Environmental Specialists

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Action Plan For Treatment

City of Lawton Police Department

Our Goal:

To create an environment where ones' health isn't compromised by the mold living in the structure

Introduction

Pursuant to the clients request a review of the property was performed. Oklahoma Natural Environmental Specialists has prepared an Action Plan for treatment based on recorded technical information, pictures, and onsite observation.

Client: City of Lawton Police Department Basement

Address: 10 SW 4th Street
Lawton, Ok

Phone: 580-581-3572

The purpose of this review is to provide an Action Plan for treatment that will help produce a healthier living environment: Determine why a mold (fungal) problem exists, and to make necessary recommendations to alleviate the problem. However, the recommendations made in this report may not address all unforeseen, hidden, or inaccessible mold conditions, and do not address conditions unrelated to fungal damage: nonetheless, any modification to recommendations should meet the intent of the suggested changes. Client has already discovered a mold problem exists and has hired us to treat the problem.

Our findings are meant to solve complex biological contamination problems, not to do a temporary fix that will come back later to harm the residents. Any remediation other than what we recommend is, of course, not backed nor supported by O.N.E.S. Some structures take longer to clear up after remediation because of the long duration of contamination. ONES does not provide nor imply any warranty or guarantee that treatment of specified areas will permanently eliminate future mold growth or mold contamination from existing or other sources. Even though ONES uses mold and moisture specific equipment, mold can be hidden, covered up, or not obvious to the inspector. ONES cannot guarantee all areas of mold growth are found. Given the number of variables and the ubiquitous nature of mold, ONES cannot assure that mold will not appear again sometime after treatment and recommended changes have been completed. The most important element in controlling mold growth is the elimination of water, moisture, and/or excess humidity accumulation within the structure. Without inspection of entire structure, there is no warranty or guarantee of any kind, written or implied.

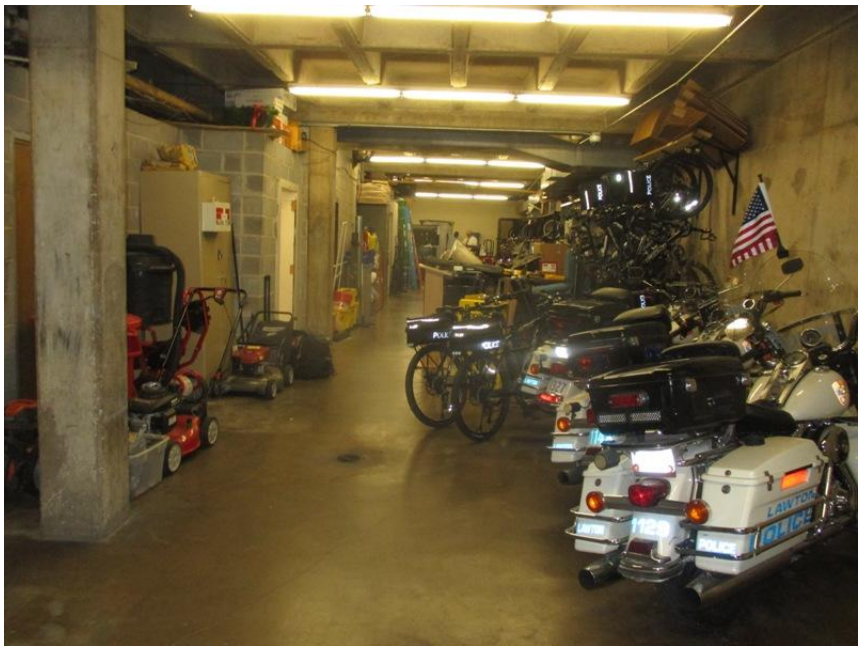
The review was performed on July 26th 2017; this report states our findings and recommendations.

If your doctor has advised you to leave the structure, check with them before reentering the structure.

Any treatment by any other organization (pest control, carpet cleaning, duct cleaning, etc.) may compromise the remediation process. Please let us know if anyone has sprayed a liquid, powder, vapor or cleaner in your home/office before or after this investigation. **Also do not allow anyone to use any chemical in your home/office without clearing it with O.N.E.S. or your vendor.** Many otherwise "Innocent" chemicals may be very toxic to people who have developed reactions to mold.

Visual Inspection

-Humidity levels are 57.8% in back area. Once above 50%, mold can flourish off of the high humidity in the air.
-Area has been flooded in the past, but majority of materials (cylinder block) do not promote mold growth.

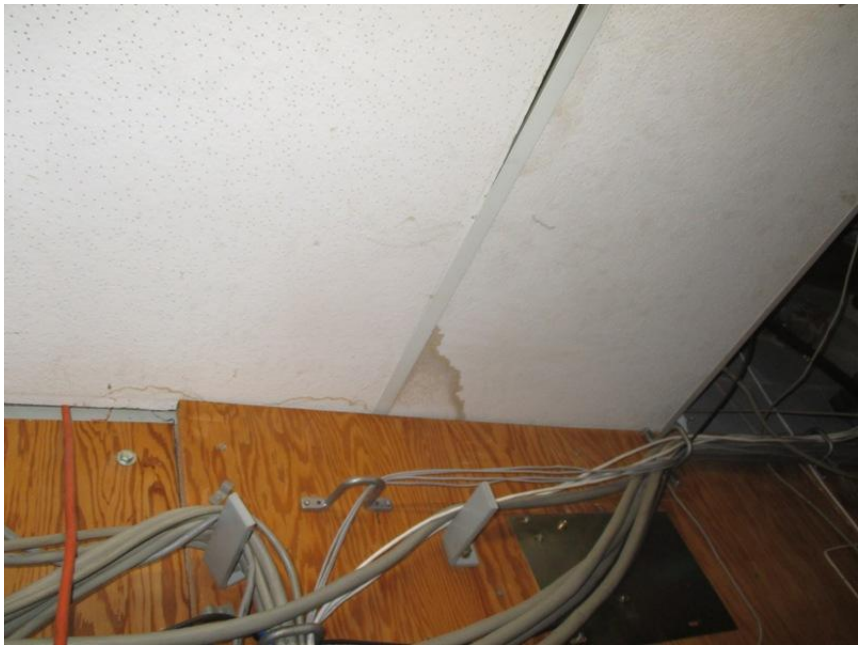


-Analysis Room has been flooded in the past.

-Visible mold damage on bottom of cabinet.

-Visible mold damage on wood and sheetrock in the back of analysis room.

-Water damaged ceiling tiles in the room.

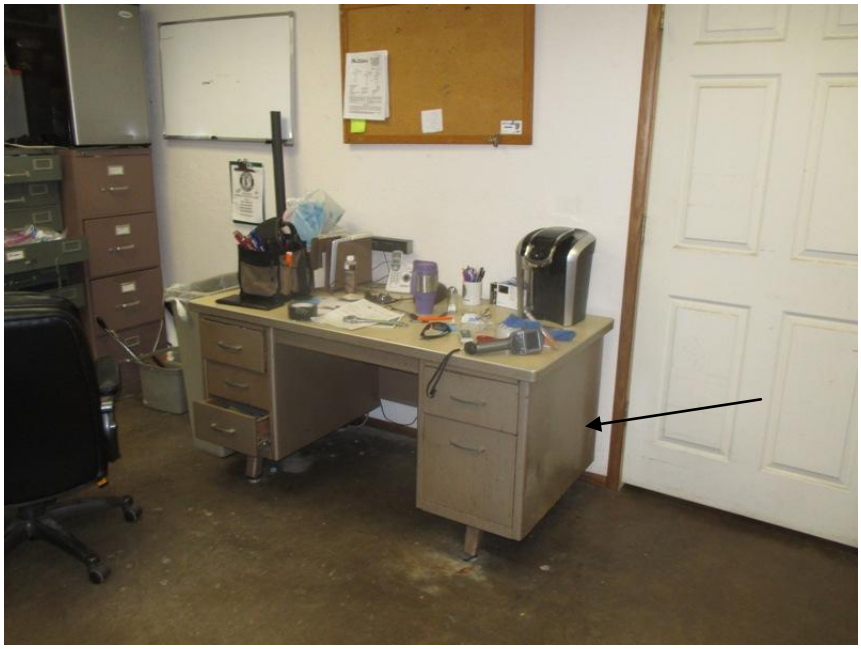


-Visible mold damage on sheetrock and wood doors in back garage storage area.

-Office area in back garage storage has been flooded.

-Visible mold and water damaged ceiling tiles in the office.

-Visible mold damage behind wood trim on the sheetrock behind the desk area.



-Crime stoppers office has visible mold damage on wood shelving unit.

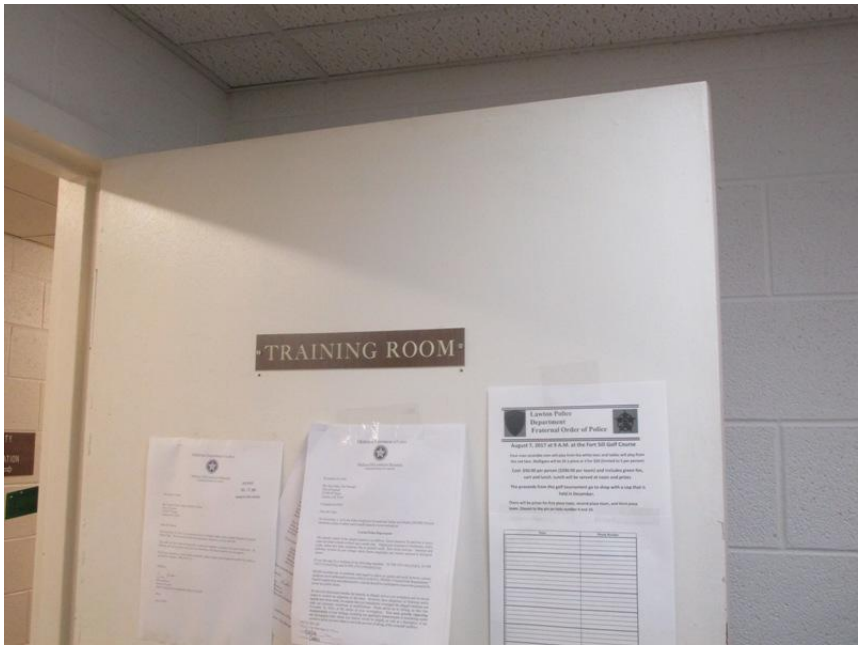
-Gang unit office has visible mold growth on cardboard backing of furniture.

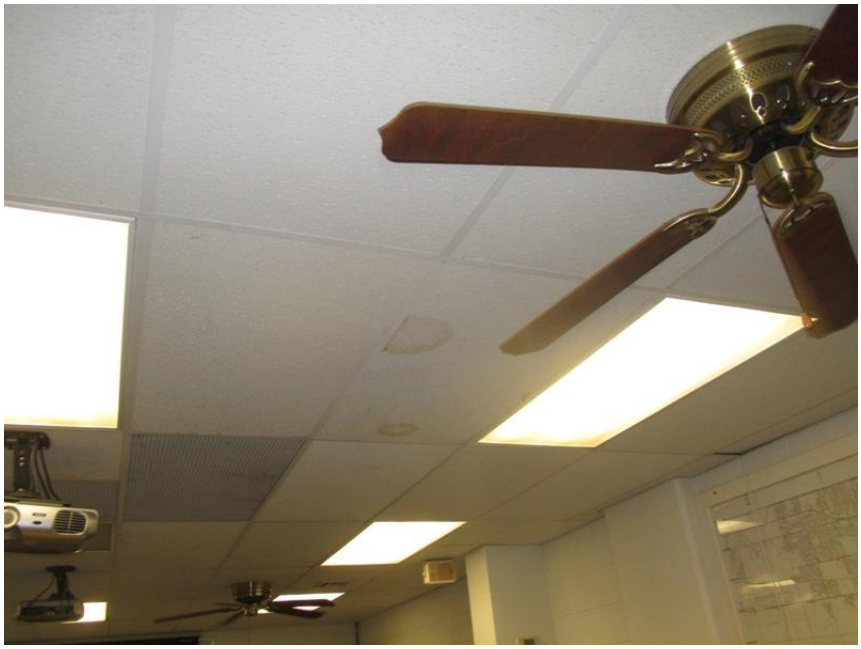
-Visible water damaged ceiling tiles.

-Visible water damage on cardboard materials behind desk.

-Hallway has numerous water damaged ceiling tiles.

-Training room has a ongoing leak above the ceiling tiles and several water damaged ceiling tiles.





-Storage room under the stairway has several water damage cardboard boxes and visible mold growth on debris around paint cans.

-Ongoing leakage around water pump behind the ice machine.

-Water damaged ceiling tiles in back hallway towards locker rooms.

-Women’s locker room has water damaged ceiling tiles and visible mold growth around HVAC register.

-Heavy debris on insulation inside of register.

-Visible water staining on carpeting in the women’s locker room.

-No visible mold growth found on cardboard in the evidence room, but suggest going to plastic containers.

-Visible water damage on wood in evidence back room, but no visible mold found.

-Excessive humidity in the evidence room.

-Visible mold growth around HVAC register in the Arms room.

-Heavy debris in the insulation in the duct above the register.

-HVAC mechanical room has large amounts of standing water. Standing water is a breeding grounds for mold growth.
-Condensation line does not go directly into the floor drain.

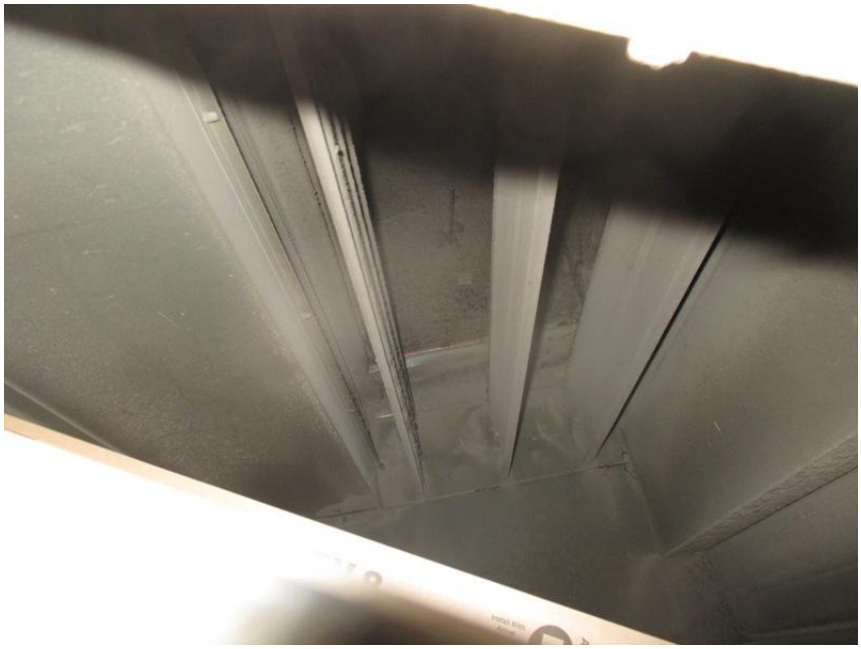
-Back of HVAC unit large amounts of standing water.

-Mold damaged cardboard box around the HVAC unit.

-Cast iron pipes above HVAC unit are leaking and cause standing water behind the unit.

-Insulation below the cast iron pipes have become saturated.

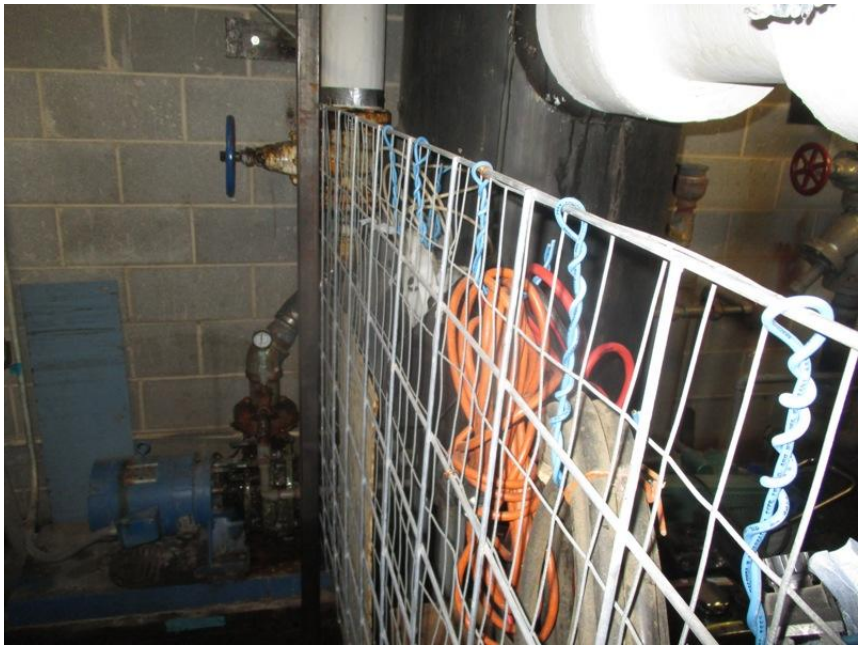
-HVAC unit needs to be cleaned.



-HVAC system needs to be sealed.

-Old pipes across from HVAC unit allow water to stand. This excessive drainage needs to go directly into floor drain.


CW-21L



-Testing was performed in areas most likely to show a true snapshot of what the breathable air was in the basement.
-Air testing was performed directly under the visible mold damage around the HVAC registers in the women's locker room and the Arms room.
-The testing showed NORMAL levels of mold growth.

-Evidence room air testing showed NORMAL levels of mold growth.

-Air testing in the hallway showed NORMAL levels of mold growth.

-Outside air comparison.

- There is a possibility of water intrusion or hidden mold that is not obvious to the surveyor.

FLIR infared camera was used on the property.

Conclusion

If above normal levels of mold are not addressed properly, the mold can cause a wide range of problems.
These problems include:

- headaches
- allergies
-
- runny nose
- CANCER

O.N.E.S. refers to the health concerns of the specific molds found in the structure, and your Doctors recommendations

Specific Recommendations

-The first thing we need to do is make the air we breathe healthy. This allows everyone to start getting healthier right away.

Treat the structure with a non-toxic botanical solution. **Do not use anything other than a botanical material. Recent research seems to show that EPA type chemicals can cause some severe reactions in some people. We want to make things better, not worse.**

-To prevent mold growth above naturally occurring levels, all sources of uncontrolled moisture must be eliminated (e.g. – roof leaks, pipe leaks, flooding). If all moisture is properly controlled, including maintaining <40% relative humidity, mold growth will be inhibited. O.N.E.S. recommends the **EZ-Breathe** air system to control humidity, and provide proper air exchange. This will allow proper ventilation of the structure.(preventative)

-Water spots that contain mold growth must be cut out and the material replaced. While these areas are uncovered, check above the water spot for any water leakage from pipes and/or the roofing. Many times the mold growth is more extensive once the area has been uncovered. Remove sheetrock at least 6 inches past the contaminated areas. Sand any damaged wood until the water/mold staining is removed. Dry rot or wet rot must be replaced.(Remove and replace all sheetrock a minimum of 6 inches above any mold/water damaged areas. It is critical that all moisture intrusion be stopped.

-Immediately add dehumidifiers to the basement to get the humidity back under control.

-Remove ALL mold or water damaged ceiling tiles throughout the basement.

-Remove ALL cardboard boxes from the floor of basement.

-Remove mold damaged sink cabinet in the analysis room. Remove mold damaged wood in the back area of analysis room. Remove sheetrock a minimum of 9 inches along back wall in analysis room across from wood panel area.

-Remove mold damaged wood doors and sheetrock 2 feet high in the left side of garage storage area.

-Remove mold damaged sheetrock and trim behind desk in office in the garage storage area 2 feet high.

-Remove mold damaged wood cabinet in crime stoppers office.

-Remove mold damage cardboard signs and cardboard furniture piece in gang office.

-Stop ongoing leak in training room ceiling.

-Remove all water/mold damaged boxes under the stairwell and remove mold damaged debris around paint cans.

-Stop leak around water pump behind the ice machine.

-Remove mold damaged HVAC register, vent, and insulation above vent in the women's locker room.

-Remove mold damaged HVAC register, vent, and insulation above vent in the Arms Room.

-NO STANDING water can be around the HVAC. Have condensation line directly into the floor drain. Catch bin can be added for the cast iron pipes to prevent water standing or puddling on the floor of mechanical room. Have HVAC properly sealed. Replace water damaged insulation under the cast irons pipes around the HVAC.
-Have HVAC ducts cleaned and all plenums, coils, fan, inspected and cleaned.

-After removal of all mold damaged items are removed, a clearance test of those areas needs to be provided.

All work should be done with containment procedures as outlined by:

- Guidelines on Assessment and Remediation of Fungi in Indoor Environments 2000 from the New York Dept of Health

- Bioearosols: Assessment and Control 1999 from the American Conference of Governmental Industrial Hygienists (ACGIH)

- The Institute of Inspection Cleaning and Restoration Certification (IICRC)

General Recommendation

To prevent mold growth above naturally occurring levels, all sources of uncontrolled moisture must be eliminated (e.g. – roof leaks, pipe leaks, flooding). If all moisture is properly controlled, including maintaining <40% relative humidity, mold growth will be inhibited.

The heat/air ductwork system should be cleaned every two (2-3) years. The company doing the work should vent their vacuum cleaning devices outside into the yard or into their truck. While they are cleaning, they should inspect all seals on the ductwork sections.

Damaged seals in the ductwork system should be repaired with metal duct tape (not adhesives).

Whether or not the ductwork is cleaned professionally, once or twice a week a non-toxic, bio-balancing spray should be sprayed into the intakes of the duct system. We recommend a spray made from " Cirtisafe™. (See vendor list) If the unit is pulling air, this spray will circulate and keep mold growth to a minimum.

Anti microbial filters needs to be used in existing systems to assure proper follow up of treatment. These filters insert into your HVAC intakes. They kill mold spores as they filter. In some cases, it may need to be custom sized. (See vendor list)

Get rid of cardboard boxes. The ground up wood in cardboard is the junk food of mold. In addition, most people keep their cardboard boxes in under ventilated, moist places like garages and closets. Use plastic or rubber containers like those found at K-Mart or Wal-Mart.

Don't pack clothing and articles too tightly in closets. Let the closet breathe.

Leave your washer and dryer open while not in use. Spray daily with a Cirtisafe™ spray.

Don't clutter corners and areas around furniture with objects that might cause poor air circulation around the furniture. Some people use areas behind furniture or under beds to store seldom-used objects. These collect dust and harbor mold.

Turn your central system fan control to ON (If building has an H.V.A.C system). Leave it on year round. This will keep air flowing through your filtering system. Plus it will lessen the chances of motor failure since constant turning on and off wears out the central system motor faster than just leaving it on.

Increase ventilation in bathrooms to help remove moisture during and after use.

The pipes that conduct cold water must be insulated to prevent sweating and water dripping.

All pipes entering through flooring or walls (e.g. under the kitchen counter) should be sealed with a caulking material. The same thing should be done with the metal boxes of all electric plugs and light switches.

The reason for sealing these locations

1. When the house cools at night, warm moist air is sucked into the wall spaces through these gaps. This feeds the mold growing in the wall spaces.

2. When the house heats the next morning, the air in the walls expands and blows into the living space. As it does, mold spores are carried into your breathing area.

We don't want the wall space and living space to communicate.

Stock photo

Normally, indoor plants should be limited to succulents, like cactus, instead of the common broadleaf plants, like violets.

However, NASA has performed extensive research on plants and toxic air. For a possible use in the space shuttles, NASA worked to find plants which would remove harmful chemicals from the air (such as formaldehyde, and benzene). The following is a list of the plants they found to be helpful. So we have started recommending them to our clients who insist on keeping live plants in the home. If live plants do stay in the home, use small rocks to cover the soil, and do not use wooded or wicker baskets.

* Bamboo Palm	Chamaedorea seifritzii
* Chinese Evergreen	Aglaonema modestum
* English Ivy	Hedera helix
* Gerbera Daisy	Gerbera jamesonii
* Janet Craig	Dracaena “Janet Craig”
* Marginata	Dracaena marginata
* Mass Cane/Corn Plant	Dracaena massangeana
* Mother-in-Law’s Tongue	Sansevieria laurentii
* Pot Mum	Chrysantheium morifolium
* Peace Lily	Spathiphyllum “Mauna Loa”
* Warneckii	Dracaena “Warneckii”

Put damp rid in closets, and drawers glassed in bookcases to absorb moisture and prevent mold.

Notes

Citrisafecertified.com (mold solution products)

Biobalancenow.com -Self treatment kits.

Notes

Glossary

Air Sample – A sample of air borne mold taken by exposing a mold plate to the air for a set length of time. The spores from the air grow in the mold plate. When the mold reaches a planned maturity the identity and relative abundance of the mold in the air can be determined.

Carcinogen – A material that can cause CANCER.

Colony - an adult organism grown from one or one cluster of mold spores.

Crawlspace - The area under a house, usually dirt, through which pipes pass under the floor. If this area gets too moist mold can grow and seep up into the house.

Dehumidification – The act of removing excess moisture from the air.

Downspout - The part of the gutter that brings the water down to ground level. Its job it to prevent water from hitting the ground directly. It should extend 6 feet from the wall so that the water has little chance of draining back into the house.

Foundation vent – these are little windows cut into the wall of your crawlspace. Their purpose is to allow the crawlspace to breathe. Breathing keeps the moisture level in the crawlspace low. The vents come in different styles but serve the same function.

French Drain - A plastic pipe placed into a ditch dug into the yard. Water drops into the drain and is redirected away from the house.

Fungicide - A material that will kill fungi (mold).

Gutter Extension – A hose or tube that carries water from the gutter downspout away from the building foundation. Hopefully, 6 feet away from the foundation.

GSE – A solution made from Grapefruit Seed. It kills mold but is harmless to people.

H.E.P.A. – A filtration system that removes extremely small particles from the air.

Mold - A group of life forms in the Kingdom Fungi. These life forms produce toxins that can be harmful to humans.

Just like all snakes are not poisonous, not all molds are toxic. The only way to know whether a mold will cause disease or not, is to identify the mold.

Mold Plates - Testing device composed of a plastic or glass container and a nutrient gel. Mold spores landing/placed on the gel will grow into mature mold colonies suitable for identification.

Neurotoxin - A toxin that causes an effect in a person's nervous system. Results are dizziness, shakes, hallucinations etc.

Passive Vent - A louvered or screened vent cover that is placed in a door or wall to allow air to pass. It isn't connected to anything that does anything, eg a return vent. It allows air to pass on its own between to air spaces.

Physical Sample – A piece of a solid object taken to the lab. It is ground and placed into a mold growth medium. Physical samples are taken to determine if the air mold spores are coming from the building material or from the outside air.

Register – See Return Vent

Return Vent - The openings in the house where air enters back into the rooms after passing through the heater/cooling system.

Ridge Vent – A hooded vent that runs across the top edge of a roof. It allows stale musty air to escape from the attic.

Roofing Nails – The nails that are used to hold the layers of the roof in place. Most building codes require that they stick out ¼ inch to make sure they extend through ALL the layers. If they stick out into the attic more than that water can condense on them and drip into the insulation in the attic.

Slab - If the house is built on a layer of concrete with nothing beneath it, this concrete structure is called a SLAB. Moisture sometimes comes up through this concrete and wets carpet from beneath.

Soffit Vent – Vents up under the outside edge or overhang of the roof. These vents allow new fresh air to enter the attic.

Spore - The reproductive part of a mold. It is basically the same as a seed.

Total Colony Count – The number of total mold colonies in a test plate. The higher the number, the more likely the residents will become ill.

Toxin - A poisonous substance produced by metabolic activity of a living organism. i.e. a substance produced by a living organism like mold that harms people.

Vapor Barrier – A layer of plastic placed over the dirt in a crawlspace. It keeps moisture from coming up through the soil into the crawlspace where it would feed mold.

Vent Cover – A fabric cover that fits into the air returns. It filters air of particles before letting the cooled/heated air into the room.

Reading List

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Immediate Recommendations

Complete recommendations as outlined.

-Treatment of the entire basement with biobalance solution after damaged materials are removed. Cost of $1.00 per square foot.