Certificate of Analysis — ASTM D7391-20 Air-O-Cell Spore Trap

Direct Optical Quantitative Mycology (600x Light Microscopy) • Accredited ISO/IEC 17025:2017 Specimen Workflow

COND. 3 AMPLIFICATION (A-03)

SAMPLES ANALYZED	SAMPLE AIR VOLUME	A-03 TOTAL FUNGAL	A-01 OUTDOOR BASE
4 Cassettes	**75.0 Liters**	**20,255/m³**	**1,493/m³**
3 locations + 1 field blank	15.0 L/min × 5.0 min (LOD 13/m³)	Asp/Pen 18,400 + Stachy 320/m³	Normal coastal Cladosporium peak

CLIENT & BATCH METADATA (FICTITIOUS SPECIMEN)

Client Account	**Harborview Property Mgmt LLC**
Contact	ops@example.com • (555) 018-4410
Sampled Property	**1904 Bayfront Promenade, Ste 210, Kemah, TX 77565**
Received / Reported	2026-04-14 09:15 → 2026-04-14 14:30 CDT

LABORATORY ACCREDITATION & QA CONTROL

Laboratory	**Envirogyn Laboratory (SPECIMEN-LAB-0000)**
Lead Analyst	**C. Lehnhoff, MLS(ASCP)CM #246841**
Test Standard	ASTM D7391-20 • 30% Slit Traverse
Media & QA Lot	Zefon AOC Lot #ZM-7712-SPEC • Blank 0

SEC 01 Executive Analytical Findings & Condition Classification

ELEVATED AMPLIFICATION ALERT — LOCATION A-03 (MECHANICAL CLOSET): Air sample **A-03** yielded **18,400 spores/m³** of *Aspergillus/Penicillium-like* spores (**115x outdoor baseline**) along with **320 spores/m³** of hydrophilic *Stachybotrys/Memnoniella* and **480 hyphal fragments/m³**. This pattern indicates an active Condition 3 indoor moisture-driven fungal source inside the condensate closet. Location **A-02 (Main Reception)** exhibits mild Condition 2 secondary dispersion (*Asp/Pen* 360/m³ vs Outdoor 160/m³) requiring containment isolation during source removal.

SEC 02 Sample Disposition Summary & Analytical Bench Documentation

Lab ID	Sample Location	Vol (L)	Debris	Total Spores/m³	Dominant Taxon	Status
A-01	Exterior Front Entry (Upwind Control)	75.0	2+	1,493	Cladosporium (64%)	OUTDOOR BASE
A-02	Main Reception Waiting Desk	75.0	2+	1,013	Cladosporium / Asp-Pen	COND. 2 MON
A-03	Suite 210 HVAC Mechanical Closet	75.0	3+	**19,775**	Asp/Pen (93%) + Stachy	COND. 3 HIGH
A-04	Field Procedural Blank (Unopened)	0.0	0	**0**	None Detected	QA BLANK PASS



LAB-01 Direct 600x optical bright-field traverse conducted by board-certified medical laboratory scientist under ISO 17025 QA control.



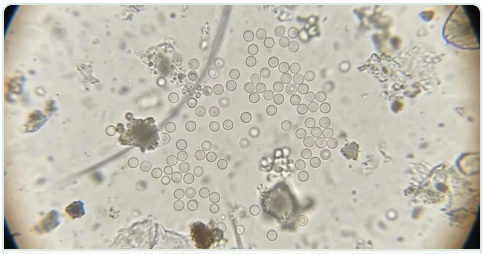
LAB-02 Individually barcoded Zefon Air-O-Cell cassettes logged into LIMS upon arrival with lot blank control verification.

SEC 03 Complete 23-Row ASTM D7391-20 Spore & Debris Enumeration Matrix

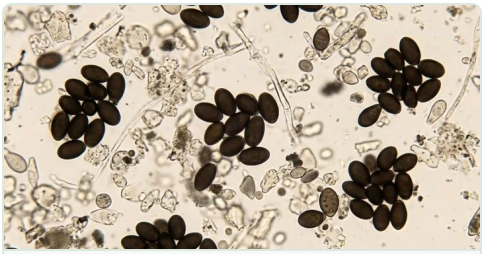
Fungal Taxon / Matrix Category	A-01 Raw	A-01/m³	A-02 Raw	A-02/m³	A-03 Raw	A-03/m³	Blank	Diagnostic Flag
Alternaria spp.	2	27	0	<13	1	13	0	Normal
Acremonium / Monocillium	0	<13	0	<13	8	107	0	Elevated
Ascospores (undifferentiated)	12	160	4	53	2	27	0	Normal
Aspergillus / Penicillium-like	12	160	27	360	1380	**18,400**	0	AMPLIFIED
Aureobasidium spp.	0	<13	1	13	5	67	0	Minor
Basidiospores	14	187	5	67	4	53	0	Normal
Bipolaris / Drechslera group	1	13	0	<13	0	<13	0	Normal
Botrytis spp.	0	<13	0	<13	0	<13	0	ND
Chaetomium spp.*	0	<13	0	<13	12	**160**	0	WATER IND
Cladosporium spp.	68	906	36	480	41	547	0	Normal
Curvularia spp.	2	27	1	13	0	<13	0	Normal
Epicoccum spp.	1	13	0	<13	0	<13	0	Normal
Fusarium spp.*	0	<13	0	<13	4	53	0	WATER IND
Nigrospora spp.	0	<13	0	<13	0	<13	0	ND
Paecilomyces spp.	0	<13	0	<13	6	80	0	Elevated
Pithomyces / Scopulariopsis	0	<13	0	<13	0	<13	0	ND
Smuts / Periconia / Myxomycetes	0	<13	2	27	1	13	0	Normal
Stachybotrys / Memnoniella*	0	<13	0	<13	24	**320**	0	WATER IND
Torula / Trichoderma / Ulocladium*	0	<13	0	<13	2	27	0	WATER IND
Hyphal Fragments (Non-Spore Structures)	**2**	**27**	**1**	**13**	**36**	**480**	**0**	COLONIZATION
TOTAL SPORES / m³ (19 Categories)	**112**	**1,493**	**76**	**1,013**	**1,490**	**19,775**	**0**	A-03 CONCERN
TOTAL FUNGAL STRUCTURES / m³	**114**	**1,520**	**77**	**1,026**	**1,526**	**20,255**	**0**	13.3x OUT
Background Debris (0-5) / Pollen / Skin Cells	2+ • 40/m³ • 1+		2+ • 13/m³ • 2+		3+ • 0/m³ • 2+		0	VALID SLIDE

Analytic Formula & LOD: 75.0 L total air volume • 30.0% trace traversed • Effective multiplier **13.33 spores/m³ per raw count** • Analytical Limit of Detection (LOD) = **13 spores/m³**.
* denotes primary water-loss / hydrophilic indicator genera requiring remediation containment under ANSI/IICRC S520.

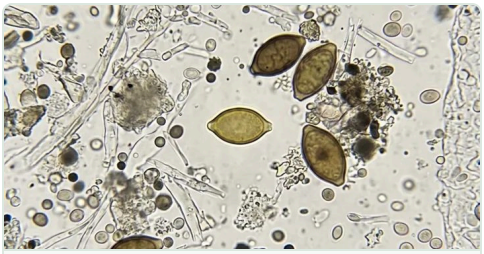
SEC 04 Diagnostic 600x Microscopy Reference Plate & Quality Assurance



MIC-01 • Asp/Pen (18,400/m³)
Small globose unicellular conidia (2–4 µm) overwhelmingly amplified inside A-03 mechanical closet.



MIC-02 • Stachybotrys (320/m³)
Dark ellipsoidal thick-walled hydrophilic conidia; zero detected outdoors (A-01) confirms wet cellulose inside Suite 210.



MIC-03 • Chaetomium (160/m³)
Lemon-shaped olive-brown ascospores co-occurring with Stachybotrys on damp gypsum paper facings.



MIC-04 • Cladosporium (906/m³ Out)
Shield-shaped conidia with prominent attachment scars; normal coastal outdoor aeroflora profile.



MIC-05 • Hyphal Fragments (480/m³)
Septate vegetative mycelial fragments elevated 18x over baseline inside A-03 indicates disturbance near active growth.



MIC-06 • Debris & Trace QA (3+)
Clear optical field confirming unimpeded impaction trace without slide overloading or masking.

SEC 05 Methodological Limitations & Specimen Notice

1. Direct non-viable spore trap microscopy quantifies total fungal propagules regardless of culturability and represents conditions during the 5-minute grab window.
2. Morphological grouping combines indistinct small hyaline conidia (*Aspergillus* and *Penicillium*) under ASTM D7391-20 conventions unless paired with direct tape lifts.
3. **Specimen Notice:** This Certificate of Analysis demonstrates Envirogyn's official 23-row EMLAP/ASTM template using 100% fictitious client, address, and count data.

D. Kowalski, LMAC

Field Sample Collector • SPECIMEN-MAC-0000
Flow Verified 15.0 L/min • Zero-Seal Custody Intact

C. A. Lehnhoff, MLS

Microbiologist & Lab Signatory
Board-Certified ASCP MLS(ASCP)CM #246841 • SPECIMEN-LAB-0000