A limited mold inspection is used solely to determine whether or not a mold contamination problem exists in a given structure. It is not intended to locate the source(s) of any contamination if such is found on the property. Furthermore, the limited number of areas sampled may not be indicative of the overall scope of the contamination problem throughout the structure. The cost of sampling to determine the *source(s)* of mold contamination is not justified until a limited sampling has determined whether or not a problem actually exists. Only then are additional inspection costs to find sources of the problem justified.

Subject-Property Location

The subject property is located at 313 Anthony Center Drive in Neola, WV and is a WV correctional facility

Importance of Inspector's Observations and Investigations

One cannot discount the benefit of the tools available for mold inspections such as bio-tape collectors, air sampling cassettes, infrared cameras and moisture meters. However, years of experience in the field of mold inspection has taught us that no tool compares to the ability of the knowledgeable Certified Mold Inspector. Repeatedly, we have observed the conclusions drawn from the on-site inspector being far superior to the results obtained from sampling. Whereas, the results of the air and direct-contact sampling identify the genus of mold and the levels of each type of mold in the specimens gathered, these results should only be used in conjunction with the careful observations of the on-site inspector.

There are laboratories who claim that they can render final conclusions as to the mold condition of a structure from the results of the lab analysis alone. This is quite erroneous and is daily shown to be highly inaccurate. We never use these laboratories. Our request to our labs is quite simple. Identify the genus of mold present and quantify the levels of each. The responsibility of arriving at a conclusion as to the mold contamination in any structure is that of a qualified, nationally-certified mold inspector who can explain in easy to understand terms how the findings of the laboratory analysis relate to the conditions which he/she has observed on site. From this combination the final report is prepared. Frequently, the most minute piece of evidence found at the property causes the inspector to conduct additional investigation, the result of which is

a conclusion which could not have been supported solely by the laboratory report on the specimens collected. Often, we encounter untrained individuals attempting to interpret the laboratory analysis who have no idea as to what those findings indicate. Others attempt to compare different laboratory numerical findings. There is absolutely no basis for such comparison methods. The results of each mold sampling must be used to determine the level of mold contamination on a given day at a given time since mold levels fluctuate from day to day and from hour to hour.

Site Observations

On the date of the instant inspection, what appeared to be heavy mold contamination was observed on numerous ceiling materials throughout Buildings "A" & "B". Several dormitory walls exhibited signs of present and prior mold growth in close proximity to the bunks used by the offenders.

In each attic area where cellulose insulation had been installed over metal surfaces, there were indications of condensation forming or having previously formed. Such condensation appears to be source of mold growth throughout the attic areas. In numerous areas in the attic, a white powdery substance coated much of the cellulose insulation.

Work-Product Exclusivity

All of the information contained in this Limited Mold Inspection Report is the exclusive work product of **InspectRite Services, Inc./Novos Remediation Corp.** and/or its personnel. The sole purpose of this report is to advise the named client of the conditions determined to exist on the subject property. The analysis of laboratory results is solely the interpretation of the inspector based on laboratory findings when viewed in conjunction with the conditions found on the inspection site. This procedure is required by national protocol. The named-inspector chooses the AIHA laboratory to which raw specimens are submitted. By agreement between the inspection company and the laboratory, the information provided by the laboratory is the sole property of InspectRite Services, Inc./Novos Remediation Corp. and is selectively attached hereto as support documents for the interpretations provided. This bound report (Limited Mold Inspection Report) is the sum total of the results of the subject inspection and no further submissions will be provided.

The release, without the written consent of InspectRite Services, Inc. of any portion of this report to third-parties, is strictly forbidden.

Interpreting Your Laboratory Results

Toxic molds have received increasing attention as the evidence increases as to their interaction with the human body. Through an inspection we were seeking out mold count levels which were elevated beyond that found in the natural environment. Likewise, we were looking for the underlying cause of the moisture problem(s) which permits mold spores to flourish.

Below is a brief description of the terms commonly found in your report:

- ▲ Volume (m) Volume is provided in cubic meters. 5 minutes at 15 liter per minute yields a 75 liter sample. At the discretion of the inspector 10 minutes operation at 15 liter per minute yielding 150 liters may be utilized.
- ▲ “Raw Count” This count represents the actual total number of mold spores counted by the laboratory technician microscopically.
- ▲ “Spores/m³” This number is determined by multiplying the total spores by a conversion factor representing the volume of air samples.

Analysis of Laboratory Results

Building A:

Medical

Ascospores and **Basidiospores** in this specimen were found to be at acceptable levels. **Stachybotrys** mold spores were determined to be present at the level of **133** spores/m³. The presence of **Stachybotrys** at any level in a habitable environment warrants special precautions. Please refer to Pages 16 & 19 of this report for additional important information relative to **Stachybotrys** mold.

Laundry Area:

No abnormal levels of mold was found in specimens taken in this area.

Unit Management Near Hallway:

All mold spore levels in this specimen were within acceptable levels; however, **Stachybotrys** was present at a level of **187** spores/m³. The presence of **Stachybotrys** at any level in a habitable environment warrants special precaution. Please refer to Pages 16 & 19 of this report for additional important information relative to **Stachybotrys**.

"B" Hallway– Far End:

Alternaria mold spores in this specimen were found to be **100%** of the level of this specie in the outdoor (control) specimen. **Ascospores** and **Cladosporium** were present in the specimen but at acceptable levels. **Stachybotrys** mold spores were found to be at a level of **960** spores/m. This is a high level of **Stachybotrys**; however, *any* level of **Stachybotrys** in an habitable environment warrants

special precautions. Please refer to Pages 16 & 19 of this report for additional important information regarding **Stachybotrys**.

“B” Hallway—Middle:

Aspergillus/Penicillium mold spores in this specimen were found to be **5,243%** of the level of this mold specie in the outdoor (control) specimen, comprising **54.2%** of the mold spores found in this specimen. This is **a very high level** of **Aspergillus/Penicilum** contamination. **Stachybotrys** mold spores in this specimen were determined to be **3,840** spores/m³. This is **a very high level** of **Stachybotrys**. Again, **Stachybotrys** at any level in a habitable environment warrants special consideration. Please refer to Pages 16 & 19 of this report for additional important information relative to **Stachybotrys**. The **Total Spore Count (TSC)** (accumulation of all species of mold combined and expressed as a numerical level) in this specimen was found to be **140%** of the TSC in the outdoor (control) specimen.

“B” Hallway—Near Unit Mgmt.:

Aspergillus/Penicillium mold spores in this specimen were found to be **1,048%** of the outdoor (control) level. This is **a high level** of mold contamination. **Stachybotrys** mold spores at the level of **5,120** spores/m³ were present in this specimen; **a very high level of contamination** in the form of **Stachybotrys**. The **Total Spore Count** in this specimen exceeded that of the control specimen.

Far End of Hallway Corridor A112 -Near Medical:

Myxomycetes were found to be **823%** of the outdoor level in this specimen. Other mold species were at acceptable levels.

Medical A124 –Right Side & A126:

Stachybotrys mold spores were detected in these specimens warranting special precautions as previously detailed.

“A” Hallway—Close:

Myxomycetes were determined to be **308%** of the outdoor level. **Ascospores** were found to be at acceptable levels.

“A” Hallway—Center:

Epicoccum mold spores were found in this specimen but not in the outdoor specimen. This normally indicates that these molds are reproducing and growing within the structure.

“A” Hallway—End 1 & 2:

Mold counts were at acceptable levels in these areas.

“A” Hallway –Above Clg. (Close, Med, Far):

Mold spores in each of these areas were at acceptable levels with the exception of **Myxomycetes** at **408%** of outdoors in the far-end of hallway.

Classroom A070-Left Rear, Right Front & Attic:

Mold spore levels in these areas were within acceptable ranges.

Educ Hallway, Front & Rear:

Mold spore levels in these areas were within acceptable ranges.

A095 Office, “C” Hallway (End, Center, Far):

Mold spore levels in these areas were within acceptable ranges.

Sally Port (“C”, Dorm 5:

Mold spore levels in these areas were within acceptable ranges.

Ceiling, Side Cafeteria:

A direct-contact specimen lifted from the ceiling area in this area confirmed the **light presence** of **Cladosporium**.

“C” Hallway –Damaged Tile:

A direct-contact specimen lifted from the ceiling tile in this area confirmed **very heavy Stachybotrys** mold spores with **Hyphae** which indicates that this mold is reproducing and growing within the tested area. **Stachybotrys** warrants special precautions.

“C” Hallway—2nd. Damaged Tile:

A direct-contact specimen lifted from the ceiling tile in this area confirmed **very heavy Stachybotrys** with **Hyphae** which indicates that this mold is reproducing and

growing within the test area.

Dorm 5—Washed Wall:

This direct-contact specimen was lifted from the dorm wall which had recently scrubbed. This specimen confirms a **moderate concentration** of **Cladosporium** mold spores remaining.

A-059 -Above Ceiling:

This air sample indicated a presence of **Alternaria** and **Pithomyces** which were not found in the outdoor specimens. **Cladosporium** was found to be **141%** of the level in the outdoor (control) specimen. The presence of **Hyphae** is a further indication of the reproduction and growth of these molds within the structure.

Room A058 (in room):

Mold spores captured within this room were within acceptable levels; however, **very heavy concentrations** of **Cladosporium** were found in a direct-contact specimen from the ceiling tile in this room.

Above Ceiling in Room A058:

Mold spores found within this specimen were acceptable.

Culinary #A057 –entrance end & rear:

Mold spores found within these specimens were acceptable.

Edu #A077, A076 & A082, Edu Admin (near & far):

Mold spore levels found within these specimens were acceptable.

Assoc. Warden/Ops, Intake Lobby, A023, A17, A18, Dorm #1(3):

Mold spore found within these specimens were acceptable.

Dorm 2, 3 and Unit Management:

No abnormal levels of mold spores found.

“D” Hallway, Gym:

Two direct-contact specimens taken from the gym floor and one specimen from the ceiling of “D” hallway reflected **light concentrations** of **Cladosporium, Aspergillus/ Penicillium, Ascospores, Pithomyces, and Stachbotrys**.

All air samples taken from the atmosphere in the gym and hallway “D” were within acceptable ranges.

Admin., AO51, 049, AO48, Bus., Mgr. HR Mgr., Bus. Office, Hallway, Records Rm., Weight Rm., Conference Rm., ACA Hallway:

All mold levels within the listed rooms were within acceptable limits. Direct-contact specimen taken in the ACA hallway reflected **very heavy Cladosporium** with a root system.

Room # 075, 074, Supply Workroom, Main Cafeteria, Center Cafeteria, Kitchen, Side Cafeteria, Dry Storage, :

None of the listed areas reflected abnormal mold spore levels within the habitable space. Two direct-contact specimens lifted from the Cafeteria ceiling reflected **light concentrations** of **Cladosporium** but with heavy soot occluding the slide.

Visitation Room, Sally Port, Gym RR, Gym LR:

Aspergillus/Penicillium in the west end of the Visitation Room was found to be **119%** of the that found in the control specimen via air sampling. The center of this area was found to contain **243%** of the level of **Aspergillus/Penicillium** found in the control specimen. Above the ceiling of the Visitation Area, **Aspergillus/Penicillium** was determined to be **173%** of that in the control specimens in one specimen and **194%** in another air specimen. On a support post in the visitation area, **a light concentration** of **Stachbotrys** was noted in a direct-contact specimen.

Dorms. # 4 & 5, Admin. ACA Office:

No abnormal levels of mold were found in these habitable areas; however, light to moderate concentrations of **Cladosporium** were found in direct-contact specimens.

Rooms AO59, AO66, AO60, Library, Hallway, Fan Chamber of Heating System:

No abnormal levels of mold were found in these habitable areas; however, **light concentrations** of **Alternaria, Cladosporium** and **Epicoccum** were found by direct-contact sampling in the bottom of fan housing and **heavy concentrations** of **Aspergillus/Penicillium** with a root system on the blades of fan.

Educ. 064,066,067,069, Hallway:

No abnormal levels of mold spores were found in the air samples captured in these habitable areas; however, in the area above the ceiling at Room AO67, **Alternaria, Curvularia, Epicoccum** and **Pithomyces** were detected in the air sampling although none of these molds were found in the outdoor (control) specimens. This normally indicates that these molds are reproducing and growing within the test area. **Light concentrations** of **Aspergillus/Penicillium** were found on the direct-contact specimens lifted above the ceiling area.

End of Report on Building A

Building "B"

Dorms 6,7,8, Hallway, #6 Mechanical Room:

No abnormal levels of mold spores were found in air samples in these habitable areas; however, a **heavy concentration** of **Cladosporium** with root system was found on

the shower ceiling of Dorm 7 by direct-contact sampling and heavy concentrations of **Cladosporium** on the wall behind the lockers in Dorm #6.

BO15, B003/B004/B006:

No abnormal levels of mold spores were found in air samples in these habitable areas.

Building "C"

Wood Storage, Graphics, Side Storage Bldg., Woodworking Shop, Hallway, Classroom:

No abnormal mold levels were detected in any of these habitable areas. **Myxomycetes** were abnormally high in the Wood Storage, Side Storage, and Classroom area. This is probably a result of the stored lumber contained in these areas. **Myxomycetes** are macroscopic slime molds.

Warden's Residence & Rear Storage Bldg:

No abnormal levels of mold were found in air samples taken in either of these structures.

Training Bldg., Automechanics, Maintenance Bldg.:

No abnormal levels of mold were found in air samples taken in these areas.

End of Analysis of Laboratory Reports



Mold Spores Identification and Their Potential Health Affects

Penicillium/Aspergillus is commonly found in soil and house dust. It grows in water damaged buildings on wallpaper, wallpaper glue, decaying fabrics, carpeting and most chipboards and behind paint. Found in 200 species, **Penicillium/Aspergillus** spores are routinely found where water intrusion has occurred at some point in time. These spores have been associated with Type I allergies & Type III hypersensitivities, allergic bronchopulmonary aspergillosis, aspergillus sinusitis, and advanced aspergillosis.

Chaetomium mold spores are normally found indoors in paper, sheetrock and wallpaper. It has the potential for Type I allergies, as exhibited in asthma and hay fever symptoms. Potential toxins produced: Chaetomin, Chaetoglobosins A, B, D & F.

Cladosporium spores are found in more than 30 species and are causative agents for skin lesions, keratitis, onychomycosis, sinusitis and pulmonary infections. Found indoors in fiberglass ductboard, paint, textiles. Commonly found in water-damaged structures. Potential toxins: Cladosporin, Emodin.

Nigrospora is commonly found outdoors on grass, seeds and soil. Potential for Type I allergies.

Pithomyces are commonly found on paper. High moisture levels are required for germination. Potential toxins: Cyclodepsipeptides, Sporidesmin, Sporidesmolides.

Stachybotrys is normally found indoors in ceiling tiles, gypsum board, insulation backing, sheetrock and wall paper. It possesses the potential for Type I allergies such as hayfever and asthma. This spore is historically considered a threat to human health in that it produces mycotoxins which can cause adverse effects to a human by inhalation, ingestion or skin exposure. Potential toxins: Cyclosporins, Macrocyclic Trichothecenes, Stachybotryolactone.

Torula mold spores are found on cellulose containing materials such as jute, old sacking, wicker, straw baskets, wood and paper. Potential for Type I allergies.

Spegazzinia mold spores are known to exist in at least 6 species. It routinely travels as a dry spore on the wind or air currents. This spore is rarely ever found on indoor environmental surfaces. Natural habitat: plants & soil.

Ascospores are found everywhere in the outdoor environment and are the results of sexual reproduction and are found in a sac-like structure. Members of the Phylum Ascomycota family.

Basidiospores are commonly found on wood products and travel on wind currents. Potential for Type I allergies and Type III hypersensitivity pneumonitis. Belong to the family which includes mushrooms, shelf fungi, rusts and smuts.

Coprinus natural habitat includes wood, dung, leaf litter and soil. Potential toxin includes Coprine.

Curvularia mold spores are commonly found indoors on paper and wood products. Potential for Type I allergies and a common cause of allergic fungal sinusitis. Potential toxins produced: Cytochalasin B.

Acremonium in 100 known species is frequently found in decaying plant materials and in the soil. It is also found in wet, cellulose-based building materials. Known to grow well indoors in high moisture areas. Allergenic potential for Type I (hay fever, asthma) and Type III (hypersensitivities pneumonitis). Also known to cause hyalohyphomycosis, keratitis, mycetoma and onychomycosis. Also known to cause infections in wound injuries and in immunodeficient patients. Potential toxins produced by this mold: Trichothecene mycotoxins.

Rhinocladiella is found outdoors in decaying wood and soils. In the indoor environment usually found in wood substrates. Normally dispersed by wind. Potential opportunist or pathogen for Chromoblastomycosis and Fungemia

Ulocladium is usually found in the outdoors environment in soil, plant materials, grasses, fibers and wood. In indoor environment found in gypsumboard, jute backing, paper, rotten wood, textiles and wood. Dispersed by the wind. Allergenic potential for Type I sensitivities. Allergy sufferers have increased reaction when Ulocladium and Alternaria are found together.

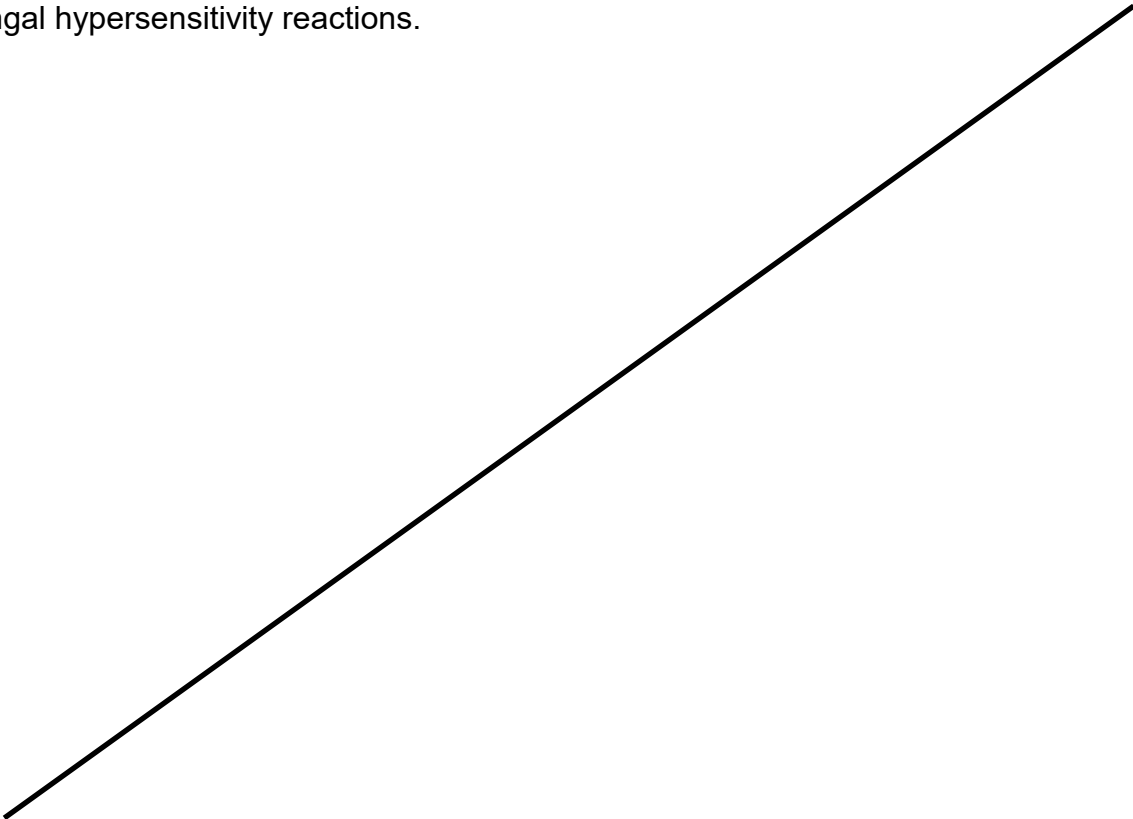
Alternaria This genus comprises a large number of saprobes and plant pathogens. It is one of the predominate airborne fungal spores found indoors and outdoors. It is one of the more common fungi found in nature. It is extremely widespread and ubiquitous. It is recognized to cause Type I and III allergic responses. It is a common cause of extrinsic asthma. Acute symptoms include edema and bronchospasms, chronic cases may develop pulmonary emphysema.

Bipolaris/Drechslera Normally found on grains, various plants and decaying food. Also may grow in semi-dry environments. Some species are found in indoor environments. Can occasionally cause corneal infection of the eyes. This group is responsible for the most commonly reported causes of allergic fungal sinusitis and may produce type I fungal hypersensitivity in humans.

Epicoccum is found in plants, soil, grains, textiles and paper products. Occasionally occurs in house dust. It is a common allergen and has the potential to produce type I fungal hypersensitivity reactions.

Polythrincium is associated with leaves and other plant material.

Smuts/Myxomycetes are parasitic plant pathogens. They can produce type I fungal hypersensitivity reactions.



Symptoms of Mold Exposure Most Commonly Reported

Common Symptoms of Mold Exposure— Short Term:

- ▲ Sneezing
- ▲ Itching Skin
- ▲ Redness and Skin Irritation
- ▲ Watery Eyes
- ▲ Itching Eyes
- ▲ Headache

Advanced Symptoms of Mold Exposure - Extended Period:

- ▲ Constant Headaches
- ▲ Nose Bleeds
- ▲ Feelings of Constant Fatigue
- ▲ Breathing Disorders
- ▲ Coughing up Blood or Black looking Debris
- ▲ Nausea
- ▲ Diarrhea
- ▲ Vomiting
- ▲ Loss of Appetite
- ▲ Weight Loss
- ▲ Hair Loss
- ▲ Skin Rashes
- ▲ Open Sores on the Skin
- ▲ Memory Loss—Short Term
- ▲ Neurological & Nervous Disorders
- ▲ Sexual Dysfunction
- ▲ Swollen Glands in the Neck Area and Armpits
- ▲ Sudden Asthma Attacks or Breathing Disorders
- ▲ Ear Infections and Pain
- ▲ Chronic Sinus Infections
- ▲ Chronic Bronchitis
- ▲ Pain in Joints and Muscles

Late Symptoms of Mold Exposure—High levels:

- ▲ Blindness
- ▲ Brain Damage
- ▲ Long Term Memory Loss
- ▲ Bleeding Lungs
- ▲ Cancer
- ▲ Death

DISCLAIMER:

The above information is not intended to be interpreted as health advice or specifications since mold spores cause different reactions from person to person. Many substances and factors, including but not limited to the following, may complicate matters even more: level of dust mite and roach allergens, volatile organic compounds, gram negative bacteria, individual sensitivity to allergens, emotional stress and general health. If you feel ill, consult your doctor.

Conclusions

As a result of extensive mold testing and visual inspection of this facility, several conclusions have been reached.

1) Portions of Building "A" are unsafe for occupancy or frequent traversing by offenders and/or personnel.

2) Causation factors for the present condition may be many-fold with the primary factors appearing to be:

- a) defective construction
- b) lack of continued/adequate maintenance
- c) lack of sufficient ventilation above ceilings
- d) utilizing unproven stop-gap measures which may have worsened conditions
- e) acceptance of false assumptions to the degree of assuming such to be factual and acting upon same

3) Spread of mold contamination has possibly resulted from:

- a) foot traffic, offender's clothing
- b) HVAC (air flow)
- c) housekeeping procedures

4) Potential hazards to offenders and employees is accelerated in certain areas of Building A. In areas where mycotoxin-producing mold counts in the general atmosphere are high, the inhalation of these mold spores has the potential of creating serious health consequences. Ingestion or contact with the skin further extends the potential for adverse health effects. Moreover, these mold spores attach to the clothing/footwear and are transferred to other areas of the facility which may not have yet reflected excessively abnormal mold levels.

Stachybotrys, commonly referred to as "black mold", has been found in Hallway "B" and "C" as well as in other locations in air sampling. Studies indicate that duration in a mold contaminated environment may be directly proportional to the degree of illnesses encountered. **Stachybotrys** is a heavy, sticky fungi which does not normally travel well in air currents. Therefore, **Stachybotrys** is not commonly captured in air sampling (as here). Nonetheless in Building "A", Hallways "B", "C" and the medical unit, heavy contamination via **Stachybotrys** has been captured in air sampling and confirmed in direct-contact sampling. Because of the usual inability to capture **Stachybotrys** mold spores in air sampling, the cited high levels of this mold genus notwithstanding, one cannot assume that the air sampling specimens collected to date adequately reflect the full extent levels of this mold throughout the building.

Consequently, one may well assume that the true levels of **Stachybotrys** are much higher than what have been reflected in this report. This may cause total remediation of this structure to be more difficult or may require more stringent remediation procedures to permanently abate the present condition.

5) Despite the high contamination levels in Hallway "B", the configuration of the building requires traffic through the contaminated area to reach the cafeteria and medical unit. More importantly, the only ingress and egress from Dorms 2 & 3 is by way of Hallway "B". Although a tentative plan had been developed to use containment in order to remediate this building while still occupied, the recent discovery of high potentially mycotoxin contamination of Hallway "B" and elsewhere precludes use of any such plan.

6) Cellulose insulation and fireproofing located in the attic area of Building "A" contains mold contamination and must be completely removed from the structure. Contamination of any building material with **Stachybotrys** requires an extraordinary level of removal of contaminated dust particles to ensure that no **Stachybotrys** microscopic spores remain in the building following remediation. Disturbing the cellulose insulation and/or fireproofing can easily dislodge and aerosolize mold spores.

7) A recent all-encompassing mold inspection and the results flowing therefrom clearly indicate that total evacuation and removal of the contents of Building A will be necessary in order to guarantee restoration of this structure to a Condition 1.

Exposure to Mycotoxins

Mycotoxins are toxic chemicals produced by molds. Some suggest that the production of mycotoxins by molds may be a defense system used by molds to compete with other species of mold. In any case, mycotoxins are poisons and should be avoided.

Although there are hundreds of mycotoxins produced by mold, the most common are **aflatoxin, ochratoxin, citrinin, ergot alkaloids, patulin, famonisin, trichothecene and zearalenone**. These are not molds but poisons produced by the following mold spores.

Aflatoxin, Ochratoxin A and **Trichothere** can be readily measured in human urine sampling. **Aflatoxin** is produced by **Aspergillus flavis, Aspergillus parasiticus**. **Ochratoxin** is produced by **Aspergillus albertenis, Aspergillus alliaceus, Aspergillus auricomus, Aspergillus carbonarius, Aspegillus niger, Aspergillus ochraceus, Aspergillus selerotiorimm, Aspergillus sulphureus, Aspergillus wentiim, Penicillium nordicum, Penicillium viridicatum, Penicillium verrucosum**. **Trichothecene** is produced by **Cephalosporium, Fusarium, Mytrothecium, Stachybotrys, Trichoderma, Trichothecium** and **Verticimonosporium**.

Exposure to mold and mycotoxins can create serious health issues in persons who are genetically susceptible.

Exposure to Mycotoxins—2

Symptoms found in individuals exposed to mold and mycotoxins are many and range from allergies to cancer and death. The degree of health effects depend upon the type(s) of mold and mycotoxins to which an individual has been exposed and the length (duration) of such exposure.

Mycotoxins have been known to cause coughing, sneezing, wheezing, burning in the throat, asthma, sinusitis, confusion, memory loss, brain fog, cognitive impairment, eye irritation, vision difficulties, enlarged lymph nodes, headaches, ringing in the ears, hearing loss, fatigue, joint pain, seizures, irregular heartbeat, depression, anxiety, irritability, skin irritation, psoriasis, fever, chills, sleep disorders and numerous other symptoms.

According to Dr. Joseph Brewer, mold exposure may lead to food allergies and chemical sensitivity. In some cases, POTS (postural orthostatic tachycardia syndrome), fibromyalgia and chronic fatigue syndrome (CFS) have been associated with mycotoxin exposure. Other conditions that may have a mycotoxin component include various cancers, diabetes, atherosclerosis, cardiovascular disease, hypertension, autism, rheumatoid arthritis, hyperlipidemia (high cholesterol), inflammatory bowel disease, lupus, Crohn's disease, multiple sclerosis, Alzheimer's disease, kidney stones and vasculitis.

Recommendations

It is noted that high levels of Stachybotrys are present in this structure, the levels of which are unknown in hidden/concealed areas. Accordingly, full remediation of exposed and possibly hidden areas is contemplated. All of listed recommendations may not be the responsibility of the mold remediation contractor but must be incorporated in the overall remediation plan.

All remediation should in accordance with IICRC S520 with the following additions:

- 1) High velocity air scrubbers with discharge ducts to the outdoors should be installed in each containment work area and operated during all work hours.
- 1) All contents of this structure must be removed and stored. Full remediation of the contents must be undertaken before any items are returned to the building.
- 2) All security and suspended ceilings must be removed and discarded.
- 3) The structure must be compartmentalized into units in which negative pressure can be maintained.
- 4) All cellulose insulation must be extracted from the ceilings, bagged and discarded.
- 5) All fireproofing which was sprayed on roof sheeting and support structure must be removed by manual scraping, bagged and discarded.
- 6) If hand removal does not satisfactorily remove fireproofing material from the support structure, sand blasting or hand scrubbing should be used to insure all such removal. Note: Roof sheeting is being discarded and must not therefore be cleaned of all fireproofing material.
- 7) All areas above the ceilings must be vacuumed-cleaned to remove all dust particles.
- 8) Since removal of roof sheeting may further contaminate the above-ceiling area, coordination with the general contractor must be made in an attempt to lessen such contamination.
- 9) Once new roof sheeting has been installed, every interior surface (walls and sidewalls must be HEPA vacuumed to remove viable mold spores, treated with fungicide and re-vacuumed to remove non-viable more spores.
- 10) Each air-handler should be HEPA vacuumed and hand-cleaned with fungicide.
- 11) All exposed heat/cooling piping that is not wrapped with insulation must be insulated so as to prevent formation of condensation.
- 12) All exhausting systems from showers/bathrooms must be checked to insure that moisture is being extracted from the building.
- 13) Exterior walls must be insulated to prevent condensation/moisture intrusion on the interior of the walls.
- 14) Ventilation/dehumidification must be installed in the attic areas (above interior ceilings) to provide a continuous relative humidity level that does not exceed 50% RH.
- 15) All other remediation methods deemed to be necessary by the Remediator-in-Charge as mold contamination is exposed.

Included by Reference

Laboratory findings by *Hayes Microbial Consulting* are made a part of this report whether or not reference is made to a specific report (or part thereof). The narrative herein plus laboratory analysis make up the complete report as submitted by InspectRite Services, Inc. and must be considered as a whole.

Disclaimer

As with all similar inspections, this limited sampling mold inspection is a capture of conditions on the subject property on the date of the inspection. Accordingly, conditions and results from those conditions may change at any time. Therefore, this report may not accurately reflect environmental conditions on this property at any future date.

In the event you wish to have InspectRite/Novos provide a certified mold remediation quote on the described work, please contact the undersigned and a quotation will be provided at no cost.

Should there be questions or issues, please do not hesitate to contact the undersigned inspector. We greatly appreciate the opportunity to be of service and trust that this report will be helpful in your decision-making process.

Sincerely,

InspectRite Services, Inc.



Roland S. Jones, CMI, CMIA, CMRC, CIAQT, CRMI, CCMi, CMR
Certified Mold Inspector & Assessor

May 22, 2018

