

Kern River Home Inspections

IAC2 Complete Mold Inspection Report



100 Elm St, Kernville, CA 93238
Inspection prepared for: Michael Henson
Date of Inspection: 1/15/2021
Age of Home: Built in 1980 Size: 1530 Sq. Ft.
Weather: 50°F to 70°F

Inspector: Eugene Hacker
InterNACHI: NACHI13013109
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Intro

1. Introduction

Materials:

• Mold sampling was completed in conjunction of a general home inspection. This report is supplemental to the general home inspection full report created and delivered. Systems which were noted in the general home inspection which needed repair or correction could play a factor in the presence of moisture and related mold growth. All items and conditions which were noted in the general home inspection report which could allow the introduction of moisture or water into the home envelope should be corrected. Any water or moisture damaged systems or materials should be cleaned, removed or replaced.

• **General Methodology:** Kern River Home Inspections performed the limited mold inspection at the subject property in accordance with generally accepted professional practices. A limited mold inspection normally includes the following, in part or entirely as requested by the client:

- 1 - Visual inspection focused on the discovery of signs of mold growth and moisture intrusion
- 2 - Use of thermal imaging and moisture meter to help locate areas of actively wet building materials and to test suspect areas
- 3 - Collection of microbial samples requested by client and submission of samples to a qualified microbiology lab for analysis
- 4 - Provision of a written report of the limited mold inspection findings and, where applicable, a lab report of the sample analysis

2. General Information About Mold

Materials:

About Mold - Molds are part of the natural environment and are simple, microscopic organisms whose purpose is to break down dead materials. Molds can be found on plants, dry leaves and about every other organic material. Mold spores are lightweight and are spread by air currents. If spores land on a suitable surface, they will begin to grow. In order to thrive, mold requires four things to grow. They are: Water, Organic materials, Oxygen, and an Optimum temperature (between 40 and 90 degree F). Mold growth is often seen as a discoloration and can grow in several different colors. The most common are white, orange, pink, blue, green, black, or brown.

Moisture management - To stop the growth of mold, it is important to first and foremost, find and stop the water/moisture concern! Mold spores will not grow if moisture is not present. Indoor mold can and should be prevented or controlled by controlling moisture.

Here is a list of what the inspector looks for in terms of determining any sources of water or moisture which could be conducive to mold growth:

- Evidence of water penetrating the house
- Plumbing system leaks
- HVAC systems' condensation lines
- Clothes dryer vent
- Bathroom and Kitchen ventilation

Recent studies estimate that 50-65% of homes contain some sort of mold problem, exposing an estimated 40 million Americans. Although there are currently no federal standards or recommendations regarding concentrations of mold or mold spores in indoor air environments clearly there are health risks associated with mold infestations.

Exposure to elevated mold levels isn't necessarily healthy for anybody. However, there are certain individuals who appear to have the greatest risk for adverse health effects to mold:

- Infants and children
- Elderly
- Immune-compromised patients
- Pregnant women
- Individuals with respiratory conditions (such as allergies, multiple chemical sensitivity and asthma)

There are 3 ways mold spores can enter the human body:

- Inhalation: Breathing in airborne mold spores.
- Skin: Touching moldy surfaces such as furniture or coming in contact with plants that may have molds.
- Ingestion: Eating toxic fungal species on spoiled food, including nuts, grain, rice and agricultural products.

Potential health effects from mold:

- Toxicosis- Dramatic and carcinogenic effects have been recorded in animals and humans exposed to high levels of mycotoxins in laboratory studies. Symptoms may include cold and flu-like symptoms, headaches, nosebleeds, dermatitis and immune suppression.
- Allergies- Allergies are the most common symptoms associated with exposure to elevated levels of fungal spores or mold fragments.
- Irritation- Fungi produce volatile organic compounds during degradation of substrates that cause the moldy odor associated with fungal contamination. These compounds can be irritating to mucous membranes, causing headaches and many other symptoms.
- Asthma- 17.3 million Americans have asthma, a respiratory disease that leaves sufferers coughing, wheezing and gasping for air. A 300% increase in the asthma rate over the past 20 years has been directly linked to molds.
- Chronic Sinusitis- Researchers have found that chronic sinusitis is apparently caused by an immune response to fungus (mold). Researchers made this discovery when they found 202 out of 210 patients with chronic sinusitis had fungi in their mucus.

Sampling

1. Sampling Plan

Observations:

Air samples were taken at three locations.

- 1 - Outdoor sample (front yard) - control sample
- 2 - Bathroom 2 - this space was chosen because there were minor moisture stains noted on the floor structure which were visible from the crawlspace.
- 3 - Master Bathroom - this space was chosen because it is common to have been past moisture issues in bathrooms. Even though there were no issues noted, this space was chosen because this bathroom was next to the master bedroom which is where most people spend considerable time.

ICA2 standards of practice require that two outside samples (one on the windward side of the structure and one on the leeward side of the structure) are taken and analyzed. Because it was a large house, the inspector decided that the greatest benefit to the client would be for two interior samples to be taken, so only one exterior sample was taken for a control. The mold test base price includes three samples which are sent to an independent lab for analysis. The inspector would like to disclose that this method, while may be the most beneficial for the client, does not meet the ICA2 standards of practice for mold testing.

Results

1. Results

Observations:

- Because mold spore species and levels differ within each state, agreements are hard to come by with analysts and scientists. A comparison to an outdoor air sample is usually used as the rule of thumb. The following mold spore ranges use the spore/meter cubed number and not the raw count for each species when interpreted in a lab's "Air Sample Report".

0-50 spores – these trace levels are not an issue. Even *Stachybotrys* is not considered an issue if the sample does not also contain water markers like *Chaetomium** and *Fusarium** or high levels of *Penicillium/Aspergillus*.

50-200 spores – still very low levels; the toxic mold species *Stachybotrys** and *Memnoniella** are the only species to be considered an issue at this level.

200-500 spores – the most common species (*Penicillium/Aspergillus*, *Cladosporium** and *Curvularia**) are not an issue and stay within the normal range.

500-1500 spores – sometimes the *Penicillium/Aspergillus* & *Cladosporium** levels are in this range and do not require remediation. If water intrusion or mold was not found during the, these levels can be caused by normal life in an enclosed environment.

1500-3000 spores – this point indicates that an issue may be apparent, unless a corresponding number in the outdoor sample exists. If water intrusion or mold issue wasn't found, these levels can be achieved by a dusty home or **A/C** system.

3000-10,000 spores – without a corresponding number in the outdoor sample, some remediation is necessary. A perimeter clean-up is needed if a mold spore source has been identified. If water intrusion or mold issue wasn't found, the home may need to be cleaned and the duct system should be evaluated.

10,000-25,000 spores – without a corresponding number in the outdoor sample, a mold spore source is usually identified and remediation is needed. If no water intrusion or mold issue was found, the duct system may need to be cleaned and a general cleaning of the residence.

25,000-75,000+ spores – a mold issue will be easy to identify. Clean up will be required and should be performed by a Professional Mold Remediator.

75,000-1,000,000+ spores – mold issue will be evident. Remediation will be required and needs to be performed by a Professional Mold Remediator..

2. Sample 1 Results

Observations:

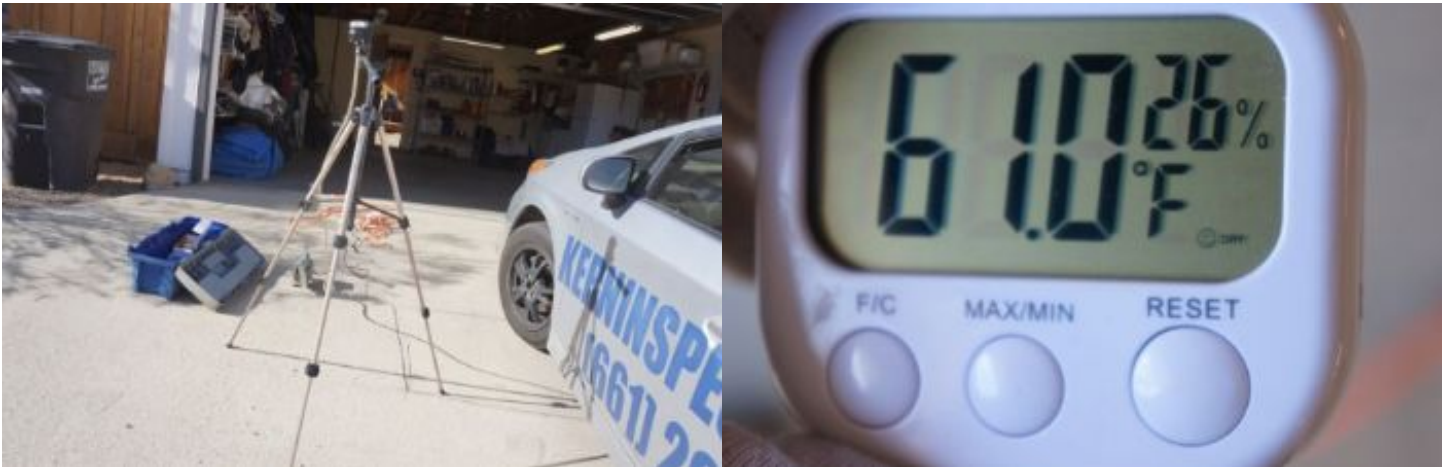
Outdoor Sample location: At front of home - windward side of structure

Sample type: Air Air-O-Cell cartridge 150L

Date Taken: 1/15/2021 at 10:33 AM

Wind: calm to very light breeze

Temp:61°F Humidity 26%



Results Sample 1 Results

Results Sample 1 Results

3. Sample 2 Results

Observations:

Sample location: Bathroom 2
Sample type: Air - Air-O-Cell cartridge 150L
Date Taken: 1/15/2021 at 10:51 AM
Temp: 70.2°F Humidity: 33%

Below are the results where the spore count was higher than the control sample.

Mold species with low level spore count:

Ascospores: 40 count/meter cubed
(Outdoor Control sample was 20 Count/Meter cubed)

Other Findings:

Low level:

Pollen: 60 count/meter cubed
(Outdoor Control sample was 20 Count/Meter cubed)



Results Sample 2 Results

Results Sample 2 Results



Results Sample 2 Results

4. Sample 3 Results

Observations:

Sample Location: Master Bathroom
Sample type: Air - Air-O-Cell cartridge 150L
Date Taken: 1/15/2021 at 11:01 AM
Temp: 71.6°F Humidity: 32%

Below are the results where the spore count was higher than the control sample.

Mold species with low level spore count:

Aspergillus/Penicillium: 300 count/meter cubed
(Outdoor Control sample was 100 Count/Meter cubed)

Bipolaris++: 20 count/meter cubed
(Outdoor Control sample was 0 Count/Meter cubed)

Myxomycetes++: 40 count/meter cubed
(Outdoor Control sample was 20 Count/Meter cubed)

Other Findings:

Low level:

Hyphal Fragment: 440 count/meter cubed
(Outdoor Control sample was 200 Count/Meter cubed)



Results Sample 3 Results

Results Sample 3 Results

Recommendations

1. Recommendations

Observations:

- Levels of mold spores were low in the indoor air samples and within a normal range when outdoor levels were taken into account. There was no visible signs of mold growth or moisture intrusion which would be conducive to mold growth. No remediation is required.



LA Testing

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<http://www.LATesting.com / pasadenalab@latesting.com>

EMSL Order: 322100857
Customer ID: KRVH42
Customer PO:
Project ID:

Attention: Eugene Hacker
 Kern River Home Inspections
 PO Box 2145
 Lake Isabella, CA 93240

Phone: (661) 205-9172
Fax:
Collected Date: 01/15/2021
Received Date: 01/16/2021 11:30 AM
Analyzed Date: 01/18/2021

Project: 100 Elm St. Kernville CA

Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	322100857-0001			322100857-0002			322100857-0003		
Client Sample ID:	30608541			30608525			30608614		
Volume (L):	150			150			150		
Sample Location:	Outside control			Bathroom 2			Master bath		
Spore Types	Raw Count	Count/M ³	% of Total	Raw Count	Count/M ³	% of Total	Raw Count	Count/M ³	% of Total
Alternaria (Ulocladium)	1	20	1	1*	7*	0.9	-	-	-
Ascospores	1	20	1	2	40	5	-	-	-
Aspergillus/Penicillium	6	100	5.1	4	80	9.9	14	300	33.7
Basidiospores	55	1200	60.9	22	460	57	15	320	36
Bipolaris++	-	-	-	-	-	-	1	20	2.2
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	29	610	31	8	200	24.8	10	210	23.6
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	1	20	1	1	20	2.5	2	40	4.5
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	93	1970	100	38	807	100	42	890	100
Hyphal Fragment	8	200	-	7	100	-	21	440	-
Insect Fragment	1*	7*	-	-	-	-	-	-	-
Pollen	1	20	-	3	60	-	-	-	-
Analyt. Sensitivity 600x	-	21	-	-	21	-	-	21	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	1	-	-	3	-	-	3	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	3	-	-	3	-	-	3	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

Regina Norman, Laboratory Manager
 or other Approved Signatory

No discernable field blank was submitted with this group of samples.

LA Testing maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by LA Testing. LA Testing bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. High levels of background particulate can obscure spores and other particulates, leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed.

Samples analyzed by LA Testing South Pasadena, CA AIHA-LAP, LLC-EMLAP Accredited #102814

Initial report from: 01/18/2021 02:12 PM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

Microbiology Chain of Custody

EMSL Order Number (Lab Use Only):

#322100857

PHONE:

FAX:

Company: Kern River Home Inspections		EMSL-Bill to: <input type="checkbox"/> Different <input checked="" type="checkbox"/> Same <small>If Bill to is Different note instructions in Comments**</small>	
Street: PO Box 2145		Third Party Billing requires written authorization from third party	
City: Lake Isabella	State/Province: CA	Zip/Postal Code: 93240	Country: USA
Report To (Name): Eugene Hacker		Telephone #: 661-205-9172	
Email Address: kerninspections@gmail.com		Fax #:	Purchase Order:
Project Name/Number: 100 Elm St. Kernville CA		Please Provide Results: <input type="checkbox"/> FAX <input checked="" type="checkbox"/> E-mail <input type="checkbox"/> Mail	
U.S. State Samples Taken: California		Connecticut Samples: <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Residential	

Turnaround Time (TAT) Options* - Please Check

3 Hour 6 Hour 24 Hour 48 Hour 72 Hour 96 Hour 1 Week 2 Week

*Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide. TATs are subject to methodology requirements

Non Culturable Air Samples (Spore Traps) - Test Codes

- M001 Air-O-Cell
- M173 Allegro M2
- M004 Allergenco
- M032 Allergenco-D
- M172 Versa Trap
- M049 BioSIS
- M003 Burkard
- M043 Cyclex
- M002 Cyclex-d
- M030 Micro 5
- M174 MoldSnap
- M176 Relle Smart
- M130 Via-Cell

Other Microbiology Test Codes

- M041 Fungal Direct Examination
- M014 Endotoxin Analysis
- M029 Enterococci
- M005 Viable Fungi ID and Count
- M015 Heterotrophic Plate Count
- M019 Fecal Coliform
- M006 Viable Fungi ID and Count (Speciation)
- M180 Real Time Q-PCR-ERMI 36
- M133 MRSA Analysis
- M007 Culturable Fungi
- Panel
- M028 *Cryptococcus neoformans* Detection
- M008 Culturable Fungi (Speciation)
- M018 Total Coliform (Membrane Filtration)
- M120 *Histoplasma capsulatum* Detection
- M009 Gram Stain Culturable Bacteria
- M020 Fecal *Streptococcus* (Membrane Filtration)
- M033-39 Allergen Testing
- M010 Bacterial Count and ID - 3 Most Prominent
- M210-215 *Legionella* Detection
- M044 Group Allergen (Cat, Dog, Cockroach, Dustmites)
- M011 Bacterial Count and ID - 5 Most Prominent
- M026 Recreational Water Screen
- Other See Analytical Price Guide
- M013 Sewage Contamination in Buildings
- M027 Mycotoxin Analysis

Preservation Method (Water):

Name of Sampler: Eugene Hacker

Signature of Sampler:

Sample #	Sample Location	Sample Type	Test Code	Volume/Area	Date/Time Collected
Example: A1	Kitchen	Air	M001	75L	1/11/21 4:00 PM
3060 8541	OUTSIDE - FRONT	AIR	M001	150L	1/15/2021 10:33 AM
3060 8525	BATHROOM 2				10:51 AM
3060 8614	MASTER BATH				11:07 AM

Client Sample # (s): 8541, 8614 Total # of Samples: 3

Relinquished (Client): *[Signature]* Date: 1/15/2021 Time: 1:00 pm

Received (Client): *ET (USmail)* Date: 1/16/21 Time: 11:30 am

Comments: Please bill to credit card on file
Please contact before processing if received after 1/22/2021 *thanks ET 1/24*

