



contact@hayesmicrobial.com  
http://hayesmicrobial.com/

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Analysis Report prepared for

## Mold-Spec

PO Box 730514  
Ormond Beach, FL. 32173  
Phone: (386) 566-5284

Job Name: **Flagler County Sheriffs Operations**  
901 E. Moody Blvd.  
bunnell, Florida 32110

Date Sampled: 03-06-2018  
Date Analyzed: 03-08-2018  
Report Date: 03-08-2018

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EPA Laboratory ID# VA01419



AIHA EMPAT Lab ID# 188863



Mold License: LAB1021



License: #PH-0198



# HAYES

MICROBIAL CONSULTING  
3005 East Boundary Terrace, #F  
Midlothian, VA 23112, USA  
804.562.3435 Fax: 804.447.5562

HMC #18007426

**Mold-Spec**  
**PO Box 730514**  
**Ormond Beach, FL 32173**

March 8, 2018

Client Job Number:  
Client Job Name:           Flagler County Sheriffs Operations  
                                  901 E. Moody Blvd.  
                                  bunnell, Florida 32110

Dear Mold-Spec,

We would like to thank you for trusting Hayes Microbial for your analytical needs. On March 8, 2018 we received 22 samples by FedEx for the job referenced above. 22 samples were received in good condition.

The results in this analysis pertain only to this job, collected on the stated date and should not be used in the interpretation of any other job. This report may not be duplicated, except in full, without the written consent of Hayes Microbial Consulting, LLC.

This laboratory bears no responsibility for sample collection activities, analytical method limitations, or your use of the test results. Interpretation and use of test results are your responsibility. Any reference to health effects or interpretation of mold levels is strictly the opinion of Hayes Microbial Consulting. In no event, shall Hayes Microbial Consulting or any of its employees be liable for lost profits or any special, incidental or consequential damages arising out of your use of the test results.

Steve Hayes, BSMT(ASCP)  
Laboratory Director  
Hayes Microbial Consulting, LLC



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Spore Trap Analysis  
SOP #HMC101

HMC #18007426

Job Number:		Job Name:	<b>Flagler County Sheriffs Operations</b>	Date Collected:	<b>03/06/2018</b>
Collected by:	<b>Ginger Stanley</b>		<b>901 E. Moody Blvd.</b>	Date Received:	<b>03/08/2018</b>
Email:	<b>moldspec@gmail.com</b>		<b>bunnell, Florida 32110</b>	Date Reported:	<b>03/08/2018</b>

HMC ID Number	18007426 - 1	18007426 - 2	18007426 - 3	18007426 - 4
Sample ID#	2526031	2526047	2526059	2525983
Sample Name	Room 129	Hallway 1 Outside Rm 129	Room 152 Commander's Room	Patrol Ready Room
Sample Volume	75 liters	75 liters	75 liters	75 liters
Reporting Limit	13 spores/M3	13 spores/M3	13 spores/M3	13 spores/M3
Background	2	2	2	2
Fragments	ND	ND	ND	ND

Organism	18007426 - 1			18007426 - 2			18007426 - 3			18007426 - 4		
	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total
Alternaria				1	13	50.0%	4	53	50.0%			
Ascospores										1	13	> 99%
Aspergillus Penicillium												
Basidiospores												
Bipolaris Drechslera												
Chaetomium												
Cladosporium	1	13	32.5%	1	13	50.0%	3	40	37.7%			
Curvularia							1	13	12.3%			
Epicoccum	2	27	67.5%									
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Unspecified Spore												
Total	3	40		2	26		8	106		1	13	

Water Damage Indicator    Common Allergen    Slightly Higher than Outside Air    Significantly Higher than Outside Air    Ratio Abnormality

Signature: Steph Enders

Date: 03/08/2018

Reviewed by: P. Ramey

Date: 03/08/2018



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HMC ID Number	18007426 - 5	18007426 - 6	18007426 - 7	18007426 - 8
Sample ID#	2526030	2526363	2526042	2526041
Sample Name	Investigations Conference Rm	Hallway 2 Outside Copy Room	Room 111 Investigations	Victim Services
Sample Volume	75 liters	75 liters	75 liters	75 liters
Reporting Limit	13 spores/M3	13 spores/M3	13 spores/M3	13 spores/M3
Background	2	2	2	2
Fragments	ND	ND	ND	ND

Organism	18007426 - 5			18007426 - 6			18007426 - 7			18007426 - 8		
	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total
Alternaria												
Ascospores	1	13	24.5%									
Aspergillus Penicillium												
Basidiospores												
Bipolaris Drechslera												
Chaetomium												
Cladosporium	2	27	50.9%	1	13	> 99%	1	13	50.0%	2	27	> 99%
Curvularia	1	13	24.5%				1	13	50.0%			
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Unspecified Spore												
Total	4	53		1	13		2	26		2	27	

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HMC ID Number	18007426 - 9	18007426 - 10	18007426 - 11	18007426 - 12
Sample ID#	2526066	2526033	2526064	2526032
Sample Name	Hallway Outside Containment	Room 150 IT	Room 134 Evidence/Forensics	Room 146 Muster Training
Sample Volume	75 liters	75 liters	75 liters	75 liters
Reporting Limit	13 spores/M3	13 spores/M3	13 spores/M3	13 spores/M3
Background	2	2	2	2
Fragments	ND	ND	ND	ND

Organism	18007426 - 9			18007426 - 10			18007426 - 11			18007426 - 12		
	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total
Alternaria				3	40	50.0%	1	13	19.7%	1	13	50.0%
Ascospores	1	13	32.5%	1	13	16.3%						
Aspergillus Penicillium												
Basidiospores												
Bipolaris Drechslera												
Chaetomium												
Cladosporium	2	27	67.5%	2	27	33.8%	4	53	80.3%	1	13	50.0%
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Unspecified Spore												
Total	3	40		6	80		5	66		2	26	

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HMC ID Number	18007426 - 13	18007426 - 14	18007426 - 15	18007426 - 16
Sample ID#	2525982	2526065	2526062	2526366
Sample Name	Hallway 2 Outside Men's Restroom	Room 157 Payroll And Accounts Payable	Purchasing Office	Room 179 Conference Room
Sample Volume	75 liters	75 liters	75 liters	75 liters
Reporting Limit	13 spores/M3	13 spores/M3	13 spores/M3	13 spores/M3
Background	2	2	2	2
Fragments	ND	ND	ND	13/M3

Organism	18007426 - 13			18007426 - 14			18007426 - 15			18007426 - 16		
	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total
Alternaria				1	13	19.7%						
Ascospores	2	27	33.8%				2	27	29.0%	1	13	> 99%
Aspergillus Penicillium	2	27	33.8%	4	53	80.3%	3	40	43.0%			
Basidiospores	1	13	16.3%									
Bipolaris Drechslera												
Chaetomium												
Cladosporium							1	13	14.0%			
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes	1	13	16.3%									
Pithomyces							1	13	14.0%			
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Unspecified Spore												
Total	6	80		5	66		7	93		1	13	

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HMC ID Number	18007426 - 17	18007426 - 18	18007426 - 19	18007426 - 20
Sample ID#	2526026	2526040	2526020	2526025
Sample Name	Room 174 Chief Strobridge	Room 166 Commander Weber	Room 105A Human Resources	Lobby
Sample Volume	75 liters	75 liters	75 liters	75 liters
Reporting Limit	13 spores/M3	13 spores/M3	13 spores/M3	13 spores/M3
Background	2	2	2	2
Fragments	ND	ND	ND	ND

Organism	18007426 - 17			18007426 - 18			18007426 - 19			18007426 - 20		
	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total
Alternaria												
Ascospores	1	13	14.1%	1	13	19.7%						
Aspergillus Penicillium	4	53	57.6%	2	27	40.9%	4	53	44.5%	1	13	16.5%
Basidiospores	1	13	14.1%				2	27	22.7%			
Bipolaris Drechslera										1	13	16.5%
Chaetomium												
Cladosporium	1	13	14.1%	1	13	19.7%	1	13	10.9%	2	27	34.2%
Curvularia				1	13	19.7%	1	13	10.9%	1	13	16.5%
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes										1	13	16.5%
Pithomyces							1	13	10.9%			
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Unspecified Spore												
<b>Total</b>	<b>7</b>	<b>92</b>		<b>5</b>	<b>66</b>		<b>9</b>	<b>119</b>		<b>6</b>	<b>79</b>	

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HMC ID Number	18007426 - 21	18007426 - 22		
Sample ID#	2526061	2526021		
Sample Name	Room 103 Records	Outside		
Sample Volume	75 liters	75 liters		
Reporting Limit	13 spores/M3	13 spores/M3		
Background	2	2		
Fragments	13/M3	27/M3		

Organism	Raw Count	Count / M3	% of Total	Raw Count	Count / M3	% of Total		
Alternaria	2	27	15.6%	2	27	2.6%		
Ascospores	1	13	7.5%	4	53	5.0%		
Aspergillus Penicillium	2	27	15.6%	23	307	29.1%		
Basidiospores	1	13	7.5%	8	107	10.2%		
Bipolaris Drechslera								
Chaetomium								
Cladosporium	5	67	38.7%	36	480	45.5%		
Curvularia				2	27	2.6%		
Epicoccum	1	13	7.5%	1	13	1.2%		
Fusarium								
Memnoniella								
Myxomycetes	1	13	7.5%	2	27	2.6%		
Pithomyces				1	13	1.2%		
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Unspecified Spore								
Total	13	173		79	1054			

Water Damage Indicator    Common Allergen    Slightly Higher than Outside Air    Significantly Higher than Outside Air    Ratio Abnormality

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## Spore Trap Information

HMC #18007426

<b>Reporting Limit</b>	The Reporting Limit is the lowest number of spores that can be detected based on the total volume of the sample collected and the percentage of the slide that is counted. At Hayes Microbial, 100% of the slide is read so the LOD is based solely on the total volume. Raw spore counts that exceed 500 spores will be estimated.
<b>Blanks</b>	Results have not been corrected for field or laboratory blanks.
<b>Background</b>	<p>The Background is the amount of debris that is present in the sample. This debris consists of skin cells, dirt, dust, pollen, drywall dust and other organic and non-organic matter. As the background density increases, the likelihood of spores, especially small spores such as those of Aspergillus and Penicillium may be obscured. The background is rated on a scale of 1 to 4 and each level is determined as follows:</p> <p><b>ND</b> : No background detected. (Pump or cassette malfunction.) Recollect sample.</p> <p><b>1</b> : &lt;5% of field occluded. No spores will be uncountable.</p> <p><b>2</b> : 5-25% of field occluded.</p> <p><b>3</b> : 25-75% of field occluded.</p> <p><b>4</b> : 75-90% of field occluded.</p> <p><b>5</b> : &gt;90% of field occluded. Suggest recollection of sample.</p>
<b>Fragments</b>	Fragments are small pieces of fungal mycelium or spores. They are not identifiable as to type and when present in very large numbers, may indicate the presence of mold amplification.
<b>Indoor/Outdoor Comparisons</b>	There are no national standards for the numbers of fungal spores that may be present in the indoor environment. As a general rule and guideline that is widely accepted in the indoor air quality field, the numbers and types of spores that are present in the indoor environment should not exceed those that are present outdoors at any given time. There will always be some mold spores present in "normal" indoor environments. The purpose of sampling and counting spores is to help determine whether an abnormal condition exists within the indoor environment and if it does, to help pinpoint the area of contamination. Spore counts should not be used as the sole determining factor of mold contamination. There are many factors that can cause anomalies in the comparison of indoor and outdoor samples due to the dynamic nature of both of those environments.
<b>Water Damage Indicators</b>	These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem.
<b>Common Allergens</b>	Although all molds are potential allergens, these are the most common allergens that may be found indoors.
<b>Slightly Higher than Outside Air</b>	The spore count is slightly higher than the outside count and may or may not indicate a source of contamination.
<b>Significantly Higher than Outside Air</b>	The spore count is significantly higher than the outdoor count and probably indicates a source of contamination.
<b>Ratio Abnormality</b>	The types of spores found indoors should be similar to the ones that were identified in the outdoor sample. Significant increases (more than 25%) in the ratio of a particular spore type may indicate the presence of abnormal levels of mold, even if the total number of spores of that type is lower in the indoor environment than it was outdoors.
<b>Color Note</b>	Fungi that are present in indoor samples at levels lower than 200 per cubic meter are not color coded on the report, unless they are one of the water damage indicators.



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#### Alternaria

**Habitat:** Commonly found outdoors in soil and decaying plants. Indoors, it is commonly found on window sills and other horizontal surfaces.

**Health Effects:** A common allergen and has been associated with hypersensitivity pneumonitis. Alternaria is capable of producing toxic metabolites which may be associated with disease in humans or animals. Occasionally an agent of onychomycosis, ulcerated cutaneous infection and chronic sinusitis, principally in the immunocompromised patient.

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#### Ascospores

**Habitat:** A large group consisting of more than 3000 species of fungi. Common plant pathogens and outdoor numbers become very high following rain. Most of the genera are indistinguishable by spore trap analysis and are combined on the report.

**Health Effects:** Health affects are poorly studied, but many are likely to be allergenic.

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#### Aspergillus|Penicillium

**Habitat:** The most common fungi isolated from the environment. Very common in soil and on decaying plant material. Are able to grow well indoors on a wide variety of substrates.

**Health Effects:** This group contains common allergens and many can cause hypersensitivity pneumonitis. They may cause extrinsic asthma, and many are opportunistic pathogens. Many species produce mycotoxins which may be associated with disease in humans and other animals. Toxin production is dependent on the species, the food source, competition with other organisms, and other environmental conditions.

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#### Basidiospores

**Habitat:** A common group of Fungi that includes the mushrooms and bracket fungi. They are saprophytes and plant pathogens. In wet conditions they can cause structural damage to buildings.

**Health Effects:** Common allergens and are also associated with hypersensitivity pneumonitis.

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#### Bipolaris|Drechslera

**Habitat:** They are found in soil and as plant pathogens. Can grow indoors on a variety of substrates.

**Health Effects:** They may be allergenic and are very commonly involved in allergic fungal sinusitis. They are opportunistic pathogens but occasionally infect healthy individuals, causing keratitis, sinusitis and osteomyelitis.

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#### Cladosporium

**Habitat:** One of the most common genera worldwide. Found in soil and plant debris and on the leaf surfaces of living plants. The outdoor numbers are lower in the winter and often relatively high in the summer, especially in high humidity. The outdoor numbers often spike in the late afternoon and evening. Indoors, it can be found growing on textiles, wood, sheetrock, moist window sills and in HVAC supply ducts.

**Health Effects:** A common allergen, producing more than 10 allergenic antigens and a common cause of hypersensitivity pneumonitis.

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Organism Descriptions

HMC #18007426

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**Curvularia**

**Habitat:** They exist in soil and plant debris, and are plant pathogens.

**Health Effects:** They are allergenic and a common cause of allergic fungal sinusitis. An occasional cause of human infection, including keratitis, sinusitis, onychomycosis, mycetoma, pneumonia, endocarditis and disseminated infection, primarily in the immunocompromised.

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**Epicoccum**

**Habitat:** It is found in soil and plant litter and is a plant pathogen. It can grow indoors on a variety of substrates, including paper and textiles and is commonly found on wet drywall.

**Health Effects:** It is a common allergen. No cases of infection have been reported in humans.

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**Myxomycetes**

**Habitat:** Found on decaying plant material and as a plant pathogen.

**Health Effects:** Some allergenic properties reported, but generally pose no health concerns to humans.

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**Pithomyces**

**Habitat:** Common fungus isolated from soil, decaying plant material. Rarely found indoors.

**Health Effects:** Allergenic properties are poorly studied. No cases of infection in humans.

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