

## U.S. Micro-Solutions, Inc. \* 1075 South Main Street, Suite 104 \* Greensburg, PA 15601 Phone: (724) 853-4047 Fax: (724) 853-4049 AIHA-LAP, LLC EMLAP # 103009 www.usmslab.com



**Customer Name:** 

**Skelly and Loy** 

Sample Date:

August 24, 2018

Customer Address:

3280 William Pitt Way Pittsburgh, PA 15238

Date Received: **Date of Report:**  August 24, 2018 August 24, 2018

**Customer Phone:** 

Fax:

PO Number:

(412) 638-1235

Attention:

**Richard Mance** 

Project Name/Number:

**MPSD** 

Customer sample numbers below are uniquely identified by prefixing Laboratory #

87243-18

Direct Microscopic Examination - Swab

Customer Sample Number	SW-404-1						W-404	<b>l-2</b>							
Sample Description/ Location	Cla	ssroo	m 404 Trim	- Wind	low	Classroom 404 - Hole in Wall									
Particle ID	Rare Amt	Few	Mod	Many	Num	Rare Amt	Few	Mod	Many	Num	Rare Amt	Few	Mod	Many	Num
Alternaria conidia	7,,,,,,					7					74110				
Ascospores		100												4.215	
Aspergillus fruiting structures															
Aspergillus/Penicillium-like conidia	1. 10														
Basidiospores						1									
Bipolaris/Drechslera conidia			1,504	100		10.742	100				13.45	Start :		A ST 134	
Chaetomium ascospores															
Cladosporium conidia									el dus					Jan G. F. J.	100 (A) 100 (A)
Curvularia conidia															
Epicoccum conidia		4	300			tyang 43	Part of				1.00				
Hyphal Fragments	Х														
Insect fragments	11300	18.29					1000		1400000			4,824		44,10	
Penicillium fruiting structures															
Pithomyces/Ulocladium conidia						14000	And Subsection		1964	uni Victory	Nati				
Plant fragments															
Pollen (unidentified)					10 1 15 15 W. C.	1	1916 36 975 	415,83596 545,545							PER MANAGEMENT
Rusts															
Smuts/ Myxomycetes				V. 15				Twice the wife	Wile?						
Stachybotrys conidia															
Stachybotrys fruiting structures			A Takes	35.56		1000	100 E	4000	- 146c · 1	344		1,74	4554	T. HAY	179.0
Torula conidia															
Unidentified dematiaceous conidia	Ja 2015)	Χ		1453.6	1000				33,423	4.6.54	100	100		18.00	
Unidentified hyaline conidia															
	es es especies	1, 1, 1,	73.34	10 mg/10 10 Br (1990)		1000					12.7	5,8 6 1.5 56 - 65 2	(1 a.s.)		
Skin Cell Fragments		r jak	1		<u> </u>			1							
Debris	1			2											
No fungal conidia/hyphal fragments noted					X										
Analyst Initials	KP			KP											
Date Analyzed	8/24/18			8/24/18											
Lot # / Exp Date:Swab	1801739 09/2019					1801	739 09	9/2019			***************************************				

Results relate only to the samples tested. The Aspergillus/Penicillium-like category cannot be differentiated by non-viable sampling methods. Mod = Moderate; Num = Numerous

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**Technical Manager:** 

Herbert Layman, BS, SM, CIEC

Page 1 of 8



#### 



Customer Name: Customer Address: Skelly and Loy

3280 William Pitt Way

Sample Date: Date Received: August 24, 2018

Pittsburgh, PA 15238

Date of Report:

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Attention:

**Richard Mance** 

Project Name/Number:

MPSD

Customer sample numbers below are uniquely identified by prefixing Laboratory # 87243-18

Total Volume (L)		75					75	***************************************	75				
Sample Number			2745827				2745822		2745817				
Location:		Classroom 402			E:	ct. Bldg	at Classroom 4	02	Classroom 404				
Particle ID	Raw ct.	AS	Spores/m³	%	Raw ct.	AS	Spores/m³	%	Raw ct.	AS	Spores/m³	%	
Alternaria		\$4.0 m					aan naivita						
Ascospores					26	13	338	1%	7	13	91	1%	
Aspergillus/Penicillium-like	2	13	26	6%	4	13	52	0%	176	14.79			
Basidiospores	30	13	390	91%	111	267	29,637	98%	126	133	16,758	99%	
Bipolaris/Drechslera			3.5 7 74	200	4 4			100	1400	, W77.01			
Cercospora													
Chaetomium				4.7 mg/k	1.34				1000			1	
Cladosporium	1	13	13	3%	7	13	91	0%	8	13	104	1%	
Curvularia	A SAC	7 1. 1		79.3					1, 1, 1, 1	3 1 1 4	Nave Of Street	2.77	
Epicoccum					1	13	13	0%			** ** **		
Helicomyces	90 FEE 53			West for		- 10		10,0	5,60,000				
Nigrospora				313- 1		· ·			1	13	13	0%	
Oidium			The Assign	1000	191 2	10.15			2.5			070	
Pithomyces/Ulocladium					4	13	52	0%					
Polythrincium		1 1 1 2		3 5 - 5	11	13	143	0%	The sec	1277.147	3 1 1 1 3 3 4 3 1 1		
Rusts			A JAMES AND STREET, THE		11.	13	143	0%	. 34 / 12 /	. 6 2	in a magnification	505450	
Smuts/ Myxomycetes	ten steen tid.	1944 6300		L Krightti.	4	13	52	0%	SURGET FOR	a realizada		Service.	
	89.0	\$1.00 min		- Japan Williams	4	13	52	0%	4.50 (1.00)	35 65 50 50		The Shapeton	
Stachybotrys	A. 30-8.6.	10/12/11/15		Section 1991 Post 1991	825.5			-	ALCONO.	10 K.	The Alines Symplectic	- unicamora	
Torula Trichoderma	HE TRANSA	ingrafficial,		Magazine.	<u> </u>	<u> </u>		1 11 11 11 11	15 ST ASSESS	24.5%,3	- 11 45 11 40 40	Principle (	
Unidentified dematiaceous conidia Unidentified hyaline conidia			- en al la ser en la ser e	Section 1	1.55.50		jiry e ugaznesin	VALUE S		J. Sept. Sept.	The state of the s	Jan 1974 Johnston	
						1,05,000		10000	Lastet!	116		30000	
Total Mold (Spores/m³ of air)	33		429		168		30,378		142		16,966		
Pollen	0	13	< 13		12	13	156		0	13	< 13		
Hyphal Fragments		271 - 141 6.		Mary 19		36.5			#FOR A	19 72 AND	e in magic of care page for the	11.2.395	
Insect Fragments								<u> </u>	ļ			<u> </u>	
Plant Fragments	72 M. (4) - "	1 2 400	<u> </u>			1919		1000	15 / A.S.			1.38134	
	Jan 1973	14 P 15 15 15 15 15 15 15 15 15 15 15 15 15		10,000			a granda a tagan a	9. 5 9.5	Transport		Tarijan, masahya san	2000	
Skin Cell Fragments		1				1				10.02 (0.1) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) - (0.0) -			
Debris	5 3 3 5	-11,000 - 12,000 - 12,000 - 12,000 - 12,000 - 12,000 - 12,000 - 12,000 - 12,000 - 12,000 - 12,000 - 12,000 - 1								1			
Analyst Initials		LS				LS				LS			
Date Analyzed	08/24/18				08/24/18				08/24/18				
Cassette Serial # / Exp Date:		2745827 08/2019				2745822 08/2019				2745817 08/2019			

Entire trace analyzed. Results relate only to the samples tested. Results are reported as calculated. For biological data, the first and/or second digit should be considered significant. Total percentage may not equal 100% due to rounding. Percentages reported as 0% are greater than 0 and less than 0.5%. The Aspergillus/Penicllium-like category cannot be differentiated by non-viable sampling methods.

AS=Analytical Sensitivity (spore/m³); Blank Lines = None Detected

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Technical Manager: Herbert Cayanan



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3280 William Pitt Way Pittsburgh, PA 15238 Sample Date: **Date Received:**  August 24, 2018

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Attention:

**Richard Mance** 

Project Name/Number:

**MPSD** 

Customer sample numbers below are uniquely identified by prefixing Laboratory #

	۸	ii buille	Shore	Trap Analysis Analytical M			USMS	AllergencoD -M008							
Total Volume (L)				75		75				75					
Sample Number			2745829				2745830				2745821				
Location:			Classroom 406				Hall at	Classroom 406		Classroom 414					
Particle ID		Raw ct.	AS	Spores/m³	%	Raw ct.	AS	Spores/m³	%	Raw ct.	AS	Spores/m³	%		
Alternaria		jul e			100				- 11 5	4 1 2	34.		1		
Ascospores		1	13	13	0%	1	13	13	2%						
Aspergillus/Penicillium-like	1886	106	533	56,498	100%	43	13	559	81%	14	13	182	12%		
Basidiospores		3	13	39	0%	7	13	91	13%	14	13	182	12%		
Bipolaris/Drechslera	31.0	4	9 44						100				1. 14.1		
Cercospora															
Chaetomium	5.5	4.1	474		1 1 1 1 1 1	10.753.1		1.3	V 1.3	1000					
Cladosporium		6	13	78	0%	1	13	13	2%	90	13	1,170	76%		
Curvularia	100										3.75	.,,			
Epicoccum	<b>-</b>				<b>†</b>										
Helicomyces		A 1 1 A 2 1		Aug to the State of	-	1,52			8 19 85	W . 7 c	90 6 3				
Nigrospora					-								1		
Oidium					-				11.19.4	12 (5.1	1111		<del> </del>		
Pithomyces/Ulocladium					<del> </del>	1	13	13	00/	100,000	5.55		- <del> </del>		
	. N .	1.00			<del> </del>		13	13	2%		1.77				
Polythrincium	2.50.3	2 25 6						the production of the	14 - 14 A	1 44 7 9	Maria San		120		
Rusts	Constitution to	status s	73. <b>2</b> 2. 5. 5		-	100 100 100	- 3524 - 351		- 699 (1997) - 699 (1997) - 699 (1997)	responsible	Treat Abaser na		1		
Smuts/ Myxomycetes	\$355E	2	13	26	0%	13,533	<u> </u>			200	-Nedfrigital		1		
Stachybotrys _	Via 1 yes		10.01	4.0	10.19.0	1.5	17 57	The Profession of the Control of the	- L	and mark with		7	1		
Torula Trichoderma	dain)			<u> </u>	1 2 34							<u> </u>	12		
Unidentified dematiaceous conidia	3443	Alemai A.A.	N. 1. 4 / 4		1	1501754	A 1, 715		Sections	G65-Carlo 31	Pays Sar	er kojar i julijem i j			
Unidentified hyaline conidia	1 Mary Mary 76 - 2	1800 AV								SAME TESTINA	2 ( 30 0 1 1 8 8				
Total Mold	433403	18450,AU	av Pauli							J. Sa. 4.4		a War brief en			
(Spores/m³ of air)		118		56,654		53		689		118		1,534			
Pollen		0	13	< 13		0	13	< 13		0	13	< 13			
Hyphal Fragments	44,500		Mar Sag			11.00	V 1,81	grand and the second		rugumati i v	Januari Sari		1 2 2		
Insect Fragments													<b> </b>		
Plant Fragments	1941	1000	77.7			274,414	3.4		(1) tell seg	. 65(76)	2 7 12				
	7547								1370 19				<del> </del>		
Skin Cell Fragments			1			1						1			
Debris	W.A.	44.1	2			2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -				3 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3					
Analyst Initials			LS			LS				LS					
Date Analyzed			08/24/18					08/24/18		08/24/18					
Cassette Serial # / Exp Date: Entire trace analyzed. Results relate on				5829 08/2019		<u> </u>		5830 08/2019		<u> </u>	274	5821 08/2019			

Entire trace analyzed. Results relate only to the samples tested. Results are reported as calculated. For biological data, the first and/or second digit should be considered significant. Total percentage may not equal 100% due to rounding. Percentages reported as 0% are greater than 0 and less than 0.5%. The Aspergillus/Penicllium-like category cannot be differentiated by non-viable sampling methods. AS=Analytical Sensitivity (spore/m<sup>3</sup>); Blank Lines = None Detected

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Technical Manager: Herbert Cayman

Herbert Layman, BS, SM, CIEC



#### 



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Skelly and Loy

and Loy

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Richard Mance

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	1		75					75		75					
Total Volume (L) Sample Number				2745839				2745851		2745847					
Location:			Cla	ssroom 320		Classroom 218				Classroom 103					
Particle ID		Raw ct.	AS	Spores/m³	%	Raw ct.	AS	Spores/m³	%	Raw ct.	AS	Spores/m³	%		
Alternaria						141	100	5 T.			100	AT ALL TO A	far.		
Ascospores															
Aspergillus/Penicillium-like		136	267	36,312	99%	2	13	26	67%	20	13	260	100%		
Basidiospores						1	13	13	33%						
Bipolaris/Drechslera							1 134	4.14.15.4							
Cercospora									İ	<u> </u>					
Chaetomium		10.00	100					2.17.15	1.44		14/30				
Cladosporium		37	13	481	1%								<u> </u>		
Curvularia		2.20				W-5.00	815.00	and Sugar St			3.33		- 1		
Epicoccum									<del> </del>	<del> </del>					
Helicomyces		Yakin Ag	45 G E	ta tij tronske je	5 250 4	100,000	- 67	8,875 T + 3 T	50, 02		A POS	40 - 111 412 1			
Nigrospora		***			<u> </u>				+				<b>-</b>		
Oidium				HE NEWSTA				5 2 5 6 9							
Pithomyces/Ulocladium	-	- 12				1455			1	4					
Polythrincium				447 / 12	1. 2. 15.77		1.10,27			1. 7		to a second			
					. ****	2124									
Rusts	- Py 25	1.20	33.00	1 10 10 10 10 10 10 10 10 10 10 10 10 10	-74C7666C		40040014	18, pro 18, pro 18, p.	1.2 3 2.5	1,144 (1) 27 (1)		Programme Comment	100000000		
Smuts/ Myxomycetes			- A			NG ASS		12년 - 14년 2월 1년 1월 1일   			7-4-1-1-1		Mapale (c.)		
Stachybotrys	7.75.5	91 4 July 19	10000		51205050	Trypolegy.	1000			and the second			Tel Calcalia		
Torula Trichoderma	-22.4	124/11/24			30-20-	136755	1975 m. W			ļ		g 4 (4.5 st n. ), n. 1, nest	1.195.000		
Unidentified dematiaceous conidia Unidentified hyaline conidia		i i i i i i i i i i i i i i i i i i i			Same estim	La altrella da .	30020	nga na sa	138.08	1. 5%			Total or State		
Diliuenunea nyanne comaia	19115	475554	526.5			8,889,2	100			227 (25.5)	Essibliar	KANATALI, IKIA	25500		
Total Mold (Spores/m³ of air)		173		36,793		3		39		20		260			
Pollen		0	13	< 13		0	13	< 13	T	0	13	< 13			
		r Tagar	100	The Control of the Co	s glasi deteja	-415E (\$178Y			1 -5	1.141.444	the face of the		100000000		
Hyphal Fragments Insect Fragments				2.42 44	1 445 A	12.7%	3		-		1 A. 15 - 11		1 - 71 - 2		
Plant Fragments	7.1	<u>. 2 ( )</u>		ere it om åldingå	12 1.28	Page 31	20,20.5			1 1 1 1 1	12 4 53		1.00		
	S 2 2 4	1				1,74-2	32°9° 5		1 - 12	14 - 1 - 1					
Skin Cell Fragments		1			1						1				
Debris		2 LS							n en vastador en la halla na la secritor basis						
Analyst Initials Date Analyzed			08/24/18 2745839 08/2019			LS 08/24/18 2745851 08/2019				LS 08/24/18 2745847 08/2019					

Entire trace analyzed. Results relate only to the samples tested. Results are reported as calculated. For biological data, the first and/or second digit should be considered significant. Total percentage may not equal 100% due to rounding. Percentages reported as 0% are greater than 0 and less than 0.5%. The Aspergillus/Penicllium-like category cannot be differentiated by non-viable sampling methods.

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Technical Manager: Herbert Cayanan



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87243-18 Customer sample numbers below are uniquely identified by prefixing Laboratory #

Customer samp				Trap Analysis Analytical N	3	-		AllergencoD -M008	itory #		UIZT		
Total Volume (L)				75		<u> </u>							
Sample Number				2745840				*					
Location:			Ext. B	idg - West Side			·						
Particle ID		Raw ct.	AS	Spores/m³	%	Raw ct.	AS	Spores/m³	%	Raw ct.	AS	Spores/m³	%
Alternaria	1.5	1	13	13	0%		1.00			133,441.5	47.77.4		10,100
Ascospores		13	13	169	1%								
Aspergillus/Penicillium-like		7	13	91	0%					14 (14.2)	N Wy ii	1 3 788 33	4.7
Basidiospores		102	178	18,156	95%								
Bipolaris/Drechslera		100								2 - 1	7.		
Cercospora		1	13	13	0%						<u> </u>		1
Chaetomium	147	14 11 1					5 (1.1)			18.55			
Cladosporium		51	13	663	3%								
Curvularia		1	13	13	0%						1 4.7		17.
Epicoccum		2	13	26	0%								
Helicomyces	7.40°	-			1		36.50.33	A SECTION		5,315,4	35.73	eta tuti ji jit j	
Nigrospora					<del> </del>	<b></b>							+
Oidium			T		1	100				1,000	54 35	100	
Pithomyces/Ulocladium					<del> </del>								
Polythrincium		3/30.5				<b></b>		B 1 1 1 1 1 1 1	10 may 12	10.00			
Rusts		1	13	13	0%	<b></b>		100 1 1 W 1					
Smuts/ Myxomycetes			13	10	0 78		Tue ja M	South the state of the second	-0189609d		10000000	ring at the ring of the	1 11 14
Stachybotrys	11.000000	10400000000	6 T860 1 3230 F	10.000	-	<b></b>	3.4.7.1143	Lipan et alter i barre	Constant Constant	200000000000000000000000000000000000000	10049000300		10,3,1
Torula	1325926	18138956	1,425,41.75		1		14 5.4			V transporter	-1.07.40.00	Specification of the second	
Trichoderma	10.064	\$ 91 ADQ\$64.75	ingeres and a				- 44:-	a final a final control	24.50%	1.0000000000000000000000000000000000000	s suitini per citis	1 3 4 4 4 2 1 1 1 1 1 1 1 1	3 - 3 - 3
Unidentified dematiaceous conidia	288200 2000	Action of the	efficient.	53.40 40 143 4	1 1321317			TO LEW TO THE PARTY		Andrew Section	A STATE AND A		Synth
Unidentified hyaline conidia										~			
	35.2	See	All shows	Dall seeds to	# 1 2 Av		1,000	Telonic also inspirate	1391145	Strategic reserve	\$3-400.	Breadpelinsty Y	-
Total Mold (Spores/m³ of air)		179		19,157									
Pollen		16	13	208									
Hyphal Fragments	1792,961	3841/15 3 1910	exa file of		1 - : : :	8 J. 18			1971 Fg-1	25-5	10,644.6		1 1111
Insect Fragments													
Plant Fragments	15718	Parentu.	14 (6) 150	10 July 10 A		- 75	1 5 5 7	100000000000000000000000000000000000000	THE WAYNE			And the second	
							1200		4315.4		[34] L. V		· · · · ·
Skin Cell Fragments			1										
Debris	2/9/02/	tivay Parti	wasan saman 1					art i harrinani,		A STAN			
Analyst Initials			LS										
Date Analyzed			08/24/18									<u> </u>	
Cassette Serial # / Exp Date:			274	5840 08/2019						L			

Entire trace analyzed. Results relate only to the samples tested. Results are reported as calculated. For biological data, the first and/or second digit should be considered significant. Total percentage may not equal 100% due to rounding. Percentages reported as 0% are greater than 0 and less than 0.5%. The Aspergillus/Penicllium-like category cannot be differentiated by non-viable sampling methods. AS=Analytical Sensitivity (spore/m3); Blank Lines = None Detected

When providing duplicates of this report, the document should be provided in total and not in section in accordance with AIHA-LAP, LLC. Any unauthorized or improper disclosure, copying, distribution, use, or falsification of these results is prohibited. USMS shall have no liability to the Customer or the Customer's customer for opinions stated, recommendations made, actions taken, or conduct implemented based on the test results reported.

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Technical Manager: Herbert Cayman

### GUIDELINES FOR DIRECT MICROSCOPIC EXAMINATION - (DME) OF BULK, SWAB AND TAPE SAMPLES

These guidelines are not intended for determination of health significance nor are they necessarily representative of unacceptable indoor environments.

Molds require a food source, moisture, and spore production to proliferate, removing any one of these factors can control fungal growth. However, because of their ubiquitous nature, spores can never be completely eliminated from an area.

	RELATIVE ABUNDA	ANCE OF CONIDIA (SPORES) AND HYPHAL FRAGMENTS
RATING	¹Relative Amounts of Observed Fungal Structures per high power field (600X)	SIGNIFICANCE
Rare	0-1	Indicates a minimal amount of conidia (spores) and/or other fungal structures. Most normal indoor surfaces will show no to low fungal conidia/hyphal fragments. Generally, water indicator molds such as <b>Stachybotrys</b> or <b>Chaetomium</b> should be further investigated.
Few	2-5	Indicates low amounts of settled conidia (spores). Typically, this amount is not consistent with active fungal growth, however, it may suggest an active source nearby, or that a surface has not been cleaned appropriately. The presence of hyphal fragments or fruiting structures may indicate a nearby source of contamination. Generally, the presence of moisture indicator molds (e.g., <i>Stachybotrys</i> or <i>Chaetomium</i> ) may suggest a chronic or acute water condition from sources such as roofs, plumbing leaks, increased humidity, etc.
Moderate	6-10	Indicates a moderate to heavy amount of fungal contamination (conidia/spores). Generally, this category is indicative of a surface that is, or has been affected, by active fungal growth. The presence of fruiting
Many	11-100	-structures or hyphal fragments may support the premise that fungal growth is on-going. However, the presence of moderate to numerous conidia/spores alone does not necessarily indicate the viability of the spores. Further investigation of the affected areas may be warranted.
Numerous	>100	Indicates that the sample area was highly contaminated with fungal spores and/or hyphal fragments.  Samples in this category display an unusually high number of conidia/spores or other fungal structures in each microscopic field.

This scale of relative abundance is affected by the size of the sampled area. If very large areas are sampled with a swab for example, this may cause the results to be skewed into a lower or higher category. These results correspond, roughly, to a sample area measuring one square inch.

SKIN CELL ANALYSIS						
SKIN CELL RATING	Relative Amounts of Observed Skin Cells per high power field (600 X)					
0	No skin cells present					
	0-1					
2	2 to 5	.:				
3	6 to 10					
4	11 to 15					
5	≥16					

	DEBRIS RAT	ING for DME ANALYSIS (using 600X magnification)
DEBRIS RATING	CONDITIONS FOR REPORTING DEBRIS RATING	SIGNIFICANCE
0	Debris is not present.	Sample may be a blank sample or from a very clean or remediated area.
1	Debris is present and <10% of the average viewing field is obscured.	Minimal amount of debris is observed.
2	Debris is present and 10% to <40% of the average viewing field is obscured.	Low amount of debris is observed, relative amounts of conidia/hyphal fragments may be affected.
3*	Debris is present and 40% to 75% of the average viewing field is obscured.	Moderate amount of debris is observed, relative amounts of conidia/hyphal fragments may be underestimated.
4*	Debris is present and >75% of the average viewing field is obscured.	High amount of debris is observed, relative amounts of conidia/hyphal fragments are estimated.
6	Slide completely obscured by excessive debris.	Unable to analyze. Recollect sample.

<sup>\*</sup> A debris rating of 3 or greater indicates that the accuracy of the analysis is likely affected.

#### SPORE TRAP INTERPRETATION TIPS

Currently there are no numeric standards for indoor airborne or surface microbial contamination. Suggested guidelines are constantly being reviewed and updated as more information is collected.

Some common denominators should be considered when interpreting results:

- 1. Comparison of indoor/outdoor concentration ratios.
- 2. Complaint vs. non-complaint areas or affected vs. non-affected areas.
- 3. Consider air exchange rates and activity levels in a building structure, weather, and season of the year.
- 4. Rank order assessment and concentration (e.g. Spores/m³ of air) of the fungi.
- 5. Predominant fungal genera: Are there water indicator microorganisms present, such as but not limited to: Chaetomium, Stachybotrys, Rhodotorula, Trichoderma, and Scopulariopsis.
- 6. Generally the fungal counts indoors should be lower than outdoor counts and the types of fungi found indoors should be similar to outdoors.
- 7. There is always a potential bias from infiltration of outdoor air, poor housekeeping, excessive indoor relative humidity, or potential contamination sources (e.g. water intrusion through a basement wall) that may negatively influence post remedial verification (PRV) or clearance levels.
- 8. The investigator should look for various patterns among the indoor types of molds detected:
  - a. Increased levels of primary (1st) colonizers in damp or moisture intrusion areas of homes or commercial buildings: **Aspergillus/Penicillium** or **Cladosporium** are usually noted.
  - b. **Chaetomium** or **Stachybotrys** are tertiary (3rd) colonizers of indoor materials and are usually associated with chronic long standing water/moisture issues in a building.
  - c. The presence of *hyphal fragments* or *fruiting structures* noted on spore trap samples usually indicates amplification (growth) of fungion building substrates.
  - d. **Ascospores** and **basidiospores** noted on indoors spore trap samples most often represent the entrance of inadequately filtered outdoor air. During inclement weather, remember to note time, temperature, and season. Most indoor materials will not support the growth of these fungi.
- 9. When unidentified hyaline (clear) of dematiaceous (dark-pigmented) conidia are noted on a spore trap sample, it indicates that no particular fungus can be identified. These fungal conidia may represent such yeast-like fungi as *Aureobasidium*, *Sporidiobolus*, unidentifiable *Acremonium* species, Basidiomycetes (basidiospores), and Ascomycetes (ascospores).
- 10. Keep in mind when interpreting spore trap sample reports, that indoor levels may be higher than corresponding outdoor levels (winter time in the Northern U.S.) with a predominance of *Aspergillus/Penicillium* or *Cladosporium* conidia with no significant amplification of any molds.

## SPORE TRAP GUIDELINES FOR INDOOR MICROBIAL CONTAMINATION

DEBRIS RATING for SPORE TRAP ANALYSIS (using 600X magnification) (Air-O-Cell, Micro 5, Allergenco D, Cyclex d, VersaTrap, etc.)					
DEBRIS RATING	CONDITIONS FOR REPORTING DEBRIS RATING	SIGNIFICANCE			
0	A visible trace, including particulates and debris, is not observed.	Indicates the sample was a blank, the area is exceptionally clean, or improper sampling occurred.			
1	Debris is present and <10% of the average viewing field is obscured.	Minimal amount of debris is observed.			
2	Debris is present and 10% to <40% of the average viewing field is obscured.	Low amount of debris is observed, counts may be affected.  Moderate amount of debris is observed, counts of conidia/hyphal fragments may be underestimated.			
3*	Debris is present and 40% to 75% of the average viewing field is obscured.				
4*	Debris is present and >75% of the average viewing field is obscured.	High amount of debris is observed, counts are estimated.			
5* See Relative Abundance chart below	Excessive debris is present	Periphery of trace analyzed. Relative amounts of conidia/hyphal fragments noted. Suggest recollection.			
. 6	Slide completely obscured by excessive debris.	Unable to analyze. Recollect sample.			

<sup>\*</sup> A rating of 3 or greater indicates that the accuracy of the analysis is likely affected.

	RELATIVE ABUNDANCE of OBSERVED CONIDIA & HYPHAL FRAGMENTS				
RATING	Relative Amounts of Observed Fungal Structures per high power field (600X)				
Rare	<b>0-1</b>				
Few	2 to 5				
Moderate 6 to 10					
Many	11 to 100				
Numerous	>100				

SKIN CELL ANALYSIS					
SKIN CELL RATING	Relative Amounts of Observed Skin Cells per high power field (600X)				
0	No skin cells present 0-1 2 to 5				
1					
2					
3	6 to 10				
4	11 to 15				
5	≥16				

\*End of Report\*





# U.S. Micro-Solutions, Inc.

1075 S Main Street, Suite 104 Greensburg, PA 15601 PHONE: 724-853-4047 FAX: 724-853-4049

supplies@usmslab.com





## LABORATORY TEST REQUEST - CHAIN OF CUSTODY

CUSTOMER NAME: SKELLY AND LOY				PHONE #: 412-638-1235				FAX	FAX #:					
ADDRESS: 3280 WILLIAM PAT Way							ZIP: 人	15238						
ATTENTION TO: PICHARO MANCE E-MAIL: CMONCE DO					e a sk	kelly loy.com								
SAMPLE OBTA			imro			RESULTS:		FAX	EMAIL	PO#	PROPOSAL#			
PROJECT NAM	E/NUMBE					***************************************								
TURN-AROUNI		<u> </u>	STANDA	ARD (48-72 hr)	NEX	(T DAY (24 hr,	M-F)	SAME DA	Y (6 hr, M-F)	3-H	OUR (M-F)	SA	TURD	AY
(SPORE TRAP	& DME ON	(LY)*									XI			
COMMENTS:						NOTABLE V	VEATI	IER CONDIT	rions:					
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SAMPLE CODE ANALYSIS CODE														
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B Bulk	Tran	M <sub>2</sub>	Spore Tr	Spore Trap Count  Allergenco-D  Air-O-Cell  Cyclex-d				нси	3T Heater Cooler Unit Culture					
S Swab		M3	Fungal C	Fungal Culture w/ Genus ID					HPC	Heterotrophic Plate Count			nt	
W Water		B1	<del> </del>	Bacterial Culture w/ Gram Stain ID						MYC	Mycobacteria Culture			
T Tape		B2	Bacterial	Bacterial Culture w/ Gram-positive Genus & Gram-Negative Species ID				pecies ID	MRSA	MRSA (Staphylococcus aureus)			aureus)	
O Other		В3	Sewage Screen					MISC	Other:					
	- A - A - A - A - A - A - A - A - A - A													





U.S. Micro-Solutions, Inc. 1075 S Main Street, Suite 104 Greensburg, PA 15601 PHONE: 724-853-4047 FAX: 724-853-4049 supplies@usmslab.com





LABORATORY TEST REQUEST - CHAIN OF CUSTODY ADDITIONAL SAMPLES

CUSTOMER NA	ME:			PROJECT NAME/NUMBER:	
SAMPLE Number	SAMPLE DATE/TIME	SAMPLE CODE	ANALYSIS CODE	SAMPLE LOCATION AND DESCRIPTION	SAMPLE VOLUME/AREA
2745839		ST	M2	Chaspon 320	75 L
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Phone: 412-828-1412 800-340-7538

Fax: 412-828-1475

E-mail: skellyloy@skellyloy.com Internet: skellyloy.com

Preliminary Summary
Mt. Pleasant Junior/Senior High School
Limited IAQ Survey
Interpretation of Swab and Spore Trap Sample Results
August 24, 2018

## **Swab Results**

Swab samples collected from stained wood window trim and holes in the block wall in Classroom 404 were unremarkable with respect to mold spores/structure present.

## Spore Trap (Total Spores in Air) Results

Class Room 402 – No remarkable results significantly above outside spore concentrations.

Class Room 404 – Elevated Basidiospores (16,758 S/m³), but lower that outside Basidiospore concentrations (29,637 S/m³).

Class Room 406 – Elevated Aspergillus-Penicillium-like spores of 56,498 S/m³; and total concentration of 56,664 S/m³. Exterior total spores were 30,378 S/m³ with concentrations of Aspergillus-Penicillium-like spores 52 S/m³ and 91 S/m³.

Hall at Class Room 406 – No remarkable results significantly above outside spore concentrations.

Class Room 414 – No remarkable results significantly above outside spore concentrations.

Class Room 320 – Elevated Aspergillus-Penicillium-like spores; 36,312 S/m³; and total concentration of 36,793 S/m³. Exterior total spores were 30,378 S/m³ Exterior total spores were 30,378 S/m³ with concentrations of Aspergillus-Penicillium-like spores 52 S/m³ and 91 S/m³.

Class Room 218 – No remarkable results significantly above outside spore concentrations.

Class Room 103 – No remarkable results significantly above outside spore concentrations.

Spore Trap interpretations are made using outdoor concentrations vs. indoor concentrations for both total spores and individual spores identified.

Office Locations: Harrisburg, PA Morgantown, WV State College, PA Hagerstown, MD Hunt Valley, MD

TOTAL SPORE SUMMARY						
Sample Number	Sample Location	Total Mold (Spores/m³)				
2745287	Class Room 402	429				
2745817	Class Room 404	16,966				
2745829	Class Room 406	56,654 <sup>1</sup>				
2745830	Hall at Class Room 406	689				
2745821	Class Room 414	1,534				
2745839	Class Room 320	36,793 <sup>1</sup>				
2745851	Class Room 218	39				
2745847	Class Room 103	260				
2745822	Exterior Bldg. at Class Room 402	30,378				
2745840	Exterior Bldg. – West Side	19,157				

<sup>1.</sup> Elevated Aspergillus-Penicillium-like spores.

## Recommendations

Room 404 and 320 should be temporarily closed for use; re-inspected to determine the reason for the elevated Aspergillus-Penicillium-like spores; and conduct a more thorough investigation for water infiltration and signs for visible mold growth.

These recommendations are independent of the results of THG and Associates fungal sampling, performed concurrent with Skelly and Loy's Limited IAQ Survey.