



Integrated Microbiological Services, L.L.C.

3250 Old Farm Lane, Suite 1

Walled Lake, MI 48390

Office Phone: (248) 669-2280 Fax line: (248) 669-1412

| | | |
|---|--|----------------------------------|
| COMPANY: Sample Report | INSPECTOR: Self | DATE SAMPLED: 12/6/2004 |
| CLIENT: Banner Mark | PROJECT NAME: Sample of All FoT | DATE RECEIVED: 12/13/2004 |
| ADDRESS: 3250 Old Farm Ln. Ste. 1 | PROJECT NO: | DATE ANALYZED: 12/13/2004 |
| CITY,ST,ZIP: Walled Lake, MI 48390 | LAB NO: K9999 | DATE REPORTED: 12/13/2004 |
| PHONE: (877) 665-3373 | ORDER NO: 252 | |

MOLD IDENTIFICATION BY SAMPLES

SAMPLE NUMBER: 1

| | |
|--------------------------|---------------------|
| SAMPLE MEDIUM:.. | Air-O-Cell |
| SAMPLE RATE:..... | 15 L/min for 10 min |
| LOCATION:..... | Basement |

| SAMPLE IDENTIFICATION | RAW CT | SPORE/M3 |
|-------------------------------------|--------|----------|
| Ulocladium sp. | 4 | 107 |
| Basidiobolus | 6 | 160 |
| Alternaria sp. | 8 | 213 |
| Penicillium sp. | 120 | 3202 |
| TOTAL FUNGAL COUNT IS: 3,682 | | |

| BACKGROUND CHARACTERISTICS | |
|----------------------------|-----------|
| ITEM | LEVEL |
| Dust / Debris | Low |
| Hyphae Fragments | High |
| Opaque Particles | Very high |

NOTES: Spores per cubic meter is determined by: Total Spore Count x (1000/(sampling rate)x(sampling time))

SAMPLE NUMBER: 2

| | |
|--------------------------|-------------------|
| SAMPLE MEDIUM:.. | Micro-Fives |
| SAMPLE RATE:..... | 5 L/min for 5 min |
| LOCATION:..... | Master Bath |

| SAMPLE IDENTIFICATION | RAW CT | SPORE/M3 |
|--------------------------------------|--------|----------|
| Ulocladium sp. | 3 | 480 |
| Penicillium sp. | 456 | 72960 |
| Cladosporium sp. | 65 | 10400 |
| TOTAL FUNGAL COUNT IS: 83,840 | | |

| BACKGROUND CHARACTERISTICS | |
|----------------------------|--------|
| ITEM | LEVEL |
| Dust / Debris | High |
| Hyphae Fragments | Medium |
| Opaque Particles | High |

NOTES: Spores per cubic meter is determined by: Total Spore Count x (1000/(sampling rate)x(sampling time))

SAMPLE NUMBER: 3

| | |
|--------------------------|----------------------|
| SAMPLE MEDIUM:.. | Anderson Air Samples |
| SAMPLE RATE:..... | 28.3 L/min for 3 min |
| LOCATION:..... | Guest Bath |

| SAMPLE IDENTIFICATION | RAW CT | CFU/M3 |
|-------------------------------------|--------|--------|
| Penicillium sp. | 34 | 405 |
| Cladosporium sp. | 65 | 774 |
| TOTAL FUNGAL COUNT IS: 1,179 | | |

NOTES: *Calculations based on air intake at 28.3 L/min for 3 min.

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SAMPLE NUMBER: 4 **SAMPLE MEDIUM:..** Bulk
SAMPLE RATE:.....
LOCATION:..... Master Bath

| SAMPLE IDENTIFICATION | RAW CT |
|-----------------------|--------|
| Rhizomucor sp. | TNTC |
| Penicillium sp. | 6 |

NOTES: TNTC (too numerous to count)

SAMPLE NUMBER: 5 **SAMPLE MEDIUM:..** Bulk Tape Lift
SAMPLE RATE:.....
LOCATION:..... Bedroom 2

| SAMPLE IDENTIFICATION | RAW CT |
|-----------------------|--------|
| Rhizomucor sp. | 3+ |
| Penicillium sp. | 3+ |
| Alternaria sp. | 1+ |

NOTES: Quantifying abundant organisms on slide
(1+) Organism is present on slide
(2+) Present organism covers less than 50% of the total slide
(3+) Present organism covers 50% of the slide
(4+) Present organism covers less than 75% of the total slide
(5+) Present organism covers the entire slide

SAMPLE NUMBER: 6 **SAMPLE MEDIUM:..** Slide
SAMPLE RATE:.....
LOCATION:..... Bedroom 2

| SAMPLE IDENTIFICATION | RAW CT |
|-------------------------------|--------|
| Negative for Stachybotrys sp. | |

NOTES:

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SAMPLE NUMBER: **7** **SAMPLE MEDIUM:..** Slide
SAMPLE RATE:.....
LOCATION:..... Kitchen

| SAMPLE IDENTIFICATION | RAW CT |
|-----------------------|--------|
| Alternaria sp. | 5+ |
| Pen/Asp. Group | 1+ |

NOTES: Quantifying abundant organisms on slide

- (1+) Organism is present on slide
- (2+) Present organism covers less than 50% of the total slide
- (3+) Present organism covers 50% of the slide
- (4+) Present organism covers less than 75% of the total slide
- (5+) Present organism covers the entire slide

SAMPLE NUMBER: **8** **SAMPLE MEDIUM:..** Swab
SAMPLE RATE:..... 4in by 4 in Sample
LOCATION:..... Garage

| SAMPLE IDENTIFICATION | RAW CT |
|-----------------------|--------|
| Penicillium sp. | TNTC |
| Cladosporium sp. | TNTC |

NOTES: TNTC (too numerous to count)

REVIEWED BY: Rohrbacher

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Identification of Molds Found in Laboratory Tests

Alternaria sp.

Extremely widespread and ubiquitous. Outdoors it may be isolated from samples of soil, seeds, and plants. It is commonly found in outdoor samples. It is often found in carpets, textiles, and on horizontal surfaces in building interiors. Often found on window frames. The species *Alternaria alternata* is capable of producing tenuazonic acid and other toxic metabolites which may be associated with disease in humans or animals. *Alternaria* produces large spores having sizes between 20 - 200 microns in length and 7 - 18 microns in width, suggesting that the spores from this fungi are deposited in the nose, mouth, and upper respiratory tract. It may be related to bakers asthma. It has been associated with hypersensitivity pneumonitis, sinusitis, dermatomycosis, onychomycosis, subcutaneous phaeohyphomycosis, and invasive infection. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms, chronic cases may develop pulmonary emphysema.

Basidiobolus

Has been isolated from decaying plants, soil, and from the fecal materials of frogs, reptiles, fish, and bats. The relationship of these organisms to human occupied spaces potentially suggests a common presence of this genera of fungi in the indoor environments. Should be considered allergenic. *Basidiobolus ranarum* rarely causes disease, but has principally been involved with trunk and extremity infection of children in tropical countries. No toxic diseases have been documented to date.

Cladosporium sp.

Aw (water activity) in the range of 0.84 to 0.88. Most commonly identified outdoor fungus. The outdoor numbers are reduced in the winter. The numbers are often high in the summer. Often found indoors in numbers less than outdoor numbers. It is a common allergen. Indoor *Cladosporium* sp. may be different than the species identified outdoors. It is commonly found on the surface of fiberglass duct liner in the interior of supply ducts. A wide variety of plants are food sources for this fungus. It is found on dead plants, woody plants, food, straw, soil, paint and textiles. It can cause mycosis. Produces greater than 10 antigens. Antigens in commercial extracts are of variable quality and may degrade within weeks of preparation. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms, chronic cases may develop pulmonary emphysema.

Negative for Stachybotrys sp.

Pen/Asp. Group

This group contains: *Penicillium* sp., *Aspergillus* sp., *Trichoderma* sp., and *Gilocladium* sp.

Penicillium sp.

Aw (water activity) 0.78 - 0.88. A wide number of organisms have placed in this genera. Identification to species is difficult. Often found in aerosol samples. Commonly found in soil, food, cellulose, and grains (17, 5). It is also found in paint and compost piles. It may cause hypersensitivity pneumonitis and allergic alveolitis in susceptible individuals. It is reported to be allergenic (skin) (7, 17). It is commonly found in carpet, wallpaper, and in interior fiberglass duct insulation (NC). Some species can produce mycotoxins. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms, chronic cases may develop pulmonary emphysema.

Rhizomucor sp.

The Zygomycetous fungus is reported to be allergenic. It may cause mucorosis in immune compromised individuals. It occupies a biological niche similar to *Mucor* sp. It is often linked to occupational allergy. The sites of infection are the lung, nasal sinus, brain, eye, and skin. Infection may have multiple sites.

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Ulocladium sp.

Has a Aw (water activity) of 0.75 Conidia (spores) dimensions 2.5 - 3.5 microns. Found in sugary foods, salted meats, dairy products, textiles, soil hay and fruits. Commonly considered a contaminant, grows on wet wall board and particle board. This genus is allergenic and contributes to the allergy load in persons who are allergenic to Alternaria. Ulocladium spp. may cause phaeohyphomycosis and particularly subcutaneous infections.