Mold Assessment Report

247 Maplewood Drive, Bridgeport CT 06606

Inspection Date: May 4, 2026

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Executive Summary

Active Condition 3 microbial contamination per IICRC S520-2024 Section 12 is confirmed at the crawlspace south rim joist, with laboratory analysis identifying Stachybotrys chartarum, Penicillium spp., and Aspergillus niger on the insulation paper backing and framing. The crawlspace air sample (S-005) returned a total spore count of 18,650 ct/m³, representing 9.4x the outdoor baseline, with Penicillium spp. at 12,800 ct/m³ and Stachybotrys at 580 ct/m³, both absent from the outdoor control. The master bedroom air sample (S-002) detected Stachybotrys at 220 ct/m³, also absent outdoors, and Aspergillus/Penicillium-like counts at 7.7x outdoor levels, consistent with contaminated air migrating upward from the crawlspace through the wall cavity. The loss event is a washing machine supply line failure occurring on or about April 15, 2026, with approximately 19 days of unmitigated moisture exposure at the time of this inspection. The primary moisture pathway runs from the second-floor east wall cavity downward through the floor assembly and into the south crawlspace rim joist area. Saturated pin readings of 32% WME at the master bedroom baseboard, 28% WME at the master bathroom drywall behind the toilet, and 47% WME on the crawlspace insulation paper backing all exceed ASHRAE 160 sustained moisture thresholds for microbial amplification. The south half of the crawlspace floor remains exposed dirt, a pre-existing condition noted in the September 2024 Enviro-Check inspection that is compounding the current intrusion. Immediate remediation is required in the crawlspace and master bedroom east wall cavity. The master bathroom drywall behind the toilet requires investigation for a possible secondary moisture source. Post-remediation clearance sampling is required prior to reconstruction.

Risk Level: high

- Condition 3 Stachybotrys chartarum contamination confirmed on south crawlspace rim joist insulation by surface tape lift (S-006) and corroborated by air sample S-005
- Crawlspace air at 18,650 ct/m³ total spores, 9.4x outdoor baseline, with Penicillium spp. at 12,800 ct/m³ absent outdoors
- Stachybotrys detected in master bedroom air (S-002, 220 ct/m³) indicating upward migration through wall cavity
- Saturated moisture readings at master bedroom baseboard (32% WME), master bathroom drywall (28% WME), and crawlspace insulation (47% WME) consistent with 19+ days of unmitigated wetting
- Exposed south crawlspace floor (pre-existing, no vapor barrier) compounding active intrusion event
- Occupant health complaints (headaches, nasal congestion) reported in master bedroom over 10-day period prior to inspection

Scope of Work

Initial mold assessment of the residential property at 247 Maplewood Drive, Bridgeport, CT 06606, conducted on May 4, 2026, following a washing machine supply line failure on or about April 15, 2026. The assessment was requested by homeowner Sarah Riley in connection with a State Farm insurance claim. The objective was to characterize the extent of moisture intrusion and microbial amplification resulting from the loss event, identify affected materials, and provide findings to the insured and the assigned adjuster.

The inspection consisted of a comprehensive visual assessment of accessible areas, a pin-type moisture meter survey conducted per ASTM D7438, spore trap air sampling analyzed per ASTM D7391, and surface tape lift sampling of visibly suspect materials. Air samples were collected using a Buck Bio-Pump calibrated at 15.0 LPM with a five-minute sample duration (75 L per cassette). One outdoor baseline air sample was collected at the front yard, 5 ft northeast of the porch. Four indoor air samples were collected in the master bedroom, master bathroom, living room, and crawlspace. One tape lift surface sample was collected from the south crawlspace rim joist insulation. All samples were submitted under chain of custody to EMSL Analytical, Inc. under project BNA-2026-05-04-RILEY. A prior inspection report from Enviro-Check Inspection Services, LLC dated September 12, 2024, was reviewed as part of the pre-inspection record.

Areas Inspected

- Master bedroom
- Master bathroom
- Living room
- Crawlspace (north access hatch and south rim joist area)
- Wine cellar
- Front yard (outdoor baseline)

Sampling Methods

- Spore trap air sampling (Zefon Air-O-Cell cassettes, 75 L per sample)
- Surface tape lift sampling
- Pin-type moisture meter survey (Tramex Encounter Plus)

Property Description

The subject property is a residential dwelling located at 247 Maplewood Drive, Bridgeport, CT 06606. Specific construction year, foundation type, total square footage, and HVAC system type were not provided at the time of this assessment. The structure includes a crawlspace accessible via an interior floor hatch, a master bedroom and master bathroom on an upper level, a living room and wine cellar at the main level, and crawlspace framing consistent with wood floor joists and rim joist construction over a concrete block foundation wall. The washing machine is located on the interior east wall of the master bedroom level. A prior inspection in September 2024 noted a vapor barrier absent on the south half of the crawlspace floor, which remains unaddressed at the time of this inspection.

- Crawlspace foundation with concrete block walls and wood framing
- Vapor barrier present on north crawlspace half only; south half exposed dirt (pre-existing condition)
- Washing machine located on interior east wall, second floor, sharing wall cavity with master bedroom
- Wine cellar present at main level
- Prior clean inspection (Enviro-Check, September 2024) provides documented pre-loss baseline

Environmental Conditions

Conditions at the time of inspection on May 4, 2026, reflect a transitional spring environment in ASHRAE Climate Zone 5A. Outdoor temperatures were consistent with mid-spring conditions in coastal Connecticut. The crawlspace and master bedroom east wall cavity exhibited sustained elevated moisture well above the ASHRAE 160 microbial amplification threshold. Indoor relative humidity in unaffected living spaces was within an acceptable range.

Indoor: Specific temperature and relative humidity instrumentation readings were not recorded for individual rooms at the time of this inspection. Moisture meter data indicates the master bedroom east wall baseboard, the master bathroom drywall behind the toilet, and the crawlspace south rim joist insulation all exhibited wood moisture equivalent values consistent with sustained relative humidity above 80% at the substrate surface, meeting the ASHRAE 160 criteria for conditions favorable to microbial amplification. The crawlspace insulation paper backing registered 47% WME, which exceeded the reliable upper resolution of the meter, indicating a reading at or beyond maximum scale.

Outdoor: Outdoor conditions at time of sampling reflected a transitional spring period with rising ambient spore counts. The outdoor baseline air sample (S-001) returned a total spore count of 1,980 ct/m³, dominated by Basidiospores (720 ct/m³) and Ascospores (580 ct/m³), consistent with spring snowmelt and elevated biological activity. These outdoor levels are appropriate for May in ASHRAE Zone 5A and were used as the comparative baseline for all indoor samples.

ASHRAE Zone: The property falls within ASHRAE Climate Zone 5A (cool, humid), based on ZIP code 06606. This zone designation is relevant to moisture-control design criteria under ASHRAE 160. Sustained substrate moisture levels recorded at the master bedroom east wall baseboard, master bathroom drywall, and crawlspace framing and insulation exceed the ASHRAE 160 threshold for microbial amplification risk (sustained surface RH above 80%), consistent with the observed fungal growth.

Crawlspace

The crawlspace was accessed via the north floor hatch. The interior access hatch panel was fitted with a mechanical fan/blower unit, and a Buck air sampling pump was positioned at the hatch opening for collection of sample S-005. The north half of the crawlspace floor exhibited a partial vapor barrier. The south half of the crawlspace floor remained exposed dirt, a pre-existing deficiency documented in the September 2024 Enviro-Check inspection and not corrected prior to this loss event. At the south rim joist area, directly beneath the master bedroom east wall, the inspector observed extensive dark black and brown discoloration on the sill plate and band joist lumber consistent with active fungal colonization. The staining extended across approximately a 4-foot run of the south rim joist framing. Fiberglass batt insulation in the south joist bays was observed sagging, wet to the touch, and visibly soiled. The kraft paper facing of the insulation exhibited discoloration and deterioration consistent with prolonged wetting. A pin moisture reading on the insulation paper backing at the south rim registered 47% WME, a saturated status that exceeds the instrument's reliable resolution range. The floor joist at the south end registered 24% WME, elevated and exceeding the IICRC S500 drying standard of 16% WME for wood framing. Both readings exceed the ASHRAE 160 threshold for sustained microbial amplification conditions. The air sample collected at the north access hatch (S-005) returned a total count of 18,650 ct/m³, representing 9.4x the outdoor baseline. Penicillium spp. was detected at 12,800 ct/m³ (absent outdoors), Aspergillus/Penicillium-like at 4,200 ct/m³ (17.5x outdoor), Stachybotrys at 580 ct/m³ (absent outdoors), and Aureobasidium at 380 ct/m³ (absent outdoors). The tape lift surface sample (S-006) collected from the south rim joist insulation confirmed Aspergillus niger at 4+ (heavy), Stachybotrys chartarum at 3+ (moderate-heavy), and Penicillium spp. at elevated levels. Water migration from the supply line failure above is the identified pathway for moisture entry into this space. The active moisture intrusion combined with the pre-existing exposed south floor creates compounded amplification conditions. Per IICRC S520-2024 Section 12, this area is classified as Condition 3.

Extensive black and brown fungal discoloration on the sill plate and band joist at the south rim, consistent with active mold colonization. Displaced fiberglass batt insulation and concrete block foundation wall visible. Conditions consistent with IICRC S520-2024 Condition 3.

Pin moisture reading of 47% WME on degraded kraft-faced insulation at the south crawlspace rim joist. Reading exceeds the instrument's reliable upper range. Insulation shows significant staining and deterioration consistent with prolonged wetting.

Fallen and sagging fiberglass batt insulation with dark brown to black fungal growth on kraft paper facing and subfloor decking. Active moisture dripping observed. Partial vapor barrier present on north floor only. Condition 3 per IICRC S520-2024.

Concerns

- Stachybotrys chartarum confirmed on south rim joist insulation by surface tape lift (3+ moderate-heavy)
- Aspergillus niger confirmed at 4+ (heavy) on rim joist insulation
- Crawlspace air at 18,650 ct/m³ total, 9.4x outdoor baseline
- Saturated floor joist (24% WME) exceeds IICRC S500 drying standard for wood framing
- Insulation paper backing at 47% WME, beyond meter resolution, indicating saturation
- South crawlspace floor remains exposed dirt with no vapor barrier (pre-existing deficiency)

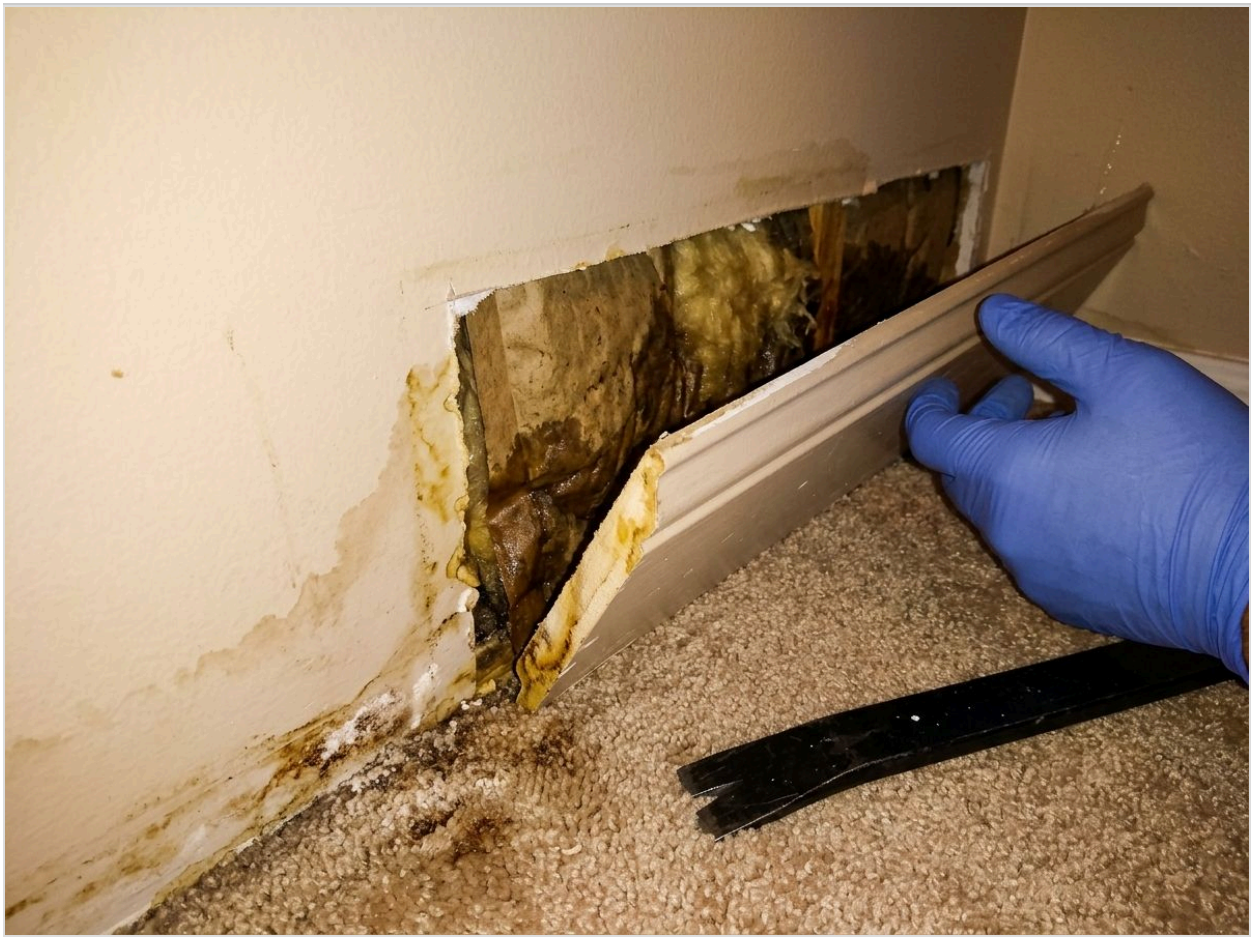
IICRC S520 Condition: Condition 3

Master Bedroom

The master bedroom occupies the area directly above the south crawlspace. The washing machine is located on the east interior wall. Following the supply line failure on approximately April 15, 2026, water migrated into the east wall cavity and downward through the floor assembly. The homeowner reported initial drying by mopping and box fans for approximately 24 hours, after which no further mitigation was performed. Visual inspection of the east wall baseboard identified brown water staining extending approximately 3 to 4 feet wide along the lower east wall, with a tideline pattern consistent with wicking from the base of the wall. At a separate east wall location adjacent to the window, dark brown to black discoloration at the lower wall-to-baseboard junction was observed, with paint bubbling, delamination, and carpet discoloration extending outward from the base. These observations are consistent with chronic or recurring wetting within the wall cavity. Removal of the baseboard in the affected area (documented at a separate room location also attributable to this wall cavity) revealed fungal colonization on the back face of the gypsum wallboard and OSB sheathing, with black and dark brown growth at the cavity base, yellow-brown vertical water staining on the gypsum paper facing, and white mycelial growth at the carpet-wall interface. A pin moisture reading at the east wall baseboard (washer wall) registered 32% WME on the baseboard substrate. This reading is classified as saturated and exceeds the ASHRAE 160 microbial amplification threshold. The exterior wall midpoint registered 9.2% WME (normal), and the floor near the closet registered 11.4% WME (normal), indicating the moisture impact is localized to the east wall cavity. The air sample collected in the master bedroom (S-002) returned Stachybotrys at 220 ct/m³, absent from the outdoor control, and Aspergillus/Penicillium-like at 1,840 ct/m³, 7.7x the outdoor level. These findings are consistent with upward migration of contaminated air from the crawlspace through the shared wall cavity. The homeowner reported headaches and nasal congestion in this space over the 10 days prior to inspection, and both occupants relocated to the guest bedroom as of April 29. Per IICRC S520-2024 Section 12, this area is classified as Condition 3.

Tideline water staining with tan/brown discoloration extending approximately 18 to 24 inches up the east drywall adjacent to the window. Dark brown to black discoloration at the baseboard junction consistent with mold growth. Paint bubbling and delamination above the tideline. Carpet discoloration indicates prolonged moisture migration.

Brown water staining on the lower east wall, extending approximately 3 to 4 feet wide and 12 to 18 inches above the baseboard. Tideline demarcation and carpet discoloration consistent with chronic moisture intrusion at the wall base.



Baseboard removed to reveal fungal colonization on the back face of gypsum wallboard and OSB sheathing. Black and dark brown growth at the wall cavity base. White mycelial growth at carpet-wall interface. Yellow-brown vertical staining on gypsum paper facing consistent with wall-cavity wetting.

Concerns

- Stachybotrys detected in room air at 220 ct/m³, absent outdoors, indicating active source in wall cavity or migration from crawlspace
- Aspergillus/Penicillium-like at 7.7x outdoor levels
- East wall baseboard at 32% WME (saturated), consistent with 19 days of unmitigated wetting
- Visible fungal growth on back of drywall and OSB within wall cavity
- Occupant health symptoms reported in this space prior to relocation

IICRC S520 Condition: Condition 3

Master Bathroom

The master bathroom adjoins the master bedroom and shares the east wall cavity. Visual inspection behind the toilet identified significant paint bubbling, peeling, and drywall surface delamination at the lower wall section adjacent to the toilet supply line and baseboard. Dark brown to black discoloration consistent with microbial growth was observed beneath the peeling paint at the wall-floor junction. Tan/yellow water staining on the surrounding wall surface indicates chronic moisture intrusion, likely originating from a slow leak at the toilet supply valve or ongoing condensation accumulation at that location. Pin moisture readings in this area returned 28% WME on the drywall behind the toilet, a saturated reading that exceeds ASHRAE 160 thresholds for microbial amplification. The subfloor near the tub registered 14% WME, which is elevated but within the borderline range for normal wood substrates. The tile grout on the shower wall registered 6% WME, normal and without concern. The air sample collected in the master bathroom (S-003) returned Aspergillus/Penicillium-like at 920 ct/m³, 3.8x the outdoor baseline, with all other species within the outdoor range. The elevated ratio at this location, while not as pronounced as in the master bedroom or crawlspace, indicates a secondary moisture condition contributing to fungal amplification independent of the primary supply line event. The 28% WME reading behind the toilet warrants investigation for a separate moisture source at the toilet supply connection. Per IICRC S520-2024 Section 12, the area behind the toilet is classified as Condition 3 based on saturated moisture and visible substrate damage. The subfloor near the tub is classified as Condition 2.

Paint bubbling, peeling, and drywall delamination at the lower wall adjacent to the toilet supply line. Dark brown to black discoloration consistent with microbial growth at the wall-floor junction. Tan/yellow staining indicates chronic moisture intrusion from a likely slow leak or condensation at the supply valve.

Concerns

- Saturated drywall at 28% WME behind toilet; possible separate secondary moisture source at supply valve
- Visible microbial growth at wall-floor junction behind toilet
- Aspergillus/Penicillium-like in room air at 3.8x outdoor levels
- Subfloor near tub at 14% WME, elevated, warrants monitoring during dry-out

IICRC S520 Condition: Condition 3

Living Room

The living room was assessed as a comparative control space. Visual inspection of all accessible wall surfaces, ceiling, and flooring identified no visible mold growth, water staining, or anomalous discoloration. The baseboard along the exterior wall registered 8.8% WME, a normal reading with no indication of active moisture intrusion. The air sample collected in the living room (S-004) returned a total count of 1,050 ct/m³, approximately half the outdoor baseline, with all species within expected ranges relative to the outdoor control. No significant indoor amplification was detected in this space. Per IICRC S520-2024 Section 12, the living room is classified as Condition 1.

General overview of the living room. No visible mold growth, water staining, or anomalous discoloration on walls, ceiling, or floor surfaces. Air sample S-004 returned counts within outdoor baseline.

IICRC S520 Condition: Condition 1

Wine Cellar

During the walkthrough, the inspector observed microbial growth on the underside of a wooden case in the wine cellar. The growth was visually consistent with fungal colonization of an organic substrate in a cool, low-ventilation environment. No air or surface samples were collected from the wine cellar during this inspection. The relationship of this finding to the primary loss event is not established. Given the location and substrate, this represents a separate finding warranting further investigation. Per IICRC S520-2024 Section 12, this area is classified as Condition 3 based on confirmed visible mold growth.

Concerns

- Visible microbial growth on wooden case in wine cellar; relationship to primary loss event undetermined
- No air or surface sampling conducted in this area during this inspection
- Cool, low-ventilation environment conducive to fungal growth on organic substrates

IICRC S520 Condition: Condition 3

Moisture Survey

Moisture readings were collected using a Tramex Encounter Plus pin-type moisture meter in accordance with ASTM D7438. All readings are expressed as wood moisture equivalent (WME) percentage. Readings are classified as Normal (below approximately 17% WME for wood substrates, indicating moisture content within an acceptable range for the material type), Elevated (approximately 17 to 25% WME, indicating above-normal moisture content that creates conditions conducive to microbial amplification and warrants investigation), or Saturated (above approximately 25% WME, indicating that the substrate has absorbed moisture to a degree consistent with active wetting or prolonged intrusion, and that microbial growth risk is high). At the crawlspace insulation paper backing, the reading of 47% WME exceeded the instrument's reliable upper resolution range, indicating the substrate was at or beyond maximum saturation.

Location	Value %	Status
Crawlspace		
Crawlspace, floor joist, south end	24%	Elevated
Crawlspace, insulation paper backing, south rim	47%	Saturated
Master Bedroom		
Master bedroom, exterior wall midpoint	9.2%	Normal
Master bedroom, floor near closet	11.4%	Normal
Master bedroom, baseboard, washer wall (east)	32%	Saturated
Master Bathroom		
Master bathroom, drywall behind toilet	28%	Saturated
Master bathroom, subfloor near tub	14%	Normal
Master bathroom, tile grout, shower wall	6%	Normal
Living Room		
Living room, baseboard, exterior wall	8.8%	Normal

Laboratory Analysis

Sample ID	Location	Volume (L)	Flow Rate (LPM)	Method	Cassette Type
S-001	Front yard, 5 ft NE of porch	75	15	Spore trap (ASTM D7391)	Air-O-Cell (Zefon)
S-002	Master bedroom, 4 ft above floor, center	75	15	Spore trap (ASTM D7391)	Air-O-Cell (Zefon)
S-003	Master bathroom, center	75	15	Spore trap (ASTM D7391)	Air-O-Cell (Zefon)
S-004	Living room, center	75	15	Spore trap (ASTM D7391)	Air-O-Cell (Zefon)
S-005	Crawlspace, NORTH access hatch	75	15	Spore trap (ASTM D7391)	Air-O-Cell (Zefon)

All air samples were analyzed by EMSL Analytical, Inc. (project BNA-2026-05-04-RILEY, report dated May 7, 2026) using the spore trap method per ASTM D7391. The outdoor baseline (S-001) returned a total of 1,980 ct/m³, with Basidiospores and Ascospores dominating, consistent with transitional spring conditions in ASHRAE Zone 5A. These outdoor levels reflect the seasonally rising baseline expected for coastal Connecticut in early May and serve as the comparative reference for all indoor samples. The living room (S-004) returned a total of 1,050 ct/m³, approximately half the outdoor level, with no species exceeding outdoor concentrations. This space performed as expected for a control area and confirms the elevated findings elsewhere are not the result of uniform building contamination or an artifact of ambient conditions. The master bathroom (S-003) returned Aspergillus/Penicillium-like at 3.8x the outdoor level. All other species were within the outdoor range, and the total count was 1,820 ct/m³. The elevated Aspergillus/Penicillium-like ratio is consistent with a localized secondary moisture condition at the toilet supply wall, as supported by the saturated moisture reading in that area. The master bedroom (S-002) returned Aspergillus/Penicillium-like at 1,840 ct/m³, 7.7x the outdoor level. More significantly, Stachybotrys was detected at 220 ct/m³ and was entirely absent from the outdoor control. Per AIHA Recognition, Evaluation, and Control of Indoor Mold Chapter 5, indoor detection of Stachybotrys at any concentration, given its absence outdoors, constitutes an indoor amplification indicator requiring

immediate investigation. The total count of 3,270 ct/m³ represents a 1.7x outdoor ratio, modestly above background, but the species-specific findings carry the diagnostic weight here. The crawlspace (S-005) represents the most significant finding in this assessment. The total count of 18,650 ct/m³ is 9.4x the outdoor baseline. Penicillium spp. was detected at 12,800 ct/m³, absent outdoors entirely. Aspergillus/Penicillium-like reached 4,200 ct/m³, 17.5x outdoor. Stachybotrys was present at 580 ct/m³, absent outdoors. Aureobasidium was detected at 380 ct/m³, also absent outdoors. Per AIHA Chapter 5 guidance, indoor:outdoor ratios exceeding 2x for any single species are indicative of indoor amplification. Four species in this sample meet or exceed that threshold, three of them absent from the outdoor control entirely. The magnitude and species profile of S-005 are unambiguous.

Indoor vs. Outdoor Spore Comparison

Species	Indoor (ct/m3)	Outdoor (ct/m3)	Ratio	Significant
Aspergillus / Penicillium-like	4200	240	17.5x	Yes
Aureobasidium	380	n/a	*n/a*	Yes
Penicillium spp.	12800	n/a	*n/a*	Yes
Stachybotrys	580	n/a	*n/a*	Yes
Ascospores	0	580	*n/a*	No
Basidiospores	800	720	1.1x	No
Cladosporium	690	380	1.8x	No
Curvularia	0	60	*n/a*	No

Surface Sampling: Surface tape lift sample S-006, collected from the south crawlspace rim joist insulation at the location of visible heavy growth documented in the field, was analyzed by EMSL Analytical, Inc. The results confirmed Aspergillus niger at 4+ (heavy), Stachybotrys chartarum at 3+ (moderate-heavy), and Penicillium spp. at elevated levels. These ratings are semi-quantitative, reported on a scaled density basis by the laboratory, and are consistent with the visual observation of dense fungal colonization across the insulation paper backing and adjacent framing. The combination of Stachybotrys chartarum and Aspergillus niger at these densities on a cellulosic substrate with a documented 19-day wetting history is consistent with established, active mold colonization. The surface sample results corroborate the crawlspace air data and confirm the south rim joist as the primary amplification locus.

Surface Sample Analysis

Sample ID	Location	Substrate	Method	Rating	Significance
S-006	Crawlspace, south rim joist insulation	—	tape_lift	Heavy	Significant

Species Significance

- Stachybotrys chartarum: Stachybotrys chartarum is a cellulose-degrading water-damage indicator species requiring chronic wetting of organic substrates for colonization. It is entirely absent from the outdoor environment under normal conditions, and its detection in indoor air at any concentration is considered an indoor amplification indicator per AIHA Chapter 5. Per ACGIH Bioaerosols Assessment and Control Chapter 19, Stachybotrys produces trichothecene mycotoxins and other secondary metabolites associated with respiratory irritation, immunosuppression, and dermal effects in exposed individuals. Detection in the master bedroom air at 220 ct/m³ and in the crawlspace at 580 ct/m³, confirmed by surface tape lift at 3+ (moderate-heavy) density, represents a significant health concern requiring immediate remedial action. The Connecticut Department of Public Health Indoor Environment Program guidelines also identify Stachybotrys as a high-priority indicator organism in residential settings.
- Aspergillus niger: Aspergillus niger was confirmed by surface tape lift at 4+ (heavy) density on the south crawlspace rim joist insulation. A. niger is an opportunistic pathogen capable of causing invasive pulmonary aspergillosis in immunocompromised individuals and is associated with allergenic responses in healthy occupants. Per ACGIH Chapter 19, Aspergillus species are among the primary genera of concern in water-damaged buildings. Heavy surface colonization at this location is consistent with the sustained saturated moisture conditions documented by meter readings and with the elevated Aspergillus/Penicillium-like air counts throughout the affected areas.
- Penicillium spp.: Penicillium spp. was detected in the crawlspace air at 12,800 ct/m³, absent from the outdoor control, and confirmed by surface tape lift at elevated density. Penicillium is a common water-damage indicator fungus frequently co-occurring with Aspergillus in chronically wet building materials. Per ACGIH Chapter 19, several Penicillium species produce mycotoxins and allergens. Air concentrations of this magnitude in an occupied residential structure, with documented migration pathway to habitable spaces above, represent a health risk requiring prompt source removal.
- Aureobasidium pullulans: Aureobasidium was detected in the crawlspace air at 380 ct/m³ and was absent from the outdoor control, classifying it as an indoor amplification species. Aureobasidium is

commonly associated with wet building materials and is an allergenic organism. Its presence in this context serves as an additional indicator of sustained moisture conditions within the crawlspace, consistent with the other water-damage indicator species identified.

- Aspergillus / Penicillium-like: The Aspergillus/Penicillium-like category encompasses morphologically similar small-spored fungi that cannot be further differentiated by optical microscopy alone. Indoor amplification was detected across three of the four indoor air samples, with ratios of 3.8x in the master bathroom, 7.7x in the master bedroom, and 17.5x in the crawlspace. The pattern of amplification tracking from the crawlspace upward through the wall cavity is consistent with the physical moisture pathway identified during the inspection.

Conclusions and Recommendations

The overall risk at 247 Maplewood Drive is high. Condition 3 microbial contamination per IICRC S520-2024 Section 12 is confirmed in the crawlspace, with secondary Condition 3 findings in the master bedroom east wall cavity and master bathroom. The primary contamination locus is the south crawlspace rim joist and insulation, where Stachybotrys chartarum and Aspergillus niger were confirmed by surface tape lift at moderate-heavy to heavy densities, and crawlspace air counts reached 9.4x the outdoor baseline. Contaminated air is migrating into the master bedroom, as confirmed by Stachybotrys detection in S-002 at a species absent from the outdoor environment. The 19-day unmitigated wetting period following the supply line failure has allowed mold colonization to establish throughout the south crawlspace framing and insulation and within the master bedroom east wall cavity. The pre-existing absence of a vapor barrier on the south crawlspace floor, flagged in the September 2024 Enviro-Check inspection and not corrected prior to this event, compounded moisture accumulation in the crawlspace during and after the intrusion. The master bathroom shows a secondary moisture condition at the toilet supply wall that is likely independent of the primary loss event and requires its own investigation. Occupant health symptoms including headaches and nasal congestion reported in the master bedroom over the 10-day period prior to inspection are consistent with exposure to the species detected, particularly Stachybotrys and elevated Aspergillus/Penicillium-like concentrations. Both occupants have appropriately relocated from the master bedroom. The living room air quality is currently within normal limits, and the dog's primary area does not show evidence of contamination.

Urgency: urgent

Recommendations

1. IMMEDIATE: Maintain occupant displacement from master bedroom and master bathroom until post-remediation clearance sampling confirms acceptable conditions. Do not re-occupy these spaces.

2. IMMEDIATE: Engage a licensed mold remediation contractor to establish containment over the crawlspace access hatch and affected master bedroom east wall area before any demolition or disturbing work begins, per IICRC S520-2024 Section 12 Condition 3 protocols.

3. IMMEDIATE: Remove all fiberglass batt insulation from the south crawlspace rim joist bays and affected joist cavities. Treat framing and rim joist surfaces with HEPA vacuuming followed by antimicrobial application per IICRC S520-2024 Condition 3 requirements. Do not remediate without full containment and appropriate PPE per OSHA 29 CFR 1926 Subpart E.

4. SHORT-TERM: Open the master bedroom east wall cavity from the interior to expose the wall cavity, remove all saturated and contaminated drywall and baseboard below the splash line, and

initiate structural drying using dehumidification and airflow. IICRC S500 drying standard of less than 16% WME for wood framing must be achieved and verified prior to reconstruction.

5. SHORT-TERM: Investigate the master bathroom toilet supply line for an active or historic slow leak. Remove the drywall section behind the toilet to assess the extent of substrate damage. A 28% WME reading on a bathroom drywall panel not directly in the path of the primary supply line failure indicates an independent moisture source.

6. SHORT-TERM: Install a continuous polyethylene vapor barrier across the entire crawlspace floor including the south exposed-dirt half, per the recommendation from the September 2024 Enviro-Check inspection. This deficiency contributed to elevated baseline moisture in the crawlspace and must be corrected as part of the remediation scope.

7. SHORT-TERM: Deploy a HEPA-filtered negative air machine in the crawlspace during remediation to prevent cross-contamination to habitable spaces above.

8. LONG-TERM: Following completion of remediation and structural dry-out, conduct post-remediation clearance sampling per IICRC S520-2024 Post-Remediation Verification requirements. Clearance sampling must include indoor spore trap air samples in the master bedroom, master bathroom, and crawlspace, with all indoor:outdoor ratios within acceptable limits and no detection of water-damage indicator species (Stachybotrys, Aspergillus niger, Penicillium spp.) absent from the outdoor control.

9. LONG-TERM: Conduct a separate follow-up assessment of the wine cellar to characterize the microbial growth observed on the wooden case underside. Air and surface sampling are recommended to determine the extent and species identity of that condition.

10. LONG-TERM: Verify dryer vent termination and lint buildup, noted as a maintenance item in the September 2024 prior inspection and unresolved at time of this inspection.

Follow-Up Actions

- Post-remediation clearance air sampling (spore trap, ASTM D7391) in master bedroom, master bathroom, and crawlspace following dry-out and before reconstruction
- Post-remediation moisture verification survey using pin meter per ASTM D7438; all wood framing readings must fall below 16% WME per IICRC S500 drying standard
- Wine cellar follow-up assessment with surface and air sampling
- Provide completed report package to Sarah Riley and forward copy to State Farm adjuster (claim ending 8841)

- Confirm vapor barrier installation across full crawlspace floor prior to reconstruction closeout

Standards Referenced

- IICRC S520-2024 Standard for Professional Mold Remediation - Section 12 (Assessment and Condition Classifications); Post-Remediation Verification: Applied for Condition 1, 2, and 3 classification of all inspected areas, remediation protocol basis, and post-remediation clearance requirements.
- IICRC S500 Standard for Professional Water Damage Restoration - Categories 1/2/3 (water source quality); Classes 1-4 (saturation extent); Drying standard (<16% WME for wood framing): Applied to classify the original water source as Category 1 (clean supply line), note that affected materials should be treated as Category 2 given microbial amplification, and establish the drying target for structural framing.
- AIHA Recognition, Evaluation, and Control of Indoor Mold - Chapter 5 (Sampling Strategy): Applied to evaluate indoor:outdoor spore count ratios, identify indoor amplification indicators, and interpret the significance of species detected indoors but absent from the outdoor control.
- ACGIH Bioaerosols Assessment and Control - Chapter 19 (Fungal Assessment): Applied to assess health significance of indicator species including Stachybotrys chartarum, Aspergillus niger, and Penicillium spp. detected during this assessment.
- ASTM D7391 Standard Test Method for Categorization and Quantification of Airborne Fungal Structures in an Inertial Impaction Sample by Optical Microscopy: Laboratory analytical method applied by EMSL Analytical, Inc. for all spore trap air samples (S-001 through S-005).
- ASTM D7438 Standard Practice for Field Calibration and Application of Hand-Held Moisture Meters: Governing standard for the pin-type moisture meter survey conducted throughout all inspected areas using the Tramex Encounter Plus.
- ASHRAE 160 Criteria for Moisture-Control Design Analysis in Buildings: Applied to evaluate whether measured substrate moisture levels at the master bedroom baseboard, master bathroom drywall, and crawlspace framing and insulation exceeded the sustained surface RH threshold (above 80%) indicative of conditions favorable to microbial amplification.
- Connecticut Department of Public Health Indoor Environment Program Guidelines: Referenced for residential indoor mold assessment standards applicable in Connecticut, including identification of Stachybotrys chartarum as a high-priority indicator organism in residential settings.
- OSHA 29 CFR 1926 - Subpart D (Health and Environmental Controls); Subpart E (Personal Protective Equipment): Applicable to remediation contractor worker protection requirements during Condition 3 mold remediation in the crawlspace and wall cavity.

Limitations and Disclaimer

Scope of Inspection and Limitations. This report reflects the conditions observable at the property on the date of inspection within the visible and readily-accessible portions of the building. The inspector was not required to dismantle building systems, lift carpeting or padding, move stored items, perform destructive testing, or otherwise inspect concealed cavities. Conditions in inaccessible areas — including but not limited to wall, ceiling and floor cavities, areas behind built-in furniture, locked spaces, and locations otherwise not visible at the time of inspection — are excluded from the scope of this report.

Hidden and Future Conditions. Mold growth, moisture intrusion, or other conditions hidden behind finishes or otherwise not visible at the time of inspection are not within the scope of this assessment. The inspector makes no representation regarding conditions that may exist outside the inspected areas, may have existed prior to the inspection and since changed, or may develop after the inspection date. Findings reflect a point-in-time snapshot only; environmental conditions can change rapidly with changes in moisture, ventilation, or occupancy.

Limitation of Liability. Liability arising from any error, omission, or claim related to this report is limited to the fee paid for the inspection and analytical work described herein. This limitation applies to the inspector, the inspecting firm, and any affiliated parties, regardless of the legal theory under which the claim is brought. Acceptance of this report constitutes acknowledgement of this limitation. Nothing in this paragraph waives any non-waivable rights or duties under applicable state law.

Health Effects and Medical Opinion. The inspector is not a medical professional and this report does not constitute medical advice, diagnosis, or treatment. The presence, absence, or quantity of mold spores reported here cannot be used to predict whether any individual will or will not experience health effects from indoor mold exposure. Occupants with health concerns related to indoor air quality should consult a qualified medical provider. Recommendations in this report address building conditions, not human health outcomes.

Inspector Certification

I, **Andrew Rivera**, hereby certify that this assessment report reflects my professional opinion based on the inspection conducted on May 4, 2026. The findings, conclusions, and recommendations herein are based on the data collected during the site visit and the laboratory reports referenced in this document.

Andrew Rivera

IICRC ASD #ASD-99991 • IICRC WRT • ACAC CMI • InterNACHI Mold Inspector

Date: June 15, 2026

Appendices

The following supporting documents are appended on subsequent pages:

1. lab-results.pdf
2. lab-coc.pdf

EMSL Analytical, Inc.

200 Route 130 North · Cinnaminson, NJ 08077 · (800) 220-3675
NVLAP Lab Code 200068-0 · AIHA-LAP, LLC EMLAP 102614

Spore Trap Air Sample Analysis

Report date	2026-05-07
Project	Riley Residence — 247 Maplewood Drive, Bridgeport, CT
Project ID	BNA-2026-05-04-RILEY
Method	ASTM D7391 (direct microscopic examination, Air-O-Cell)
Reporting limit	13 ct/m³ for 75 L samples
Analyst	R. Patel, MS

S-001 — Outdoor air baseline (front yard)

Species / Category	Raw count	Concentration (ct/m³)	% of total
Cladosporium	29	380	19.2%
Aspergillus / Penicillium-like	18	240	12.1%
Basidiospores	54	720	36.4%
Curvularia	5	60	3.0%
Ascospores	44	580	29.3%
Total	150	1,980	100%

S-002 — Master bedroom, indoor air

Species / Category	Raw count	Concentration (ct/m³)	% of total
Stachybotrys	17	220	6.7%
Aspergillus / Penicillium-like	138	1,840	56.3%
Cladosporium	31	410	12.5%
Basidiospores	60	800	24.5%
Total	246	3,270	100%

S-003 — Master bathroom, indoor air

Species / Category	Raw count	Concentration (ct/m³)	% of total
Aspergillus / Penicillium-like	69	920	50.5%
Cladosporium	27	360	19.8%
Basidiospores	41	540	29.7%

Species / Category	Raw count	Concentration (ct/m³)	% of total
Total	137	1,820	100%

S-004 — Living room, indoor air (control)

Species / Category	Raw count	Concentration (ct/m³)	% of total
Aspergillus / Penicillium-like	21	280	26.7%
Cladosporium	23	310	29.5%
Basidiospores	35	460	43.8%
Total	79	1,050	100%

S-005 — Crawlspace, indoor air

Species / Category	Raw count	Concentration (ct/m³)	% of total
Stachybotrys	44	580	3.1%
Aspergillus / Penicillium-like	315	4,200	22.5%
Penicillium spp.	960	12,800	68.6%
Cladosporium	52	690	3.7%
Aureobasidium	29	380	2.0%
Total	1,400	18,650	100%

S-006 — Crawlspace insulation (tape lift / direct exam)

Tape lift sampled directly from south rim joist insulation paper backing. Reported as semi-quantitative count per cm² extrapolated to a ct/m³ equivalent for cross-comparison with the air samples above.

Species	Coverage rating	Equivalent (ct/m³)
Aspergillus niger	4+ (heavy)	108,000
Stachybotrys chartarum	3+ (moderate-heavy)	42,000
Penicillium spp.	3+ (moderate-heavy)	38,000
Total	—	188,000

Note: Aspergillus niger count exceeds AIHA's 100,000 ct/m³ "interpret with caution" threshold. This is a tape-lift direct exam from a heavily contaminated cavity surface; not directly comparable to airborne spore-trap concentrations. Reviewing inspector should confirm interpretation context before report finalization.

Quality control

Field blank S-FB-001 returned <13 ct/m³ for all analyzed categories. No carryover detected.

Method notes

Aspergillus / Penicillium spores cannot be reliably differentiated by morphology alone in spore trap analysis. Reported as combined category per AIHA Green Book §4.3.2 unless culture or molecular ID was performed. Stachybotrys identification confirmed by characteristic ovoid melanized conidia with attached conidiophore fragments.

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Analyst signature · R. Patel, MS Date

This report contains the analytical results of the samples submitted under chain-of-custody BNA-2026-05-04-RILEY. Interpretation of these results in the context of the inspected environment is the responsibility of the consulting party.

EMSL Analytical, Inc.

200 Route 130 North · Cinnaminson, NJ 08077 · (800) 220-3675
NVLAP Lab Code 200068-0 · AIHA-LAP, LLC EMLAP 102614

Chain of Custody — Spore Trap Air Samples

Project information

Client	B&A Consulting LLC
Project name	Riley Residence — 247 Maplewood Drive
Project ID	BNA-2026-05-04-RILEY
Sampled by	B&A Consulting LLC
Sampling date	2026-05-04
Received by lab	2026-05-05
Analysis method	ASTM D7391 — Direct Microscopic Examination of Spore Trap Cassettes
Cassette type	Air-O-Cell (Zefon)
Volume sampled	75 L (5 min @ 15 LPM, calibrated 2026-04-21)
Pump	Buck Bio-Pump Plus (BBP-100), cal cert on file
Turnaround	Standard (3 business day)

Samples submitted

Sample ID	Location	Type	HVAC	Vol (L)	Notes
S-001	Front yard, 5 ft NE of porch	Outdoor air (baseline)	n/a	75	Wind 5 mph SW, 64°F, 58% RH, partly cloudy
S-002	Master bedroom, 4 ft above floor, center	Indoor air	Off, doors closed	75	East wall baseboard staining present
S-003	Master bathroom, center	Indoor air	Off, exhaust off	75	Drywall behind toilet wet
S-004	Living room, center	Indoor air	Off	75	No visible findings — control
S-005	Crawlspace, at access hatch	Indoor air	n/a	75	Stained insulation, sagging
S-006	Crawlspace, south rim joist insulation	Tape lift	n/a	n/a	Visible heavy growth — see photo 06

Custody signatures

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Inspector signature · Date

Lab receipt signature · Date

Cassettes shipped overnight in sealed container with chain-of-custody seal intact. Temperature-uncontrolled — fungal spores stable at ambient per AIHA recommendations.