

## **Case Study - Mold Contamination (Residential Finished Basement)**

**Scope of Services:** AET was contracted by Homeowner to evaluate mold contamination in the finished basement of their newly purchased residence. The basement had drywall or paneling over the cinderblock walls; the floors were carpeted over the concrete floor slab. The basement had an interior french drain system installed in connection with a radon mitigation system and a sump pump. Mold was discovered during basement renovations (but after significant mold impacted building material disturbance).

### ***AET's Investigative Approach/Remediation Efforts:***

1. **Visual Inspection** - The source of water infiltration was surface water draining from the residence foundation. A large vertical crack on the foundation wall behind the drywall had to be repaired as part of the mold remediation process.
2. **Mold Spore Air Quality Sampling** - Both elevated total mold spore levels and Aspergillus/ Penicillium mold spores were found in the basement during Air-O-Cell sampling. Mold spore air quality on the 1<sup>st</sup> floor was not affected. Mold impacted materials (drywall, paneling, carpeting) were removed in a negative pressure enclosure. Exposed cinderblock walls and concrete flooring were cleaned and disinfected.
3. **Surface Dust:** Tape lift sampling confirmed Aspergillus/Penicillium mold spores in accumulated dust throughout the basement level. All surfaces within the basement containment were HEPA vacuum cleaned. Air scrubbing utilizing a free standing AFD was used to reduce mold spore levels within the containment. cursory cleaning on the 1<sup>st</sup> floor was also required.
4. **HVAC Sampling:** The HVAC system was not operating during mold disturbance. Supply/return grills were sealed during remediation. Tape lift sampling did not indicate the necessity for duct cleaning.

**Conclusion:** Mold spore air quality testing and MVOC/TVOC sampling confirmed clearance levels to enable basement reconstruction.

### **RECONSTRUCTION/REBUILD PRIORITIES (MOLD PREVENTION)**

- Diversion of surface water from the foundation
- Sealing the perimeter of the french drain system
- Installing a dehumidifier to maintain relative humidity levels below 45%
- Testing the concrete floor for evaporative moisture before installing a new floor (do not re-carpet)
- Using mold resistant materials (such as fiberglass, drywall and steel studs) during basement reconstruction.
- Installation of a minimum of MERV-8 filters in the HVAC system during the 1<sup>st</sup> month of reoccupancy.

When you need professional help or advice, email Alan Sutherland, CIH, CHMM at [a.sutherland@aetinc.biz](mailto:a.sutherland@aetinc.biz) or call 610-891-0114; We provide nationwide services; phone consultations are free. Check out the full range of environmental contracting/consulting services we provide at our website [www.aetinc.biz](http://www.aetinc.biz).

*Accredited Environmental Technologies, Inc.*