Indoor Air Quality and Mold
A Perspective on Insurance Investigations

ARG evaluates indoor air quality (IAQ) from many different facets regarding chemistry, toxicology, risk assessment, forensics and health. Of recent interest over the past several years, insurance claims from mold damage have become an increasingly prominent issue. Mold assessment and remediation is a three-fold process involving independent responsibilities.

Following emergency response - regardless of the extent of initial water damage - remedial and restoration work usually stops if sufficient mold is present. ***ARG provides the first line of mold assessment with an "initial" inspection and preparation of remedial specifications***. This specification is prepared as an independent request for quotation, and can be used directly if a remedial contractor has been retained.

Following the second line of cleaning and remediation by an outside contractor (e.g., Servpro, ServiceMaster, PuroFirst, Duraclean), ***ARG provides the third line of final inspection and mold spore air sampling to assess the degree of cleaning***. Indoor mold spore counts are compared to outdoor levels, where spores are ubiquitous, and dependent upon laboratory results and the specific circumstances of each case, ARG provides certification for re-occupancy, or informs all parties that further remediation is required.

Indoor air quality is a broad term for an expected level of acceptable air available for us to breathe when inside, both in our own and others' environments. Many factors contribute to this, including outdoor influences we can't control, and things we bring into our spaces that give off vapors or otherwise get inside and affect us. Mold spores are one of those things that are ubiquitous in nature, and they get into everything. Molds are part of the fungi family: their role is to bring dying and dead vegetation back to the earth to become new soil and life media. Although it's difficult to believe when one sees so many trees, bushes and fields in the world, fungi compose one quarter of the earth's vegetation.

Mold spores are everywhere, and smaller than the smallest visible dust particles in a sunbeam. Despite being everywhere, mold as we know it – some more regretfully than others, given their ugly experience with the subject - will not grow everywhere when an environment is controlled. To 'blossom' from the spores to a mold 'bloom', requires three conditions: temperature, moisture and food. It is not unexpected then that molds – given their "back-to-nature" role –devour cellulose, the basic skeleton and substance of vegetation from grass to tree. Sheetrock paper so loved by mold (not the chalky stuff inside), furniture and other wood derivatives feed these fungal critters. They also eat the adhesives that hold many of these products together.

ARG performs extensive residential and commercial mold inspections, investigations and remedial designs among its indoor air quality work (IAQ). In almost every case, the condition that changes the status from spores to bloom is moisture, usually a water line break discovered too late or discovered but not dealt with appropriately. Sometimes hot water lines break or become disconnected and steam can fill a building. Basements can become completely filled with water to the top of the stairs and sometimes over. The slightest wetting of a wood floor from either side throws an exponential thorn (and $) into a mold investigation. Mold does not require standing water, just the presence of moisture in the air. In fact, standing water is prone to bacterial growth, such as Legionella, a subject for another time.

Under good conditions, mold bloom can be visible within 24 to 48 hours. The devastation wreaked by mold is somewhat related to the degree of neglect in the cause and the time to discovery. The process of remediating mold damage usually takes two different paths: the insured and the uninsured. The insured path, of course, is driven by the insurance company's concerns; the uninsured is guided by his or her own predicament, generally money, and lots of it!

In situations where insurance companies are involved, minimal acute emergency work - such as pumping out the basement or stopping water flow from a broken pipe - is performed, but further remedial work (ripping out insulation, sheetrock and wooden floors, vacuuming and cleaning with specialty chemicals) waits until an independent mold inspection is performed.

This identifies to very specific levels, the degree of the mold infestation and the remedial design of what gets demolished and what gets cleaned and saved. This can take up to a couple of weeks until the design is accepted and the remediation can begin. It's similar to cleanup of asbestos, with plastic cordoning off rooms or other affected areas, fans and exhausting of filtered air, workers wearing Tyvek suits and masks, using nasty chemicals (sporicides) - or worse! Mold-infested sheetrock, plywood and other items can go to a regular waste dump, unlike asbestos which requires special segregation from other wastes.

After a mold cleanup, it is routine to have clearance air sampling, which can take a day to a week to schedule. The collected air samples sent to the laboratory to culture and grow the molds for identification will take at least another ten days or so. It is the responsibility of the independent inspector to classify the remediated area ready or not for occupancy or habitability. Often this cycle can easily repeat itself three or four times if the lab numbers do not indicate complete cleaning, or if still hidden sources of mold are continuing to grow and spread (usually the case). Such inspections then become forensic investigations.

For those of the uninsured ilk, the process is much the same, but without the insurance company or the independent inspector around … or the insurance company's money. The remediation company you know or may have found in the yellow pages comes to assess your situation. He gives you a price right then and there for the immediate emergency work (you generally don't have the option to shop around when there is four feet of water in the basement!) and separate costs for damaged material removal and cleaning. Unlike the $100 to $200 plumber house call bill, these full remediations from beginning to satisfactory air samples at the end may easily range in the tens of thousands of dollars.

Special Note: Mold claims expected to be honored by insurance companies usually apply to inhabited areas such as residential living space or industrial/commercial work space. However, sources of mold may stem from non-inhabitable spaces such as adjacent crawlspaces, garages, attics or sheds that are more open to the environment and under little or no control regarding mold intrusion from outdoors. Typically claims are not honored for remediation of these areas.

A final note. The above relates to property damage and compensation for destroyed possessions and building-related materials. The impact on human health is a totally separate issue, always more complicated, and generally never resolved except for serious cases with indisputable evidence, which again, is usually costly to obtain. Another story for another time.