

# STC

Environmental Services Inc.  
Environmental Scientists and Engineers

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4754 RESEARCH DRIVE

SAN ANTONIO, TEXAS 78240

Office (210) 696-6286 / FAX (210) 696-8761

May 28, 2007

Mr. Henry A. Alvarez III  
SAHA  
818 S. Flores Street  
San Antonio, Texas 78204

RE: Report of Limited Indoor Air Quality Investigation of 442 Matthews Avenue, San Antonio, Texas, 78237  
STC Project 27314R3

Mr. Alvarez:

In accordance with your request, we have conducted a limited mold indoor air quality investigation at the above reference location. This air sampling consisted of bioaerosols air and tape sampling of selected areas. The sampling was completed on May 17, 2007.

## PROJECT INFORMATION

STC was asked to assess the air quality present in this residence as a result of concerns expressed by the homeowner. The indoor air quality assessment was completed by Mr. David O. Scheiding P.E. of STC Environmental Services on May 17, 2007. Mr. Scheiding is a Texas Licensed Mold Consultant (MAC0174). The following comments document the results of the limited assessment completed on May 17, 2007.

This residence is a two (2) story wooden frame structure constructed on a slab on grade foundation (See Photo 1). The indoor air quality investigation consisted of a visual inspection of the HVAC system and ducts and a visual inspection of the areas where water pipes are located. Samples were collected based on the visual inspection. The results of this assessment depict the indoor air quality conditions on the day of the assessment. Previous mold level conditions or future conditions may vary from the conditions identified on May 17, 2007 as a result of water leaks or other conditions that could result in water intrusion.

In addition, the assessment requested may be for a second opinion on the current conditions. STC understands that previous assessments may have been completed by others and their findings may differ from the results obtained by STC on this day. STC understands that some cleaning or corrective efforts may have been completed on some of the residences prior to STC's assessment. These types of activities can cause variances between assessments, since each assessment measures conditions on the day of the assessment only.

## RESULTS OF THE INDOOR AIR QUALITY INVESTIGATION

### Visual Inspection and Interviews

Upon arrival, STC inspected the HVAC system and ducts. There was significant buildup of dust on the return air vent grill (See Photo 2). In addition, there is significant dust buildup on and around several HVAC outlets (See Photos 3 and 4). Inspection of the bathrooms noted some buildup on the walls and in the corners (See Photo 5). There also was evidence of moisture between the tub and stool (See Photo 6). Significant dust was noted in the return air duct around the water heater (See Photo 7). The HVAC closet was generally cleaned (See Photo 8).

As a result of the moisture on the sheetrock wall between the shower/tub and stool, the area was tested for moisture. The testing was completed with the use of a BD-2100 Delmhorst Instrument. This instrument measures moisture in sheetrock over a range of 0.1% to 50.0%. Moisture levels in sheetrock between 0.1% and 0.4% are considered normal. Moisture levels between 0.5% and 1.0% are considered borderline. Moisture levels in sheetrock above 1.0% are considered to be too wet for painting or for wallpaper. The moisture content of the sheetrock wall in bathrooms ranged from 1.4% to 3.1%. This level is considered elevated.

Based on the above inspection, the following air and tape samples were collected.

- T-1 From buildup in bathroom (See Photo 5)
- A-1 Breathing environment from HVAC outlet closest to HVAC
- A-2 Breathing environment by HVAC return vent
- A-3 Breathing environment in front bedroom
- A-4 Breathing environment in bedroom next to bathroom
- A-5 Breathing environment in Living Room
- A-6 Outside

In addition to the above sampling, relative humidity, temperature and dew point information was also collected from inside and outside the facility. The following table depicts the information collected on May 17, 2007.

LOCATION	TEMP	RELATIVE HUMIDITY RANGE (HI/LOW)	DEW POINT
Upstairs	77.5°F	30.5% 24.4% to 40.1%	43.2°F
Downstairs	74.5°F	34.8% 31.8% to 42.6%	50.1°F
Outside	81.1°F	27.5% 26.8% to 33.6%	43.9°F

The steady state indoor relative humidity ranged from 30.4% to 34.8%. This level is within the desired indoor comfort zone for relative humidity. It was above the outside level of 27.8%.

The six (6) air and one (1) tape sample collected on May 17, 2007 were submitted to EMSL Analytical, Inc. in Houston, Texas for analysis for mold and fungi levels and identification. EMSL is a Texas licensed mold laboratory (LAB0105).

### Tape Sample Results

The following table depicts the results of the one (1) tape sample collected from the area noted.

**TABLE I  
MOLD SPORE ANALYSIS DIRECT EXAM  
TAPE LIFT TECHNIQUE**

<b>Sample</b>	<b>Location</b>	<b>Identification</b>	<b>Concentration</b>
T-1	Wall of bathroom	Unidentifiable spores	Rare
*Sample contains fruiting structures and/or hyphae.			

### Tape Sample Results Discussion

The tape sample collected from wall of the small bathroom identified one (1) species present. The species identified was Unidentifiable spores. This species was identified at concentration of “Rare” which means that 1 to 10 counts were identified. The species identified is found normally in both indoor and outdoor environments. For this species there is **NO** specified level that this mold species is considered harmful to humans. Everyone has an individual sensitivity to these species depending on each individual’s immune system.

### Air Sample Results

Six (6) air samples were collected for this investigation. The following tables depict the results of the air sampling.

**TABLE II**  
**AIR SAMPLING RESULTS FOR**  
**MOLD AND POLLEN SPORES**

Sample ID and Location	Particle ID	Concentration Particles/Cubic Meter	Adjusted for Outside
A-1 – Breathing environment by HVAC outlet closest to HVAC system	Agrocybe/Coprinus	ND	N/A
	Alternaria	44	Less than outside
	Arthrospores	ND	N/A
	Ascospores	ND	N/A
	Aspergillus/Penicillium	ND	N/A
	Arthrinium	ND	N/A
	Basidiospores	ND	N/A
	Bipolaris	176	Greater than outside
	Chaetomium	ND	N/A
	Cladosporium	44	Less than outside
	Curvularia	88	Greater than outside
	Epicoccum	ND	N/A
	Fusarium	ND	N/A
	Myxomycete	ND	N/A
	Nigrospora	ND	N/A
	Peronospora	ND	N/A
	Pithomyces/Ulocladium	ND	N/A
	Stachybotrys	ND	N/A
	Scopulariopsis	ND	N/A
	Smut	ND	N/A
	Tetraploa	ND	N/A
	Spegazzinia	ND	N/A
	Unidentifiable spores	44	Less than outside
<b>Total Mold</b>	<b>396</b>	<b>Less than outside</b>	
<b>Total Pollen</b>	<b>ND</b>	<b>N/A</b>	
Hyphal Fragment	ND	N/A	
Fibrous Particulate	ND	N/A	
Insect Fragments	ND	N/A	

Sample ID and Location	Particle ID	Concentration Particles/Cubic Meter	Adjusted for Outside
A-2 – Breathing environment by HVAC return vent	Agrocybe/Coprinus	ND	N/A
	Alternaria	ND	N/A
	Arthrospores	ND	N/A
	Ascospores	ND	N/A
	Aspergillus/Penicillium	ND	N/A
	Arthrinium	ND	N/A
	Basidiospores	ND	N/A
	Bipolaris	44	Less than outside
	Chaetomium	ND	N/A
	Cladosporium	ND	N/A
	Curvularia	ND	N/A
	Epicoccum	ND	N/A
	Fusarium	ND	N/A
	Ganoderma	ND	N/A
	Nigrospora	ND	N/A
	Myxomycete	ND	N/A
	Pithomyces	ND	N/A
	Stachybotrys	ND	N/A
	Unidentifiable spores	176	Less than outside
	<b>Total Mold</b>	<b>220</b>	<b>Less than outside</b>
<b>Total Pollen</b>	<b>ND</b>	<b>N/A</b>	
Hyphal Fragment	ND	N/A	
Fibrous Particulate	ND	N/A	
Insect Fragments	ND	N/A	
A-3 – Breathing environment in Front bedroom	Agrocybe/Coprinus	ND	N/A
	Alternaria	44	Less than outside
	Arthrospores	ND	N/A
	Ascospores	ND	N/A
	Aspergillus/Penicillium	ND	N/A
	Arthrinium	ND	N/A
	Basidiospores	ND	N/A
	Bipolaris	88	Greater than outside
	Cercospora	ND	N/A
	Chaetomium	ND	N/A
	Cladosporium	132	Less than outside
	Curvularia	ND	N/A
	Epicoccum	ND	N/A
	Fusarium	ND	N/A
	Ganoderma	ND	N/A
	Nigrospora	ND	N/A
	Myxomycete	ND	N/A
	Pithomyces	ND	N/A
	Torula	132	Equal to outside
	Stachybotrys	ND	N/A
Unidentifiable spores	88	Less than outside	
<b>Total Mold</b>	<b>484</b>	<b>Less than outside</b>	
<b>Total Pollen</b>	<b>ND</b>	<b>N/A</b>	
Hyphal Fragment	ND	N/A	
Fibrous Particulate	ND	N/A	
Insect Fragments	ND	N/A	

Sample ID and Location	Particle ID	Concentration Particles/Cubic Meter	Adjusted for Outside
A-4 – Breathing environment in bedroom next to bathroom	Agrocybe/Coprinus	ND	N/A
	Alternaria	ND	N/A
	Arthrospores	ND	N/A
	Ascospores	ND	N/A
	Aspergillus/Penicillium	ND	N/A
	Arthrinium	ND	N/A
	Basidiospores	44	Less than outside
	Bipolaris	44	Greater than outside
	Chaetomium	ND	N/A
	Cladosporium	132	Less than outside
	Curvularia	ND	N/A
	Epicoccum	ND	N/A
	Fusarium	ND	N/A
	Ganoderma	ND	N/A
	Nigrospora	ND	N/A
	Myxomycete	ND	N/A
	Pithomyces	ND	N/A
	Rust	44	Greater than outside
	Stachybotrys	ND	N/A
	Unidentifiable spores	88	Less than outside
<b>Total Mold</b>	<b>352</b>	<b>Less than outside</b>	
<b>Total Pollen</b>	<b>ND</b>	<b>N/A</b>	
Hyphal Fragment	ND	N/A	
Fibrous Particulate	ND	N/A	
Insect Fragments	ND	N/A	
A-5 – Breathing environment in Living Room	Agrocybe/Coprinus	ND	N/A
	Alternaria	44	Less than outside
	Arthrospores	ND	N/A
	Ascospores	ND	N/A
	Aspergillus/Penicillium	220	Greater than outside
	Arthrinium	ND	N/A
	Basidiospores	ND	N/A
	Bipolaris	44	Greater than outside
	Cercospora	ND	N/A
	Chaetomium	ND	N/A
	Cladosporium	ND	N/A
	Curvularia	ND	N/A
	Epicoccum	ND	N/A
	Fusarium	ND	N/A
	Ganoderma	ND	N/A
	Nigrospora	ND	N/A
	Pithomyces	ND	N/A
	Stachybotrys	ND	N/A
	Torula	440	Greater than outside
	Unidentifiable spores	132	Less than outside
<b>Total Mold</b>	<b>880</b>	<b>Less than outside</b>	
<b>Total Pollen</b>	<b>ND</b>	<b>N/A</b>	
Hyphal Fragment	220	N/A	
Fibrous Particulate	ND	N/A	
Insect Fragments	ND	N/A	

Sample ID and Location	Particle ID	Concentration Particles/Cubic Meter	Adjusted for Outside
A-6 – Outside	Agrocybe/Coprinus	ND	N/A
	Alternaria	132	N/A
	Arthrospores	ND	N/A
	Ascospores	ND	N/A
	Aspergillus/Penicillium	ND	N/A
	Arthrinium	ND	N/A
	Basidiospores	352	N/A
	Bipolaris	ND	N/A
	Cercospora	ND	N/A
	Chaetomium	ND	N/A
	Cladosporium	1010	N/A
	Curvularia	ND	N/A
	Epicoccum	ND	N/A
	Fusarium	ND	N/A
	Ganoderma	ND	N/A
	Nigrospora	ND	N/A
	Myxomycete	ND	N/A
	Pithomyces	ND	N/A
	Sporidesmium	44	N/A
	Stachybotrys	ND	N/A
	Torula	132	N/A
Unidentifiable spores	4180	N/A	
<b>Total Mold</b>	<b>5850</b>	<b>Less than outside</b>	
<b>Total Pollen</b>	<b>ND</b>	<b>N/A</b>	
Hyphal Fragment	ND	N/A	
Fibrous Particulate	ND	N/A	
Insect Fragments	ND	N/A	

### Air Sample Discussion (General)

The results of air sampling should always include a comparison to outside levels at the time of indoor sampling. This is required since make-up air for the HVAC unit comes from outside as well as outside air entering with normal door opening during entry and departure events. It also should be noted that there are **NO** specified levels of mold/fungi that are considered harmful to humans. Each individual has a different tolerance level for molds/fungi species. In addition, different geographical locations also have a wide variance of air quality levels. Therefore what is considered normal outside in one (1) geographical area may never occur in other geographical areas.

It is generally accepted that “normal” outside levels are 1,200 or 12,000 counts/m<sup>3</sup> depending on Laboratory Protocol, with the majority of the particles made up of the common species of Aspergillus/Penicillium and Cladosporium. Based on this outside “normal” level, the inside level that is accepted as “normal” is 300 or 3,000 counts/m<sup>3</sup>. Essentially acceptable indoor air quality is normally considered to be 50% of the outside level when the HVAC unit is running. It may be as high as 80% if the HVAC unit is not running. This is why a comparison is always required to establish acceptable indoor levels. With the HVAC system running then the indoor air quality should be less than 2,000 or 20,000 counts/m<sup>3</sup>. The HVAC system was operating during this investigation.

### Air Sample Results Discussion (Specific)

The air sample collected outside (A-6) produced a level of 5,850 counts/m<sup>3</sup>. The species identified included Alternaria, Basidiospores, Cladosporium, Sporidesmium, Torula and Unidentifiable spores. This level is significantly above the level normally accepted as “normal” for outside.

The five (5) air samples collected from the breathing environment inside the residence produced levels that ranged from 220 to 880 counts/m<sup>3</sup>. The species identified were Alternaria, Aspergillus/Penicillium, Basidiospores, Curvularia, Cladosporium, Bipolaris, Rust, Torula and Unidentifiable spores. These levels are significantly below the outside sample and range from 3.7% to 15.1% of the outside. The above species are found normally in both the outdoor and indoor environments. There currently are **NO** established levels that these species are considered harmful to humans. Each individual respond to mold spores based on their individual immune systems.

It should be noted that **NO** Stachybotrys was identified in the breathing environment. Based on levels and type of species, the breathing environment is considered acceptable for mold.

Copies of the analytical laboratory reports are attached.

### **ADDITIONAL OBSERVATIONS**

As an additional observation, this residence was extremely dirty. Normal housekeeping efforts appeared to be lacking. In addition to the dirty HVAC outlets and return air vent, the carpet throughout the residence was extremely soiled. There also appears to be a cockroach infestation present as cockroaches were noted when the tape sample was collected from the buildup in the bathroom, a cockroach crawled out of the material (See Photo 5). This material is from cockroaches and is not mold as evident by the tape sample results.

### **CONCLUSIONS**

Based on the above investigation, the following conclusions are supported:

- There is significant buildup of dust on the HVAC outlet and return air vents.
- The indoor relative humidity is considered to be within the desired comfort range for indoor relative humidity.
- The breathing environment in the residence is considered acceptable for mold.
- There is no evidence to suggest that a mold condition exists in this residence on the day of the investigation. However there is evidence of other conditions that can contribute to poor indoor air quality and complaints concerning asthma.
- A cockroach infestation is suspected to exist in this residence.

- As a result of the extremely soiled carpet, bacteria and dust mites are suspected to be in abundance.
- A cockroach infestation as well as dust mites are known triggers for asthma, especially in children.
- The evidence supports the above conditions are the cause of the medical conditions rather than mold.

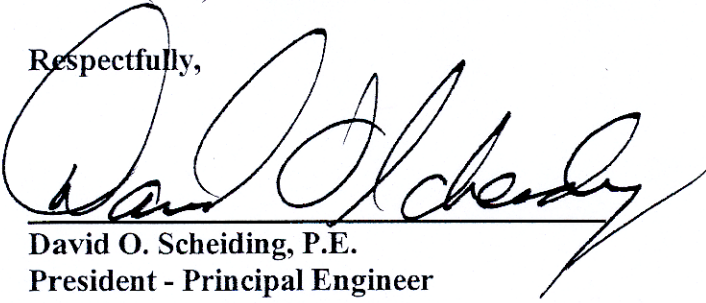
## RECOMMENDATIONS

Based on the above results, the following recommendations are provided.

- Since a mold condition does not appear to exist, it is recommended that attention be given to the other aspects that are known asthma triggers such as the cockroach infestation and dust mites.
- The house should be inspected by a licensed pest control agent who follows the Integrated Pest Management (IPM) method rather than the old methods of bug sprays, foggers and bombs. These old methods drive away the roaches for awhile but then they return. The IPM method follows the following approach.
  - Deny roaches food, water, shelter and entry
  - Do not use roach bug sprays, foggers or bombs
  - Use borate powders, as needed
  - Use roach baits, as needed
- This residence should be thoroughly cleaned to get rid of the roach debris and dust mites. For roaches to be defeated, it requires cooperation of public housing management, maintenance staff and the tenants.
- The carpet in this residence should be removed and replaced.
- After a thorough cleaning and roach disinfection actions, the house should be tested for cockroach allergens and dust mites.
- The wet sheetrock between the tub and stool should be replaced as water damage. This can be completed as regular maintenance of water damaged areas and does not require mold remediation unless visible mold is discovered inside the wall during repairs.
- The HVAC outlet and return air vents should be cleaned.

If you have any questions concerning the above information, please do not hesitate to contact our office at (210) 696-6286.

Respectfully,

A handwritten signature in black ink, appearing to read "David O. Scheiding", written over a horizontal line.

David O. Scheiding, P.E.  
President - Principal Engineer  
Texas Mold Assessment Consultant  
MAC0174

Attachments: Laboratory Report  
Photographs



**EMSL Analytical, Inc.**

2501 Central Parkway, Suite C-17, Houston, TX 77092

Phone: (713) 686-3635 Fax: 7136863645 Email: [houstonlab@emsl.com](mailto:houstonlab@emsl.com)

Attn: **Dave Scheiding**  
**STC Environmental Services, Inc.**  
**4754 Research Drive**  
**San Antonio, TX 78240**

Customer ID: STCE50  
Customer PO: 27314  
EMSL Order: 150702646  
EMSL Proj:  
Received: 05/18/2007 8:00 AM  
Analysis Date: 05/18/2007  
Report Date: 05/18/2007

Project: **27314 442 Mathews**  
Fax: (210) 696-8761 Phone: (210) 696-6286

**Microscopic Examination of Fungal Spores, Fungal Structures, Hyphae, and Other Particulates from Tape Samples (EMSL Method: M041)**

<b>Lab Sample Number:</b>	150702646-0001				
<b>Client Sample ID:</b>	T-1				
<b>Sample Location:</b>	Wall (Bathroom)				
<b>Spore Types</b>	Category	Category	Category	Category	Category
Agrocybe/Coprinus	-				
Alternaria	-				
Ascospores	-				
Aspergillus/Penicillium	-				
Basidiospores	-				
Bipolaris	-				
Chaetomium	-				
Cladosporium	-				
Curvularia	-				
Epicoccum	-				
Fusarium	-				
Ganoderma	-				
Myxomycete	-				
Paecilomyces	-				
Rust	-				
Scopulariopsis	-				
Stachybotrys	-				
Torula	-				
Ulocladium	-				
Unidentifiable Spores	Rare				
Zygomycetes	-				
Fibrous Particulate	-				
Hyphal Fragment	-				
Insect Fragment	-				
Pollen	-				
<b>Sample Notes:</b>					

No discernable field blank was submitted with this group of samples.  
\* Sample contains fruiting structures and/or hyphae associated with the spores

Category : Count Rare : 1 to 10, Low : 11 To 100 Medium : 101 to 1000, High : > 1000
--

Mary Sacilowski, Laboratory Manager  
or other approved signatory

Samples were received in good condition unless otherwise noted on this report. EMSL Analytical maintains liability limited to cost of analysis. Interpretation of the data contained in this report is the responsibility of the client. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL Analytical. EMSL Analytical bears no responsibility for the sample collection activities or analytical method limitations.

AIHA EMLAP Accreditation #102575

150702646



MICROBIOLOGY - CHAIN OF CUSTODY

Date Collected: 5/17/07 Date Sent: 5/17/07

Contact: SCHEIDING Bill To: STC ENVIRONMENTAL  
Company:

STC ENVIRONMENTAL SERVICES  
4754 RESEARCH DRIVE

SAN ANTONIO, TEXAS 78240  
Phone: (210) 696-6286 Fax: (210) 696-8761

Project Name: 27314 442 MATTHEWS

Air Samples	Wipe & Bulk Samples
<input type="checkbox"/> Mold & Fungi by Air-O-Cell Cassette (Select turn around time)	<input checked="" type="checkbox"/> Mold & Fungi - Direct Examination (Select turn-around time) Submit cellophane tape sample or bulk
<input type="checkbox"/> Mold & Fungi by Agar Plate (Count & identification)	<input type="checkbox"/> Mold & Fungi - Direct Examination - Follow up examination by culture if necessary
<input type="checkbox"/> Mold & Fungi by Agar Plate (Count Only)	<input type="checkbox"/> Mold & Fungi - Culture (ID & Count)
<input type="checkbox"/> Bacterial Count & Gram Stain	<input type="checkbox"/> Mold & Fungi - Culture (Count Only)
<input type="checkbox"/> Bacterial Count & Identification (Three most prominent types)	<input type="checkbox"/> Bacterial Count & Gram Stain
	<input type="checkbox"/> Bacterial Count & Identification (Three most prominent types)

STC  
Karl Scheiding  
P.O. 27314

TURN AROUND TIME:  
 Same Day  1 Day  2 Day  3 Day  4 Day  5 Day  6-10 Day

SAMPLE ID	LOCATION	VOLUME	COMMENTS
T-1	wall (bathroom)	TAPR	Mold/Fungus

Recd. V. Murchith 5/18/07 8:00 am



# EMSL Analytical, Inc.

2501 Central Parkway, Suite C-17, Houston, TX 77092

Phone: (713) 686-3635 Fax: 7136863645 Email: [houstonlab@emsl.com](mailto:houstonlab@emsl.com)

Attn: **Dave Scheiding**  
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Project: **27314 442 Mathews**

Fax: (210) 696-8761

Phone: (210) 696-6286

## Air-O-Cell™ Cassette Analysis of Fungal Spores & Other Airborne Particulates by Optical Microscopy (EMSL Method M001)

Lab Sample Number:	150702650-0001	150702650-0002	150702650-0003	150702650-0004	150702650-0005
Client Sample ID:	A-1	A-2	A-3	A-4	A-5
Volume:	75	75	75	75	75
Sample Location:	HVAC Outlet	HVAC Return	Bedroom (Front)	Bedrm next to Bath	Living Room
Spore Types	Count/m <sup>3</sup>	Count/m <sup>3</sup>	Count/m <sup>3</sup>	Count/m <sup>3</sup>	Count/m <sup>3</sup>
Agrocybe/Coprinus	-	-	-	-	-
Alternaria	44	-	44	-	44
Ascospores	-	-	-	-	-
Aspergillus/Penicillium	-	-	-	-	220
Basidiospores	-	-	-	44	-
Bipolaris	176	44	88	44	44
Chaetomium	-	-	-	-	-
Cladosporium	44	-	132	132	-
Curvularia	88	-	-	-	-
Epicoccum	-	-	-	-	-
Fusarium	-	-	-	-	-
Ganoderma	-	-	-	-	-
Myxomycete	-	-	-	-	-
Paecilomyces	-	-	-	-	-
Rust	-	-	-	44	-
Scopulariopsis	-	-	-	-	-
Sporidesmium	-	-	-	-	-
Stachybotrys	-	-	-	-	-
Torula	-	-	132	-	440
Ulocladium	-	-	-	-	-
Unidentifiable Spores	44	176	88	88	132
Zygomycetes	-	-	-	-	-
<b>Total Fungi</b>	<b>396</b>	<b>220</b>	<b>484</b>	<b>352</b>	<b>880</b>
Fibrous Particulate	-	-	-	-	-
Hyphal Fragment	-	-	-	-	-
Insect Fragment	-	-	-	-	-
Pollen	-	-	-	-	-
Analytical Sensitivity	44	44	44	44	44
Skin Fragments (1-4)	2	1	2	1	1
Background (1-5)	3	1	3	2	2

No discernable field blank was submitted with this group of samples

Samples received in good condition unless otherwise noted.

High Levels of background particulate can obscure spores and other particulates leading to underestimation.

Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification.

The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment.

Present= Spores found during additional scan at lower mag. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. Results have not been adjusted for field or laboratory blank unless otherwise noted.

AIHA EMLAP Accreditation #102575

Mary Sacilowski, Laboratory Manager  
or other approved signatory



**EMSL Analytical, Inc.**

2501 Central Parkway, Suite C-17, Houston, TX 77092

Phone: (713) 686-3635 Fax: 7136863645 Email: [houstonlab@emsl.com](mailto:houstonlab@emsl.com)

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Project: **27314 442 Mathews**

Fax: (210) 696-8761

Phone: (210) 696-6286

**Air-O-Cell™) Cassette Analysis of Fungal Spores & Other Airborne Particulates by Optical Microscopy (EMSL Method M001)**

<b>Lab Sample Number:</b>	150702650-0006				
<b>Client Sample ID:</b>	A-6				
<b>Volume:</b>	75				
<b>Sample Location:</b>	Outside				
<b>Spore Types</b>	<b>Count/m<sup>3</sup></b>	<b>Count/m<sup>3</sup></b>	<b>Count/m<sup>3</sup></b>	<b>Count/m<sup>3</sup></b>	<b>Count/m<sup>3</sup></b>
Agrocybe/Coprinus	-				
Alternaria	132				
Ascospores	-				
Aspergillus/Penicillium	-				
Basidiospores	352				
Bipolaris	-				
Chaetomium	-				
Cladosporium	1010				
Curvularia	-				
Epicoccum	-				
Fusarium	-				
Ganoderma	-				
Myxomycete	-				
Paecilomyces	-				
Rust	-				
Scopulariopsis	-				
Sporidesmium	44				
Stachybotrys	-				
Torula	132				
Ulocladium	-				
Unidentifiable Spores	4180				
Zygomycetes	-				
<b>Total Fungi</b>	<b>5850</b>				
Fibrous Particulate	-				
Hyphal Fragment	-				
Insect Fragment	-				
Pollen	-				
Analytical Sensitivity	44				
Skin Fragments (1-4)	1				
Background (1-5)	1				

No discernable field blank was submitted with this group of samples

Samples received in good condition unless otherwise noted.

High Levels of background particulate can obscure spores and other particulates leading to underestimation.

Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification.

The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment.

Present= Spores found during additional scan at lower mag. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. Results have not been adjusted for field or laboratory blank unless otherwise noted.

AIHA EMLAP Accreditation #102575

Mary Sacilowski, Laboratory Manager  
or other approved signatory



MICROBIOLOGY - CHAIN OF CUSTODY

Date Collected: 5/17/07 Date Sent: 5/17/07

Contact: SCHEIDING Bill To: STC ENVIRONMENTAL

Company: STC ENVIRONMENTAL SERVICES  
 4754 RESEARCH DRIVE  
 SAN ANTONIO, TEXAS 78240

Phone: (210) 696-6286 Fax: (210) 696-8761

Project Name: 27314 442 MATTHEWS

Air Samples	Wipe & Bulk Samples
<input checked="" type="checkbox"/> Mold & Fungi by Air-O-Cell Cassette (Select turn around time)	<input type="checkbox"/> Mold & Fungi - Direct Examination (Select turn-around time) Submit cellophane tape sample or bulk
<input type="checkbox"/> Mold & Fungi by Agar Plate (Count & identification)	<input type="checkbox"/> Mold & Fungi - Direct Examination - Follow up examination by culture if necessary
<input type="checkbox"/> Mold & Fungi by Agar Plate (Count Only)	<input type="checkbox"/> Mold & Fungi - Culture (ID & Count)
<input type="checkbox"/> Bacterial Count & Gram Stain	<input type="checkbox"/> Mold & Fungi - Culture (Count Only)
<input type="checkbox"/> Bacterial Count & Identification (Three most prominent types)	<input type="checkbox"/> Bacterial Count & Gram Stain
	<input type="checkbox"/> Bacterial Count & Identification (Three most prominent types)

STC P.O. 27314  
 [Signature]

TURN AROUND TIME:  
 Same Day  1 Day  2 Day  3 Day  4 Day  5 Day  6-10 Day

SAMPLE ID	LOCATION	VOLUME	COMMENTS
A-1	HVAC OUTLET	75 L	MOLD/FUNGI
A-2	HVAC RETURN	75 L	
A-3	BEDROOM (FRONT)	75 L	
A-4	BEDROOM NEXT TO BATH	75 L	
A-5	LIVING ROOM	75 L	
A-6	OUTSIDE	75 L	

Road Y Murchith 5/18/07 8:00am



**PHOTO 1:** View of the front of the residence.



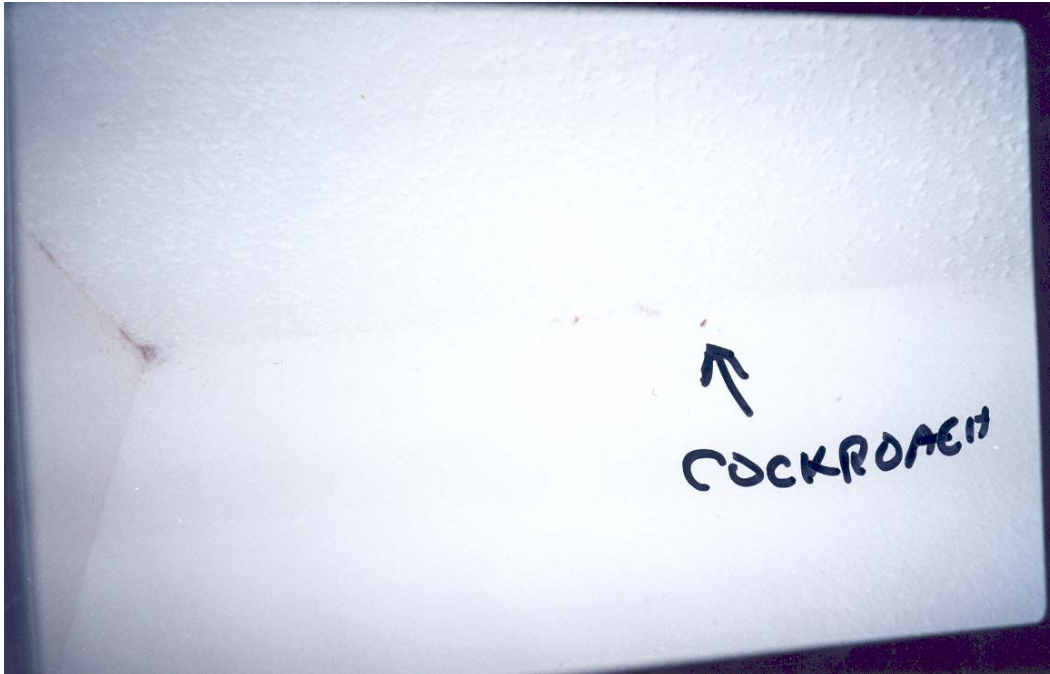
**PHOTO 2:** View of buildup on HVAC return vent.



**PHOTO 3:** View of buildup on HVAC outlet.



**PHOTO 4:** Additional view of buildup on an HVAC outlet vent.



**PHOTO 5:** View of buildup in bathroom. What was suspected as mold is from cockroaches. Note visible cockroach that exited the material.



**PHOTO 6:** View of area where moisture is present in the sheetrock.



**PHOTO 7:** View of dusty return air closet with water heater.



**PHOTO 8:** View of generally clean HVAC unit closet.