

Construction Solutions Conference - Vancouver

November 22nd, 2005

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Topics

1. Diagnostic Techniques for Mould Evaluation
2. Guidelines
3. Remediation
4. Some pro-active steps



DIAGNOSTIC TECHNIQUES FOR MOULD INVESTIGATIONS



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Diagnostic Techniques



- Visual Inspections
- Bulk Sampling
- Surface Sampling
- Air Sampling



Diagnostic Techniques

Visual Inspections:

- **Primary** tool for assessing mould in buildings
- Should be first step in any mould investigation
- Use boroscope, moisture meter, pull back baseboards, inspect ceiling spaces, look behind furniture, etc.



Diagnostic Techniques

Visual Inspections:

➤ Where to look?



- Behind baseboards
- Inside wall cavities
- Under carpet
- Inside HVAC units
- Behind/under Furniture

What to look for?



Visual Inspections

What to look for:



Diagnostic Techniques

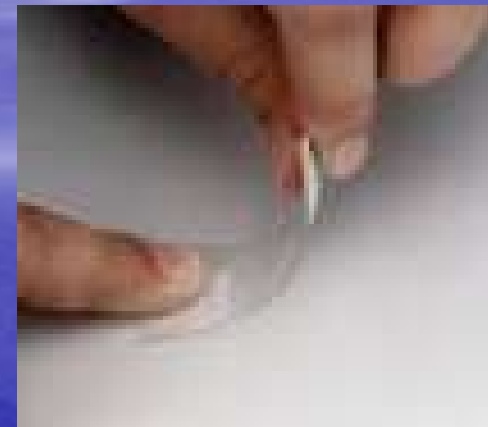
Bulk Sampling:

- Used to determine contamination of materials such as wallboard, insulation, carpet, and wood
- Samples sent to qualified laboratory
- Results tend to be Qualitative rather than Quantitative
- Not always required



Diagnostic Techniques

Surface Sampling:



- Useful for determination of surface contamination of building components, finishing materials and furniture
- Results tend to be Qualitative rather than Quantitative

Diagnostic Techniques

Air Sampling:

- If mould is visible, air sampling not generally necessary
- This method involves collection of air samples in the occupied space of a room or in the building envelope, to evaluate type and extent of biological contamination
- Must sample outdoors for comparison



GUIDELINES

Guidelines

- WCB Guideline 4.79
- NYC Department of Health Guidelines
- Health Canada
- Canadian Construction Association

REMEDIATION



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Remediation

- Small area? Or large area?
- WCB and NYC Guidelines are specific
 - Level I – 10 ft² or less
 - Level II – 10-30 ft²
 - Level III – 30-100 ft²
 - Level IV - > 100 ft²



Remediation

- Canadian Construction Association defines three scales of abatement
 - Level I – Small 10 ft² or less
 - Level II – Medium 10-100 ft²
 - Level III – Large >100 ft²



Remediation

- No real consensus as to which guideline must be followed
- However, following WCB Guideline recommended
- Quite simply, the guideline recommends
 - Porous materials – remove
 - Non or semi-porous materials should be able to be cleaned
 - Use detergent NOT bleach



Remediation – Level I

- Regular building maintenance personnel (trained) should be able to conduct
- N95 respirator, disposable coveralls, gloves, eye protection
- Vacate space, wet surface, remove mouldy porous materials (drywall, insulation, etc.)
- Remaining materials cleaned with water and detergent (steel studs, concrete, etc.)



Remediation – Level II

- Regular building maintenance personnel (trained) should be able to conduct
- N95 respirator, disposable coveralls, gloves, eye protection
- Build mini-containment, vacate space, wet surface, remove mouldy porous materials (drywall, insulation, etc.)
- Remaining materials cleaned with water and detergent (steel studs, concrete, etc.)
- Use HEPA vacuum for final clean



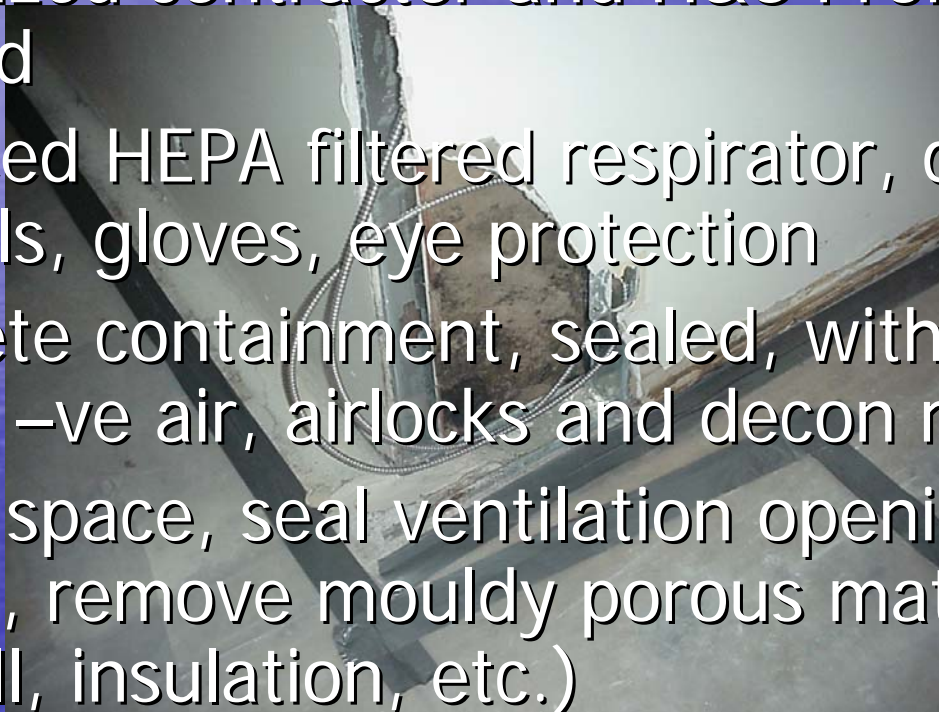
Remediation – Level III

- Specialized contractor and H&S Professional required
- N95 respirator, disposable coveralls, gloves, eye protection
- Build mini-containment, vacate space, seal ventilation openings, wet surface, remove mouldy porous materials (drywall, insulation, etc.)
- Remaining materials cleaned with water and detergent (steel studs, concrete, etc.)
- Use HEPA vacuum for final clean



Remediation – Level IV

- Specialized contractor and H&S Professional required
- Full-faced HEPA filtered respirator, disposable coveralls, gloves, eye protection
- Complete containment, sealed, with HEPA filtered –ve air, airlocks and decon room
- Vacate space, seal ventilation openings, wet surface, remove mouldy porous materials (drywall, insulation, etc.)



Remediation – Level IV

- Bags of waste should be cleaned with damp cloth and detergent prior to removal from containment.
- Remaining materials cleaned with water and detergent (steel studs, concrete, etc.)
- Use HEPA vacuum for final clean of whole containment including decon room
- Air clearance testing required before tear down



Some Pro-Active Steps

Pro-active Steps

- Train building maintenance personnel to identify potential moisture/mould issues
- Conduct regular inspections of building – documenting results
- Use moisture meter during regular inspections - example

Pro-active Steps

- Handle moisture incidents quickly (24-48 hours)
- Get wet building materials dry right away
 - Remove carpet
 - Move furniture
 - Cut out bottom 1 foot of drywall
 - Dehumidifiers/fans
 - Etc.



In Conclusion

- Visual inspections most useful for mould assessment
- Air sampling is a tool but should not be relied upon solely.
- Extent of remediation is dependent upon amount of mould growth found
- Several proactive steps can be taken



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THANK YOU

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