Direct Surface Microscopy CoA — ASTM D7658-17 / D7910-14

Bio-Tape Lift & Swab Semi-Quantitative Optical Analysis (600x–1000x Oil Immersion LPCB) • Active Growth Differentiation

ACTIVE GROWTH (S-01, S-03, S-04)

DIRECT LIFTS	ACTIVE COND. 3	S-02 SUPPLY DIFFUSER	STAIN PROTOCOL
4 Samples	**3 Zones**	**Cond. 2**	**LPCB 600x**
Clear sterile acetate slides	Hyphae + conidiophores intact	Settled fallout (no hyphae)	Lactophenol Cotton Blue

CLIENT & SPECIMEN PROPERTY (FICTITIOUS DATA)

Client Name	**Dr. Aris Thorne**
Contact	a.thorne@example.com • (555) 015-6140
Property	**614 Bayshore Medical Pkwy, Clear Lake, TX 77058**

LABORATORY METHOD & QA SIGNATORY

Lab Identity	**Envirogyn Lab (SPECIMEN-LAB-0000)**
Microbiologist	**C. Lehnhoff, MLS(ASCP)CM #246841**
Method Std	ASTM D7658-17 • ASTM D7910-14

SEC 01 ASTM D7658-17 Semi-Quantitative Density Scale Legend

ND: None Detected • **1+ Rare:** 1–10 spores/slide, isolated debris • **2+ Light:** Scattered spores/scant mycelia • **3+ Moderate:** Frequent chains or clusters; early colonization • **4+ Heavy:** Dense mat of branching hyphae & intact fruiting conidiophores covering >50% visual field (conclusive *in situ* growth).

SEC 02 Direct Surface Microscopy Analytical Table

Sample ID	Sampled Surface & Matrix	Density	Hyphae / Fruiting Structures	Dominant Fungal Morphotypes	Condition
S-01	Breakroom Pantry SW Baseboard	**3+ Mod.**	Moderate septate hyphae + phialides	*Aspergillus / Penicillium* (90%), *Cladosporium* (10%)	COND. 3 GROWTH
S-02	Hallway HVAC Metal Supply Diffuser	2+ Light	None (dislodged single spores only)	*Cladosporium* (75%), *Basidiospores* (15%), Skin/Dust	COND. 2 SETTLED
S-03	Lab Sink Chase Drywall Paper	**4+ Heavy**	Dense blackened hyphal mat + chains	*Stachybotrys chartarum* (80%), *Chaetomium* (20%)	COND. 3 GROWTH
S-04	East Window Sill Condensation Track	**3+ Mod.**	Abundant budding blastospores/hyphae	*Aureobasidium pullulans* (70%), *Cladosporium* (30%)	COND. 3 GROWTH

KEY DIAGNOSTIC INSIGHT: Sample **S-02** proves why surface microscopy prevents unnecessary demolition: although visible dark dust ringed the metal supply grille, 600x LPCB inspection showed only common *Cladosporium* spores and epithelial skin flakes with zero branching hyphae (surface HEPA wipe-down only). Conversely, **S-03** shows heavy intact *Stachybotrys* conidiophores requiring full containment removal.



LPCB-QA Lactophenol Cotton Blue (LPCB) wet-mount examination at 600x–1000x oil immersion confirming active fruiting structures.



ASTM-D7910 Individually lot-controlled Bio-Tape slide mailers shipped inside tamper-evident laboratory bags.

SEC 03 Collection Evidence & 600x LPCB Photomicroscopy Plate



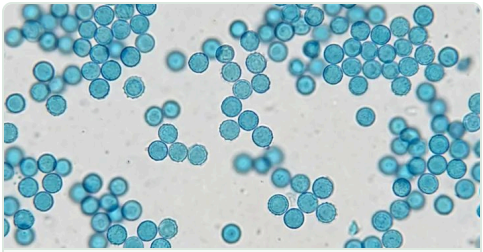
COL-01 • Direct Bio-Tape Protocol
Sterile Bio-Tape slide pressed firmly against target surface and sealed inside sterile mailer without smear distortion.



COL-02 • S-03 Sink Paper Sampling
Direct lift targeting dark hydrophilic demarcation along damp sink drywall facing.



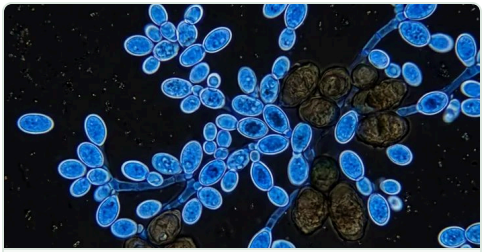
S-03 • Stachybotrys 4+ LPCB 600x
Heavy clusters of phialides, thick pigmented hyphae, and ellipsoidal dark conidia confirming active growth.



S-01 • Penicillium 3+ LPCB 600x
Intact brush-like metulae & phialides bearing long conidial chains from Breakroom baseboard sample.



S-02 • Settled Spore Fallout 2+
Detached lemon/shield-shaped spores trapped in routine HVAC grille dust without substrate germination.



S-04 • Aureobasidium 3+ LPCB
Dark-pigmented thick-walled hyphae and budding hyaline blastoconidia typical of window thermal condensation.

SEC 04 Laboratory Method QA & Regulatory Note

1. Direct microscopy follows **ASTM D7658-17** (Bio-Tape) and **ASTM D7910-14** conventions using lactophenol cotton blue mountant.
2. Semi-quantitative tape density characterizes only the discrete area sampled (~1.5 in^2) and complements volumetric Air-O-Cell testing when defining remediation containment zones.
3. **Specimen Notice:** Client, facility address, and diagnostic ratings on this sheet are 100% fictitious examples modeled on Envirogyn's official CoA template.

Elena Vance, LMAC

Field Inspector / Collector
SPECIMEN-MAC-0000 • Date: 2026-04-14

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