**Pure Air Solutions, LLC**
750 Robert Edwards Road
Summer Shade, KY 42166

**(270) 774-7472**
PureAir@scrtc.com

*"Got mold? Get a fresh start!"*
www.pureairsolutionsky.com

# My Personal Mold Story

Respiratory issues, digestive tract dysfunction, chronic fatigue, insomnia, panic attacks, skin irritation, and mast cell activation syndrome are all adverse effects that mold can have on human health. They are, in fact, effects that were being experienced by my family and me when we moved out of our home for seven months due to a mold issue.

Several things contributed to the mold outbreak in our home. They included improperly installed gutters, the inadequacies of our HVAC system, and problems associated with the original construction of the house. By the time we realized that we had a problem, our family's health had been dealt a severe blow, the effects of which are still being felt several years later. As a result, our home was literally dismantled to the studs and rebuilt, our furniture and appliances were discarded, and many irreplaceable family treasures were forever lost.

It was not until we had moved back into our rebuilt home that we discovered the Pure Maintenance dry fogging process. Since that time, we have seen the benefits of the dry fogging process in the dozens of homes and churches that we have personally treated.

If we had discovered this process earlier, we could have saved ourselves tens of thousands of dollars associated with furniture and appliance replacement, construction costs, and medical bills (not too mention untold heartache, lost work time, and needless stress). Moreover, having witnessed the benefits of the Pure Maintenance process, it is our sincere desire to help mitigate the deleterious effect of mold in the lives of others.

We look forward to the opportunity of being of service to you.

Bruce Sullivan, Owner
Pure Air Solutions, LLC

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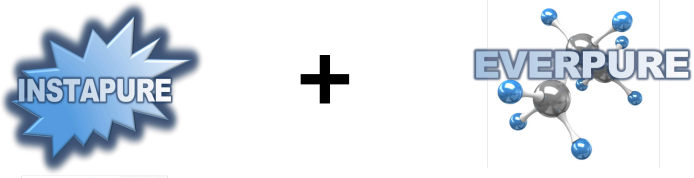
## The Problem: Mold & Microbial Pathogens

The devastating impact of mold on human health is well-documented and recognized by health care professionals around the world. Chronic fatigue, respiratory distress, digestive system issues, insomnia, neurological dysfunction, and mental distress are just a few of the conditions known to be associated with molds and the toxins they produce.

## The Solution: The Patented Pure Maintenance Dry Fog Process

Pure Air Solutions utilizes patented Pure Maintenance dry fog technology to destroy mold, bacteria, viruses, and harmful mycotoxins. At the heart of the dry fog process is a unique, patented, two-stage process that generates a fog comprised of droplets so small that it is essentially a dry fog (thereby keeping your home surfaces and contents dry).

The first step of the process is called **InstaPURE**. It utilizes a hospital grade cold sterilant called peracetic acid (PAA). PAA is formed by combining hydrogen peroxide and acetic acid. It is a powerful anti-microbial sterilant that destroys molds, bacteria, and viruses by means of oxidation. Moreover, PAA readily degrades into water, carbon dioxide, and oxygen (i.e. leaving behind no toxic residues). Through the dry fogging process, PAA vapors will get into every nook and cranny of your home (including the HVAC ductwork). As a result, pathogens in your home or workplace will not simply be covered up or moved around—they will be effectively destroyed. In just a few hours, a home can be sanitized and made safe again.




**EverPURE** is the second step in the Pure Maintenance remediation process. It utilizes a product registered with the EPA for household use that provides a biostatic, antimicrobial barrier on all of the surfaces of your home in order to help prevent future mold growth.

## The Results: Documentable Improvements in Air Quality

Using “before” and “after” air samples, personnel at the U.S. Army Engineer Research and Development Center were able to document significant improvements in indoor air quality in two test buildings at Fort Campbell, Kentucky. The attached one-page article from Public Works Digest provides a summary of the study.

## The Cost: Less Than the Cost of Replacing Furniture

The price for the service depends upon the size of the home and the severity of the mold issue. As a general rule, it is only a fraction of the cost of conventional destructive mold remediation approaches. Moreover, the patented Pure Maintenance dry fogging protocol will save you thousands of dollars in furniture and appliance replacement costs.[1]

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For more information on how you can get a fresh start with Pure Air Solutions, please go to our website:

**www.pureairsolutionsky.com**

POWERED BY PURE MAINTENANCE

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[1] With conventional “tear out” approaches to mold remediation, furniture, appliances, and bedding often need to be replaced in order rid the living space of the harmful mold toxins and pathogens that have spread throughout the structure. However, the Pure Maintenance dry fog method actually sanitizes and detoxes those items, thereby allowing you to keep them. In fact, the money saved from not having to replace a sofa and some bedding is often greater than the cost of the service itself!

# Lab looks at 'dry-fog' technology for mold remediation, prevention

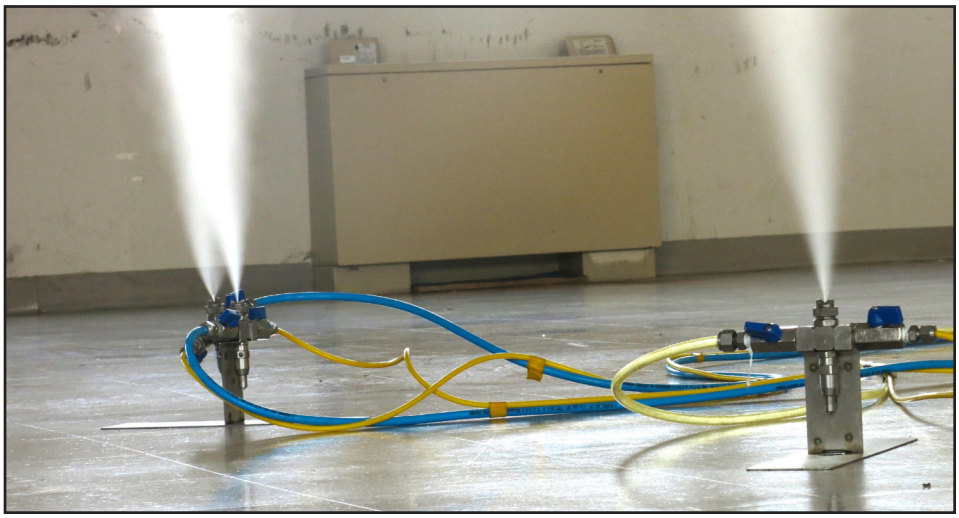
*by Shane Hirschi and Dale Herron*

Mold is a fungus that can grow on virtually any surface provided moisture is present, damaging buildings and negatively affecting the health of building occupants. The preferred solution is to control and eliminate the source of moisture that precipitates the mold growth.

However, this is an insufficient method to a chronic problem. Long term solutions within real world operational settings (*where building occupants continuously adjust system specific heating, ventilation and air conditioning set points to achieve their immediate comfort*) must address all surfaces where mold may grow. These "comfort" adjustments inevitably create environments where moisture and temperature enhance the already prime onsite environmental conditions for mold growth. Another contributor to enhanced mold growth is insufficient maintenance due to funding levels at military installations.

Fort Campbell, Kentucky, and the U.S. Army Engineer Research and Development Center partnered with the Army Office of the Assistant Chief of Staff for Installation Management's Installation Technology Transfer Program to demonstrate the effectiveness of the two-step dry-fog mold remediation process technology developed by Pure Maintenance, LLC. Pure Maintenance is a commercial partner that owns a patented treatment technology. Two buildings were identified for the dry-fog demonstration: a vacant dining facility and a dormant barracks administration section that included classrooms, restrooms and office facilities.

The two-step dry-fog process introduces a gas/vapor with micron-sized particles that cover, penetrate and encompass mold spores in materials, spaces, and places that current mold removal technologies are not able to penetrate mold growth areas. Unlike many current mold remediation methods, the two-step dry-fog process requires no personal protective equipment and minimal manpower, as the application system itself performs the work required to destroy existing mold spores and prevent future growth.



*Dry-fog treatment is initiated via spray nozzles (Photo by Shane Hirschi)*

The first step of the treatment process is the application of InstaPURE®, a powerful disinfectant that destroys mold spores and disinfects any surface it touches. The second step is the application of EverPURE®, an anti-microbial barrier that destroys bacteria or viruses that come in contact with treated surfaces. The U.S. Environmental Protection Agency approves the use of both InstaPURE® and EverPURE® in all 50 states.

The center's team members analyzed the demonstration for the efficacy of mold spore removal, and the potential for long-term mold prevention. Treating each test building took five to six hours and included: mobilization, "before" air and surface sampling, treatment application, "after" air and surface sampling, and de-mobilization.

Initial prior to treatment air samples taken from the dining facility and barracks locations indicated an average of hundreds of thousands mold spores per cubic meter while outdoor/background samples were in the thousands. Air samples to date, three months after treatment, have shown and continue to indicate complete treatment of all mold spores, showing below outdoor/background levels. Surfaces in both buildings were covered with visible mold spores. Surface samples taken after treatment indicate complete removal and continue to show no new mold growth to date. The dry vapor coating extends the period that mold growth is inhibited. Further studies may suggest the maximum extent this process offers growth inhibiting characteristics as well as additional applications, perhaps testing medical equipment infrastructure, new construction, etc.

Early project results have been shared with Region IV of the Federal Emergency Management Agency and the U.S. Army Corps of Engineers Huntington District. Based on results to date, the dry-fog technology potentially could support mold remediation needs resulting from recent and future natural hazards.

The two-step dry-fog technology is commercially available through Pure Maintenance. Pure Maintenance provides training and equipment to interested parties for organic application, per specific situational contracting and/or agreements.

*POCs are Shane Hirschi, 217-373-3496, shane.d.hirschi@usace.army.mil; and*

*Dale Herron, 217-373-7278, dale.l.herron@usace.army.mil*

*Hirschi is an energy/sustainability program manager, and Herron is a senior research mechanical engineer, both are with the U.S. Army Engineer Research and Development Center Construction Engineering Research Laboratory in Champaign, Illinois.*

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# Pure Maintenance Dry Fog vs. Backpack Sprayers & Wiping

There are many who claim to do what Pure Maintenance does in regard to dry fogging and mold remediation. However, there are some important distinctions that need to be made between the patented Pure Maintenance whole house dry fogging process and the simple spot-spraying of disinfectants or "fogging" attempted with inferior technology. These distinctions include at least the following.

1. A true "dry-fog" is defined by industry standards as having a droplet / particle size of less than 10 microns. Very few fog applicators can truthfully claim a particle size of only 10 microns, and even fewer can claim to produce a sub-10-micron droplet. In fact, most backpack sprayers and "foggers" produce droplets that are in the range of 30 - 50+ microns. The patented Pure Maintenance technology, on the other hand, can generate a 7 micron droplet. This small particle size (along with the vapor dynamics of the solution we use) is key to the unmatched effectiveness of the Pure Maintenance dry fogging process.

2. The smaller particle size (coupled with the vapor dynamics of our cold sterilant) results in much greater surface contact than is possible with "sprayers" and run-of-the-mill "foggers". Moreover, the dry fog that is produced stays active and suspended in such a way that even the very air in the room is disinfected (along with the furnishings and all surfaces that come into contact with the dry fog).

3. The patented fogging apparatus and the vapor dynamics of the Pure Maintenance cold sterilant results in even coverage that "pushes" the sterilant into every nook and cranny of your home and furniture (something that cannot be achieved with a backpack sprayer or "knock off" fogging devices). In fact, the Pure Maintenance dry fog is so pervasive that it will even disinfect your home's HVAC system and ductwork as well as penetrate into hard to reach places (like, for example: light fixtures, under tables, behind appliances and cabinetry, and crawlspaces).

4. The Pure Maintenance dry fogging cold sterilant is safe! It does not contain any phenols, chlorine, or benzene. It does not create formaldehyde, or off-gas poisons and heavy metals. The Pure Maintenance InstaPURE process uses a solution of hydrogen peroxide (HO) and peracetic acid (PAA). HO and PAA have superior

biocidal and fungicidal properties (in the range of 4-5 log kill, meaning a 99.999 percent kill rate). Moreover, HO and PAA actually actually denature the mycotoxins excreted by molds. Best of all, HO and PAA decompose into water, oxygen, and vinegar. It is truly hard—if not impossible—to imagine any safer approach to destroying mold.

5. When PAA particles are dry-fogged, they float in the air for an extended amount of time due to a few things, one of which is the Brownian Motion concept. Brownian Motion is the random movement of particles suspended in a liquid or gas. Other physics at work are dispersion, evaporation, and vapor pressure. This simply cannot be achieved with a backpack sprayer (and, therefore, backpack sprayers and generic fogging devices cannot produce a fog that possesses the same dynamics and effectiveness as the Pure Maintenance dry fog).

6. Many applicators combine the spraying of disinfectants with surface wiping. However, the disinfectant will not come into contact with all of the surfaces in the room (thereby allowing for the easy return of pathogenic microorganisms). Additionally, many "spray and wipe" disinfectants are quaternary ammonium compounds ("Quats"), and "Quat Binding" is a serious concern when "quats" are sprayed and wiped. With "Quat Binding," the compound is literally attracted to the microfiber or terrycloth so that when someone surface sprays, then wipes, they are literally wiping much of the active ingredient off of the surface.

7. Finally, the Pure Maintenance dry fogging process is designed for "whole house" treatment (*i.e*. not for spot treatment). This is very important because you cannot successfully return a home to healthy status by simply spot treating the mold. You really need to disinfect the entire structure (including the HVAC system and hard-to-reach places). The Pure Maintenance dry fogging process truly is the best way to provide a fresh start.

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# A Fresh Start for St. Helen's Church

St. Helen's Catholic Church in Glasgow, Kentucky has served the people of Barren County for more than 127 years. The parish's beautiful, historic church was actually constructed from rocks that people brought into town from their farms. However, over time, the building developed mold issues that became so pronounced that some parishioners were no longer able to worship in their beloved church due to their personal, acute sensitivity to mold

For more than a year, the church took various steps to improve the interior environment. These steps included ripping out the old carpet and replacing it with hardwood flooring as well as spot cleaning in places where mold was known to be growing. Nonetheless, the problem persisted. Finally, a parishioner learned about the patented Pure Maintenance dry fogging procedure. After contacting Pure Maintenance, the church was remediated using the dry fog process. In a period of hours, a persistent problem that seemed to have no solution was eliminated. Parishioners who had previously been unable to attend services in the building are now able to worship without any signs of mold-related sickness or irritation.

This beautiful 127 year old structure has been given a fresh start!

*For more information, contact Pure Air Solutions.*

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# Quilt Detoxed & Made Safe

One of the biggest challenges confronted by people whose homes and health have been impacted by mold is how to "detox" their personal belongings. This is due to the fact that toxins produced by mold (*i.e*. mycotoxins) can contaminate the entirety of one's home and its contents. Hard, non-porous surfaces can often be effectively wiped down and decontaminated. However, soft, porous materials can prove to be almost impossible to decontaminate using conventional methods. This means that drapes, clothing, quilts, and furniture with fabric upholstery are often discarded and replaced (all at considerable expense). However, the peracetic acid vapors utilized in the patented Pure Maintenance dry fogging treatment are able to safely sterilize and detoxify these items. This results in an enormous savings in addition to preserving irreplaceable keepsakes.

An example of just such an irreplaceable keepsake is the quilt pictured below. The quilt was made by its owner's grandmother. Prior to dry fogging the quilt, it had been stored in an unoccupied, moldy house for over two years. As a result, the quilt had a musty odor that is often associated with antique fabric items. Moreover, both the quilt's owner and her teenage daughter had noticeable physical reactions when they handled the quilt (*i.e*. they would get queasy, experience a headache, and, even, feel like fainting). After the quilt was treated using the Pure Maintenance process, they were both able to handle the quilt without experiencing any reactions. In fact, the daughter has been sleeping with the quilt ever since.

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# Five Months Later: Still Fresh!

The attached lab reports are from air testing done for a client in Warren County, Kentucky[1]. The home is well over 100 years old and has experienced multiple issues over the years that contributed to the development of a very high "mold load"[2]. All three air samples were taken from the same place in the the same room.

1. The report labeled "Before" is for an air sample that was taken in early May just prior to being treated with the patented Pure Maintenance dry fogging process. This report documents the exceedingly high levels of toxic *Chaetomium* and *Aspergillus / Penicillium* mold spores in the room.

2. The report labeled "After" is for an air sample that was taken immediately after the completion of the dry fogging treatment.

3. The report labeled "Five Month Follow Up" was taken in early October (***a full five months after treatment***).

Both post-treatment reports indicate that the mold was effectively eradicated by the patented Pure Maintenance dry fogging process employed by Pure Air Solutions.

**For more information, please contact Bruce Sullivan at Pure Air Solutions.**

[1] The identity of the client has been withheld in order to protect client privacy.

[2] The term "mold load" refers to the tendency of many homes to accumulate an increasing number of mold spores over the years.

**Client: Pure Air Solutions, LLC**
Contact: Bruce Sullivan
Project: 4/15/21
Date of Sampling: 05-03-2021
Date of Receipt: 05-04-2021
Date of Report: 10-15-2021

**Before Treatment**

**MoldREPORT**
Eurofins EMLab P & K
6215 Regency Parkway, Suite 900, Norcross, GA 30071
(866) 871-1984 Fax (954) 776-8485

# Laboratory Results

## MoldREPORT: Spore Trap Analysis

| Location: | SJ Parlor (Immediately Prior to Treatment) | |
|---|---|---|
| Comments (see below) | None | |
| Lab ID-Version‡: | 12573596-1 | |
| Analysis Date: | 05/06/2021 | |
| Spore types detected: | raw ct. | per m3 |
| Aureobasidium | - | - |
| Basidiospores | 6 | 320 |
| Chaetomium | 344 | 18,000 |
| Cladosporium | 70 | 3,700 |
| Fusarium | - | - |
| Penicillium/Aspergillus types | 228 | 120,000 |
| Stachybotrys | - | |
| Trichoderma | - | - |
| Ulocladium | - | - |
| Others | 20 | 1,100 |
| § Total: | | 150,000 |
| Additional Information: | | |
| Hyphal fragments | 11,000 | |
| Skin cells | 80 - 4,000 | |
| Pollen | 290 | |
| Background debris (1-4)† | 3 | |
| Limit of detection | 13 | |
| Sample volume (liters) | 75 | |

**Comments:**
Basidiospores (basidiomycetes): Basidiospores are extremely common outdoors and originate from fungi in gardens, forests, and woodlands. It is rare for the source of basidiospores to be indoors. However, basidiospores may be an indicator of wood decay.

Cladosporium: One of the most commonly found molds outdoors and frequently found growing indoors. Spores from Cladosporium are generally present in outdoor and indoor air, even in relatively clean, mold-growth-free, indoor environments. Levels vary based upon activity levels, weather conditions, dustiness, outside air exchange rates, and other factors.

Penicillium/Aspergillus types: Penicillium and Aspergillus are among the most common molds found growing both indoors and outdoors (even in relatively clean, mold-growth-free, indoor environments). Levels vary based upon activity levels, dustiness, weather conditions, outside air exchange rates, and other factors.

Stachybotrys and other marker types: Certain types of mold, such as Aureobasidium, Chaetomium, Fusarium, Trichoderma, and Ulocladium, are generally found in very low numbers outdoors. Consequently their presence indoors, even in relatively low numbers, is often an indication that these molds are originating from growth indoors. When present, these mold types are often the clearest indicator of a mold problem.

Others: Molds in the "Others" category are generally found outdoors in moderate numbers and are therefore not considered markers of indoor growth.

**The levels of Chaetomium and Aspergillus / Penicillium are both exceedingly high and indicative of a very serious mold problem (i.e. one that can be extremely detrimental to human health).**

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
† Background debris is an indication of the amounts of non-biological particulate matter present on the slide (dust in the air) and is graded from 1 to 4 with 4 indicating the largest amounts.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3. The limit of detection is the analytical sensitivity (in spores/m^3) multiplied by the sample volume (in liters) divided by 1000 liters.

§ Total has been rounded to two significant figures to reflect analytical precision.

**MoldREPORT**

# After Treatment

Eurofins EMLab P & K
3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
(866) 871-1984 Fax (856) 334-1040

Client: Pure Air Solutions, LLC
C/O: Bruce Sullivan
Re: 4/15/21

Date of Sampling: 05-03-2021
Date of Receipt: 05-04-2021
Date of Report: 10-15-2021

## CULTURABLE AIR FUNGI REPORT

| Location: | SJ Parlor (Immediately After Treatment) | |
|---|---|---|
| Comments (see below) | None | |
| Lab ID-Version‡: | 12573592-1 | |
| Analysis Date: | 05/12/2021 | |
| Medium: | MEA | |
| | raw ct. | cfu*/m3 |
| Aspergillus nidulans | | |
| Aspergillus niger | | |
| Aspergillus ochraceus | | |
| Aspergillus versicolor | | |
| Aureobasidium | | **No detectable viable mold spores of any kind immediately after treatment.** |
| Basidiomycetes | | |
| Bipolaris/Drechslera group | | |
| Botrytis | | |
| Chaetomium | | |
| Cladosporium | | |
| Curvularia | | |
| Epicoccum | | |
| Fusarium | | |
| Non-sporulating fungi | | |
| Paecilomyces | | |
| Penicillium | | |
| Phoma | | |
| Rhizopus | | |
| Stachybotrys chartarum | | |
| Ulocladium | | |
| Yeasts | | |
| Positive Hole | 0 | |
| Sample volume (liters) | 75 | |
| **§ TOTAL CFU*/M3** | | < 13 |

* cfu = colony forming units  Positive hole correction chart used for all calculations

**Comments:**

Note: Interpretation is left to the company and/or persons who conducted the field work. Variation is an inherent part of biological sampling. The presence or absence of a few genera in small numbers should not be considered abnormal.
NORMAL SPORE LEVELS: Indoor spore levels usually average 30 to 80% of the outdoor spore level at the time of sampling, with the same general distribution of spore types. Filtered air, air-conditioned air, or air remote from outside sources may average 5 to 15% of the outside air at the time of sampling. (These percentages are guidelines, only. A major factor is the accessibility of outdoor air. A residence with open doors and windows and heavy foot traffic may average 95% of the outdoor level while high rise office buildings with little air exchange may average 2%. Dusty interiors may exceed 100% of the outdoors to some degree, but will still mirror the outdoor distribution of spore types.)
PROBLEM INTERIORS: A substantial increase of one or two spore types which are inconsistent with and non-reflective of the outside distribution of spore types is usually indicative of an indoor reservoir of mold growth.

The limit of detection is 1 raw count per volume of air sampled. The analytical sensitivity is 1 raw count/volume x the positive hole correction factor.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
§ Total CFU/m3 has been rounded to two significant figures to reflect analytical precision.
Fungal culture types listed without a count or data entry were not detected during the course of the analysis for the respective sample.

**Client: Pure Air Solutions, LLC**
Contact: Bruce Sullivan
Project: None
Date of Sampling: 10-07-2021
Date of Receipt: 10-11-2021
Date of Report: 10-14-2021

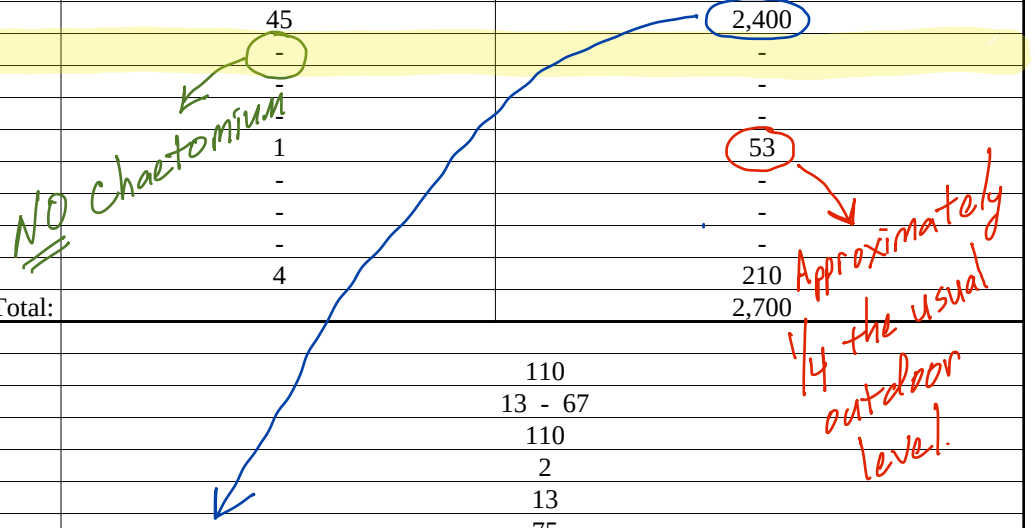
# Five Month Follow Up

**MoldREPORT**
Eurofins EMLab P & K
3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
(866) 871-1984 Fax (856) 334-1040

## Laboratory Results

MoldREPORT: Spore Trap Analysis

| Location: | SJ Parlor (5 Month Follow Up) | |
|---|---|---|
| Comments (see below) | None | |
| Lab ID-Version‡: | 13186818-1 | |
| Analysis Date: | 10/12/2021 | |
| Spore types detected: | raw ct. | per m3 |
| Aureobasidium | - | - |
| Basidiospores | 45 | 2,400 |
| Chaetomium | - | - |
| Cladosporium | - | - |
| Fusarium | - | - |
| Penicillium/Aspergillus types | 1 | 53 |
| Stachybotrys | - | - |
| Trichoderma | - | - |
| Ulocladium | - | - |
| Others | 4 | 210 |
| § Total: | | 2,700 |
| Additional Information: | | |
| Hyphal fragments | 110 | |
| Skin cells | 13 - 67 | |
| Pollen | 110 | |
| Background debris (1-4)† | 2 | |
| Limit of detection | 13 | |
| Sample volume (liters) | 75 | |




**Comments:**
Basidiospores (basidiomycetes): Basidiospores are extremely common outdoors and originate from fungi in gardens, forests, and woodlands. It is rare for the source of basidiospores to be indoors. However, basidiospores may be an indicator of wood decay.

**NOTE: It is possible that the basidiospores could be attributable to indoor wood decay (this particular structure has a damp cellar and a crawlspace lacking a vapor barrier). However, it is quite possible that the spores came from an outdoor source (it has been a very wet month and basidiomycetes—mushrooms—have been "popping up" everywhere).**

Penicillium/Aspergillus types: Penicillium and Aspergillus are among the most common molds found growing both indoors and outdoors (even in relatively clean, mold-growth-free, indoor environments). Levels vary based upon activity levels, dustiness, weather conditions, outside air exchange rates, and other factors.

Stachybotrys and other marker types: Certain types of mold, such as Aureobasidium, Chaetomium, Fusarium, Trichoderma, and Ulocladium, are generally found in very low numbers outdoors. Consequently their presence indoors, even in relatively low numbers, is often an indication that these molds are originating from growth indoors. When present, these mold types are often the clearest indicator of a mold problem.

Others: Molds in the "Others" category are generally found outdoors in moderate numbers, and are therefore not considered markers of indoor growth.

**Before treatment there were 18,000 Chaetomium and 120,000 Aspergillus / Penicillium per cubic meter in the downstairs parlor. Now, five months after treatment, there are still no Chaetomium spores and only 53 Aspergillus / Penicillium spores (about 1/4 the typical number found outdoors).**

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
† Background debris is an indication of the amounts of non-biological particulate matter present on the slide (dust in the air) and is graded from 1 to 4 with 4 indicating the largest amounts.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3. The limit of detection is the analytical sensitivity (in spores/m^3) multiplied by the sample volume (in liters) divided by 1000 liters.

§ Total has been rounded to two significant figures to reflect analytical precision.

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# Dry Fog Process Follow Up

Having dry-fogged your living space using the patented Pure Maintenance process, you can rest assured that you have laid a solid foundation for a fresh start. However, if you (or your loved ones) have been suffering from the effects of mold-related illnesses, there is more that you should consider doing in order to facilitate the recovery of good health and in your efforts to nurture a healthy living environment. These additional measures include the following.[1]

## Monitor & Control Indoor Humidity.

While the InstaPURE process destroys mold spores and pathogens, mold spores are, essentially, everywhere. Therefore, they will eventually find their way back into you home. While the EverPURE portion of the Pure Maintenance treatment process helps to reduce future "mold load" by destroying mold spores that come into contact with treated surfaces, you must still be be vigilant in maintaining proper indoor relative humidity. Ideally you should take steps to insure that indoor relative humidity remains between 30% - 50%[2]. This one page article from State Farm insurance provides helpful tips on maintaining proper indoor relative humidity (https://www.statefarm.com/simple-insights/residence/conquer-home-humidity-problems-with-these-tips)

## Maintain High Indoor Air Quality with Good Filtration.

A significant component of maintaining high indoor air quality is filtration that removes undesirable particulate matter and unhealthy volatile organic compounds (VOCs)[3]. There are many stand-alone air filtration units on the market that utilize HEPA filtration for particulate matter and activated charcoal for the capturing of VOCs. At Pure Air

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[1] Pure Air Solutions, LLC does not claim any competency in the field of human medicine. Therefore, none of these suggestions should be construed as professional medical advice.

[2] https://www.epa.gov/mold/brief-guide-mold-moisture-and-your-home

[3] VOC's come from a variety of sources and can have a significant impact on your health. For more information go to https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality.

Solutions have had good results using the Air Doctor AD3000 (www.airdoctorpro.com). It is also a good idea to treat your HVAC air filters with *GoldShield GS5* antimicrobial protectant. At the time of this writing GoldShield GS5 and GS75 are approved for the treatment of HVAC filters. You can learn more about GoldShield products at: https://goldshieldbrands.com.

Also, do not "skimp" on HVAC filters. They should be changed ***at least*** twice each year. Whenever possible (depending upon the limitations of your HVAC system), use pleated filters that have a MERV rating between 8 - 13 in order to insure a high level of filtration. You can read more on this at: https://www.bobvila.com/articles/merv-ratings/.

## Keep Your Drains Clean

Kitchen and bathroom sink drains, as well as bathtub and shower drains, are places in which molds and harmful bacteria thrive. In those damp environments, they feed on the soapy residues, hair, and other organic materials releasing spores, odors, and toxins. Therefore, giving your drains a monthly cleaning is an important part of keeping your home environment safe and fresh. Consider the following from *Better Homes & Gardens*[4]

> *To clean tough residue from a bathroom sink drain using natural ingredients, start by pouring a half gallon of boiling water in the drain. The heat will help break up the debris…Next, spoon 1 cup baking soda slowly into the drain. Allow the baking soda to sit for a few minutes. Next, pour 1 cup white vinegar down the drain. Cover the opening as the vinegar and baking soda creates a foam; this will direct the foam down to the clogged area. Let the mixture sit for 1 hour, then rinse with another half gallon of boiling water. This process will break apart debris in the bathroom sink drain and eliminate odors. Repeat the process as needed to treat stubborn clogs. As an alternative, you can use apple cider vinegar or lemon juice as a replacement for white vinegar.*

## Be Vigilant Regarding What You Bring Into Your Home

While used furniture can often save you money—and antiques have great charm—they both can be sources of mold contamination and can reintroduce harmful mycotoxins into your home environment. The same can be said of used books and other items. Those who have strong mold sensitivities need to be mindful of this reality and exercise great caution regarding what items they allow to be brought into their homes.

## Keep Your Home as Dust-Free as Possible

Mold can actually feed on dirt and dust. Therefore, keeping your home as clean as is reasonably possible is part of maintaining a healthy environment. If possible, carpets

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[4] https://www.bhg.com/homekeeping/cleaning-and-care/cleaning-advice/how-to-clean-bathroom-sink-drain/. The article pertains to clearing clogs without using harsh and corrosive chemicals, but it can also be applied to drain maintenance cleaning.

should be replaced with hard surfaced flooring. If rugs are used, consider using “throw rugs” (*i.e*. area rugs) that can be taken outside for regular cleanings and then can be easily discarded and replaced when necessary.

## Clean HVAC Condenser Coils Twice Each Year

During the summer months, HVAC condenser coils stay wet much of the time. They also collect dust. Together, the moisture and dust provide food and water for mold. Moldy HVAC coils result in mold toxins being distributed throughout your home. There are various coil cleaning solutions available on the market. However, most people are better off having them cleaned every Spring and Fall by an HVAC professional who can also perform any preventative or corrective maintenance at the same time. Please note that if your system is a split system that uses an indoor air handler or wall cassettes, the coils in those components should be inspected and cleaned if necessary as well.

## Discard Food Items at the First Signs of Mold

People with mold sensitivities can react to moldy foods in their homes. So, discard fruit, cheese, breads, and other food items whenever mold appears on them. Do not simply cut away the moldy section and assume the remainder is safe. Food is relatively cheap when compared to the toll imposed upon your mind and body by molds and mycotoxins.

## Do Not Use Carpets & Wallpaper in Moisture Prone Areas

Basements and bathrooms are places in which you should never use carpets or wallpaper because both will foster mold growth in moisture prone areas. A basement has hydrostatic pressure that essentially pushes water into the space. A carpet then becomes a moisture barrier that traps the moisture and nurtures mold. A bathroom is getting “steamed up” a regular basis, and carpets and wallpaper both hold moisture. Likewise, never place drywall or foam board directly against a basement wall (it, too, becomes a moisture barrier). The wall needs to be built out so there is an air space between the concrete basement wall and your finished wall. Remember: Whatever “goes on” in your basement & crawlspace “goes on” in your home.

## Control Crawlspace Environment

Many mold-related problems originate in the home’s crawl space. Unless moisture is controlled in the crawl space, your home will most likely continue to have a problem with mold. Very often in humid climates, full encapsulation coupled with a crawl space dehumidifier may be the best way to insure adequate moisture control. At bare minimum, forced ventilation using humidity controlled exhaust fans that draw air through the crawl space is usually needed in order to prevent condensation in summer months and to create negative pressure in the crawl space (thereby insuring that harmful toxins are expelled from the crawl space rather than being force up into your home). For excellent tutorial videos on the proper approach to crawl spaces, I

recommend The Crawl Space Ninja (https://www.youtube.com/channel/UCIdzZrKCdyNf1Oh1cGjSYnA)

## Beware of Floor Registers & Heavy Drapes

HVAC floor registers can create "micro-environments" in your home if there are heavy drapes covering them or if furniture is placed over them or in front of them. In the summer (when the HVAC is in cooling mode), these "micro-environments" can become cold zones in the vicinity of the floor register that will have higher relative humidity than the rest of the room. Because of this, we have actually seen differences of 10% in relative humidity between the space in front of heavy drapes and the space behind those same drapes when there is a floor register located in front of a window and behind the drape. Moreover, when cold air is blasting onto the surface of furniture placed in front of (or over) a floor register, the affected surface can experience condensation and subsequent mold growth. This effect can be greatly mitigated by using inexpensive HVAC floor vent deflectors.

## Let Your Closets Breathe

People often close the HVAC registers in walk-in closets in order to save on heating and cooling costs. However, like the rest of your home, the air inside your closets requires conditioning in order to keep the relative humidity below 50% (and, thereby, prevent the growth of mold). In order for closets to be properly conditioned, they not only need the HVAC registers open, they need to have good air exchange with the rest of the home. Therefore, whenever possible, it is best to use louvered doors on closets. Louvered doors allow for a level of air exchange that is not possible with solid doors. If the use of louvered doors is not possible, then it is best to leave the closets open (*i.e*. do not shut the doors).

## Consider Steps Needed for Bodily Healing

Finally, if you or your family members have shown signs of mold related illnesses, you should seek the aid of a qualified medical professional because the effects of toxic mold can linger even after your home has been remediated. There are a variety of approaches to treating mold related illnesses that can include the use of various toxin binders and nutritional supplements. Consult with your health care provide to investigate what will work best for you.

A good resource is Dr. Jill Crista's book *Break the Mold* (© 2018, Wellness Ink Pub).

## Reach Out When Needed!

Finally, please do not hesitate to reach out if you have questions regarding mold or would like assistance. We care about your health and the health of your family. Our commitment is to providing you with the best information and guidance possible.