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# PROFESSIONAL BUILDING INSPECTORS

1057 MORA PLACE, WOODMERE, NY 11598 • 6 JULIA CIRCLE, EAST SETAUKET, NY 11733



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January 18, 2009.

Mr. C.S.  
Springs, NY 11937

Via email:

Dear Mr. S.,

## SUMMARY OF OUR FINDINGS

A site visit was conducted on January 9, 2009 at the above address. Our investigation of the building, confirmed by the attached laboratory samples, finds elevated levels of mold within the building such that remediation (cleaning) is recommended.

Below you will find a **remediation protocol** that had been developed in accordance with guidance documents from the New York City, Department of Health, the Environmental Protection Agency, and the Institute for Inspection Cleaning and Restoration Certification, IICRC standard S-520.

In our professional opinion, based upon our inspection and historical data about the building provided by you, we believe the majority of the mold problems in the building are the result of **chronic elevated humidity**. This is primarily the result of **occupant generated activities** and a **lack of effective ventilation** in the bathrooms as well as **trapped humidity in the bedrooms**.

The key to addressing the mold problem in the home is to understand and correct those conditions which have allowed the mold to grow in the first place. Cleaning alone, without correcting the underlying conditions, will only result in a short-term solution and the mold will re-grow in the future. During the remediation effort you may find that a broken pipe, defective plumbing connection or building leak exists and that may have contributed to the condition. Although this is within the realm of possible, we feel it is less likely.

Please read the remainder of the report for a detailed explanation of how the testing was performed, interpreted, and additional comments we have regarding indoor air quality.

## THE OBJECTIVE OF THE SURVEY

The objective of the survey was to identify conditions, which may be affecting occupant health or comfort in areas of concern and to make recommendations to correct any indoor air quality (IAQ) problems based on a limited, one time, non-invasive air quality survey.

Mankind has recorded mold since Leviticus in biblical times and science has taught us that molds are Mother Nature's way of recycling organic compounds. Without molds the leaves that fell from

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the trees one hundred years ago would still be laying on the ground. While molds are ubiquitous in the environment there are times when either the levels of mold present are more than we typically compensate for, or the types of mold should not be found in our home or work place. Since molds eat plant matter, and most of our homes are constructed using wood framing mold can actually destroy the integrity of the buildings we live and work in.

There are three elements molds (fungi) need in order to grow and those are:

- The existence of a **food source**, molds eat organic compounds such as cellulose. Cellulose is found in paint, the paper on sheetrock, dirt, wood, clothing and similar surfaces.
- The second requirement is **temperature** conducive to mold growth, but unfortunately molds and humans like to live in the same temperature ranges.
- The third requirement is a **water source**. This can be water in a liquid state, i.e. from a flood or leaking pipe, or it can be chronic humidity levels above 60%, such as those found in crawl spaces or damp basements.

We have no realistic way to eliminate temperature, but we do have some control over the two remaining requirements. Chemicals can successfully be used to create a barrier between the food source and the mold; by removing the food we lower or remove the mold growth. We can also control the water by the altering the physical conditions found, by the use of French drains and finally the humidity by the use of self-draining dehumidifiers. A dirty house is just that, dirty - but not moldy. A wet, clean house on the other hand will be a moldy house.

## HISTORY OF THE PROBLEM

The property in question is a residential structure located on the east end of Long Island. At the present time, the home is divided into four separate apartments. The occupants of several apartments have noted staining on the exterior bedroom walls and the bathroom ceilings. Concerns have been raised that the stains may represent mold growth, a condition which could be affecting the tenant's health. There are no known active roof leaks, plumbing leaks, or exterior wall leaks in the building.

## VISUAL INSPECTION

The structure consists of a two-story above grade residential home. There is a full basement which is unfinished. The first floor has been divided into two separate apartments, each with its own kitchen and bathroom. The second floor of the building has been divided into two separate

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apartments that are accessed by a common hallway. The attic space is unfinished.

The foundation is poured concrete, the exterior building cladding appears to be stucco. There is a new roof, in good condition on the home. The Windows have been upgraded to vinyl frame units that also appear in good condition. Although not confirmed by this inspector, the perimeter above grade walls of the structure appear to be composed of solid masonry. Floor joists and subfloor are standard timber and plywood construction. Metal studs with sheetrock have been used to restore the interior spaces directly over the original interior finish in some cases.

There is no central air conditioning. Air conditioning is provided via window mounted air conditioning units. Heating is provided via an oil fired hot water baseboard system. There is a standalone dehumidifier in the basement.



## FIRST FLOOR FRONT APARTMENT

The apartment occupies the front half of the first floor of the building. The bedroom located in the front left corner of the home has some light staining on the exterior walls. There was no musty odor. The bathroom is located in the central portion of the building. There is an exhaust fan. The fan exhaust consists PVC pipe. This pipe is in excess of 25 feet and makes several turns as it courses through the building. Thermal imaging in the rear bedroom revealed a temperature anomaly consistent with a pipe leak which would be located below the baseboard radiator in the bathroom on the second floor.

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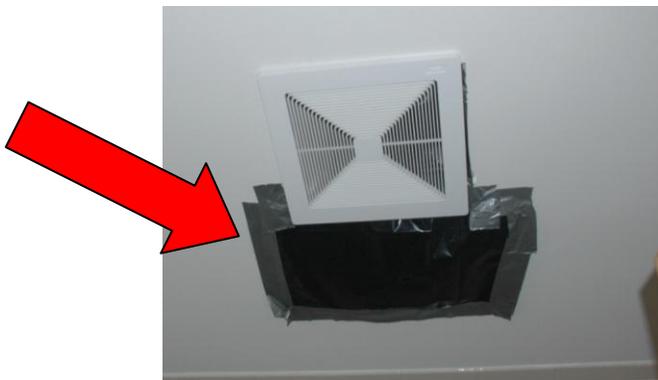
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## First floor rear apartment

Significant staining is seen on the ceiling along the outer wall of the home, the right rear corner of the home. The total square footage of visible mold at the time of the inspection was less than 10 ft.<sup>2</sup> Two adults and one child use this bedroom sleeping. The pattern of mold growth is suggestive of thermal bridging. There is no bathroom exhaust fan. There is no kitchen exhaust fan.



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## Second floor front apartment

Significant mold growth and staining is seen on the **bathroom ceiling**. Total square footage of visible mold is in excess of 30 ft.<sup>2</sup> but less than 100 ft.<sup>2</sup> There is no bathroom exhaust fan. Mold growth is seen behind the baseboard in the bathroom as well as behind the slant fin cover. There appears to be a leak from the baseboard heat in his location.



Visible mold growth was seen in the front bedroom along the window extension jams and at the base of the closet door. Large amounts of condensation were noted on the interior of the windows. Total square footage of visible mold in his bedroom is between 10 and 100 ft.<sup>2</sup>



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## Second floor rear apartment

This apartment is furnished and carpeted but unoccupied. There is no visible mold growth or odor consistent with microbial VOC's. There is no bathroom exhaust fan. There is no kitchen.



## Basement

Efflorescence is noted on some of the exterior foundation walls. This is suggestive of water intrusion. There is a standalone dehumidifier for the rear portion of the basement. The unit was iced up and frozen at the time of the inspection. There was no visible mold in the basement or odors suggestive of active mold growth, VOC's.



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## Attic

The attic space is empty, unfinished. Access is via a hallway hatch. There is mild mold growth noted on the under surface of the wood particularly at the lower portions of the sheathing where the sheathing is closest to the eaves. The attic is well ventilated at this time.



## MOISTURE SURVEY

Building **Psychrometrics** were assessed using a various instruments to evaluate the indoor environmental conditions. This included the use of a Fluke 971 temperature and humidity gauge and a Delmhorst BD2100 moisture meter and FLIR B20HS thermal imaging camera.

At the time we began our survey there were no occupants in the first floor front apartment. We found the relative humidity level to be below 55%. In the rear apartment the tenant was home, but had not recently showered or cooked and we again found the relative humidity level to be below 55%.

In the second floor front apartment the tenant were home. Upon initial inspection to the front bedroom, where 2 adults were sleeping, we found the relative humidity **above 63%** with condensation on the cooler surfaces such as the windows and exterior walls.

Moisture content of the sheetrock was above 0.5% in those locations with visible mold growth indicating Dew Point condensation was occurring and saturating the building materials

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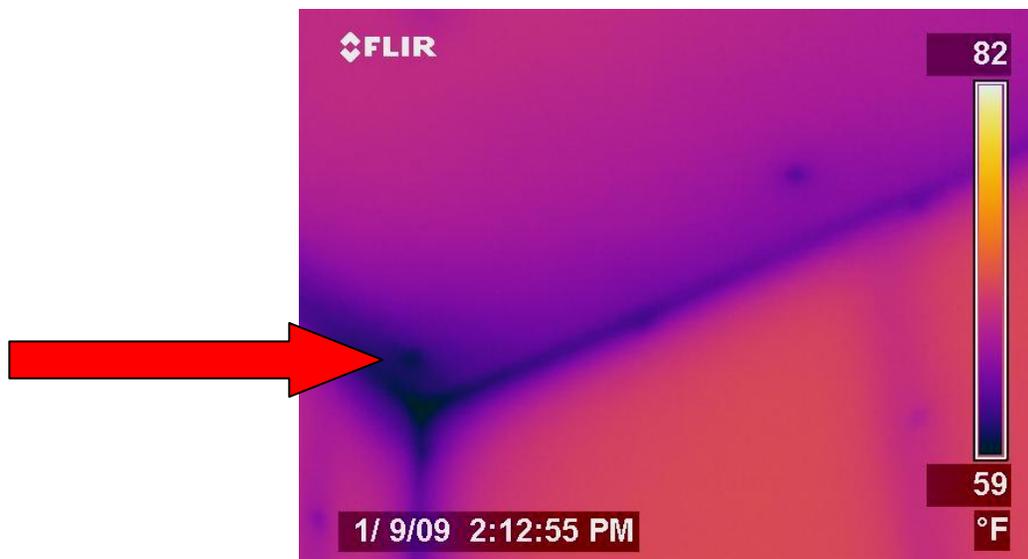


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## THERMAL IMAGING

We utilized a FLIR infra red camera during the inspection. The below thermal images show a pattern of thermal bridging in the building with mold growth on the cooler surfaces. **Just like a cold drink will bead up and sweat during the summer months, the humid air in the various rooms from the occupants breathing, cooking, and bathing is condensing on the coldest portions of the building.**



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## HOW INDOOR AIR QUALITY TESTING WAS PERFORMED

There are numerous ways to detect potential environmental problems in a building. Air samples, collection of bulk materials, tape lift sampling, swab sampling, wall cavity testing, and dust and carpet sampling are some of the more common methods.

We referenced materials listed at the end of this document and during this inspection it was determined by the inspector which testing methods were most appropriate given the location, timing, and suspected problem.

The purpose of the sampling is to:

1. Determine the mold burden and airborne spore concentrations within representative areas of the building.
2. Provide a comparison of the indoor and outdoor mold spores as well as a comparison of different areas of within the structure.
3. Determine mold spore types.

For the purposes of air spore sampling PBI utilizes a Buck Bioslide 1020 slit impactor. The Buck impactor is specifically designed for the rapid collection and analysis of a wide range of airborne aerosols including viable and non viable spores, pollen insect parts, skin cell fragments, fibers (e.g. fiberglass, cellulose, clothing fibers, etc) in addition to inorganic particulates such as ceramic, clay, etc; providing a broad overview of potential allergens.

Viable spores are those that will germinate and reproduce when given certain environmental conditions. Non-viable spores will not germinate despite being in favorable growth environments. Whether or not spores are viable, adverse health effects can result from the exposure to the spores.

The unit operates upon the principle of inertial impaction whereby particulate laden air is accelerated as it is drawn through the cassette's tapered inlet and directed towards and over a slide containing a sticky collection media, where the particles become impacted and the airflow continues out the exit orifice. The adhesive nature of the collection media prevents collected particulate from blurring or being washed off during the collection, shipping and analytical processes.

## SAMPLES

Based on the above visual inspection of the building and the external temperature and weather conditions we determined that testing would be performed as follows:

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- #1 air test in the first floor front apartment, bedroom.
- #2 air test in the first floor rear apartment, bedroom.
- #3 air test in the second floor front apartment, front bedroom
- #4 air test in the second floor rear apartment
- #5 swab test of the 1<sup>st</sup> floor front apartment, bedroom wall
- #6 swab test of the 1<sup>st</sup> floor rear apartment, bedroom ceiling, pictured above
- #7 swab test of the 2<sup>nd</sup> floor front apartment, front bedroom wall

## WHAT WE FOUND AS THE RESULTS OF THOSE TESTS

The bioaerosol testing identified several types of mold in the tests we performed at your site. Of specific concern to us are the molds listed below. For more information on the molds listed you can check out the web site [www.doctorfungus.com](http://www.doctorfungus.com)

### ASPERGILLUS / PENICILLIUM

**Statistically significant elevated levels of spores in the air in the 1<sup>st</sup> floor rear bedroom.**

**18,000 compared to 3,780 / 4,660 / 2,060**

**Swab sample on the ceiling find this mold present in the 1<sup>st</sup> floor rear bedroom.**

A wide number of organisms have been placed in the genus. Identification to species is difficult. Often found in aerosol samples, Commonly found in soil, food, cellulose, grains, paint, compost piles, carpet, wallpaper and in interior fiberglass duct insulation. It is reported to be an allergenic and may cause hypersensitivity pneumonitis, allergic alveolitis in susceptible individuals. Members of the genus are reported to cause ear infection. May species produce mycotoxins, which may be associated with disease in humans and animals. Toxin production is dependent on the species or strain within a species and on the food source for the fungus. Some of these toxins have been found to be carcinogenic in animal species. Several toxins are considered potential human carcinogens. Common cause of the intrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms, chronic cases may develop pulmonary emphysema.

### CLADOSPORIUM

**Statistically significant elevated levels of spores in the air in the 1<sup>st</sup> floor rear bedroom.**

**12,900 compared to 756 / 3,570 / 1,510**

**Swab sample on the ceiling find this mold present in the 1<sup>st</sup> floor rear bedroom.**

**Swab sample of the wall in the 1<sup>st</sup> floor front and 2<sup>nd</sup> floor front apartments find this mold present.**

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Cladosporium is the most commonly identified outdoor fungus. The outdoor numbers are reduced in the winter and often high in the summer. It is often found indoors in numbers less than outdoor number and it is a common allergen. Indoor Cladosporium spores may be different than the species identified outdoors. It is commonly found on the surface of fiberglass duct liner in the interior of supply ducts. A wide variety of plants are food sources for the fungus. It is found on dead plants, woody plants, food, straw, soil, paint and textiles. Antigens in commercial extracts are of variable quality and may degrade within weeks of preparation. **CLADOSPORIUM IS A COMMON CAUSE OF EXTRINSIC ASTHMA (IMMEDIATE-TYPE HYPERSENSITIVITY: TYPE I). ACUTE SYMPTOMS INCLUDE EDEMA AND BRONCHIOSPASMS; CHRONIC CASES MAY DEVELOP PULMONARY EMPHYSEMA.**

## HYPHAL ELEMENTS

**elevated levels of Hyphal elements found in the air and on the surface swabs through out the building.**

They are indicative of active growth in the sampling vicinity

## HOW THE RESULTS ARE INTERPRETED

When Professional Building Inspectors interpreted the attached laboratory results several documents were referenced, some of which are listed at the end of this document. Although there are no current Federal or State *regulations* with regard to mold, the **EPA** and the **New York City Department of Health** have published guidance documents.

The Institute of Inspection Cleaning and Restoration Certification, **I.I.C.R.C.**, is a not for profit, independent certification body and this organization has developed *The Standard reference guide for Professional Mold Remediation, IICRC S-520*. This document is the only current standard and widely accepted in the industry. The standard defines three (3) environmental conditions related to mold levels and the category identified predicates the type of remediation to be followed. You will find the appropriate categories listed below when we discuss what has to be done to clean up the mold.

The American Conference of Governmental Industrial Hygienists, **A.C.G.I.H.**, develops Threshold Limit Values (TLV's) as a guideline to assist in the control of health hazards in the work place. There are no current TLV's for mold. The A.C.G.I.H. has stated that in non-problem environments the concentrations of fungi (mold) in indoor air typically is similar to or lower than the concentration seen outdoors, except when outdoor air concentrations are altered by weather conditions.

Weather conditions permitting we will take ambient controls outside of the structure, however, *During certain external weather conditions air samples taken outside will have very low levels of ambient mold and invalidate the control. Some of these conditions are recent high winds, recent*

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*rain fall, and if the temperature is below 32 F or if the ground is frozen or snow covered. During these times we will attempt to sample a distant portion of the structure and use it as an ambient control. This was the case during our site visit and no outside sample was taken.*

## HEALTH ADVISORY:

Environmentalists are not Doctors, and are prohibited, as they should be, from making any medically related recommendations. We always recommend that you **consult your healthcare provider** prior to handling mold or moldy items if you are unsure of your health or the health of others.

## WHAT NEEDS TO BE DONE

Based on our inspection, the laboratory data, and the above mentioned documents we recommend the following:

**Efforts to improve the ventilation in the building such that the occupant generated humidity is not allowed to rise and remain above 55%.**

This should include installing humidistatically controlled exhaust fans in ***both*** the bathrooms and the bedrooms. These fans should be ducted to vent directly to the exterior of the home with the shortest and straightest vents possible. We further recommend that you install kitchen exhaust fans that vent to the exterior of the building.

**We recommend that monitoring the humidity in the various spaces of the building as proposed in our previous email be performed. It will give you information as to the size, location, and controls necessary for the exhaust fans. Making a decision about which fan to use and where to place it, without this information is may not solve the issue.**

In addition to the occupant generated humidity the summer weather will result in a rise in ***ambient relative humidity above 55% for several months***. For this reason, in addition to the above exhaust fans, a building wide dehumidification plan will need to be adopted for the summer months. If the tenants install and *continually* use window air-conditioners the humidity may be controlled. If, however, the window air conditioner units are not continuously operated the humidity in the building will likely persist above 55%.

For this reason you may want to consider self draining, robust dehumidifier (whole home dehumidifier) that could be installed in the basement to service the basement and first floor of the building. A similar unit could be installed in the attic space above the second floor apartments.

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The units will likely cost less to operate than a central air conditioning system, but you may want to price that out as well. We have found those units made by April Aire to be of high quality. [www.aprilaire.com](http://www.aprilaire.com)

### **With regard to the mold in the building at the present time**

We find an **I.I.C.R.C. Condition 3** which is defined as (actual growth): an indoor environment contaminated with the presence of actual mold growth and associated spores. Actual growth includes growth that is active or dormant, visible or hidden.

In the **first floor front apartment bedroom** the amount of visible mold is less than 10 sq/ft and can be cleaned as follows:

- Remediation can be conducted by trained building maintenance staff. Such persons should receive training on proper cleaning methods, personal protection, and potential health hazards associated with mold exposure. This training can be performed as part of a program to comply with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).
- Respiratory protection (e.g., N-95 disposable respirator), in accordance with the OSHA respiratory protection standard (29 CFR 1910.134), is recommended. Gloves and eye protection should also be worn.
- The work area should be unoccupied.
- If work may impact difficult-to-clean surfaces or items (e.g. carpeting, electronic equipment), the floor of the work area, egress pathways, and other identified materials/belongings should be removed or covered with plastic sheeting and sealed with tape before remediation.
- Efforts should be made to reduce dust generation. Dust suppression methods particularly during any cutting or resurfacing of materials are highly recommended. Methods to consider include: cleaning or gently misting surfaces with a dilute soap or detergent solution prior to removal.
- Use of High-Efficiency Particulate Air (HEPA) vacuum-shrouded tools; or using a vacuum equipped with a HEPA filter at the point of dust generation. Work practices that create excessive dust should be avoided.
- Clean the visible surface mold using a soap or detergent solution.
- Following the surface cleaning those surfaces to be painted with an approved encapsulant such as Fosters 40/20.
- Materials that cannot be cleaned should be removed from the building in a sealed plastic bag(s). Plastic sheeting should be discarded after use.
- There are no special requirements for the disposal of moldy materials.
- Any clothing that is felt to be contaminated can be cleaned using standard laundering

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products.

- The work area and areas used by workers for egress should be HEPA-vacuumed (a vacuum equipped with a High-Efficiency Particulate Air filter) or cleaned with a damp cloth and/or mop and a soap or detergent solution.
- All areas should be left dry and visibly free from mold, dust, and debris.

In the **first floor rear apartment bedroom** the amount of visible mold is less than 10 sq/ft. yet we suspect that there may be hidden mold on the back side of the sheetrock given the pattern of growth and the rapid return of staining following the cleaning efforts to date. It should be cleaned as follows:

- **Medium-Sized Isolated Areas** (10 – 100 square feet)
- Remediation can be conducted by trained building maintenance staff. Such persons should receive training on proper cleaning methods, personal protection, and potential health hazards associated with mold exposure. This training can be performed as part of a program to comply with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).
- Respiratory protection (e.g., N-95 disposable respirator), in accordance with the OSHA respiratory protection standard (29 CFR 1910.134), is recommended. Gloves and eye protection should also be worn.
- The work area should be unoccupied.
- Cover the floor, egress pathways, and items left in the work area with 6 mil fire proof plastic sheeting and seal with tape before remediation.
- Seal ventilation ducts/grills and other openings in the work area with plastic sheeting.
- Efforts should be made to reduce dust generation. Dust suppression methods particularly during any cutting or resurfacing of materials are highly recommended. Methods to consider include: cleaning or gently misting surfaces with a dilute soap or detergent solution prior to removal.
- Use of High-Efficiency Particulate Air (HEPA) vacuum-shrouded tools; or using a vacuum equipped with a HEPA filter at the point of dust generation. Work practices that create excessive dust should be avoided.
- If work may impact difficult-to-clean surfaces or items (e.g. carpeting, electronic equipment), the floor of the work area, egress pathways, and other identified materials/belongings should be removed or covered with plastic sheeting and sealed with tape before remediation.
- Remove all visibly contaminated sheetrock from the bedroom ceiling along the exterior wall until clean sheetrock is encountered for 18 inches.
- The contaminated sheetrock and other building materials from the ceiling are to be removed from the building in heavy weight plastic bags, sealed while in containment and wiped down prior to removal to a disposal container. A disposal container in this instance

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can be a box truck or dumpster.

- There are no special requirements for the disposal of moldy materials.
- Wipe down all non porous surfaces using a mildicide/surfactant solution.
- HEPA vacuuming of all surfaces.
- Plastic sheeting should be discarded after use
- Any clothing or bedding that is felt to be contaminated can be cleaned using standard laundering products.
- All areas should be left dry and visibly free from mold, dust, and debris.

In the **second floor front apartment bathroom** the amount of visible mold is between 10 and 100 square feet, again a **Medium-Sized Isolated Area**. We again suspect that there may be hidden mold on the back side of the sheetrock given the pattern of growth

- Remediation can be conducted by trained building maintenance staff. Such persons should receive training on proper cleaning methods, personal protection, and potential health hazards associated with mold exposure. This training can be performed as part of a program to comply with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).
- Respiratory protection (e.g., N-95 disposable respirator), in accordance with the OSHA respiratory protection standard (29 CFR 1910.134), is recommended. Gloves and eye protection should also be worn.
- The work area should be unoccupied.
- Cover the floor, egress pathways, and items left in the work area with 6 mil fire proof plastic sheeting and seal with tape before remediation.
- Seal ventilation ducts/grills and other openings in the work area with plastic sheeting.
- Efforts should be made to reduce dust generation. Dust suppression methods particularly during any cutting or resurfacing of materials are highly recommended. Methods to consider include: cleaning or gently misting surfaces with a dilute soap or detergent solution prior to removal.
- Use of High-Efficiency Particulate Air (HEPA) vacuum-shrouded tools; or using a vacuum equipped with a HEPA filter at the point of dust generation. Work practices that create excessive dust should be avoided.
- If work may impact difficult-to-clean surfaces or items (e.g. carpeting, electronic equipment), the floor of the work area, egress pathways, and other identified materials/belongings should be removed or covered with plastic sheeting and sealed with tape before remediation.
- Demolish and remove the entire bathroom sheetrock ceiling.
- Remove mold covered base trim and sheetrock from the wall at the base of the tub near the baseboard radiator until clean sheetrock is encountered for 18 inches.
- The contaminated sheetrock and other building materials from the ceiling are to be

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removed from the building in heavy weight plastic bags, sealed while in containment and wiped down prior to removal to a disposal container. A disposal container in this instance can be a box truck or dumpster.

- There are no special requirements for the disposal of moldy materials.
- Wipe down all non porous surfaces in the bathroom using a mildicide/surfactant solution.
- HEPA vacuuming of all surfaces.
- Plastic sheeting should be discarded after use
- Any soft goods that are felt to be contaminated can be cleaned using standard laundering products.
- All areas should be left dry and visibly free from mold, dust, and debris.

In the **second floor front apartment bedroom** the amount of visible mold is between 10 and 100 square feet, a **Medium-Sized Isolated Area**. We again suspect that there may be hidden mold on the back side of the sheetrock given the pattern of growth

- Remediation can be conducted by trained building maintenance staff. Such persons should receive training on proper cleaning methods, personal protection, and potential health hazards associated with mold exposure. This training can be performed as part of a program to comply with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).
- Respiratory protection (e.g., N-95 disposable respirator), in accordance with the OSHA respiratory protection standard (29 CFR 1910.134), is recommended. Gloves and eye protection should also be worn.
- The work area should be unoccupied.
- **Installation of negative air to maintain containment.**
- **Installation of HEPA air filtration.**
- Cover the floor, egress pathways, and items left in the work area with 6 mil fire proof plastic sheeting and seal with tape before remediation.
- Seal ventilation ducts/grills and other openings in the work area with plastic sheeting.
- Efforts should be made to reduce dust generation. Dust suppression methods particularly during any cutting or resurfacing of materials are highly recommended. Methods to consider include: cleaning or gently misting surfaces with a dilute soap or detergent solution prior to removal.
- Use of High-Efficiency Particulate Air (HEPA) vacuum-shrouded tools; or using a vacuum equipped with a HEPA filter at the point of dust generation. **Work practices that create excessive dust should be avoided.**
- If work may impact difficult-to-clean surfaces or items (e.g. carpeting, electronic equipment), the floor of the work area, egress pathways, and other identified materials/belongings should be removed or covered with plastic sheeting and sealed with tape before remediation.

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# PROFESSIONAL BUILDING INSPECTORS

1057 MORA PLACE, WOODMERE, NY 11598 • 6 JULIA CIRCLE, EAST SETAUKET, NY 11733



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- Demolish and remove the sheetrock window jambs and sheetrock from the wall near the closet door.
- Remove mold covered material until clean sheetrock is encountered for 18 inches.
- The contaminated sheetrock and other building materials from the ceiling are to be removed from the building in heavy weight plastic bags, sealed while in containment and wiped down prior to removal to a disposal container. A disposal container in this instance can be a box truck or dumpster.
- There are no special requirements for the disposal of moldy materials.
- Wipe down all non porous surfaces in the bathroom using a mildicide/surfactant solution.
- HEPA vacuuming of all surfaces.
- Plastic sheeting should be discarded after use
- Any soft goods that are felt to be contaminated can be cleaned using standard laundering products.
- All areas should be left dry and visibly free from mold, dust, and debris.

**Note:** Your Certified Mold Remediation Contractor (CMR) may elect to modify this protocol based on information found during remediation provided such modification is recognized in the S-520 protocol. It is recommended you have your CMR fax or e-mail us a copy of any revisions to our protocols.

## REGARDING CLEARANCE TESTING

Air monitoring shall be conducted prior to occupancy to determine if the area remediated has been reduced to **Condition 1 levels, normal background levels of mold that do not require remediation**, and if the mold contaminated any other areas between initial testing and completion of abatement. Post remediation testing will include both the remediated area and the surrounding areas exterior to the containment area.

**All HEPA filters, air movers and fans need to be shut down for 24 hours flowing the above protocol before post remediation air samples can be taken. In addition, all windows, doors or exterior openings should be closed during this 24 hour period.**

Additional recommendations:

- The oil tank in the side yard should be legally abandoned. The firm performing this work should provide you with an abandonment certificate. You may want to contact A-Diversified Petroleum, 631-595-1082 or Windmill Tank Services 516-739 6059
- Due to the unheated basement and exposed water lines we recommend that you add electric trace heat on those plumbing lines that are subject to extreme cold temepratuer and possible freeze ups.
- Additional insulation in the basement along the perimeter masonry walls along with air

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sealing would improve the energy efficiency of the building and lower the heating and dehumidification costs.

- The grading on the exterior of the home should be corrected such that the slope of the soil is 1" per foot for 6 to 10". This should aid in keeping the basement dry.

Samples were analyzed in order to determine the type(s) and approximate amount of fungal components present at the sampling location(s). The samples analyzed represent the conditions present at the time of the collection, but we caution you that since Mold is a living species it has the potential to grow in areas not affected at the time of this testing. Since it is not possible to test all areas PBI follows accepted standards for the testing of visible mold and for Blind Testing where there is a suspicion of mold but none can be observed. You, as the client have the right to authorize additional testing for an additional fee at any time.

This report was designed following current industry guidelines for the interpretation of microbial sampling and analysis utilized by the independent laboratories used by Professional Building Inspectors for the analysis of samples taken. Interpretation of these parameters is a scientific work in progress and may as such be changed at any time without notice. This report makes no express or implied warranty or guarantee as to the testing methodology used, and Professional Building Inspectors makes no express or implied warranties as to such use or interpretation.

Sincerely,

*Scott Gressin*

*Certified Indoor Environmental Consultant # 0705065  
NYS Home Inspector License #16000028893  
Certified EIFS Inspector #785806  
Certified Infrared Thermographer #32227  
NYS EPA Asbestos Inspector #07-07380  
EPA Lead Risk Assessor #NYR 17027-1*

## REFERENCE MATERIALS

**I.E.S.O.**, (Indoor Environmental Standards Organization), *Standards of Practice for the Assessment of Indoor Environmental Quality, 2<sup>nd</sup> Edition*

**I.I.C.R.C. Standard S-520**, *Standard and Reference Guide for Professional Mold Remediation.*

**U.S.E.P.A.**, Office of Air and radiation, Indoor Environments Division,

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*Mold Remediation in Schools and Public Buildings*

**N.A.D.C.A. ACR 2006**, *Assessment, Cleaning and Restoration of HVAC Systems*

**N.Y.C. DOH**, *Guideline on Assessment and Remediation of Fungi in the Indoor Environment*

**U.S.E.P.A.**, *Building Air Quality, A Guide for building owners and facility Managers*

**A.C.G.I.H.**, *American Conference of Governmental Industrial Hygienists, Bioaerosols, Assessment and Control*

**O.S.H.A.**, Hazard Communication Standard 29 CFR 1910.1200, 1910.134, 1910.138