

LIMITED INDOOR MOLD ASSESSMENT

**RESIDENTIAL PROPERTY
1022 NORTHWEST 27TH STREET
SAN ANTONIO, TEXAS**

PREPARED FOR:

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Table of Contents

1. Executive Summary	3
2. Report of Findings	6
3. Laboratory Data	Appendix I
4. Photographs.....	Appendix II

EXECUTIVE SUMMARY

Argus Environmental was contacted by the San Antonio Housing Authority to conduct a Limited Mold Assessment within the residential property located at 130 Arboles, San Antonio, Texas. The onsite Mold Assessment occurred on April 22, 2008.

The Scope of Services included in the Limited Mold Assessment consisted of the following:

- Visual investigation of accessible areas
- Limited sample collection event
- Microbiological analysis by a certified and licensed third party lab
- Report documenting the findings of the evaluation
- Conclusions and Recommendations

Argus Environmental's entire liability pertaining to this report and all work associated with it is limited to the INVOICED amount defined within the Scope of Services.

Conclusions

- The irregularity to the baseboard at the front entry's left side may be the result of the observed inadequacy in the threshold weather-stripping.
- Water damage to the Kitchen's cabinet shelf below the sink is the consequence of an ongoing water supply leak from the cold water shut off valve.
- The Kitchen's damaged flooring in the dishwasher cavity is likely evidence of past leakage.
- Dust accumulation observed in the HVAC air handling unit is likely the outcome of historical use with a low efficiency filter.
- Water distress at the head and/or foot ends of the tubs in the Hall and Master Bathrooms is likely evidence of historical usage patterns by previous occupants.
- Air samples collected for microbiological analysis indicated that the total mold presence inside the residence was less than outside. No significant variations from the outside molds were present in the indoor samples.

Recommendations

- The top of the landscape grade along the home's south exterior wall should be lowered to a point that is 3-inches below the bottom of the lowest row of siding.
- The damaged south exterior corner trim should be cut off and replaced.

- The front doorway should be evaluated and additional weather-stripping added, as appropriate.
- Kitchen/Breakfast Nook - remove and properly dispose of the left and right side doorway trim along the exterior wall. Conduct a visual assessment of the exposed gypsum board materials. If mold is present, then remove and dispose of the baseboard along the same wall to the left and right sides of the door. Then remove and properly dispose of the exterior wall gypsum board in a 2-ft by 2-ft section on each side of the base of the doorway. Then remove and properly dispose of the exposed batted insulation. Then HEPA vacuum the wall cavities and sanitize the wood framing with a scrub brush applied 20% bleach solution. Appropriate protection should be taken to protect personnel with the use of gloves and eye protection. NOTE: Organic vapors are associated with the use of bleach. Adequate ventilation with fresh air and/or the use of a respirator equipped with an organic vapor acid gas cartridge may be required in order to prevent occupational exposures.
- The Kitchen/Breakfast Nook exterior door should be adequately repaired to prevent future water penetration.
- Make appropriate repair to the dryer exhaust vent through the exterior wall in the Utility Room.
- The Kitchen's cabinet shelf below the sink should be removed after fixing the plumbing leak. A visual assessment of the remaining cabinetry and exposed gypsum board should be completed. If suspect mold growth is observed, contact Argus Environmental for additional recommendations. The flooring in the dishwasher cavity should be HEPA vacuumed and then wet wiped with a 20% bleach solution before reinstalling a dishwasher following the appropriate personal protective measures indicated above.
- The interior of the air handling unit shall be HEPA vacuumed to get the dust off the insulation and the condensate coil should be cleaned following the manufacturer's recommendations. Finally, a pleated filter should be installed.
- Hall Bathroom – remove and dispose of the caulking and baseboard at the head end of the tub. Remove and properly dispose of a 1x1-foot section of gypsum board up from the floor at the base of the tub. The exposed wall cavity's wood framing should be HEPA vacuumed and wet wiped with a 20% bleach solution following the appropriate personal protective measures indicated above.
- Master Bathroom – remove and properly dispose of the caulk along the tub at the floor. Remove the baseboard at each end of the tub and conduct a visual assessment of the exposed gypsum board. If suspect mold growth is observed, remove and properly dispose of a 1x1-foot section of gypsum board up from the floor at each end of the tub. The exposed wall cavities' wood framing should be

HEPA vacuumed and wet wiped with a 20% bleach solution following the appropriate personal protective measures indicated above.

I. Introduction

Argus Environmental was contacted by the San Antonio Housing Authority to perform a Limited Indoor Mold Assessment at the residential property located at 1022 Northwest 27th Street, San Antonio, Texas. The onsite evaluation occurred April 22, 2008. The evaluation was conducted in order to provide a physical assessment of the building's conditions and limited background characterization of the air quality in terms of temperature, relative humidity, and bioaerosols.

II. Scope of Services

The Scope of Services included in the Evaluation consisted of the following:

- Visual investigation of accessible areas
- Limited sample collection event
- Microbiological analysis by a certified and licensed third party lab
- Report documenting the findings of the evaluation
- Conclusions and Recommendations

Argus Environmental's entire liability pertaining to this report and all work associated with it is limited to the INVOICED amount defined within the Scope of Services.

III. General Building Description

The San Antonio Housing Authority property located at 130 Villa Arboles is a one-story single family residential property located in the Mirasol subdivision. The structure is conventionally wood framed on a typical concrete slab-on-grade foundation. The roof is pitched of composite asphalt shingles. The roof is guttered along the front porch and walkway.

The exterior is finished in a combination of Hardi-plank™ siding and brick. The drip edge and soffit are typical wood materials and the eave and porch soffit are vinyl. The window systems are aluminum framed and double paned. The interior of the residence is serviced by a single heating, ventilating and air conditioning (HVAC) system that is located in a closet adjacent the Living Room. Interior finish materials consisted of gypsum board walls and ceilings that were taped and floated with joint compound, textured and painted and flooring that was a combination of padded carpeting and rolled resilient vinyl flooring.

IV. Historical Background Information

The residence was unoccupied at the time of the Mold Assessment.

V. Visual Observations

For the purposes of the assessment the front of the home was assumed to be facing east.

A very strong odor of new paint and new carpeting was present inside the property.

Exterior

Caulk repairs to the siding joints were present on the exterior south side of the house (Photo 1). The bottom of the siding was well above grade with the exception of an ant hill towards the rear corner of the house where there was also some insect damage to the corner trim (Photos 2 & 3).

The HVAC system's compressor unit had been purloined.

Foyer

Some irregularities were observed to the baseboard and threshold in the front doorway. Light was visible through the door's threshold (Photo 4).

Utility Room

The dryer exhaust vent was open to the outside with no rodent screen (Photo 5).

Kitchen/Breakfast Nook

The baseboards and door trim to the left and to the right of the door had visible sign of historical water intrusion. It looked like the entire interior of the door had been re-painted and caulked, although there was visible caulk joint separation at the lower left door frame (Photo 6).

There was an active leak in the supply plumbing underneath the sink that appeared to be coming from the cold water shut off valve. There was a puddle on the bottom shelf of the sink cabinet and visible damage was present (Photos 7 & 8). The dishwasher had been removed and the rolled vinyl flooring was curled and separated from the concrete sub-floor (Photo 9).

Living Room

No visible signs of water intrusion, damage, or suspect mold growth were identified.

HVAC Closet

A filter was not in place for the air handling unit. The condensate coil looked reasonably clean; however, dust accumulation was present (Photo 10).

Hall Bathroom

There was evidence of water impact at the bottom of the tub and also some patching on the wall at the top of the tub.

Bedroom #1

No visible signs of water intrusion, damage, or suspect mold growth were identified.

Bedroom #2

No visible signs of water intrusion, damage, or suspect mold growth were identified.

Master Bedroom

No visible signs of water intrusion, damage, or suspect mold growth were identified.

Master Bathroom

Minor historical evidence of water impact was identified at the head and foot ends of the tub; however, there was no visible suspect mold growth.

Garage

No visible signs of water intrusion, damage, or suspect mold growth were identified.

VI. Sample Methodology

A. Air Samples

Air samples are collected on Zefon® Air-O-Cell™ or Allergenco™ spore-trap cassettes for analysis via a microscopic screen. Culture plates are collected with an N-6 impactor: Potato Dextrose or Malt Extract Agar is used for analysis of culturable fungi. Spore-trap samples are collected at a rate of approximately 15 liters per minute for approximately 5 minutes. The culturable samples are collected at a rate of approximately 28.3 liters per minute for approximately 3 minutes.

VII. Interpretation of Findings

Refer to Appendix I for specific counts of particular sample results.

A. Air Samples

Two air samples were collected from inside the residential structure along with two additional outside air samples, which were used for comparison purposes. The air samples were collected from the following locations:

221AC	Outside air sample #1, Front
222AC	Return A/C fan on
223AC	Entry Master Bedroom
224AC	Outside air sample #2, Front

The laboratory's microscopic and viable culture analysis identified lower total mold spore counts and environmental fungi in the indoor samples than the total count present outside with no significant variations in the genera distribution patterns.

VIII. Conclusions and Recommendations

It should be noted that the information and conclusions within this report are based solely on the effects of the microbial contamination to the structure itself and should not be utilized to equate any physical symptoms or illness to the analytical results presented. Any concerns regarding possible health effects should be directed to a health care professional.

In addition, Argus Environmental Consultants, LLC acknowledges the limitations of the sampling methodology in terms of absolute numerical valuations of mold content encountered within the structure at the time of each limited sample collection.

Based upon the visual inspection, empirical microbiological and direct read instrument data analysis, Argus Environmental forms the following conclusions:

- The irregularity to the baseboard at the front entry's left side may be the result of the observed inadequacy in the threshold weather-stripping.
- Water damage to the Kitchen's cabinet shelf below the sink is the consequence of an ongoing water supply leak from the cold water shut off valve.
- The Kitchen's damaged flooring in the dishwasher cavity is likely evidence of past leakage.
- Dust accumulation observed in the HVAC air handling unit is likely the outcome of historical use with a low efficiency filter.
- Water distress at the head and/or foot ends of the tubs in the Hall and Master Bathrooms is likely evidence of historical usage patterns by previous occupants.
- Air samples collected for microbiological analysis indicated that the total mold presence inside the residence was less than outside. No significant variations from the outside molds were present in the indoor samples.

Based on the information contained in this report the following recommendations are forwarded:

- The top of the landscape grade along the home's south exterior wall should be lowered to a point that is 3-inches below the bottom of the lowest row of siding.
- The damaged south exterior corner trim should be cut off and replaced.
- The front doorway should be evaluated and additional weather-stripping added, as appropriate.
- Remove and properly dispose of the left and right side doorway trim along the Kitchen/Breakfast Nook's exterior wall. Conduct a visual assessment of the exposed gypsum board materials. If mold is present, then remove and dispose of the baseboard along the same wall to the left and right sides of the door. Then remove and properly dispose of the exterior wall gypsum board in a 2-ft by 2-ft section on each side of the base of the doorway. Then remove and properly dispose of the exposed batted insulation. Then HEPA vacuum the wall cavities and sanitize the wood framing with a scrub brush applied 20% bleach solution. Appropriate protection should be taken to protect personnel with the use of gloves and eye protection. NOTE: Organic vapors are associated with the use of bleach. Adequate ventilation with fresh air and/or the use of a respirator

equipped with an organic vapor acid gas cartridge may be required in order to prevent occupational exposures.

- The Kitchen/Breakfast Nook exterior door should be adequately repaired to prevent future water penetration.
- Make appropriate repair to the dryer exhaust vent through the exterior wall in the Utility Room.
- The Kitchen's cabinet shelf below the sink should be removed after fixing the plumbing leak. A visual assessment of the remaining cabinetry and exposed gypsum board should be completed. If suspect mold growth is observed, contact Argus Environmental for additional recommendations. The flooring in the dishwasher cavity should be HEPA vacuumed and then wet wiped with a 20% bleach solution before reinstalling a dishwasher. Appropriate protection should be taken to protect personnel with the use of gloves and eye protection. NOTE: Organic vapors are associated with the use of bleach. Adequate ventilation with fresh air and/or the use of a respirator equipped with an organic vapor acid gas cartridge may be required in order to prevent occupational exposures.
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