



Thursday, July 27, 2017

Ken Studnick

Address: 38875 N 1st Ave, Scio, OR 97374
Projects 17-16079 and 16-14152

Dear Ken:

BULK SAMPLE ANALYSIS

Two samples of drywall backing that appeared to have mold-like growth were submitted to Alpha's office. These samples were then shipped to EMLab P&K in Bothell, Washington for non-viable analysis through direct microscopic analysis. Identification to the species level was not possible with non-viable testing. The results are presented and assessed below.

Evaluation of Results

One type of mold was identified by the laboratory: *Stachybotrys* (heavy growth) from each sample, as discussed below.

Stachybotrys

Stachybotrys is a slow spore producer that grows on wet cellulose-containing materials (including drywall, paper, ceiling tiles, wallpaper and wicker) that have been moist for an extended period. *Stachybotrys* spores are coated with a mucilaginous layer and thus do not become easily airborne.

It is sometimes considered to be a black or toxic mold and is sometimes believed to pose dire and unusual health risks to people; however, this is a misperception and it is not founded in science. In the 1990s, an article (not peer-reviewed) was published that purportedly identified *Stachybotrys* mold growth in residences as the cause of the infant deaths from acute idiopathic pulmonary hemorrhage. After publication, other researchers peer-reviewed the study and found that the original authors did not use proper methodology – they had ignored relevant data and used inapplicable data. This second group of researchers concluded that there were no scientific grounds to demonstrate any link between *Stachybotrys* and the infant deaths. The article's conclusions were deemed erroneous and the journal that published it rescinded its findings. Nevertheless, the mistaken perception that “black mold kills babies” persisted and continues to persist in the public mind. *Stachybotrys* does not generally impact human health any more than any other type of mold does.

Specific regulatory or standard numeric guidelines for mold in structures do not exist. According to the United States Department of Health and Human Services, Centers for Disease



Control and Prevention (CDC) website, mold exposure does not always present a health problem indoors. Please consult a medical professional for further health-related information.

If you have any questions concerning this report, please contact me at (503) 292-5346.

Wayne Bennett

Wayne Bennett,
Certified Mold Inspector
503-292-5346

Encl.: Laboratory report and chain of custody form



APPENDIX

LABORATORY REPORT AND CHAIN OF CUSTODY FORM



Report for:

Mr. Wayne Bennett
Alpha Environmental Services, Inc.: OR
11080 SW Allen Blvd., Ste. 100
Beaverton, OR 97005

Regarding: Project: 17-16079
EML ID: 1765368

Approved by:

Technical Manager
Justin Ford

Dates of Analysis:
Direct microscopic exam (Qualitative): 07-27-2017

Service SOPs: Direct microscopic exam (Qualitative) (EM-MY-S-1039)

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: Alpha Environmental Services, Inc.: OR
C/O: Mr. Wayne Bennett
Re: 17-16079

Date of Receipt: 07-26-2017
Date of Report: 07-27-2017

DIRECT MICROSCOPIC EXAMINATION REPORT

Background Debris and/or Description	Miscellaneous Spores Present*	MOLD GROWTH: Molds seen with underlying mycelial and/or sporulating structures†	Other Comments††	General Impression
Lab ID-Version‡: 8250354-1, Analysis Date: 07/27/2017: Bulk sample #1				
Tile	Few	3+ <i>Stachybotrys</i> species	Analysis of replicate sample is delayed.	Mold growth
Lab ID-Version: 8250355-1, Analysis Date: 07/27/2017: Bulk sample #2				
Tile	Few	3+ <i>Stachybotrys</i> species	Analysis of replicate sample is delayed.	Mold growth

* Indicative of normal conditions, i.e. seen on surfaces everywhere. Includes basidiospores (mushroom spores), myxomycetes, plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating. Distribution of spore types seen mirrors that usually seen outdoors.

† Quantities of molds seen growing are listed in the MOLD GROWTH column and are graded <1+ to 4+, with 4+ denoting the highest numbers.

†† Some comments may refer to the following: Most surfaces collect a mix of spores which are normally present in the outdoor environment. At times it is possible to note a skewing of the distribution of spore types, and also to note "marker" genera which may indicate indoor mold growth. Marker genera are those spore types which are present normally in very small numbers, but which multiply indoors when conditions are favorable for growth.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
The limit of detection is < 1+ when mold growth is detected.



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EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: Alpha Environmental Services, Inc.: OR
C/O: Mr. Wayne Bennett
Re: 17-16079

Date of Receipt: 07-26-2017
Date of Report: 07-27-2017

DIRECT MICROSCOPIC EXAMINATION REPORT

Location:	#1	#2
Sample type:	Bulk sample	Bulk sample
Lab ID-Version†:	8250354-1	8250355-1
Analysis Date:	07/27/2017	07/27/2017
MOLD/FUNGAL GROWTH*: Molds seen growing with underlying mycelial and/or sporulating structures		
Acremonium		
Alternaria		
Aureobasidium		
Basidiospores		
Chaetomium		
Cladosporium		
Colorless spores typical of Penicillium / Aspergillus		
Fusarium		
Other colorless, ID unknown		
Stachybotrys	3+	3+
Torula		
Ulocladium		
Miscellaneous spores**	Few	Few
Other comments†	Analysis of replicate sample is delayed.	Analysis of replicate sample is delayed.
Background debris or Description††	Tile	Tile
General impression	Mold growth	Mold growth

* See Mold/Fungal Growth Details table on the last page.

** See Miscellaneous Spores table on the last page.

† Some comments may refer to the following: Most surfaces collect a mix of spores which are normally present in the outdoor environment. At times it is possible to note a skewing of the distribution of spore types, and also to note "marker" genera which may indicate indoor mold growth. Marker genera are those spore types which are present normally in very small numbers, but which multiply indoors when conditions are favorable for growth.

†† Background debris is an indication of the amounts of non biological particulate matter present. This background amorphous material is graded and described as scant, light, moderate, heavy, or very heavy. (Very heavy background debris may obscure visibility.)

Fungal types listed without a growth rating or data entry were not detected during the course of the analysis for the respective sample.

Interpretation is left to the company and/or persons who conducted the field work.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

The limit of detection is < 1+ when mold growth is detected.

Client: Alpha Environmental Services, Inc.: OR
C/O: Mr. Wayne Bennett
Re: 17-16079

Date of Receipt: 07-26-2017
Date of Report: 07-27-2017

Mold/Fungal Growth Rating Details

Growth Rating	Quantities of molds indicating growth are listed in the MOLD/FUNGAL GROWTH section. Judgement is used in determining the amount of growth present in the sample. For example, if only one portion of the sample has evidence of heavy growth, then it will receive a rating of heavy growth even though, strictly speaking, on a percentage basis of the entire sample, the amount of growth is low.	
	Swab/Tape/Dust/Wipe sample	Bulk Sample
< 1+ (Very Light Growth)	Evidence of very light growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in less than 10% of the microscopic fields examined.	Areas of very light growth detected by the presence of spores of one type seen with underlying mycelial and/or with their sporulating structures in the bulk sample.
1+ (Light Growth)	Evidence of light growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in 10 to 25% of the microscopic fields examined.	Areas of light growth detected by the presence of spores of one type seen with underlying mycelial and/or with their sporulating structures in the bulk sample.
2+ (Moderate Growth)	Evidence of moderate growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in 26 to 50% of the microscopic fields examined.	Areas of moderate growth detected by the presence of spores of one type seen with underlying mycelial and/or with their sporulating structures in the bulk sample.
3+ (Heavy Growth)	Evidence of heavy growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in 51 to 75% of the microscopic fields examined.	Areas of heavy growth detected by the presence of spores of one type seen with underlying mycelial and/or with their sporulating structures in the bulk sample.
4+ (Very Heavy Growth)	Evidence of very heavy growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found to be nearly confluent in the majority of the microscopic fields examined.	Areas of very heavy growth detected by the presence of spores of one type seen with underlying mycelial and/or with their sporulating structures in the bulk sample.

Miscellaneous Spores

Slides/specimens are examined for the presence of mold spores and pollen, noting the quantities and distribution of spore types found. A designation of 'normal trapping' is made when a mix of spore types is present with the same general distribution as is usually found outdoors. In other words, the biological component of the sample surface is like that found everywhere. Types of spores present would include basidiospores (mushroom spores), myxomycetes (slime molds), plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating. Many of these spore types would not be found growing indoors on building materials since many plant pathogens require living plants for growth, and mushrooms require compost, leaf duff of various types, or associations with roots of certain trees, etc. Due to these factors, when a mix of spores seen include these types as well as pollen, the rational source is the outside air, rather than indoor mold growth. The numbers of miscellaneous spores seen are graded and described as shown below as none, very few, few, variety, and wide variety.

None	Very Few	Few	Variety	Wide Variety
No spores detected	Very few spores detected	A few spores detected	Many spores containing a variety of different genera detected	Many spores containing a wide variety of different genera detected

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Abstract

The purpose of this study was to determine the effect of different fiber contents on the properties of polypropylene (PP) composites reinforced with carbon fibers (CF). The CF were treated by nitric acid before being used as reinforcement. The fiber contents were 0%, 60%, and 80% by weight. The tensile strength and modulus of the composites increased with increasing fiber content. The impact strength of the composites decreased with increasing fiber content. The results showed that the PP composite reinforced with 60% CF had the best mechanical properties.

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	6	Dr	1	6	Dr	1
	7	Qu	1	7	Qu	1
	8	2V	1	8	2V	1
	9	3W	1	9	3W	1
	10	Cu	1	10	Cu	1
	11	Uran	1	11	Uran	1
	12	Legn	1	12	Legn	1
	13	Total	1	13	Total	1
	14	Mem	1	14	Mem	1
	15	MPN	1	15	MPN	1
	16	Quant	1	16	Quant	1
	17	Asbestos	1	17	Asbestos	1
	18	Asbestos	1	18	Asbestos	1
	19	PCR (p)	1	19	PCR (p)	1

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