



Occupational Health & Safety • Environmental Consultants

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November 25, 2003

Mr. Mark LaFleur, Director
Municipal Building Maintenance
Town of Needham
1330 Highland Avenue
Needham, MA 02492

RE: Airborne Mold Spore Testing
Room 129, High Rock Elementary School
77 Ferndale Road, Needham

Dear Mr. LaFleur:

OccuHealth, Inc. (OHI) is submitting this report for the airborne mold spore testing conducted on November 20, 2003 in the High Rock Elementary School in Needham, Massachusetts.

Please call me at (508) 339-9119 with any questions regarding this report. Thank you for the opportunity to be of continued service.

Regards,
OCCUHEALTH, INC.

Thomas E. Hamilton, CIH

Enclosure

OccuHealth

**AIRBORNE MOLD SPORE TESTING
ROOM 129
HIGH ROCK ELEMENTARY SCHOOL
77 FERNDALE ROAD
NEEDHAM, MASSACHUSETTS**

Prepared for:

**MR. MARK LAFLEUR, DIRECTOR
MUNICIPAL BUILDING MAINTENANCE
TOWN OF NEEDHAM
1330 HIGHLAND AVENUE
NEEDHAM, MA 02492**

Conducted by:

**OCCUHEALTH, INC.
44 WOOD AVENUE
MANSFIELD, MA 02048
(508) 339-9119**

Report Date:

NOVEMBER 25, 2003

AIRBORNE MOLD SPORE TESTING
ROOM 129
HIGH ROCK ELEMENTARY SCHOOL
77 FERNDALE ROAD
NEEDHAM, MASSACHUSETTS

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EXECUTIVE SUMMARY

Introduction

OccuHealth, Inc. (OHI) was retained to conduct airborne mold spore testing in Room 129 of the High Rock Elementary School in Needham, Massachusetts. On November 20, 2003, OHI collected an air sample for mold spore analysis in Room 129 and an outdoor air sample for comparison.

Findings

Laboratory analysis of the samples indicates that the airborne mold spore concentrations in Room 129 were acceptable on the day of testing. The identified mold spore types are commonly found in building environments and not typically associated with health problems at the measured concentrations. The source of the *Ascospores* and *Basidiospores* detected in the indoor air sample is likely the outdoor air.

1.0 INTRODUCTION

OccuHealth, Inc. (OHI) was retained to conduct airborne mold spore testing in Room 129 of the High Rock Elementary School in Needham, Massachusetts. OHI collected an air sample for mold spore analysis in Room 129.

Air sampling was conducted on November 20, 2003 by Mr. Thomas Hamilton, Certified Industrial Hygienist (CIH), of OHI. This project was requested and authorized by Mr. Mark LaFleur, Director of Municipal Building Maintenance for the Town of Needham.

2.0 AIRBORNE MOLD SPORE TESTING

Sampling and Analytical Methodology

OHI collected an air sample for mold spore analysis in Room 129. OHI collected an outdoor air sample for comparison.

The samples were collected using a high volume pump with Zefon Air-O-Cell[®] cassettes. An Air-O-Cell[®] cassette is a spore and dust trap which allows for rapid detection and identification of mold spores using bright light microscopy. Viable and non-viable mold spores are collected and counted. The results can be compared to levels seen in the outdoors and to results from available studies.

The sample pumps were calibrated to a flow rate of 15 liters per minute and the samples were collected for 5 minutes. The sample pumps utilized for the air sampling were calibrated before and after each sampling period using a precision rotameter. This rotameter was in turn calibrated using a primary standard.

The samples were submitted under chain-of-custody for analysis to Environmental Analysis Associates (EAA) of San Diego, California. Copies of the EAA laboratory report and chain-of-custody form are attached.

Analytical Results

To interpret the results, an airborne mold spore concentration of less than 2,000 counts per cubic meter of air (cts/m³) as a total spore count, and less than 1,000 cts/m³ for any one genus of mold is considered low or clean for an indoor environment. Total counts above 2,000 cts/m³ in indoor air samples are considered elevated if they are different genera from those detected outdoors.

The results of the mold spore analysis of the air samples are presented in the table on the following page. Laboratory analysis of the samples indicates that the airborne mold spore concentrations in Room 129 were acceptable on the day of testing. The identified mold spore types are commonly found in building environments and not typically associated with health

problems at the measured concentrations. The source of the *Ascospores* and *Basidiospores* detected in the indoor air sample is likely the outdoor air.

Airborne Mold Spore Testing Results

Location	Sample Number	Total Mold Spores (cts/m ³)	Identified Genera (cts/m ³)
Room 129	5880764	3,085	<i>Basidiospores</i> (1,426) <i>Ascospores</i> (1,042)
Outdoors	5880780	26,222	<i>Basidiospores</i> (15,689) <i>Ascospores</i> (10,203)

cts/m³ = counts per cubic meter of air

3.0 LIMITATIONS

The contents of this report are based on OccuHealth, Inc.'s best professional judgement, comparison of collected data with established industry guidelines and information obtained from Needham Public Schools employees on the day of testing.

ATTACHMENTS

Airborne Mold Spore Testing Laboratory Report

Chain-of-Custody Form

ENVIRONMENTAL AIRBORNE AEROSOL ANALYSIS

Client Name: OccuHealth, Inc.
 Client Project #: 5622TEH
 EAA Project #: 03-1294

Project Desc: Needham High Rock

Client Sample #	Sample Description / Location	Analysis Comments
5880780	Outside	Low debris
5880764	Room 129	Low debris

AIRBORNE MOLD SPORE CONCENTRATIONS (Cts./m ³) - Spore Trap Sample Analysis		
Category Sample #-->	5880780	5880764
Total Mold Spores (Cts/m³)	26222	3085
Alternaria		
Aspergillus/Penicillium-types	219	55
Aureobasidium/Hormonema		
Ascospores	10203	1042
Basidiospores	15689	1426
Botrytis		
Chaetomium		
Cladosporium		165
Curvularia		
Drechslera/Bipolaris		
Epicoccum		
Fusarium		
Myrothecium		55
Oidium/Peronospora		
Pithomyces		13
Rusts		
Smuts/Myxomycetes		
Stachybotrys		
Stemphylium		
Torula		
Ulocladium		
Other Hyaline Fungi		55
Other Brown Fungi		110
Small Brown Round	110	165
Hyphae fragments		55
Algal spores		
Fern spores		
POLLEN (Total Cts/m³)	not analyzed	not analyzed
not specified		
OTHER AEROSOLS (Cts/m³)	not analyzed	not analyzed
Skin cell fragments		
Fiberglass / Mineral wool		
Cellulosic fibers		
Opaque particles		
Other		
Statistical Parameters		
Vol. analyzed (m ³)--mold/aerosols:	0.009	0.018
Detect limit(Cts/m ³)--molds/aerosols:	110	55
% Sample analyzed--mold/aerosols:	12%	24%
Volume analyzed(m ³)--pollen:	0.075	0.075
Detection limit (Cts/m ³)--pollen	13	13
Sample flow rate (lpm):	15.00	15.00
Sample trace length (mm):	14.40	14.40
Microscope field diameter (mm):	0.350	0.350

Analyst: *Lauri A. Orsino*

Date: 11/23/2003

EAA

5290 Soledad Road
San Diego, CA 92109
858-272-7747

Chain-of-Custody and Analytical Request Form

Client: OccuHealth, Inc.

44 Wood Avenue
Mansfield, MA 02048

Date Sampled: November 20, 2003
508-339-9119 voice
508-339-2893 fax

Project ID: Needham High Rock
P.O.#: 5622 - TEH
Date Submitted: November 20, 2003

Sample #	Sample Type: air, wipe, bulk, dust	Sample Volume Liters	Sample Location	Analysis Requested	Special Instructions & Comments
5880780	Air	75	Outside	Fungi	
5880764	"	"	Room 129	"	

Submitted By: Tom Hamilton (Sign) THamilton

Contact Person: Tom Hamilton

Received by: (Sign) _____ (print) _____ Date & Time Received: _____

(For lab use only) Samples processed by: _____ Date: _____