
 Like us  Follow us @LEWCorporation

181 US Hwy 46
Mine Hill, NJ 07803
(908) 654-8068
(800) 783-0567
Fax 908-654-8069

MICROBIAL INVESTIGATION REPORT

Performed At:

Life Storage
10 Royal Road
Flemington, NJ

Performed For:

Clinton Township Schools
P.O. Box 6
Annandale, NJ 08801

Prepared By:

LEW Corporation
181 US Hwy 46
Mine Hill, NJ 07803

(908) 654-8068 Phone
(908) 654-8069 Fax

Date of Inspection: 10/9/2018
Project Number: 181255

TABLE OF CONTENTS

<i>Contact Information</i>	5
<i>Executive Summary</i>	6
<i>Introduction To Fungi</i>	6
Background Information About Fungi	6
Fungi Prevention Tips	7
<i>Scope of Work</i>	7
<i>Procedures</i>	7
General	7
Surface Fungi	8
Airborne Fungi	8
<i>Inspection</i>	8
Background	8
Inspection	8
<i>Discussion and Recommendations</i>	9

APPENDIX A	LABORATORY RESULTS
APPENDIX B	FLOOR PLAN(S)
APPENDIX C	PHOTOGRAPH(S)

CONTACT INFORMATION


Site:

Name:	Life Storage
Street Address:	10 Royal Road Flemington, NJ
Date Inspected:	10/9/2018

Owner:

Name:	Clinton Township Schools
Street:	P.O. Box 6 Annandale, NJ 08801
Phone Number:	908-246-1237

Council-certified Microbial Consultant:

Consultant Name:	Neil Wendt CIH
Signature:	
Date:	10-19-2018
Email:	nwendt@lewcorp.com

Consultant Information:

Organization:	LEW Corporation
Street:	181 US Hwy 46
City, State & Zip:	Mine Hill, NJ 07803
Phone number:	908-654-8068
Web address:	www.LEWCorp.com

Laboratory Information:

Organization:	Environmental Hazards Services, LLC
Street:	7469 White Pine Rd.
City, State & Zip:	Richmond, VA 23237
Phone number:	800-347-4010
AIHA Lab ID #:	100420

EXECUTIVE SUMMARY

Surface sampling for microscopic evidence of mold structures was conducted on books at an environmentally controlled storage facility. Twenty tape lift surface samples were collected. Eight samples were targeted single surface samples and 12 samples were random composite surface (4 books/sample) samples. A total of 56 books were sampled. Laboratory analysis indicated no mold was identified on any of the samples collected.

INTRODUCTION TO FUNGI

Background Information About Fungi

Fungi can be found almost anywhere; they can grow on virtually any organic substance, as long as moisture and oxygen are present. There are fungi that can grow on wood, paper, carpet, foods, and insulation. When excessive moisture accumulates in buildings or on building materials, fungal growth will often occur, particularly if the moisture problem remains undiscovered or unaddressed. It is impossible to eliminate all fungi and fungal spores in the indoor environment. However, fungi growth can be controlled indoors by controlling moisture indoors.

Fungi reproduce by making spores that usually cannot be seen without magnification. Spores waft through the indoor and outdoor air continually. When fungal spores land on a damp spot indoors, they may begin growing and digesting whatever they are growing on in order to survive. Fungi gradually destroy the things they grow on. Many types of fungi exist. All fungi have the potential to cause health effects. Fungi can produce allergens that can trigger allergic reactions or even asthma attacks in people allergic to fungi. Some Genus of fungi are known to produce potent toxins and/or irritants. Potential health concerns are an important reason to prevent fungal growth and to remediate/clean up any existing indoor fungal growth.

Since fungi require water to grow, it is important to prevent moisture problems in buildings. Moisture problems can have many causes, including uncontrolled humidity. Some moisture problems in buildings have been linked to changes in building construction practices during the 1970s, 80s, and 90s. Some of these changes have resulted in buildings that are tightly sealed, but may lack adequate ventilation, potentially leading to moisture buildup. Building materials, such as drywall, may not allow moisture to escape easily. Moisture problems may include roof leaks, landscaping or gutters that direct water into or under the building, and poorly vented combustion appliances. Delayed maintenance or insufficient maintenance is also associated with moisture problems.

When fungal growth occurs in buildings, some building occupants, particularly those with allergies or respiratory problems, may report adverse health problems. Remediators should avoid exposing themselves and others to fungal-laden dusts as they conduct their cleanup activities. Caution should be used to prevent fungi and fungal spores from being dispersed throughout the air where building occupants can inhale them.

Fungi Prevention Tips

- Fix leaky plumbing and leaks in the building envelope as soon as possible.
- Watch for condensation and wet spots. Fix source(s) of moisture problem(s) as soon as possible.
- Prevent moisture due to condensation by increasing surface temperature or reducing the moisture level in air (humidity). To increase surface temperature, insulate or increase air circulation. To reduce the moisture level in air, repair leaks, increase ventilation (if outside air is cold and dry), or dehumidify (if outdoor air is warm and humid).
- Keep heating, ventilation, and air conditioning (HVAC) drip pans clean, flowing properly, and unobstructed.
- Vent moisture-generating appliances, such as dryers, to the outside where possible.
- Maintain low indoor humidity, below 60% relative humidity (RH), ideally 30-50%, if possible.
- Perform regular building/HVAC inspections and maintenance as scheduled.
- Clean and dry wet or damp spots within 24 - 48 hours.
- Don't let foundations stay wet. Provide drainage and slope the ground away from the foundation.

SCOPE OF WORK

LEW Corporation performed an investigation at Life Storage, 10 Royal Road Flemington, NJ to determine the presence or absence of mold growth and the level of concern. Specifically, LEW Corporation investigated the contents of Storage locker number 114. The investigation included a visual survey, interview with knowledgeable parties, and sampling as necessary. Measurements collected included air temperature and relative humidity. Samples collected included tape lifts. LEW Corporation will have the samples analyzed and based on all the data collected provide a written report discussing the results and recommendations.

PROCEDURES

General

The inspection protocols were based on the guidelines of the EPA "Building Air Quality Guide for Building Owners and Facility Managers", ISBN-0-16-035919-8, published in December 1991, *Bioaerosols: Assessment and Control*, published by the American Conference of Governmental Industrial Hygienists in 1999 and Recognition, Evaluation and Control of Indoor Mold, published by the American Industrial Hygiene Association in 2008. These guides describe a process of building inspection and evaluation, information

exchange and problem solving to enhance occupant health, comfort and productivity. The process involves the assessment of numerous air quality issues, including thermal comfort, emission sources, biological contamination, fresh air ventilation, and energy management.

Surface Fungi

One method of testing of surfaces for fungi is conducted with the use of Fisherbrand Transport Swabs, manufactured by Fisher Healthcare in Houston, Texas. The swabs are wetted with a nutrient solution held by the transport sponge, wiped over a surface area of approximately one square inch, and transported to the laboratory sealed against the sponge. In the laboratory, the solution is plated onto agar media for fungi. Viable colonies are quantified and identified to the genus level for fungal isolates and speciated when possible. The concentrations of surface swabs are reported in units of colony-forming units per swab (CFU/swab). The laboratory can also analyze the swab using direct microscopic examination. Spores and other particles are quantified and identified to only the genus level.

Tape lift sampling is another method of collecting surface samples. A piece of clear adhesive tape is laid over the sample area. The tape is then removed and placed on either a glass slide or clear plastic slide lockable bag. In the laboratory, the tape is analyzed using direct microscopic examination. Spores and other particles are quantified and identified to the genus level. Tape lift samples cannot be cultured therefore identification can only be made to the genus level.

Airborne Fungi

Air sampling for non-viable fungi (spores) is conducted with Air-O-Cell cassettes manufactured by Zefon Analytical Accessories of Ocala, Florida. These cassettes are also known as spore traps. A high-volume sampling pump is connected to the cassette and at least fifteen liters of air per minute are pulled through the cassette. The sampling time varies from two minutes to ten minutes depending upon the site conditions and the investigator's best judgment. The goal is to not overload the cassette.

INSPECTION

Background

On 10/9/2018 11:00 AM LEW Corporation met with the Clinton Twp. Schools Business Manager, Rich Kilpatrick, at Life Storage. A sampling strategy was developed to use single surface and composite sampling. Inspection of a representative sample of books was conducted.

Inspection

Mr Kilpatrick identified a group of books and materials that would receive single surface sampling. Single surface sampling involves collecting one surface sample using a single tape sample. A total of eight single surface samples were collected on bags of books and materials targeted by Mr. Kilpatrick. Twelve composite samples were also collected. Composite sampling involves using a single piece of tape and collecting samples from multiple surfaces. For this strategy it was determined that the surfaces 4 books per sample

would be collected. This strategy allows for a larger sampling population to better represent the books in the storage locker.

Please see Appendix A for Laboratory Results

DISCUSSION AND RECOMMENDATIONS

It is not possible to conclude with absolute assurance that fungi/mold germination is caused by a specific condition, without extensive testing and evaluation. It is possible, however, to identify conditions that are likely to result in biological amplification, based on visual inspection and problem solving. This approach was used in this investigation.

Storage Locker #114

The books and materials were stored in locker #114 at Life Storage. Life Storage is an environmentally controlled facility where temperature and humidity are reportedly regulated. The inspector took measurements of temperature and humidity using an Extech digital psychrometer. While temperature seemed well controlled at 70 degrees, humidity seemed elevated at 70% relative humidity. ASHRAE (American Society of Heating Refrigeration, and Air conditioning Engineers) recommends that relative humidity should not exceed 60% in living areas. While Life Storage is not a "living area", the client should inquire how "environmentally controlled" is defined by Life Storage. High humidity levels as has been experienced in this past Spring and Summer has caused numerous mold growth problems throughout the tri-state area. Fortunately, all contents found in the locker are stored in plastic bags. Plastic is an excellent vapor barrier and the books and materials appeared well protected.

During the inspection, the inspector was provided one custodial staff to organize and assist in the inspection process. Single surface samples from targeted bags of materials were collected for a total of 8 single surface samples. Random bags of materials were chosen for composite sampling. The procedure involved choosing a bag from the "pile" randomly, pulling books out of the bag and randomly picking four books for surface sampling. This would represent one composite sample. The books were then returned to the bag after sampling, and the bag was set aside so as to prevent accidental re-sampling. Following this procedure, a total of 12 bags were randomly picked from the storage locker, from which four books were sampled yielding one composite sample per bag.

After sampling was completed, a number of bags were selected for visual examination. Each bag was opened and a number of books were extracted for examination. Signs of visual mold were not found. Additionally, no "musty or moldy" odors were detected during bag opening or book inspection. The locker itself (walls, door, ceiling) was examined for any evidence of moisture or mold growth. None was found.

Laboratory results for all 20 samples were reviewed. Evidence for mold growth or mold spores was not found in any sample, regardless of whether the sample was singular or composite in nature. Based on the inspection and examination of materials in the locker,

the laboratory results for sampling a total of 54 books, and the conditions in the locker itself, it would be logical to expect the unexamined materials in the locker are likely to be in the same condition as all the materials examined during the inspection.

The inspector notes that the 1st single surface sample (#114-1) collected did have material on the book front cover that looked like suspect mold material which was sampled. The lab results indicate the material on the book was not mold, nor were any fungal spores found.

Based on the above LEW Corporation believes the books in locker #114 do not pose any concern of exposure to active mold growth.

APPENDIX A
Laboratory Results



Non-Viable Surface/Bulk Analysis Report

Environmental Hazards Services, L.L.C.
7469 Whitepine Rd
Richmond, VA 23237
Telephone: 800.347.4010

Report Number: 18-10-01782

Received Date: 10/10/2018

Analyzed Date: 10/10/2018

Reported Date: 10/11/2018

Client: LEW Corp
181 US Hwy 46
Mine Hill, NJ 07803

Project/Test Address: 10 Royal Rd; Flemington, NJ

Client Number:
201327

Laboratory Results

Fax Number:
Ext 18

Lab # :	18-10-01782-001	Collection Location:	PM PLUS MAKING A RABBIT
Client Sample ID :	Tape 114-1	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler
No fungal spores observed			

Note:

Lab # :	18-10-01782-002	Collection Location:	PM PLUS MAKING A BIRD
Client Sample ID :	Tape 114-2	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler
No fungal spores observed			

Note:

Lab # :	18-10-01782-003	Collection Location:	PM SHEEP
Client Sample ID :	Tape 114-3	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler
No fungal spores observed			

Note:

Lab # :	18-10-01782-004	Collection Location:	PM MUFFINIS TRAPPED
Client Sample ID :	Tape 114-4	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler
No fungal spores observed			

Note:

Lab # :	18-10-01782-005	Collection Location:	PM HARE & TORTOISE
Client Sample ID :	Tape 114-5	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler
No fungal spores observed			

Note:

Environmental Hazards Services, L.L.C

Client Number: 201327
Project/Test Address: 10 Royal Rd; Flemington, NJ

Report Number: 18-10-01782

Lab # :	18-10-01782-006	Collection Location:	PM JORDANS CATCH
Client Sample ID :	Tape 114-6	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler

No fungal spores observed

Note:

Lab # :	18-10-01782-007	Collection Location:	POPPLETON IN WINTER
Client Sample ID :	Tape 114-7	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler

No fungal spores observed

Note:

Lab # :	18-10-01782-008	Collection Location:	PM HIPPOS
Client Sample ID :	Tape 114-8	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler

No fungal spores observed

Note:

Lab # :	18-10-01782-009	Collection Location:	BAG A-18 COMPOSIT
Client Sample ID :	Tape 114-9C	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler

No fungal spores observed

Note:

Lab # :	18-10-01782-010	Collection Location:	BAG L/M COMPOSITE
Client Sample ID :	Tape 114-10C	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler

No fungal spores observed

Note:

Lab # :	18-10-01782-011	Collection Location:	BAG 18 COMPOSITE
Client Sample ID :	Tape 114-11C	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler

No fungal spores observed

Note:

Environmental Hazards Services, L.L.C

Client Number: 201327
Project/Test Address: 10 Royal Rd; Flemington, NJ

Report Number: 18-10-01782

Lab # :	18-10-01782-012	Collection Location:	BAG LIBRARY COMPOSITE
Client Sample ID :	Tape 114-12C	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler

No fungal spores observed

Note:

Lab # :	18-10-01782-014	Collection Location:	BAG 41 COMPOSITE
Client Sample ID :	Tape 114-14C	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler

No fungal spores observed

Note:

Lab # :	18-10-01782-015	Collection Location:	BIN 1-R COMPOSITE
Client Sample ID :	Tape 114-15C	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler

No fungal spores observed

Note:

Lab # :	18-10-01782-016	Collection Location:	BAG 114-1 COMPOSITE
Client Sample ID :	Tape 114-16C	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler

No fungal spores observed

Note:

Lab # :	18-10-01782-017	Collection Location:	BAG 114-2 COMPOSITE
Client Sample ID :	Tape 114-17C	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler

No fungal spores observed

Note:

Lab # :	18-10-01782-018	Collection Location:	BAG 114-3 COMPOSITE
Client Sample ID :	Tape 114-18C	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler

No fungal spores observed

Note:

Environmental Hazards Services, L.L.C

Client Number: 201327
Project/Test Address: 10 Royal Rd; Flemington, NJ

Report Number: 18-10-01782

Lab # :	18-10-01782-019	Collection Location:	BAG 114-4 COMPOSITE
Client Sample ID :	Tape 114-19C	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler

No fungal spores observed

Note:

Lab # :	18-10-01782-020	Collection Location:	BAG 114-5 COMPOSITE
Client Sample ID :	Tape 114-20C	Date Analyzed:	10/10/2018
Date Collected :	10/9/2018	Analyst:	Felicia Butler

No fungal spores observed

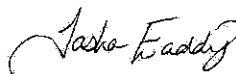
Note:

Quantification Key:

Numerous:	Several spores seen in every field
Moderate:	At least 1 spore seen in 5 fields
Few:	Over 5 spores seen per cover slip, but less than 1 spore seen in 5 fields
Occasional:	1-5 spores seen per a cover slip

Method: Direct Microscopic Exam

Reviewed By Authorized Signatory:



Tasha Eaddy
QA/QC Clerk

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Results represent the analysis of samples submitted by the client. Sample location, description, volume, etc., was provided by the client. The Client is hereby notified that due to the subjective nature of fungal analysis and the growth process of fungal infestation, laboratory samples can and do change over time relative to the originally sampled material. This report shall not be reproduced except in full, without the written consent of Environmental Hazards Services, L.L.C.



EHS
Laboratories™
Environmental Hazards Services, LLC

Mold Chain-of-Custody Form

SHIP TO: 7469 Whitepine Rd. Richmond, VA 23237
Phone: (800) 347-4010 FAX: (804) 275-4907

ONLINE CLIENT PORTAL AVAILABLE FOR ANALYSIS RESULTS AT:
www.leadlab.com

18-10-01782



Due Date:
10/11/2018
(Thursday)
AE

Company Name: Lew Corporation

Account Number: 201327

Address: 181 US Highway 46

City/State/Zip: Mine Hill NJ 07803

Phone: (908) 654-8068

Email: labresults@lewcorp.com

Questions? go to www.leadlab.com

P.O. #:

Testing Address: 10 Royal Rd

City/State (Required): Flemington NJ

Collection Date: 10/9/18

AM PM Collected by: Neil Wendt

Outside Air Temperature: °F

Indoor Air Temperature: 70 °F

Was There any Precipitation (Rain, Sleet, or Snow) 2 Hours or Less Before Taking the Samples? Yes No

TURN AROUND TIME: IF NO TAT IS SPECIFIED, SAMPLE(S) WILL BE PROCESSED AND CHARGED AS 3 DAY TAT.

Sample No.	Sample Type	Sample Location	Air Samples		Swab Samples		Sample Type Codes		Comment
			Spore Trap Type	Air Volume (Total Liters)	Surface Type (NP/SP/P)	Area of Mold (In Square Feet - ft²)	Air/Non Viable Bulk = B Swab = S Wall/Check = W End Tape = T	Spore Trap Air-O-Cell = AOC Cycllex D = C BioSIS = B MicroS=M5	
114-1	T	PM Plus "Making a Rabbit"			SP				
114-2	T	PM Plus "Making a Bird"							
114-3	T	PM Sheep							
114-4	T	PM "Muffin is Trapped"							
114-5	T	PM "Have a Tortoise"							
114-6	T	PM "Jordan's Catch"							
114-7	T	"Poppleton in Winter"							
114-8	T	PM "Hippos"							
Released by:	Neil Wendt		Signature:		Signature:		Date/Time: 10/9/18 2 PM		Date/Time: 10/10/18
Received by:	S.M. Colwell		Signature:		Signature:		Date/Time: 10/10/18		Date/Time: 10/10/18



EHS
Laboratories™
Environmental Hazards Services, LLC

Mold Chain-of-Custody Form

SHIP TO: 7469 Whitepine Rd. Richmond, VA 23237

Phone: (800) 347-4010 FAX: (804) 275-4907

ONLINE CLIENT PORTAL AVAILABLE FOR ANALYSIS RESULTS AT:
www.leadlab.com

1782
~For Lab Use Only~

Company Name: Lew Corporation

Address: 181 US Highway 46

Phone: (908) 654-8068

Testing Address: 10 Royal Rd

Collection Date: 10/9/2018 Time Collected: 2

Outside Air Temperature: _____ °F

Indoor Air Temperature: _____ °F

Was There any Precipitation (Rain, Sleet, or Snow) 2 Hours or Less Before Taking the Samples? Yes No

Account Number: 201327

City/State/Zip: Mine Hill NJ 07803

Email: labresults@lewcorp.com

Website: www.leadlab.com

P.O. #:

City/State (Required): Flemington NJ

Collected by: Des/Wendell

TURN AROUND TIME: ~~14~~ NO TAT IS SPECIFIED, SAMPLE(S) WILL BE PROCESSED AND CHARGED AS 3 DAY TAT.

Sample No.	Sample Type	Sample Location	Air Samples		Swab Samples		Sample Type Codes				
			Spore Trap Type	Air Volume (Total Liters)	Surface Type (NP/SP/P)	Area of Mold (in Square Feet - ft²)	Air/Non Viable Bulk = B Swab = S Wall/Check = W RO Tape = T	Spore Trap Air-O-Cell = AOC Cycllex D = C BioSis = B MicroS=MS	Swab Sample Surface Non-Porous = NP Semi-Porous = SP Porous = P	Qualitative Particulate Analysis (Additional \$10.00 per sample)	Comment
114-9c	T	Bag A-18 composite									
114-10c	T	Bag B/M composite									
114-11c	T	Bag 18 composite									
114-12c	T	Bag 11 library composite									
114-13c	T	Bag A-18-1 composite									
114-14c	T	Bag #41 composite									
114-15c	T	Bin 1-B composite									
114-16c	T	Bag 114-1 composite									

Released by: S. N. Swoboda

Received by: S. N. Swoboda

Signature: *[Signature]*

Date/Time:

Date/Time: 10/10/18 12:11p



Environmental Hazards Services, LLC

Mold Chain-of-Custody Form

SHIP TO: 7469 Whitepine Rd. Richmond, VA 23237

Phone: (800) 347-4010 FAX: (804) 275-4907

ONLINE CLIENT PORTAL AVAILABLE FOR ANALYSIS RESULTS AT:

www.leadlab.com

1782

~For Lab Use Only~

Company Name: Lew Corporation Account Number: 201327
Address: 181 US Highway 46 City/State/Zip: Mine Hill NJ 07803
Phone: (908) 654-8068 Email: labresults@lewcop.com

Testing Address: 10 Royal Rd City/State (Required): Flemington NJ
Collection Date: 10/19/18 Time Collected: 3 AM P.M. Collected by: M. Wendt
Outside Air Temperature: 70 F Indoor Air Temperature: 70 F

Was There any Precipitation (Rain, Sleet, or Snow) 2 Hours or Less Before Taking the Samples? Yes No

TURN AROUND TIME: IF NO TAT IS SPECIFIED, SAMPLE(S) WILL BE PROCESSED AND CHARGED AS 3 DAY TAT.

Table with columns: Sample No., Sample Type, Sample Location, Air Samples (Spore Trap Type, Air Volume), Swab Samples (Surface Type, Area of Mold), Qualitative Particulate Analysis, and Comment. Includes handwritten entries for samples 114-17c, 114-18c, 114-19c, and 114-20c.

Released by: M. Wendt Signature: M. Wendt
Received by: S. Nicoletto Signature: S. Nicoletto
Date/Time: 10/19/18 Date/Time: 10/10/18