



October 17, 2023

Acadia University - Physical Plant Service
15 University Avenue
Wolfville, NS, B4P 2R6

Re: Mould Air Sampling Report
15 University Avenue, Wolfville, NS
Pinchin File: 330548

1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained by Acadia University - Physical Plant Service (Client) to conduct mould air sampling within Christofor Hall, Chase Court Residence, Willett House, Horton Hall and the Vaughan Memorial Library (VML) on the campus of Acadia University located at 15 University Avenue, Wolfville, NS. The sampling was undertaken to determine airborne fungal particulate concentrations within the selected buildings at the request of the Client for due diligence and risk management purposes. The sampling was performed by Pinchin on September 25, 2023.

Initial airborne sampling was collected on August 10, 2023 in various locations. Refer to the report titled "330548 Mould Air Sample Report 15 University Ave Wolfville NS Acadia Sept 21 2023" for previous results and recommendations.

Since the initial sampling, it was reported that Christofor Hall and Chase Court Residences have been disinfected and have had carpets cleaned.

2.0 METHODOLOGY

Airborne mould samples were taken using Allergenco-D brand impactor cassettes and a calibrated pump. Samples were collected at Christofor Hall in Room 107 and 103, Chase Court Residence in the Storage/Garbage area (E108), Room C209, the East Corridor, A432 Hallway and Linen room, Willett North, South and Centre Basement, Horton Hall in Room 113, 112B, 115, 107A, 118 and 112A, and the Vaughan Memorial Library Room 101, 120, 214. In addition, one reference sample was collected outdoors for comparison purposes and one field blank was collected for quality control purposes.

The mould analysis was performed at the Pinchin Environmental Microbiology Laboratory, located in Mississauga, ON. The laboratory is independently accredited to ISO/IEC 17025:2017 for mould analysis



by the American Industrial Hygiene Association Laboratory Accreditation Program LLC (AIHA LAP LLC) (Lab ID 158835),¹ and the Quebec government (Lab ID 495).²

3.0 FINDINGS AND RESULTS

The analytical certificates for the mould tests are given in Appendix I.

Generally, the composition and concentration of mould recovered from indoor samples should be similar to the composition and concentration of the mould recovered from the outdoor reference sample. Many elements inside a building can affect the concentration and composition of indoor mould samples. These elements include occupant activities, furnishings and the amount of air exchange.

3.1 Chase Court

The concentration of the outdoor reference sample was 11,000 spores/m³. The concentrations of the samples collected in the Chase Court Building ranged from 2,400 – 7,100 spores/m³. The concentrations of each of the indoor samples were less than the concentration of the outdoor reference sample. The compositions of the samples collected in Chase Court differed from the composition of the outdoor reference sample. *Stachybotrys* spores were present in the compositions of the sample collected in Suite B208 and in the Storage/Garbage Room (E108). *Stachybotrys* spores are typically not present in outdoor samples and therefore when they are identified in indoor samples, they may be indicative of active mould growth. In addition, elevated *Aspergillus/Penicillium* – like spores were identified in the composition of the sample collected in Suite B208. The spores identified in the compositions of the remaining samples do not present a concern at the concentrations measured.

Sample results suggest that the airborne mould levels were negatively impacting the air quality in Suite B208 and in the Storage/Garbage Room (E108) in Chase Court on the sampling day. Sample results further suggest that airborne mould levels were acceptable in all other sample locations in Chase Court on the sampling day.

3.2 Christofer Hall

The concentration of the outdoor reference sample was 11,000 spores/m³. The concentrations of the indoor samples collected in Room 107 and Room 103 ranged from 2,100 - 6,000 spores/m³. The concentrations of each of the indoor samples were less than the concentration of the outdoor reference sample. The compositions of the indoor sample differed from the composition of the outdoor reference

¹ Accredited by the American Industrial Hygiene Association Laboratory Accreditation Program LLC (AIHA LAP LLC) under the Environmental Microbiology Laboratory Accreditation Program (EMLAP), for Bulk, Surface and Air testing for moulds, *Escherichia coli*, *Legionella* by the ISO 11731 method and for *Legionella pneumophila* by qPCR ISO 12869 method (Lab ID 158835).

² Accredited by the Quebec government under the Programme d'accréditation des laboratoires d'analyses (PALA) program for Air Microbiology – domains 601, 603, 604, 605, 606.

sample. Elevated levels of *Aspergillus*/*Penicillium*-like spores were identified in the composition of the sample collected in Room 107. *Stachybotrys* spores were identified in the sample collected in Room 103. *Stachybotrys* spores are typically not present in outdoor samples and therefore when they are identified in indoor samples, they may be indicative of active indoor mould growth.

Sample results suggest that airborne mould levels were negatively impacting the air quality in Christofor Hall in each sample location on the sampling day.

3.3 Willett House

It was reported to Pinchin staff that a water infiltration event had occurred in the basement of the Willett House. The north end of the basement contains an office space with water impacted furniture during the time of sample collection. The centre and south ends of the basement are storage and custodial space where elevated moisture was detected on the lower one foot of green masonry tiles on the east and west walls.

The concentration of the outdoor reference sample was 11,000 spores/m³. The concentration of the indoor samples collected in the Basement of the Willett House ranged between 3,600 – 14,000 spores/m³. The spore concentrations of the north and centre basement samples were greater than the concentration of the outdoor reference sample, while the concentration of the sample in the south end was lower than the outdoor reference sample. The composition of each sample collected in the Willett Basement differed from the outdoor reference sample. Elevated levels of *Aspergillus*/*Penicillium*-like spores were identified in the composition of each sample. As well, *Chaetomium*-like spores were detected in the sample collected in the centre of the Basement. *Chaetomium*-like spores are typically not present in outdoor samples and therefore when they are identified in indoor samples, they may be indicative of active indoor mould growth.

Sample results suggest that airborne mould levels were negatively impacting the indoor air quality in each of the sample locations on the sampling day.

3.4 Horton Hall

It was reported to Pinchin Staff that a water infiltration event occurred on Level 1 of Horton Hall which began in the Mechanical Room in the south end of the building following a rainfall event. Since the event, water was removed and floors were cleaned, however, the carpets located in Room 112B were cleaned but not removed. Airborne mould samples were collected in rooms 113, 112B, 115, 103, 107A, 118 and 112A.

The concentration of the outdoor reference sample was 11,000 spores/m³. The concentrations of the indoor samples ranged from 1,000 – 4,900 spores/m³. The concentrations of each of the indoor samples



were less than the concentration of the outdoor reference sample. The spore compositions of the indoor samples were similar to the composition of the outdoor reference sample with the exception of Room 112B and Room 107. *Stachybotrys* spores were identified in the sample collected in Room 112B and Room 107. *Stachybotrys* spores are typically not present in outdoor samples and therefore when they are identified in indoor samples, they may be indicative of active indoor mould growth.

Sample results suggest that the airborne mould levels were negatively impacting the air quality in Room 112B and Room 107 in Horton Hall on the sampling day. Sample results further suggest that airborne mould levels were acceptable in all other sample locations in Horton Hall on the sampling day.

3.5 Vaughan Memorial Library

It was reported to Pinchin Staff that employees complain of a musty odour in various locations. As well, Room 120 has had water leaks from the exterior northeast wall. Elevated moisture was detected along the masonry exterior wall (approximately 144 square feet). Airborne mould samples were collected in Room 101, Room 120 and Room 214.

The concentration of the outdoor reference sample was 11,000 spores/m³. The concentrations of the indoor samples ranged from 58 - 240 spores/m³. The concentrations of each of the indoor samples is less than the concentration of the outdoor reference sample. The compositions of the indoor samples differed from the composition of the outdoor reference sample. Chaetomium-like spores were detected in Room 214. Chaetomium-like spores are typically not present in outdoor samples and therefore when they are identified in indoor samples, they may be indicative of active indoor mould growth. The spores identified in the compositions of the sample collected in Room 101 and in Room 120 do not present a concern at the concentrations measured.

Sample results suggest that the airborne mould levels were negatively impacting the air quality in Room 214 on the sampling day. Sample results further suggest that airborne mould levels were acceptable in Room 101 and in Room 120 on the sampling day.

4.0 CONCLUSION

The findings of this report should be communicated to the occupants and building staff as recommended by current mould guidelines.

Cleaning and/or an assessment for mould growth should be conducted in Chase Court Suite B208, Christofer Hall Room 107 & Room 103, Willet House basement, Horton Hall Room 112B and Room 107 and Vaughn Memorial Library in Room 214.

Consideration should be given to removing the carpet in Room 112B.



5.0 TERMS AND LIMITATIONS

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project.

Information provided by Pinchin is intended for Client use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

Sincerely,

Pinchin Ltd.

Prepared by:

Reviewed by:

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Template: Master Mould Air Sampling Report, IEQ, February 5, 2021



2555 Meadowpine Blvd. Unit 2
Mississauga, ON L5N 6C3
T: (905) 363-0678
E: microbiolab@pinchin.com

Certificate of Analysis

Pinchin Environmental Microbiology Laboratory



Laboratoire d'analyse
accrédité par le
gouvernement du Québec



CUSTOMER: Kyra Kinsman
COMPANY: Pinchin Ltd
ADDRESS: 42 Dorey Avenue
Dartmouth, NS B3B 0B1

PROJECT NAME:
TYPE OF SAMPLES: AllergencoD
NO. OF SAMPLES: 20
DATE COLLECTED: September 25, 2023
DATE RECEIVED: September 27, 2023
DATE ANALYSED: September 27, 2023
DATE REPORTED: September 27, 2023

PROJECT NO: 330548
LAB REFERENCE NO: m300967
ANALYST: Jaybeeramy Naiken, B.Sc.
Environmental Microbiologist
REVIEWER: Rawah Naeem, M.Sc.
Environmental Microbiologist

CONDITION OF SAMPLES ON RECEIPT: Acceptable

Method of Analysis: Analysis of Air Samples for Fungal Spores (SOP: DME-SPT, Rev. 15, 16 May 2023)

This SOP is based on the method described in the AIHA's "Field Guide for the Determination of Biological Contaminants in the Environmental Samples" and also partially on the ASTM method D7391-20.

Results are not corrected for blanks. Estimation of the measurement of uncertainty is available upon request.

Comments/Observations (if any):

Notes:

1. The laboratory is not responsible for sample collection and sample information provided by the customer on the chain of custody.
2. The report applies to the samples submitted to the laboratory and, the result(s) relate only to sample(s) tested.
3. The report shall not be reproduced except in full, without written approval of the laboratory.
4. Services are subject to Pinchin Ltd. Standard Terms and Conditions for Laboratory Services.



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DATE ANALYSED:

September 27, 2023

ANALYST: Jaybeeramy Naiken, B.Sc. *JN*

PROJECT NO: 330548
LAB REFERENCE NO: m300967

Customer Sample No:	5564017			5564309			5564263			5564277			5564071			5564221			5564106			
Lab Sample ID:	m300967-1			m300967-2			m300967-3			m300967-4			m300967-5			m300967-6			m300967-7			
Description	Christofor Hall Room 107			Christofor Hall Room 103			Chase Suite B208			Chase Storage/Garbage (E108)			Chase Room C209			Chase East corridor			Chase A432 Hallway			
Total Air Volume (L)	150			150			150			150			150			150			150			
% of Sample Counted	25.4			25.4			25.4			25.4			25.4			25.4			25.4			
Fungal spores identified	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	
Alternaria/Ulocladium-like																						
Ascospores, non-specified	6	3	160							10	11	260	10	9	260	13	11	340	34	13	890	
Aspergillus/Penicillium-like	179	79	4700	33	42	870	136	61	3600	6	6	160	11	9	290	11	10	290	30	11	790	
Basidiospores, non-specified	32	14	840	12	15	310	54	24	1400	73	78	1900	80	69	2100	76	67	2000	183	67	4800	
Bipolaris/Drechslera/ Exserohilum/Helminthosporium																						
<i>Botrytis</i>																						
Chaetomium-like																						
Cladosporium	9	4	240	6	8	160	19	8	500				6	5	160	8	7	210	6	2	160	
Coprinus							1	0	26				1	1	26				1	0	26	
Curvularia							1	0	26													
Epicoccum																						
Fusarium-like																						
Ganoderma	1	0	26	1	1	26	1	0	26	1	1	26	2	2	52	2	2	52	2	1	52	
Myxomycetes/Periconia/Rusts/Smuts				24	30	630	10	4	260	2	2	52	5	4	130	4	4	110	15	6	390	
Non-specified spores				1	1	26							1	1	26							
Oidium-like																						
Pithomyces-like				1	1	26	1	0	26													
Polythrincium																			1	0	26	
Stachybotrys				1	1	26	1	0	26	1	1	26										
Pollens																						
Fungal fragments	2		52	3		79	9		240	1		26	3		79	5		130	3		79	
Non-fungal material	3			4			3			2			2			2			3			
Spores/sample	227			79			224			93			116			114			272			
TOTAL SPORES/M ³	6000			2100			5900			2400			3000			3000			7100			
A.S. (SPORES/M ³)	26			26			26			26			26			26			26			

Note: 1. Samples analysed at 600X magnification. 2. A.S. = Analytical Sensitivity
3. Total spores/m³ and counts/m³ reported to two significant figures where applicable



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DATE ANALYSED: September 27, 2023 **ANALYST:** Jaybeeramy Naiken, B.Sc. *JN* **PROJECT NO:** 330548
LAB REFERENCE NO: m300967

Customer Sample No:	5564029			5564145			5564237			5564159			5564183			5564128			5564175				
Lab Sample ID:	m300967-8			m300967-9			m300967-10			m300967-11			m300967-12			m300967-13			m300967-14				
Description	Chase Linen			Willet North Basement			Willet South Basement			Willet centre Basement			Horton 113			Horton 112B			Horton 115				
Total Air Volume (L)	150			150			150			150			150			150			150				
% of Sample Counted	25.4			23.1			25.4			25.4			25.4			25.4			25.4				
Fungal spores identified	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³		
Alternaria/Ulocladium-like																							
Ascospores, non-specified	6	6	160	6	1	170	12	9	310	18	4	470	16	9	420	2	4	52	7	6	180		
Aspergillus/Penicillium-like	14	14	370	431	84	12000	45	34	1200	267	66	7000	2	1	52	10	18	260	8	7	210		
Basidiospores, non-specified	68	67	1800	62	12	1800	63	47	1700	91	23	2400	123	65	3200	8	15	210	77	68	2000		
Bipolaris/Drechslera/ Exserohilum/Helminthosporium																							
Botrytis																							
Chaetomium-like										1	0	26											
Cladosporium	10	10	260	17	3	490	11	8	290	19	5	500	24	13	630				6	5	160		
Coprinus										1	0	26											
Curvularia																							
Epicoccum																							
Fusarium-like																							
Ganoderma							2	2	52	3	1	79	5	3	130	3	5	79	5	4	130		
Myxomycetes/Periconia/Rusts/Smuts	2	2	52							3	1	79	18	10	470	29	53	760	9	8	240		
Non-specified spores	1	1	26													2	4	52	2	2	52		
Oidium-like																							
Pithomyces-like																							
Polythrincium																							
Stachybotrys																1	2	26					
Pollens																							
Fungal fragments				4		120				1		26	7		180	5		130	2		52		
Non-fungal material	2			2			2			2			2			3			3				
Spores/sample	101			516			133			403			188			55			114				
TOTAL SPORES/M³	2700			14000			3600			11000			4900			1400			3000				
A.S. (SPORES/M³)	26			29			26			26			26			26			26				

Note: 1. Samples analysed at 600X magnification. 2. A.S. = Analytical Sensitivity
3. Total spores/m³ and counts/m³ reported to two significant figures where applicable



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DATE ANALYSED:

September 27, 2023

ANALYST: Jaybeeramy Naiken, B.Sc. *JN*

PROJECT NO: 330548
LAB REFERENCE NO: m300967

Customer Sample No:	5564655			5564290			5564153			5564152			5564732			5564052		
Lab Sample ID:	m300967-15			m300967-16			m300967-17			m300967-18			m300967-19			m300967-20		
Description	Horton 107A			Horton 118			Horton 112A			Library VML 101			Library VML 120			Library VML 214		
Total Air Volume (L)	150			150			150			150			150			150		
% of Sample Counted	25.4			25.4			25.4			25.4			25.4			25.4		
Fungal spores identified	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³
Alternaria/Ulocladium-like																		
Ascospores, non-specified	7	10	180	7	11	180	1	3	26				2	22	52			
Aspergillus/Penicillium-like	19	26	500	17	26	450	1	3	26				1	11	26			
Basidiospores, non-specified	18	25	470	22	34	580	15	38	390				3	33	79			
Bipolaris/Drechslera/ Exserohilum/Helminthosporium																		
Botrytis																		
Chaetomium-like																1	33	26
Cladosporium	12	16	310	3	5	79	6	15	160									
Coprinus																		
Curvularia																		
Epicoccum																		
Fusarium-like																		
Ganoderma	1	1	26	1	2	26												
Myxomycetes/Periconia/Rusts/Smuts	12	16	310	15	23	390	16	41	420	2	100	52	3	33	79	2	67	52
Non-specified spores	3	4	79															
Oidium-like																		
Pithomyces-like																		
Polythrincium																		
Stachybotrys	1	1	26															
Pollens																		
Fungal fragments	1		26	1		26	5		130									
Non-fungal material	2			3			3			2			2			1		
Spores/sample	73			65			39			2			9			3		
TOTAL SPORES/M³	1900			1700			1000			52			240			78		
A.S. (SPORES/M³)	26			26			26			26			26			26		

Note: 1. Samples analysed at 600X magnification. 2. A.S. = Analytical Sensitivity
3. Total spores/m³ and counts/m³ reported to two significant figures where applicable



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Environmental Microbiology Laboratory
Chain of Custody Form

m300967

REPORT RESULTS TO	Contact: Kyra Kinsman			Dept: IEQ	
	Company: Pinchin Ltd			Tel: (902)-210-9212 Fax:	
	Mailing Address: 42 Dorey Ave			Email: kkinsman@pinchin.com	
	City: Dartmouth	Prov: NS	Postal Code: B3B 0B1	Customer Job / P.O. #: NA	
Special Instructions: Please cc: slmcintyre@pinchin.com and agallant@pinchin.com				Project: 330548.000	
Report Language English <input checked="" type="checkbox"/> French <input type="checkbox"/>		No. Samples Submitted: 20		Invoice To: Accounts Payable	

ANALYSIS TYPES			
1. <input checked="" type="checkbox"/> Total Fungal Particulate (Spore Count and Identification)	5. <input type="checkbox"/> Bacteria (Quantification / Gram Staining)		
2. <input type="checkbox"/> Direct Microscope Examination (Fungal)	6. <input type="checkbox"/> Heterotrophic Plate Counts (HPC)		
3. <input type="checkbox"/> Direct Microscope Examination (Particulate): a: Quantitative <input type="checkbox"/> b: Qualitative <input type="checkbox"/>	7. <input type="checkbox"/> E. coli / Total Coliforms		
4. <input type="checkbox"/> Fungal Qualification & Identification (Anderson / RCS)	8. <input type="checkbox"/> Legionella	a: Culture <input type="checkbox"/> b: QPCR <input type="checkbox"/>	

Sample #	Description	Analysis Requested (e.g. 3a)	Date Sampled	Vol (L) or Area (cm ²)	TAT		FOR LAB USE ONLY LAB #
					REG.	RUSH	
5564017	Christofor Hall Room 107	1	Sept 25 2023	150		X	m300967-1
5564309	Christofer Hall Room 103	1	Sept 25 2023	150		X	-2
5564263	Chase Suite B208	1	Sept 25 2023	150		X	-3
5564277	Chase Storage/Garbage (E108)	1	Sept 25 2023	150		X	-4
5564071	Chase Room C209	1	Sept 25 2023	150		X	-5
5564221	Chase East Corridor	1	Sept 25 2023	150		X	-6
5564106	Chase A432 Hallway	1	Sept 25 2023	150		X	-7
5564029	Chase Linen	1	Sept 25 2023	150		X	-8
5564145	Willet North Basement	1	Sept 25 2023	150		X	-9
5564237	Willet South Basement	1	Sept 25 2023	150		X	-10

CHAIN OF CUSTODY	Collected by: Kyra Kinsman			
	Relinquished by: Kyra Kinsman	Date/Time: Sept 25 2023 22:05	Received by: CF	Date/Time: 9/27/23 9:23
	Method of Shipment: Courier		Sample Condition Upon Receipt: Acceptable <input checked="" type="checkbox"/> Other (explain) <input type="checkbox"/>	

Reviewed
9/27/23

Authorized by: **Kyra Kinsman** Date: **September 25 2023**

Customer Signature MUST Accompany Request. Customer accepts Pinchin Ltd. Standard Terms and Conditions for laboratory Services (See Over)

Distribution: White = Laboratory, Yellow = Customer Copy



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Environmental Microbiology Laboratory
Chain of Custody Form

m300967

REPORT RESULTS TO	Contact: Kyra Kinsman			Dept: IEQ		
	Company: Pinchin Ltd			Tel: (902)-210-9212	Fax:	
	Mailing Address: 42 Dorey Ave			Email: kkinsman@pinchin.com		
	City: Dartmouth	Prov: NS	Postal Code: B3B 0B1	Customer Job / P.O. #: NA		
Special Instructions: Please cc: slmcintyre@pinchin.com and agallant@pinchin.com					Project: 330548.000	
Report Language		English <input checked="" type="checkbox"/>	French <input type="checkbox"/>	No. Samples Submitted: 20	Invoice To: Accounts Payable	

ANALYSIS TYPES		
1. <input checked="" type="checkbox"/> Total Fungal Particulate (Spore Count and Identification)	5. <input type="checkbox"/> Bacteria (Quantification / Gram Staining)	
2. <input type="checkbox"/> Direct Microscope Examination (Fungal)	6. <input type="checkbox"/> Heterotrophic Plate Counts (HPC)	
3. <input type="checkbox"/> Direct Microscope Examination (Particulate):	a: Quantitative <input type="checkbox"/> b: Qualitative <input type="checkbox"/>	7. <input type="checkbox"/> E. coli / Total Coliforms
4. <input type="checkbox"/> Fungal Qualification & Identification (Anderson / RCS)	8. <input type="checkbox"/> Legionella	a: Culture <input type="checkbox"/> b: QPCR <input type="checkbox"/>

Sample #	Description	Analysis Requested (e.g. 3a)	Date Sampled	Vol (L) or Area (cm²)	TAT		FOR LAB USE ONLY LAB #
					REG.	RUSH	
5564159	Willet Centre Basement	1	Sept 25 2023	150		X	m300967-11
5564183	Horton 113	1	Sept 25 2023	150		X	-12
5564128	Horton 112B	1	Sept 25 2023	150		X	-13
5564175	Horton 115	1	Sept 25 2023	150		X	-14
5564655	Horton 107A	1	Sept 25 2023	150		X	-15
5564290	Horton 118	1	Sept 25 2023	150		X	-16
5564153	Horton 112A	1	Sept 25 2023	150		X	-17
5564152	Library VML 101	1	Sept 25 2023	150		X	-18
5564732	Library VML 120	1	Sept 25 2023	150		X	-19
5564052	Library VML 214	1	Sept 25 2023	150		X	-20

CHAIN OF CUSTODY	Collected by: Kyra Kinsman			
	Relinquished by: Kyra Kinsman	Date/Time: Sept 25 2023 22:15	Received by: CF	Date/Time: 9/27/23 9:24
	Method of Shipment: Courier		Sample Condition Upon Receipt: Acceptable <input checked="" type="checkbox"/> Other (explain) <input type="checkbox"/>	

Reviewed
9/27/23

Authorized by: **Kyra Kinsman** Date: **September 25 2023**

Customer Signature MUST Accompany Request. Customer accepts Pinchin Ltd. Standard Terms and Conditions for laboratory Services (See Over)

Distribution: White = Laboratory, Yellow = Customer Copy



2555 Meadowpine Blvd. Unit 2
Mississauga, ON L5N 6C3
T: (905) 363-0678
E: microbiolab@pinchin.com

Certificate of Analysis

Pinchin Environmental Microbiology Laboratory



Laboratoire d'analyse
accrédité par le
gouvernement du Québec



CUSTOMER: Kyra Kinsman

COMPANY: Pinchin Ltd.

ADDRESS: 42 Dorey Avenue
Dartmouth, NS B3B 0B1

PROJECT NAME:

TYPE OF SAMPLES: AllergencoD

NO. OF SAMPLES: 2

DATE COLLECTED: September 25, 2023

DATE RECEIVED: September 27, 2023

DATE ANALYSED: September 27, 2023

DATE REPORTED: September 27, 2023

PROJECT NO: 330548

LAB REFERENCE NO: m300998

ANALYST: Lubov Beliakov, CMS (PhD)
Environmental Microbiologist

REVIEWER: Rafic Dulymamode, PhD
Laboratory Manager

CONDITION OF SAMPLES ON RECEIPT: Acceptable

Method of Analysis: Analysis of Air Samples for Fungal Spores (SOP: DME-SPT, Rev. 15, 16 May 2023)

This SOP is based on the method described in the AIHA's "Field Guide for the Determination of Biological Contaminants in the Environmental Samples" and also partially on the ASTM method D7391-20.

Results are not corrected for blanks. Estimation of the measurement of uncertainty is available upon request.

Comments/Observations (if any):

Notes:

1. The laboratory is not responsible for sample collection and sample information provided by the customer on the chain of custody.
2. The report applies to the samples submitted to the laboratory and, the result(s) relate only to sample(s) tested.
3. The report shall not be reproduced except in full, without written approval of the laboratory.
4. Services are subject to Pinchin Ltd. Standard Terms and Conditions for Laboratory Services.



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DATE ANALYSED:

September 27, 2023

ANALYST: Lubov Beliakov, CMS (PhD)

PROJECT NO: 330548

LAB REFERENCE NO: m300998

Customer Sample No:	5564045	5564215																				
Lab Sample ID:	m300998-1	m300998-2																				
Description	Outdoor	Field Blank																				
Total Air Volume (L)	150	N/A																				
% of Sample Counted	25.4	25.4																				
Fungal spores identified	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	raw ct.	%	ct./m ³	
Alternaria/Ulocladium-like	3	1	79																			
Ascospores, non-specified	59	14	1500																			
Aspergillus/Penicillium-like	9	2	240																			
Basidiospores, non-specified	288	69	7500																			
Bipolaris/Drechslera/ Exserohilum/Helminthosporium																						
Botrytis	3	1	79																			
Chaetomium-like																						
Cladosporium	28	7	730																			
Coprinus	3	1	79																			
Epicoccum	3	1	79																			
Fusarium-like																						
Ganoderma	7	2	180																			
Myxomycetes/Periconia/Rusts/Smuts	8	2	210																			
Non-specified spores	1	0	26																			
Oidium-like	4	1	110																			
Pithomyces-like	1	0	26																			
Polythrincium																						
Stachybotrys																						
Pollens																						
Fungal fragments	2		52																			
Non-fungal material	2																					
Spores/sample	417																					
TOTAL SPORES/M³			11000	No fungal spores																		
A.S. (SPORES/M³)			26																			

Note: 1. Samples analysed at 600X magnification. 2. A.S. = Analytical Sensitivity
3. Total spores/m³ and counts/m³ reported to two significant figures where applicable



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Environmental Microbiology Laboratory
 Chain of Custody Form

m300998

REPORT RESULTS TO	Contact: Kyra Kinsman			Dept: IEQ	
	Company: Pinchin Ltd			Tel: (902)-210-9212	Fax:
	Mailing Address: 42 Dorey Ave			Email: kkinsman@pinchin.com	
	City: Dartmouth	Prov: NS	Postal Code: B3B 0B1	Customer Job / P.O. #: NA	
Special Instructions: Please cc: slmcintyre@pinchin.com and agallant@pinchin.com				Project: 331889 & 330548	
Report Language	English <input checked="" type="checkbox"/>	French <input type="checkbox"/>	No. Samples Submitted: 2	Invoice To: Accounts Payable	

ANALYSIS TYPES			
1. <input checked="" type="checkbox"/> Total Fungal Particulate (Spore Count and Identification)	5. <input type="checkbox"/> Bacteria (Quantification / Gram Staining)		
2. <input type="checkbox"/> Direct Microscope Examination (Fungal)	6. <input type="checkbox"/> Heterotrophic Plate Counts (HPC)		
3. <input type="checkbox"/> Direct Microscope Examination (Particulate):	a: Quantitative <input type="checkbox"/>	7. <input type="checkbox"/> E. coli / Total Coliforms	
	b: Qualitative <input type="checkbox"/>		
4. <input type="checkbox"/> Fungal Qualification & Identification (Anderson / RCS)	8. <input type="checkbox"/> Legionella	a: Culture <input type="checkbox"/>	b: QPCR <input type="checkbox"/>

Sample #	Description	Analysis Requested (e.g. 3a)	Date Sampled	Vol (L) or Area (cm ²)	TAT		FOR LAB USE ONLY LAB #
					REG.	RUSH	
5564045	Outdoor	1	Sept 25 2023	150		X	m300998-1 -2
5564215	Field Blank	1	Sept 25 2023	150		X	

CHAIN OF CUSTODY	Collected by: Kyra Kinsman			
	Relinquished by: Kyra Kinsman	Date/Time: Sept 25 2023 22:30	Received by: CF	Date/Time: 9/27/23 10:01
	Method of Shipment: Courier		Sample Condition Upon Receipt: Acceptable <input checked="" type="checkbox"/> Other (explain) <input type="checkbox"/>	

✓ 9/27/23

Authorized by: **Kyra Kinsman** Date: **September 25 2023**

Customer Signature MUST Accompany Request. Customer accepts Pinchin Ltd. Standard Terms and Conditions for laboratory Services (See Over)

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