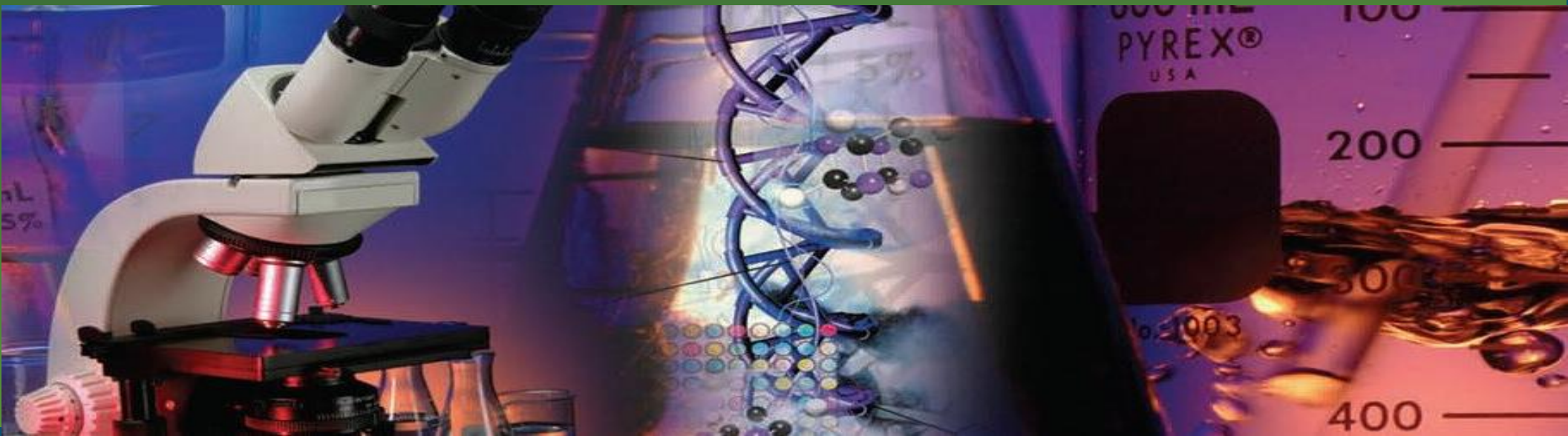


MOLD ASSESSORS: SURVIVING A DEPOSITION

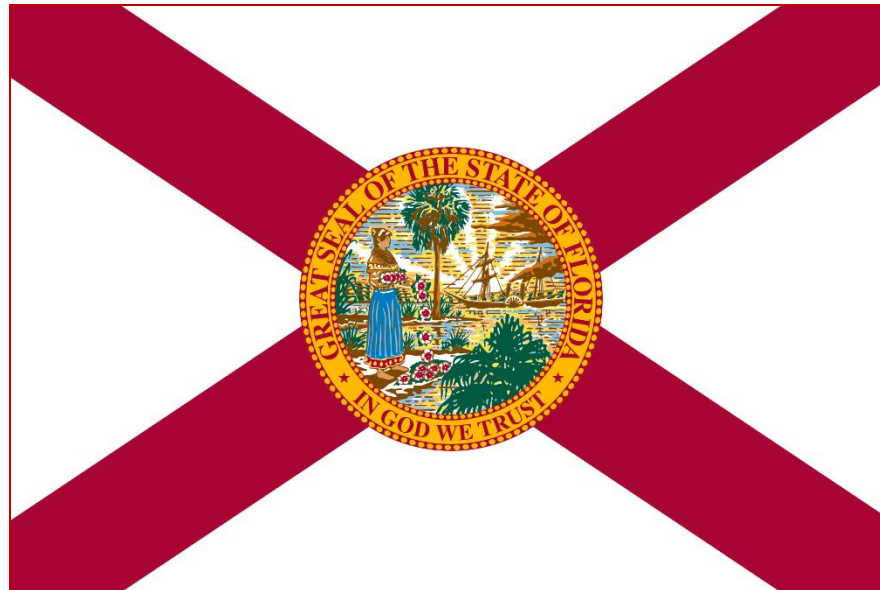


Instructor / Course Developer:

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FLA Lic Mold Assessor and Mold Remediator;
FLA Independent Insurance Adjuster.
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States Have Different Laws

- In this PowerPoint we focus on Florida law and IICRC S520-2015.
- 99% of the PowerPoint is applicable to any State except NY and TX which have their own mold assessment and mold remediation laws.



DO YOU HAVE A COPY OF YOUR INSURANCE?



INSURANCE POLICY

ser... Company agrees to provide insurance in the
subsequent period for which this Policy during the period of insurance
and form part of this c... Company man...

- The proposal form and
- The policy will op
- This Policy is a C
- We welcome
- Stamp Duty ch
- paid.

CONTRACTOR INSURANCE UNDER FLA LAW CH 489



For General Contractors, there is a licensed GC qualifier and there is a State recognized General Contractor company qualified by the licensed GC.



All employees of the Contractor company are covered by the company insurance. Employees do not need their own insurance.



MOLD IS DIFFERENT



- There are no mold assessor company qualifiers under Ch 468.84-468.8424 (FLA Mold Law)
- There are no state recognized mold assessor (or mold remediator) companies.
- The required \$1M Mold Assessor Errors & Omission insurance must be in the name of the licensee or the company policy must name the licensee as an Additional Insured.

I ASKED YOU TO BRING A COPY OF YOUR MOLD ASSESSOR INSURANCE



- When the attorney deposing you asks for a copy of YOUR proof of insurance for the work performed ... you need to provide proof that YOU are insured.
- No proof of insurance ... then the mold assessment was illegal and it is inadmissible as evidence.
- Illegal work ... invoice not enforceable.
- No insurance ... illegal work. You lose your license.

WORKER'S COMP

- I asked for you to bring a copy of your Worker's Comp or Exemption.
- Where is it? If you don't have it, the work is illegal.
- How is your company structured? Employees? Sub-Chapter S? Use of subs?



DO YOU USE PPE DURING INSPECTIONS?



Do you use Personal Protection Equipment when performing inspections?

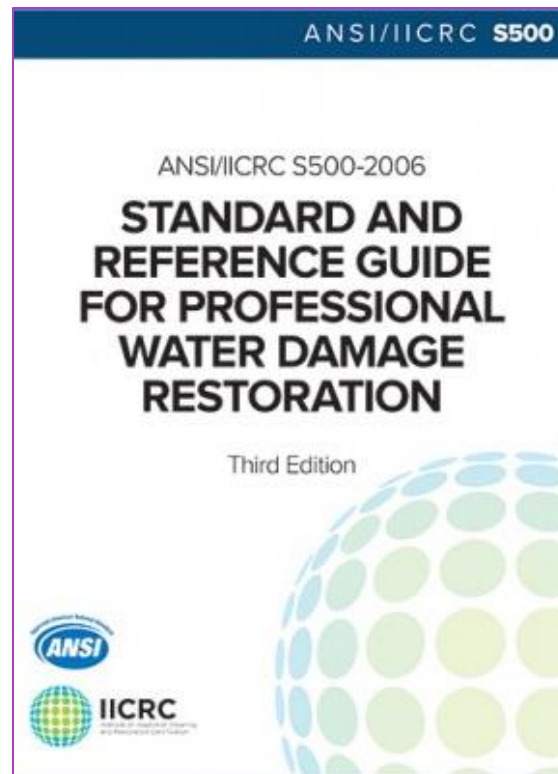


If so, provide proof that you are complying with Workers Comp insurance for working in hazardous conditions.



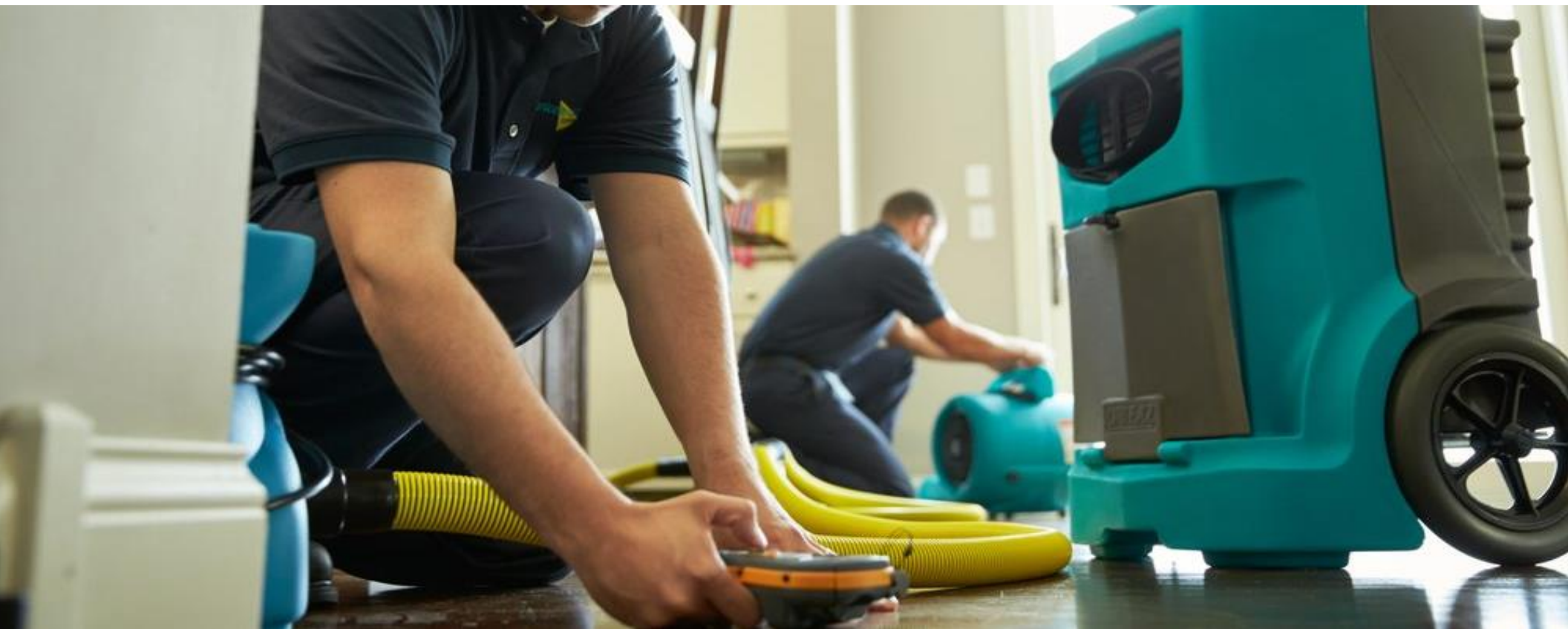
N95 Respirator

DO YOU HAVE TRAINING IN WATER DAMAGE?



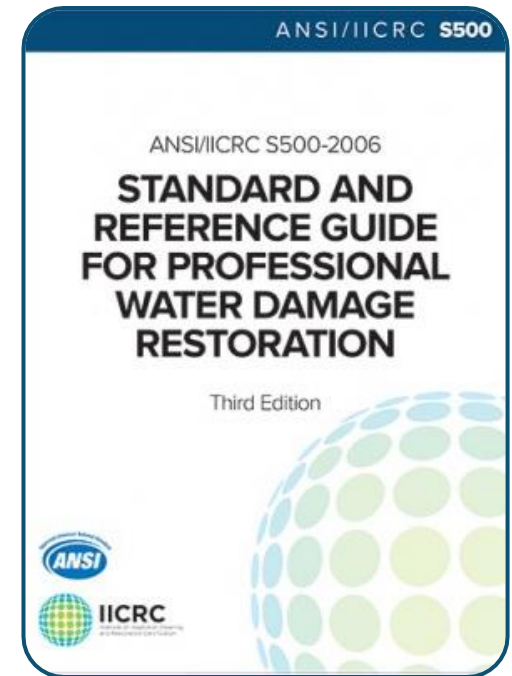
TRAINING IN WATER DAMAGE?

- FLA mold law requires that all mold assessors have training in three areas: mold, water, and respiratory protection.
- Have you been trained in water damage as required by State Law?
- If so explain your water damage training.



TRAINING IN WATER DAMAGE?

- Are you familiar with ANSI-Approved IICRC S500?
- What is it? It is the Standard for Professional Water Damage Restoration
- What is ANSI? (American National Standards Institute.)
- So is ANSI-Approved IICRC S500-2015 considered the Standard in the water damage industry?
- How can you say you have training in water damage if you are not trained in ANSI-Approved IICRC S500-2015?



IICRC S500-2015

- Are you IICRC S500 WRT certified by chance?
- When did you receive training in IICRC S500?
- Was your water training before the new release that came out in 2015 (ANSI-Approved IICRC S500-2015)?
- Did you know that S500-2006 which was the predecessor to S500-2015 has had its ANSI approval withdrawn.
- Did your recent 14 hour CE training include training on the most recent (ANSI-Approved) standard for water damage S500-2015?
- Do you own a copy of S500-2015?
- When you perform a Mold Assessment are you looking for mold or looking for evidence of water or both?



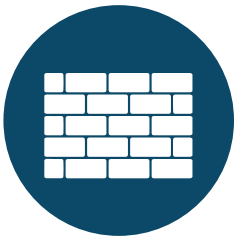
IICRC WATER CONTAMINATION LEVELS DO YOU KNOW WHAT THESE ARE?

- **Category 1 = “clean water”** = broken supply lines, tub or sink overflows with no contaminants, appliance malfunctions involving water supply lines, melting ice or snow, falling rainwater, broken toilet tanks, toilet bowls that do not contain contaminants or additives, etc. (Previously known as “clear water.”) Category 1 water can quickly degrade into category 2 or 3.
- **Category 2 = “gray water”** = discarded from dishwashers, washing machines, overflows from toilet bowls with some urine (no feces), sump pump failures, seepage due to hydrostatic pressure, broken aquariums, punctured water beds, etc.
- **Category 3 = “black water”** = sewage or other contaminated water sources including toilet backflows that originate beyond the trap, flooding from seawater, ground surface water and rising water from rivers or streams, etc.

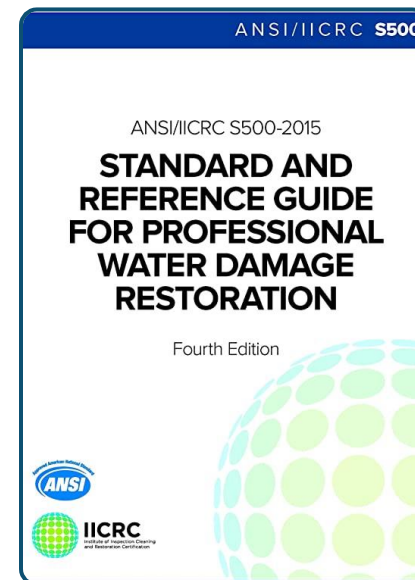
S500-2015 IS THE STANDARD



If S500-2015 is the standard for water damage restoration, it of course covers assessing water damage.



After a water loss, per S500-2015 check inside of assemblies (walls, cabinets, ceilings?)



S500-2015 Requires

- Based on the pictures you provided, you omitted performing an intrusive inspection as required by S500-2015.
- How can you determine the extent of damage or if there is hidden pre-existing damage (mold) if not?



ASSESSING WATER DAMAGE

- When you look for water and water damage what type of test equipment do you use?
 - Penetrating moisture meter?
 - Non-penetrating moisture meter?
 - FLIR?
- Have you had any formal training in any of these?
- Are the calibrations up to date?



NEW LEAK OR OLD (ORIGIN OF LEAK)

- Based on the pictures you provided to me it certainly looks like the damage/mold could be due to a long term pre-existing leak.
- What makes you believe that this was a new leak that would be covered by an insurance claim?
- Again referring to S500-2015 they require you to identify pre-existing damage. But you have not done so. Why not?

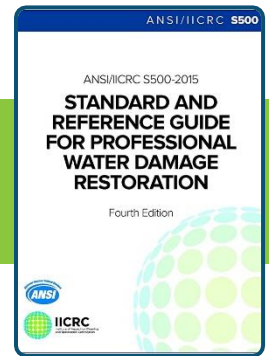


MOLD STARTS TO GROWS TOO FAST

- Mold starts to grow too fast to date a water event as to greater than 13 day (long term) or 13 days or less (short term, covered loss) based on when the mold started to grown.
- But if you look inside walls you can look for wood rot and steel framing rust as indicators of long term nature of the leak.
- Why didn't you?
- Intrusive inspections are required by IICRC S500-2015.



DID YOU CHECK INSIDE ASSEMBLIES? PER IICRC S500-2015.



13.3. 7 Pockets of Saturation

Restorers should **open assemblies** (e.g., walls, stairs, flooring, wall base areas, voids, built-ins) to access pockets of saturation and remove unsalvageable, contaminated materials and components. Exposed materials that remain in place should be cleaned and decontaminated, as appropriate.

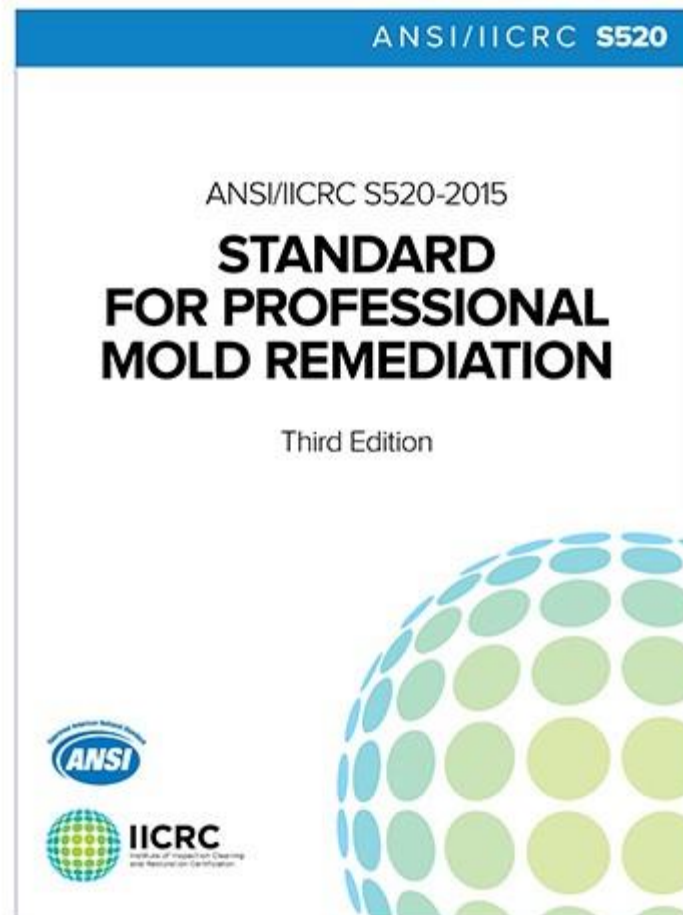
➤ **Open assemblies to access pockets of saturation**

17.3.1 Pre-restoration Evaluation of assemblies

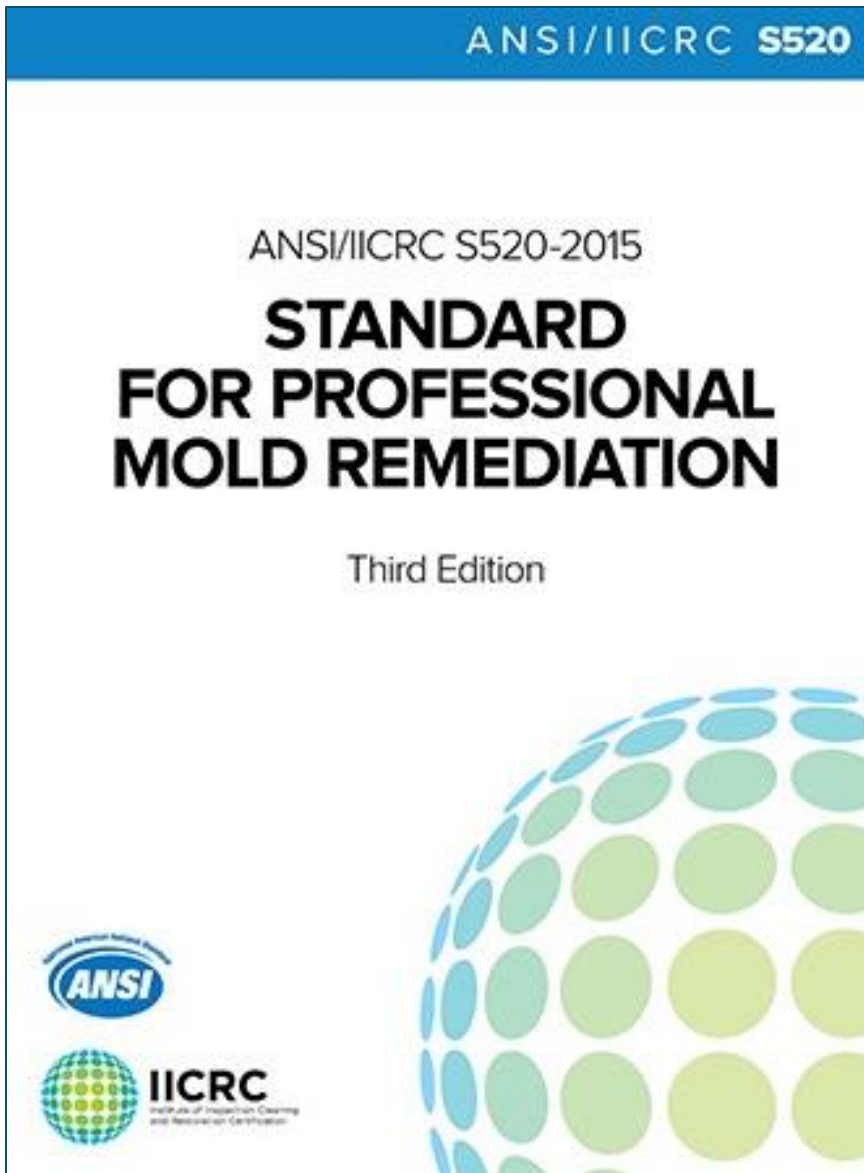
Evaluating layers or assemblies of material should be done when it is suspected that water has migrated under or into it. Restorers should understand the particular construction in order to determine the best restoration approach. **Properly inspecting, cleaning, drying, and restoring these assemblies can require removal of surface or multiple layers of them.** If finished wall material (e.g., gypsum board, plaster) requires replacement, restorers should commence removal first; then properly dry exposed sub surfaces and framing to the predetermined drying goal prior to reinstallation of finish materials.

➤ **Again: Open assemblies to properly inspect.**

WHAT GUIDELINES DO YOU USE FOR MOLD ASSESSMENTS?



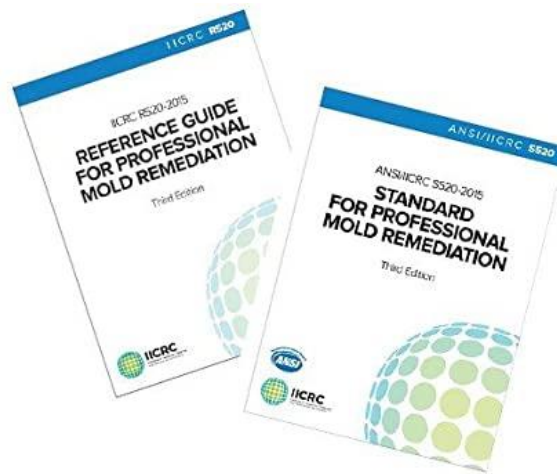
GUIDELINES FOR MOLD ASSESSMENTS



- One of the most important tasks for a Mold Assessor is to test for mold? Do you agree?
- What procedures do you follow when testing for mold? NYC, IICRC, EPA, NORMI, NAERMC?
- You follow IICRC. That's right. I see it here in your Report. Per IICRC.

IICRC S520 - 2015

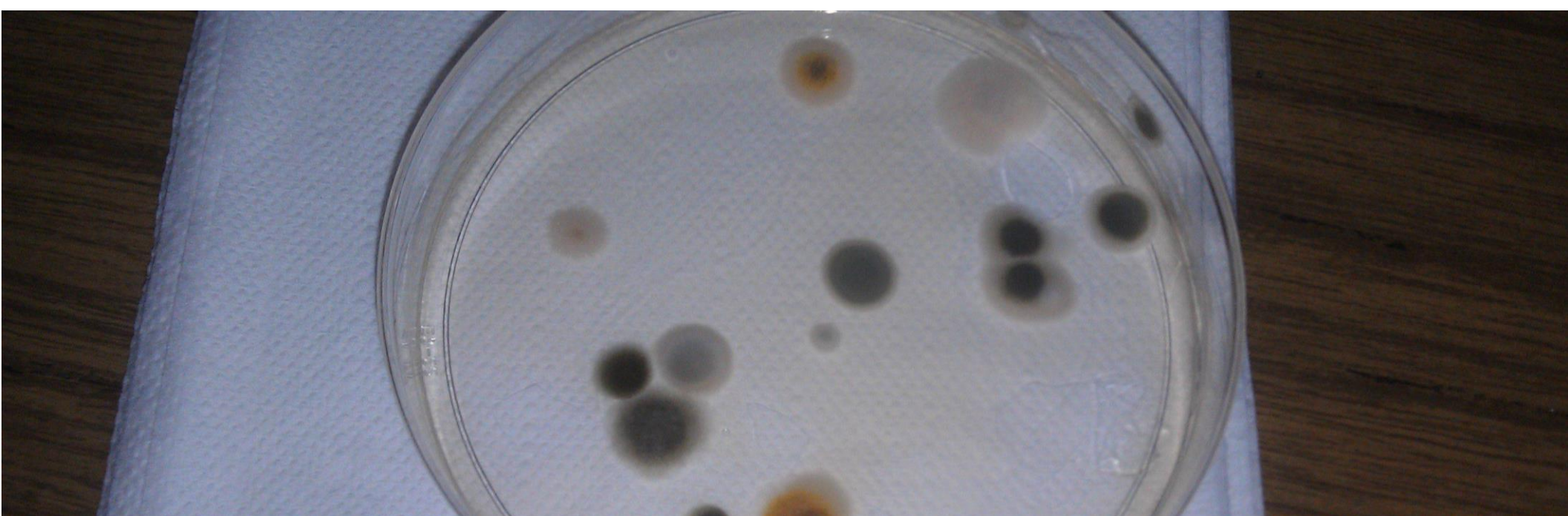
- Are you IICRC S520 AMRT certified by chance?
- When did you receive training in IICRC S520?
- Was your training before the new release that came out in 2015 (ANSI-Approved IICRC S520-2015)?
- S520-2008 which was the predecessor to S520-2015 has had its ANSI approval withdrawn.
- So you don't have training in the current S520 standard?



- Can you explain to me how you perform testing based on IICRC Conditions?
 - Condition 1 = “normal fungal ecology” = an indoor environment that may have settled spores, fungal fragments or traces of actual growth whose identity, location and quantity are reflective of a normal fungal ecology for a similar indoor environment.
 - Condition 2 = “settled spores” = an indoor environment which is primarily contaminated with settled spores that were dispersed directly or indirectly from a Condition 3 [actual growth] area, and which may have traces of actual growth.

- Please explain how you go about determining if settled spores were dispersed from actual mold or if they were not.
- How do you determine the Origin/Source of the mold spores in the settled dust? Maybe they've been there for 10 years.
- How does one detect if mold in the air sample is normal background mold or comes from the new leak (actual mold growth Condition 3)?

- What are the lab procedures used to determine that Condition 2 spores were dispersed from active mold growth?
- How does the lab distinguish Condition 2 spores from Condition 1 (normal... not coming from actual growth?)
- Did you do any testing that would allow you to make such a determination. (Spore traps do not provide such info.)



- Once you get the results back from the lab, how do you interpret Condition 1 or 2?
- IICRC is testing for settled spores and not the air. Why not?
- You are using IICRC S520 mold assessment procedures but IICRC says they have no mold assessment procedures.
- See below taken from p6 of S520-2015.
- Please explain.

The ANSI/IICRC S520 is not intended to establish procedure or criteria for assessing mold contamination in an indoor environment.

WHAT GUIDELINES DO YOU USE FOR YOUR REMEDIATION PROTOCOLS?



GUIDELINES FOR WRITING MOLD REMEDIATION PROTOCOLS

- One of the most important tasks for a Mold Assessor is to write mold remediation protocols? Do you agree?
- What procedures do you recommend followed in your protocols? NYC, IICRC, EPA?
- You recommend that any of them be used. Great.
- Can you explain the differences between the three? If not, why are you recommending them?
- In the protocol I am reading you recommend that remediators follow IICRC remediation protocols.
- That's great. It is called: *IICRC Standard for Professional Mold Remediation*. But is this also the Standard for Assessors to write Protocols?
- Do you own a copy of S520-2015?

- IICRC S520-2015 requires that a protocol include the procedure that the Mold Assessor will use to perform Post Remediation Verification (PRV) testing.
- How do you determine Pass/Fail of the remediation?





When you do the PRV where do you test? Inside the containment before closing up?



Or in adjacent areas to make sure there has been no cross contamination?



I don't see that specified in your mold assessment report/ protocol.



That appears to be Omitted. Please explain.

- You have explained that your mold remediation protocols are based on IICRC guidelines.
- There are different kinds of containments in IICRC.
- But I don't see those IICRC guidelines in your mold assessor report/protocol. What type of containment do you recommend?
- The three types of IICRC containments:
 - Source containment.
 - Local containment.
 - Full scale containment
- Please explain the differences. Please explain which is suitable for this job.



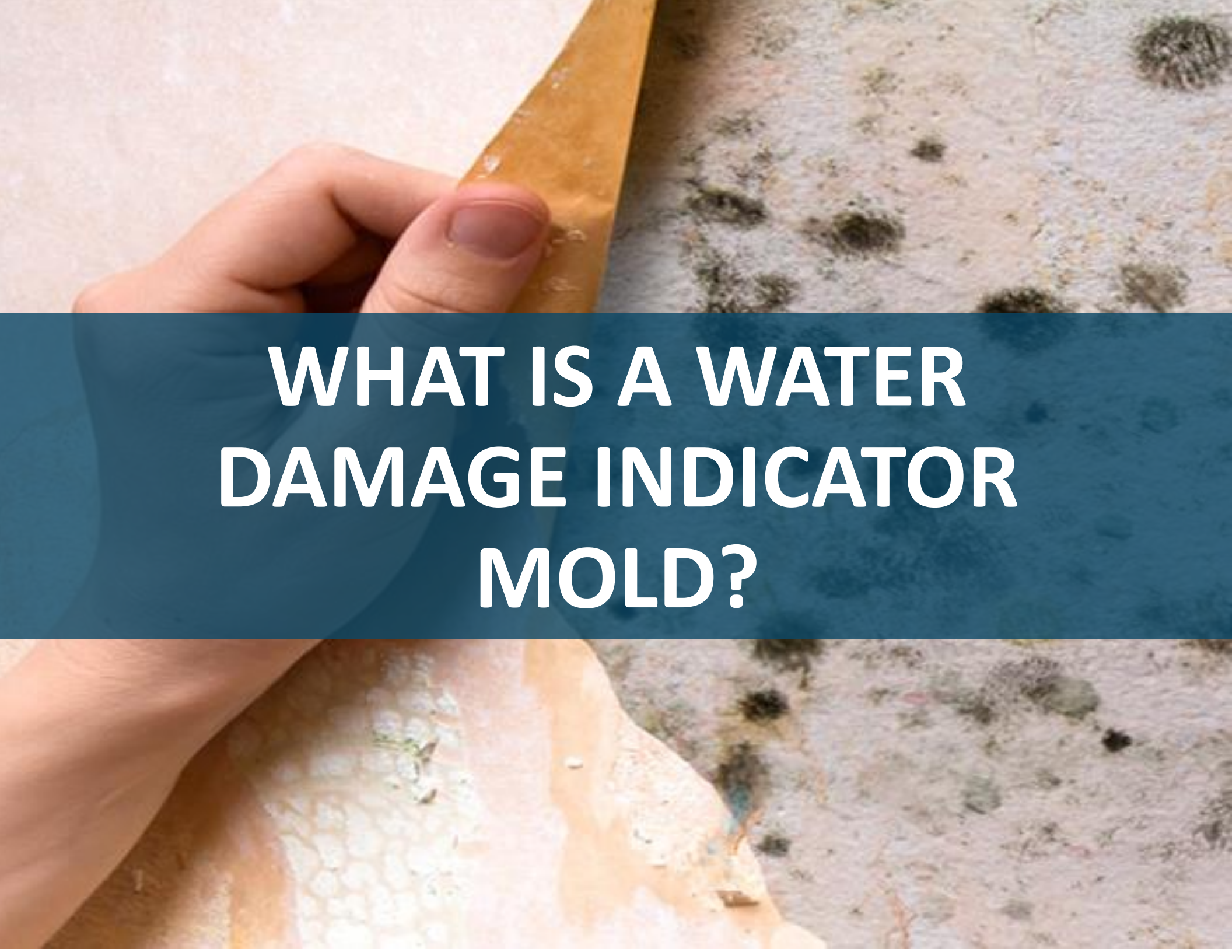
10.6 Developing Work Plans, Protocols and Specification

The inspection information, preliminary determination, and assessments performed by an IEP provide the basis for developing work plans, protocols, and specifications, the development of which can necessitate the further assistance of an IEP or other specialized expert.

When preparing work plans, protocols, and specifications for a mold remediation project, remediators **should** use the information contained in this document to determine the need for specific services and procedures. When developing work plans, protocols, and specifications, at a minimum, consideration should also be given to the following:

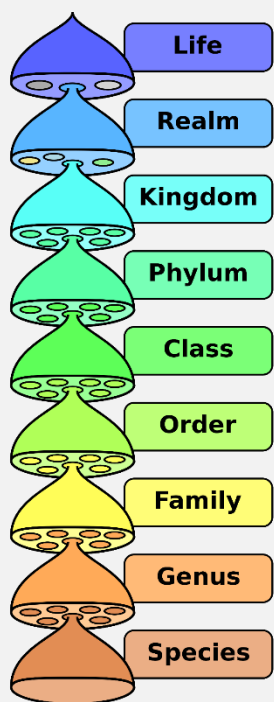
- Containment;
- Pressure differentials;
- Hazardous or regulated materials;
- Safety and health provisions;
- Contents;
- Contaminated material removal and handling;
- Detail cleaning;
- Disposal;
- Post-remediation evaluation;
- Post-remediation verification; and
- Containment removal.

Per IICRC, a protocol at a minimum **should** consider this list. “Should” means required by the professional standard or care. What have you omitted from your protocol?



WHAT IS A WATER DAMAGE INDICATOR MOLD?

GUIDELINES FOR WRITING MOLD REMEDIATION PROTOCOLS?



A genus is a taxonomic rank used in the biological classification of living and fossil organisms in biology. In the hierarchy of biological classification, genus comes above species and below family. In binomial nomenclature, the genus name forms the first part of the binomial species name for each species within the genus

- Questions: What is mold genus? What is mold species? Give one example?
- For example *Stachybotrys chartarum*. *Stachybotrys* is the genus and *chartarum* is the species.

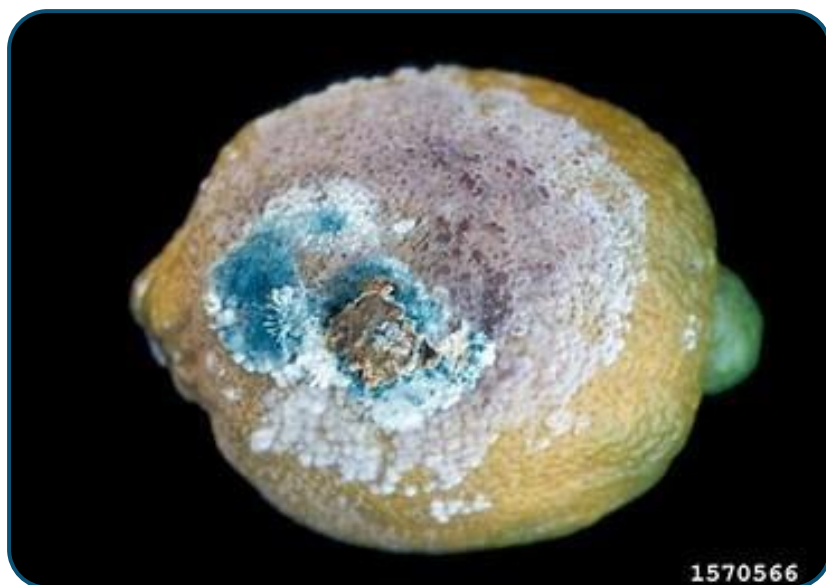
WATER DAMAGE INDICATOR MOLDS

- What are some common Water Damage Indicator molds (they result from water damage)?
 - With only a few exceptions these water damage indicator molds are species of either the genus *Penicillium* or the genus *Aspergillus*.

Stachybotrys chartarum ● Chaetomium globosum ● Cladosporium sphaerospermum ● *Aspergillus* versicolor ● *Aspergillus* unguis ● *Penicillium* variable ● *Aspergillus* flavus ● *Aspergillus* penicillioides ● *Penicillium* crustosum ● *Aspergillus* niger ● Eurotium (A.) amstalodami ● *Aspergillus* fumigatus ● *Penicillium* corylophilum ● Aureobasidium pullulans ● *Aspergillus* ochraceus ● *Penicillium* brevicompactum ● *Aspergillus* sydowii ● *Penicillium* spinulosum

WHAT ARE THE MOST COMMON WATER DAMAGE INDICATOR MOLD ?

- Penicillium and Aspergillus molds taken together are the most common molds found both indoors and out. Most water damage indicator molds are either Penicillium or Aspergillus.
- However, many species of Penicillium and Aspergillus are NOT water damage indicators.



Penicillium on orange



Penicillium close up

WHY IS DISTINGUISHING PEN FROM ASP IMPORTANT?

- Due to the importance of distinguishing *Penicillium* and *Aspergillus* molds for the purpose of determining if sampled mold is background or from a new water loss...
- And since with spore traps, *Aspergillus* molds cannot be distinguished from *Penicillium* molds...
- Culture testing for insurance claims to distinguish *Penicillium* from *Aspergillus* becomes essential.
- But you only took spore traps. Why?



The background image shows a weather station in a grassy field. A spore trap cartridge, which is a white cylindrical component, is mounted on the station. The station also includes a wind vane and other sensors. A dark blue semi-transparent banner is overlaid across the middle of the image, containing the title text.

SPORE TRAP CARTRIDGES



AIR SAMPLING Z⁵

- According to the cartridge manufacturer: 5 liter per minute air sampling cartridges are:
 - *“Designed as a **first-line mold screening tool that can be easily used by home inspectors to get preliminary information on whether a mold problem may exist and further investigation is warranted.**”*



Z⁵

SAMPLE VOLUME AND ACCURACY AOC.

Air-O-Cell (AOC)



- The Z5 (5 lpm) samples take in 1/3 the air volume of an Air-O-Cell (AOC) 15 lpm.
- Reduces accuracy. Why did you use them if they are not accurate?
- The cartridge manufacturer and labs recommend that Mold Assessors use AOC's and high volume pumps for sampling at 15 lpm (or 20 lpm).
- Why did you use the Z5 if not recommended for Mold Assessors?

If you want to look like an idiot ..
use a Z5 which gives only
“preliminary information” for an
insurance claim.

SAMPLE CARTRIDGE TYPE (Z⁵). SAMPLE VOLUME (25L)

ANALYSIS METHOD	Spore trap analysis			Spore trap analysis			Spore trap analysis			Spore trap analysis		
LOCATION	OUTDOOR			KITCHEN			DEN			DINING ROOM		
COC / LINE #	1064304-1			1064304-2			1064304-3			1064304-4		
SAMPLE TYPE & VOLUME	Z5 - 25L			Z5 - 25L			Z5 - 25L			Z5 - 25L		
SERIAL NUMBER	Q497934			Q498051			Q497957			Q497941		
COLLECTION DATE	Aug 18, 2017			Aug 18, 2017			Aug 18, 2017			Aug 18, 2017		
ANALYSIS DATE	Aug 21, 2017			Aug 21, 2017			Aug 21, 2017			Aug 21, 2017		
CONCLUSION	CONTROL			NOT ELEVATED			NOT ELEVATED			NOT ELEVATED		
IDENTIFICATION	Raw Count	Spores per m ³	Percent of Total	Raw Count	Spores per m ³	Percent of Total	Raw Count	Spores per m ³	Percent of Total	Raw Count	Spores per m ³	Percent of Total
Arthrinium												
Bipolaris/Drechslera												
Chaetomium				1	40	5						
Cladosporium	2	80	6	1	40	5						
Curvularia	2	80	6				1	40	3	1	40	5
Memnoniella												
Microascus							19	760	66	9	360	41
Other Ascospores	1	40	3									
Other Basidiospores	14	560	41	2	80	11	3	120	10	1	40	5
Penicillium/Aspergillus	15	600	44	15	600	79	6	240	21	11	440	50
TOTAL SPORES	34	1,360	100	19	760	100	29	1,160	100	22	880	100
MINIMUM DETECTION LIMIT*	1	40		1	40		1	40		1	40	
BACKGROUND DEBRIS	present			present			Light			Light		
Cellulose Fiber				5	200		4	160		6	240	
Fiberglass												
OBSERVATIONS & COMMENTS	Debris: Moderate			Debris: Moderate								

SPORE TRAP LIMITATIONS



Air-O-Cell (AOC)

AOC RECOMMENDED SAMPLING TIME NO SET STANDARD

Environmental conditions	Recommended sampling time at 15 liters per minute
Wall cavities	1 minute
Dusty, dirty, visible particles in the air	3 minutes
Normal office	5 minutes
Very clean indoor areas	10 minutes

- If the environment is dusty, the collection media on the glass slide gets covered with dust and the mold spores bounce off (are not collected.)
- How clean the environment is drives the recommended sampling times.
- Can you justify the sampling time you used based on the indoor air conditions?

IF ASKED IF YOU FOLLOWED YOUR LAB'S RECOMMENDATION ...

- If asked if you followed the Lab's recommended sampling times ... how do you answer?\
- Here's a suggestion ... make your answer so complicated the attorney will shut up because he is overwhelmed (unless he's read this presentation!)
 - "Sampling times vary depending on cartridges, how much of the trace is read, and how dusty the environment is."
 - "Depends if sampling is for viable or spore traps."
 - "For AOC's, initial air sampling is typically performed for 3-5 minutes at 15 lpm."

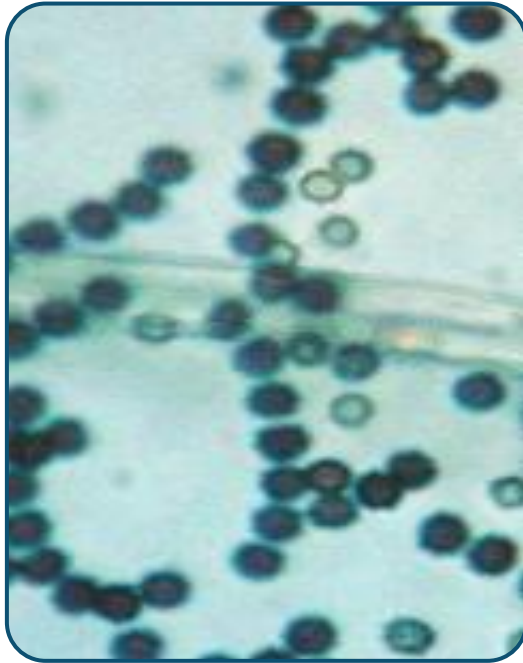
SPORE TRAPS: LIMITED MOLD/SPORE IDENTITY INFORMATION



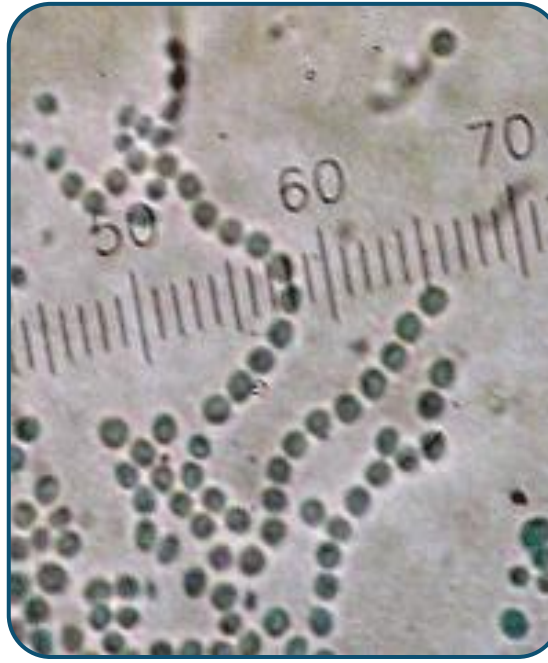
Outdoor Spore Trap Sampling

- Small sized spores in the 2-3 micron size (Penicillium, Aspergillus, Trichoderma, etc.) are too small to be distinguished by spore traps and are grouped as Aspergillus/ Penicillium-like.
- Yet Penicillium and Aspergillus are the most common indoor and outdoor molds.
- And are key water damage indicators.

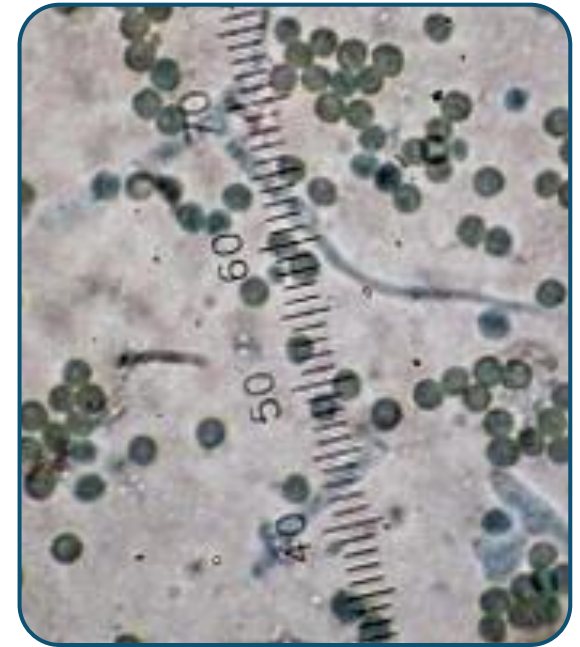
Penicillium/Aspergillus or Not?



Aspergillus spores



Penicillium spores



Tricoderma



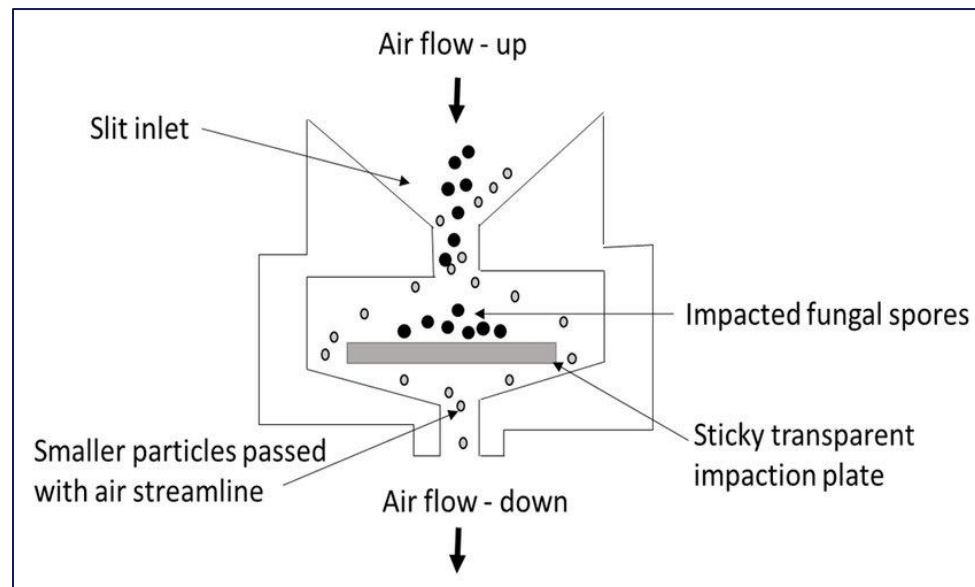
Tiny 2-3 micron sized spores are very common but indistinguishable using spore trap methods. Labelled as a group called Pen/Asp.



But not necessarily Penicillium or Aspergillus.

Summary: Spore Trap Limitations

- Spore traps cannot distinguish *Penicillium* from *Aspergillus* which together are the **MOST** common molds both indoor and outdoor.
- Please explain why spore traps cannot distinguish *Penicillium* from *Aspergillus* from other small mold spores, but your test results show Pen/Asp mold present.

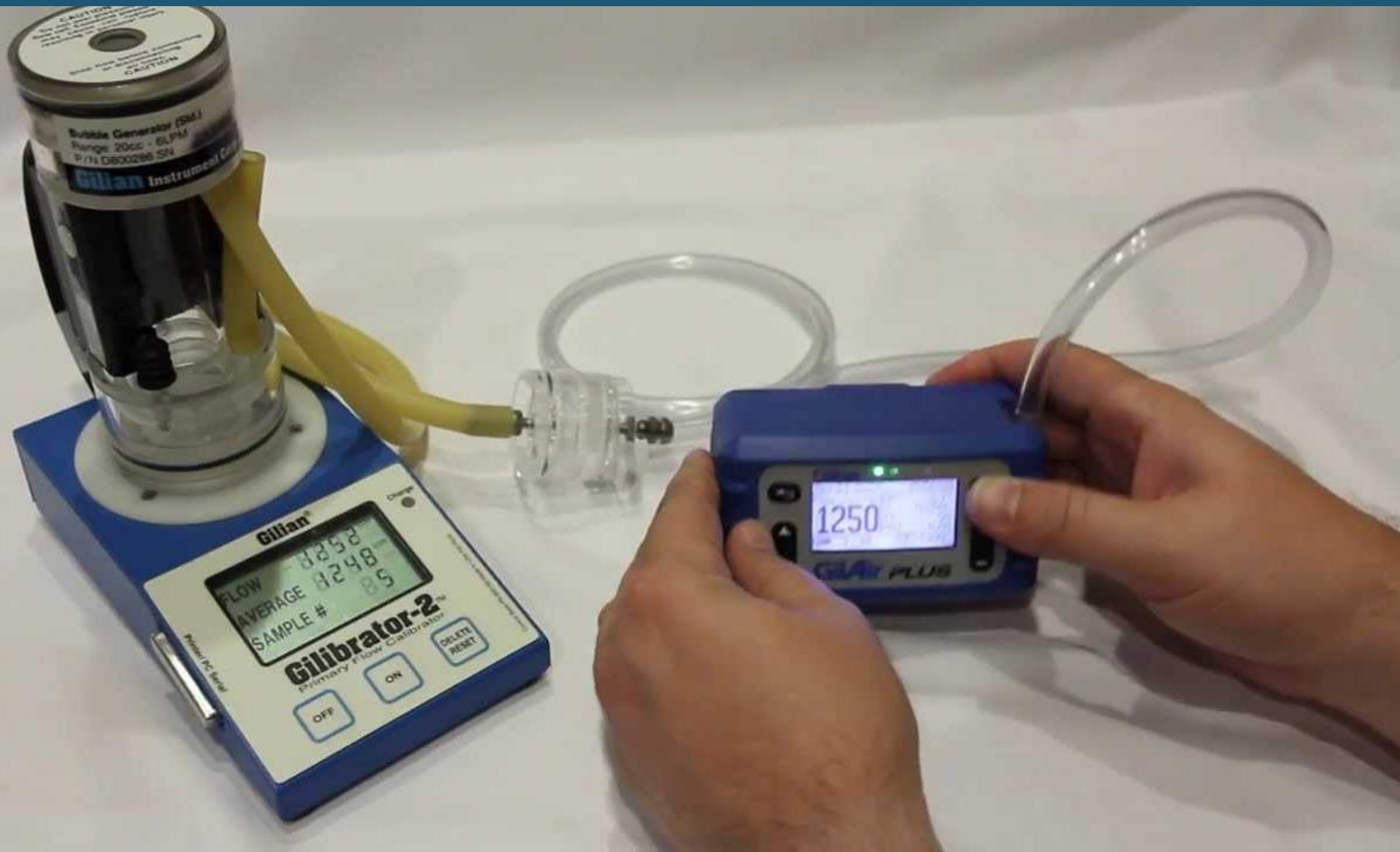


Spore Trap Mechanism

SUMMARY: SPORE TRAP LIMITATIONS

- **Spore traps cannot distinguish** fresh (new) live mold/spores indicating a recent leak from old dead mold/spores... possibly years or decades old.
- Explain what your test results have to do with the leak in question, when the spore trap sample results could be mold that is 10 years old.
- If you are attempting to determine Cause & Origin and well as timing of a water loss for an insurance claim (did damage occur before day 14?) spore sampling must be supplemented by culture testing.
- Be sure you can explain the limitations of spore trap sampling.
- If you did not also do culture testing, be prepared to explain how you are able to answer questions as to the timing of the damage by spore trap testing alone. **Hint: You can't!**

CALIBRATING SAMPLING PUMPS



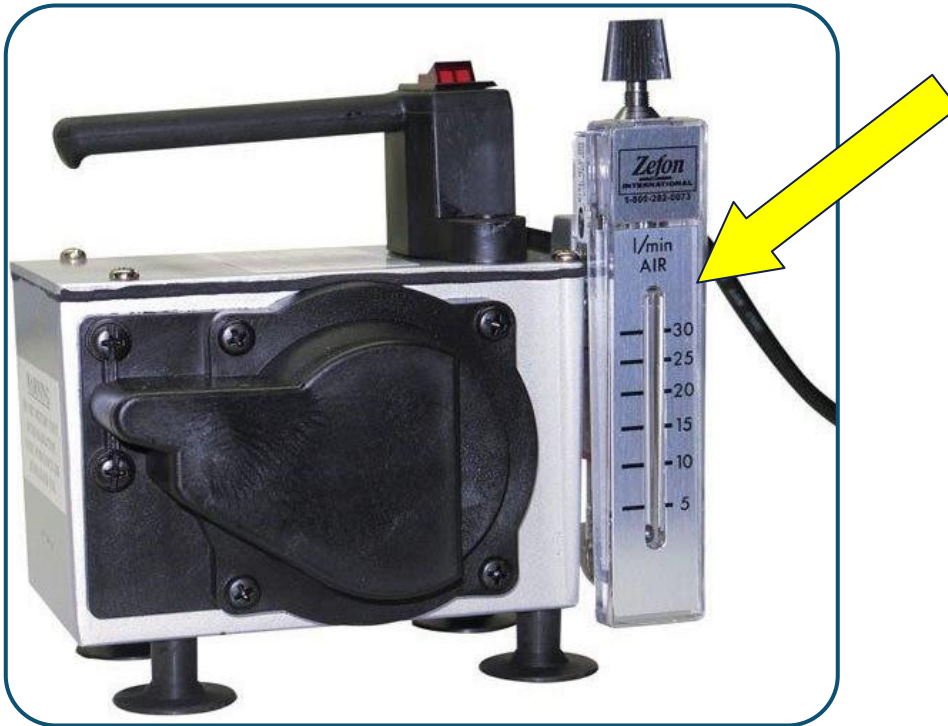
PUMP CALIBRATION

- When asked if you calibrated your pump?
- When asked how do you know if sampling was accurate?
- “We use a sampling pump with built in calibration/rotameter (yellow arrow.)”
- “This type of pump has a large battery and is very stable.”
- “We check flow rate for every sample”.

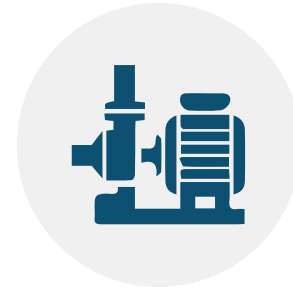


Battery operated sampling pump with built in rotameter

PUMP CALIBRATION



Powered sampling pump with
built in rotameter



Or we use a
powered pump
with built in
rotameter.

PUMP CALIBRATION USING A PRIMARY CALIBRATOR

- When asked if you calibrated your pump using a Primary Calibrator down to 2% accuracy as recommended by the pump manufacturer?
- “No. Air sampling varies as much as 50%.”
- “Calibrating to 2% makes no sense.”
- “A waste of money.”



Primary standard. Waste of money.

THEN HOW DO YOU KNOW HOW ACCURATE THE SAMPLING IS?



Then how do you know how accurate the sampling is?



“Due to statistical factors, air sampling when spore counts are relatively low will have a high degree of variability”.



“Perhaps 50% or more”.



“We took duplicate outside identical samples in order to show how sampling varies”.

If you don't take some duplicates, you cannot answer the questions as to how much your samples may vary.

SPORE TRAP DETECTION LIMITS



MINIMUM DETECTION LIMIT

- **Minimum Detection Limit.** This is the lowest number of spores that can be detected by the lab.
- If the lab analysis is based on reading 25% of the trace (sample), the detection limit (DL) will be 4 spores.
- If the lab reads 100% of the trace. $DL=1$.



Reading 25% of the Trace vs 100%



Home Inspectors can accept having the lab read only 25% of the trace.



But licensed mold assessors ... Not.



Professional Mold Assessors should have the lab read 100% of the trace for increased accuracy.



Be sure you can explain to an attorney at a deposition what Detection Limits mean.

DETECTION LIMIT

ANALYSIS METHOD	Spore trap analysis			Spore trap analysis			Spore trap analysis			Spore trap analysis		
LOCATION	OUTDOOR			KITCHEN			DEN			DINING ROOM		
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ANALYSIS DATE	Aug 21, 2017			Aug 21, 2017			Aug 21, 2017			Aug 21, 2017		
CONCLUSION	CONTROL			NOT ELEVATED			NOT ELEVATED			NOT ELEVATED		
IDENTIFICATION	Raw Count	Spores per m ³	Percent of Total	Raw Count	Spores per m ³	Percent of Total	Raw Count	Spores per m ³	Percent of Total	Raw Count	Spores per m ³	Percent of Total
Arthrinium												
Bipolaris/Drechslera												
Chaetomium				1	40	5						
	2	80	6	1	40	5						
	2	80	6				1	40	3	1	40	5
Microascus							19	760	66	9	360	41
Other Ascospores	1	40	3									
Other Basidiospores	14	560	41	2	80	11	3	120	10	1	40	5
Penicillium/Aspergillus	15	600	44	15	600	79	6	240	21	11	440	50
TOTAL SPORES	34	1,360	100	19	760	100	29	1,160	100	22	880	100
MINIMUM DETECTION LIMIT*	1	40		1	40		1	40		1	40	
BACKGROUND DEBRIS	present			present			Light			Light		
Cellulose Fiber				5	200		4	160		6	240	
Fiberglass												
OBSERVATIONS & COMMENTS	Debris: Moderate			Debris: Moderate								

DL = 1 Reading
100% of trace.

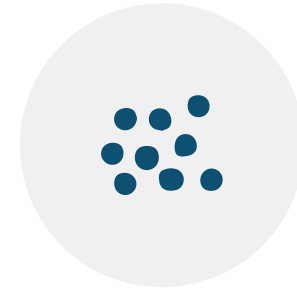
IF THE DL IS 4 . . .



Here the DL is 1.
(Previous page.)



If the lab reads 25%
of the trace the DL
would be 4.



Since the majority of the spore
counts on the previous page are
less than 4, most of these
would be missed if only 25% of
the trace was read.

**If the lab is reading only 25% of the trace you are
going to lose credibility.**

SPORE TRAP BACKGROUND DEBRIS



BACKGROUND DEBRIS

- Take a look at the same set of test results but this time check out the Background Debris.
- Background Debris is listed as “moderate” for outside control and the kitchen.
- What does this mean?



DEBRIS RATING

ANALYSIS METHOD	Spore trap analysis			Spore trap analysis		
LOCATION	OUTDOOR			KITCHEN		
COC / LINE #	1064304-1			1064304-2		
SAMPLE TYPE & VOLUME	Z5 - 25L			Z5 - 25L		
SERIAL NUMBER	Q497934			Q498051		
COLLECTION DATE	Aug 18, 2017			Aug 18, 2017		
ANALYSIS DATE	Aug 21, 2017			Aug 21, 2017		
CONCLUSION	CONTROL			NOT ELEVATED		
IDENTIFICATION	Raw Count	Spores per m ³	Percent of Total	Raw Count	Spores per m ³	Percent of Total
Arthriniium						
Bipolaris/Drechslera						
Chaetomium				1	40	5
Cladosporium	2	80	6	1	40	5
Curvularia	2	80	6			
Memnoniella						
Microascus						
Other Ascospores	1	40	3			
Other Basidiospores	14	560	41	2	80	11
Penicillium/Aspergillus	15	600	44	15	600	79
TOTAL SPORES	34	1,360	100	19	760	100
MINIMUM DETECTION LIMIT*	1	40		1	40	
BACKGROUND DEBRIS	present			present		
Cellulose Fiber				5	200	
Fiberglass						
OBSERVATIONS & COMMENTS	Debris: Moderate			Debris: Moderate		

Debris
Rating

Background Debris Definition

- “Background Debris qualitatively estimates the amount of particles that are not spores and directly affects the accuracy of the spore counts.”
- “The categories of Light, Moderate, Heavy and Too Heavy for Accurate Count, are used to indicate the amount of deposited debris.”
- **“The categories of deposited debris.”**
 - “Light (None to up to 25% obstruction)”;
 - “Moderate (26% to up to 75% obstruction)”;
 - “Heavy (76% to up to 90% obstruction)”;
 - “Too Heavy (Greater than 90% obstruction).”
- Other labs will have different but similar definitions.

BACKGROUND DEBRIS

- “Increasing amounts of debris will obscure small spores and can prevent spores from impacting onto the slide.”
- “The actual number of spores present in the sample is likely higher than reported if the debris estimate is ‘Heavy’ or ‘Too Heavy for Accurate Count’.”



Concerns About Accurate Counts

- But the range from medium is up to 75% and heavy starts at 76%.
 - “Moderate (26% to up to 75% obstruction)”;
 - “Heavy (76% to up to 90% obstruction)”;
- Even with moderate Background Debris one should be concerned about legal challenges to accuracy!



CONCERNS ABOUT TESTING IN A DIRTY HOUSE

Background Debris is a reliable indication of how dirty a home is.
ALL DIRTY HOMES HAVE ELEVATED LEVELS OF MOLD SPORES IN BOTH THE
SETTLED DUST AND THE AIR.

If you are asked “what does finding elevated mold in the air of a dirty
home mean?”

It may only mean that the home is dirty!





ELEVATED OR NOT ELEVATED COMPARED TO OUTSIDE CONTROL



COMPARING TO OUTSIDE

- Most Assessors improperly compare the indoor spore counts to the outdoor count(s) in order to determine Elevated or Not.
- The indoor air in an air conditioned home with an air filter cleaning the air, has nothing to do with the outside air.
- Be prepared to explain your rationale as to why an air sample is elevated compared to the outside air.



COMPARING TO OUTSIDE FALSE POSITIVES

- If the indoor air is elevated can you determine that this was caused by the mold from the water event in question?
- How do you know if was not from:



A dirty AC filter? Or mold in the AC closet?



Leaving the windows open?



Dirty carpet?



Dirty AC and/or ducting?

ELEVATED MOLD: IDENTITY?

- If the indoor air is elevated can you determine from the spore trap sample if the spores represent water damage indicators?
- Or how old they are?
- If not how can you determine that the spores tested come from the “alleged” recent leak?



HAVING THE LAB MAKE THE CONCLUSION



OPTION TO HAVE LAB PROVIDE CONCLUSIONS

- Some labs provide an option for the lab to provide a Conclusion with air sample test results.
- Elevated or Not Elevated.



INTERPRETATION GUIDELINES

- **“Interpretation Guidelines:** A determination is added to the report to help users interpret the mold analysis results.
- “A mold test report is only one aspect of an indoor air quality investigation.”
- What other aspects are there?
 - Pictures of Visible mold.
 - Odor.
 - Water or water stains.
 - Rot.



Old, dirty ducting can cause the indoor spore count to be high and not in any way be related to a covered loss.

CONCLUSION ON AIR SAMPLES

- No decisions should be based solely on Lab provided Conclusions.
- You need to be able to justify the lab conclusion.
- Can you explain how the lab determined the Conclusion...
- Based on Outside Air Sample or based on their Internal Data Base?





VIABLE (CULTURE METHOD)



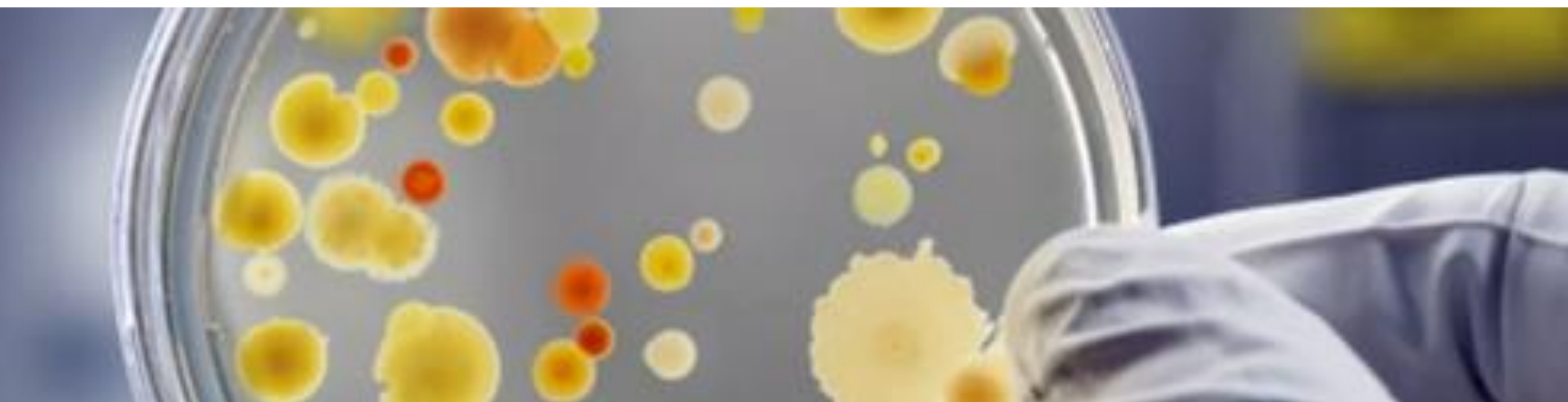
MOLD ANALYSIS CULTURE OPTIONS SWAB

MOLD		
Mold Analysis	Culture For Bulk/Swab \$25 extra (7 Days)	Mold Species ID \$50 extra (7 Days)

- Swabs or Bulk samples can be analyzed by standard mold analysis (Direct Microscopic Examination – DME) or by culture methods.
- Why did you use only DME?

CULTURE TESTING FOR DETERMINING C/O

- If you are doing an insurance inspection, you need to attempt to determine Cause/Origin and Mold Identity.
- Determine if the water event was recent and if there are water loss indicator molds or not.
- This cannot be done without doing Culture Testing.



ORIGIN AND MOLD IDENTITY

- Florida Mold Law defines a mold assessment to include both determining Origin as well as Identity of mold.
- By limiting your testing to spore traps you chose to omit these important aspects of a Mold Assessment.
- Did you not know what the definition of a Mold Assessment is?



A wooden gavel is positioned diagonally across the frame, resting on a large, dark wooden block. In the background, a pair of scales of justice is visible, slightly out of focus. The entire scene is set against a warm, golden-brown background.

FLA MOLD LAW

FLA MOLD LAW DEFINITION OF ASSESSMENT

468.8411 Definitions.

(3) “Mold assessment” means a process performed by a mold assessor that includes the physical sampling and detailed evaluation of data obtained from a building history and inspection to formulate an initial hypothesis about the origin, identity, location, and extent of amplification of mold growth of greater than 10 square feet.



FLA MOLD LAW DEFINITION

- What does “and” mean?
- Doesn't it mean that you must do all of the listed procedures in a mold assessment?
- If not, then you are not doing a mold assessment as defined by FLA Law.
- Have you performed all of the above or not?
- Have you performed a FLA defined mold assessment or have you made Omissions?



FLA MOLD LAW DEFINITION

- More extensive testing **including culture testing in addition to spore trap testing** is essential to make such determinations.
- If you are deposed and asked if you performed your assessment per FLA Mold Law make sure you can answer yes.
- Make sure you determined or attempted to determine Origin, Extent, Location and Identity of mold.
- And if mold was greater than 10 sq ft.
- And if you did not, generally the answer is that **you were not allowed** to perform a full inspection which requires opening walls, removing baseboards etc.



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MORE IICRC ASSESSMENT COMPLIANCE ISSUES

DIFFERENT STROKES FOR DIFFERENT FOLKS



- There are different approaches to Mold Assessments depending on the goals of the inspection:
- Example: Mold Assessment for a R.E. transaction.
 - Mold is mold.
 - Find new or old mold problems so mold can be remediated before the buyers move in.

MOLD ASSESSMENT FOR AN INSURANCE CLAIM

- A Mold Assessment for an insurance claim ... the goals are vastly different.
- Now we care about details relating to active/ dead mold; identity/type of molds; etc.
- Why do we now care?
- New mold damage that is less than 14 days = Covered. Damage occurring 14 days and beyond = Not Covered.



IICRC S520-2015 DEFINITION OF AN ASSESSMENT. PAGE 15.

assessment: a process performed by an indoor environmental professional (IEP) that includes the evaluation of data obtained from a building history and inspection to formulate an initial hypothesis about the origin, description,

location and extent of Condition 2 or 3. If necessary, a sampling plan is developed, and samples are collected and sent to a qualified mycology or microbiology laboratory (e.g., EMLAP, A2LA, NELAP, or equivalent program) or individual (e.g., National Registry of Microbiologists, Public Works Canada Accredited Mycologist, or equivalent program) for analysis. The subsequent data is interpreted by the IEP. Then, the IEP or other qualified individual may develop a remediation plan.

- IICRC S520-2015 defines an Assessment in terms of
 - Building history
 - Description/Identity
 - Origin
 - Location
 - Extent
- of Condition 2 or 3.

QUESTIONS ABOUT BUILDING HISTORY

- Per IICRC S520-2015 definition of an Assessment, was a evaluation of **Building History** performed?
 - Prior leaks?
 - Prior water damage and/or pre-existing mold?
 - Prior mold assessments, water damage reports,
 - Adjuster pictures?
 - Illegal remodeling (non permitted)?
- Did you attempt to determine if there was Pre-existing mold or water damage that would not be part of a covered loss?

WAS CAUSE/ORIGIN OF MOLD DETERMINED?

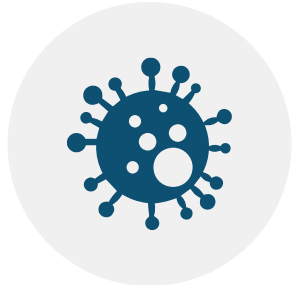
- Per IICRC S520-2015 definition of an Assessment was mold **Origin (Cause)** determined?
- Are mold and mold spores both hidden & visible **water damage indicators**?
- Since most water damage indicators are species of Aspergillus or Penicillium, have you distinguished Aspergillus from Penicillium?
- Are the mold spores typical outdoor or typical indoor molds or are they from a recent leak?

QUESTION ABOUT MOLD CAUSE / ORIGIN

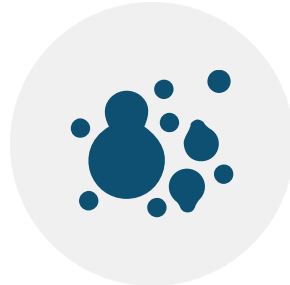
- Cause/Origin of hidden & visible mold and mold spores
 - What caused the mold or mold spores?
 - Are the spores part of typical house dust?
 - Did they come from the outside air? Or did they come from a water event?
 - Caused by seepage or elevated humidity which are not covered losses or caused for example by broken pipe which is covered?
 - Blown in or tracked in from the outside?

DETERMINING ORIGIN OLD OR NEW MOLD?

Cause/Origin (both hidden & visible):



Is the mold active/new/viable growth and originates from a new water event/release?



Or is the mold old and pre-existing (dead/non - viable) and not a covered loss?



Requires culture testing to determine viability of mold. Did you use culture testing?

If the inspection does not determine the **Origin** of both hidden & visible mold, it is not an IICRC S520-2015 compliant mold assessment.

QUESTION ABOUT DESCRIPTION/IDENTITY OF MOLD/SPORES



- Per IICRC S520-2015 definition of an Assessment was **Description/Identity** of hidden & visible mold and mold spores determined?
 - Are the molds/spores water damage indicators; or are they outside mold/spores; or common indoor mold/spores?
 - Requires culture testing. Did you use culture testing?

If the inspection does not determine the **Identity** of both hidden & visible mold, it is not an IICRC compliant mold assessment.

QUESTION ABOUT LOCATION OF MOLD/SPORES

- Per IICRC S520-2015 definition of an Assessment was the **Location** of hidden & visible mold and mold spores determined?
- Where is the mold and spores?
 - In proximity to a recent water event?
 - Evenly spread throughout the home and therefore likely coming from an AC/ducting issue?
 - Near an earlier dry-out that was not properly performed and spread pre-existing mold?

If the inspection does not determine the **Identity** of both hidden & visible mold, it is not an IICRC compliant mold assessment.

QUESTION ABOUT LOCATION OF MOLD/SPORES

- **Location** of hidden & visible mold.
 - In wall cavities in which case may come from attic air or has been inside the wall since the home was built?
 - Close to outside doors and may have been tracked in?

If the inspection does not determine the **Identity** of both hidden & visible mold, it is not an IICRC compliant mold assessment.



CONCLUSIONS

FOR INSURANCE CLAIM DEPOSITIONS

- You need to be able to explain your results.
- Make sure you dot your I's and cross your T's.
- Use AOC's and not Z5's to take air samples.
- Have the samples read at 100% and not 25%.



COMPLY WITH FLA MOLD LAW

- For an Insurance Claim, the mold assessment **MUST** be compliant with IICRC Definition of Assessment ... distinguishing origin, extent, location and description/identity of mold .. along with Building History.
- Did you fail to comply with IICRC definition of Assessment?
- Is this considered an Omission?
- Is this type of Omission covered by your E&O insurance?
- If you did not comply with IICRC definition of Assessment ...
- Can you be sued for the cost of “unnecessary” or “unjustified” mold remediation?

COMPLY WITH FLA MOLD LAW

- The Carrier's position is that because you did not provide a complete assessment the home owner/ mold remediator did \$100K worth of work that was not justified.
- The Carrier's position is that now you (your E&O policy) are on the hook for the cost of the unjustified work.
- Can you answer questions about origin, extent etc ...
- Required by the IICRC S520-2015 definition of Mold Assessment?
- If not, why not?



WHY NOT IICRC COMPLIANT?



After a water event, recall that IICRC S520-2015 requires an intrusive inspection.



If you did not do an intrusive inspection, can you explain why not?



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WHY NO CULTURE TESTING?



- More extensive testing including culture testing in addition to spore trap testing is essential to answering questions about mold Origin and Identity (determining if water damage indicators or not.)
- Can you answer the question why did you not perform culture testing? And only relied on spores trap testing?

LIMITATIONS OF SPORE TRAPS?

- Be sure you can explain the limitations of spore trap sampling.
- Cannot distinguish dead from live spores.
- Cannot distinguish *Penicillium* from *Aspergillus* water damage indicators.
- Etc.



OUTSIDE CONTROL VS LAB DATA BASE?

- Did you have an outside sample/control?
- Was that used to make the determination as to Elevated or Not?
- Can you explain the rationale as to why the indoor sample is elevated or not elevated based on an outside sample?



MOLD SAMPLES FROM WATER DAMAGE?

- Can you explain what could cause a false positive for elevated mold (dirty carpet/ducting?)
- Can you explain the difference between indoor and outdoor molds?
- Can you define water damage indicators?



ARE YOUR TEST RESULTS RELIABLE?



- Can you define Detection Limits?
- Can you explain Background Debris and how it could impact spore count accuracy?
- Can you justify the sampling time you used?

IS YOUR TESTING ACCURATE?

- When challenged that your testing is not accurate because you did not use a Primary Standard to calibrate your sampling pump, how do you answer?
- If asked how do you determine how accurate your data is in light of normal spore count testing variation, but you did not take any duplicate samples, how do you answer?



DON'T LOOK LIKE AN IDIOT!

- The deposing attorney's job is to make you look like an idiot.
- Don't make it easy for them.
- Do proper assessments.
- Be prepared to defend your methods and results/ interpretations.

