



Astex Environmental Services, Inc.  
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July 17, 2007

San Antonio Housing Authority  
818 S. Flores  
San Antonio, Texas 78204  
Phone: (210) 477-6004

RE: Limited Mold Inspection, 511 Precious, San Antonio, Texas  
Astex Project #AES-07-C- 4312

Pursuant to your request, on July 9, 2007, Mr. Ron Greenberg of Astex Environmental Services, Inc. (AES), Texas Department of State Health Services (TDSHS) Mold Assessment Consultant MAC 0509 conducted a Limited Mold Re-Inspection within the unoccupied home at 511 Precious St., San Antonio, Texas to investigate the general microbial conditions in the home prior to sale.

***Scope of Work***

The scope of work for this limited inspection included the collection of the following samples:

- Air samples (Allergenco brand cassettes) were collected in the following locations for the analysis of Total Bioaerosols:
  1. inside – at the return air intake - 1 sample
  2. inside – in Bedroom #4 - 1 sample
  3. inside – living room/dining room – 1 sample
  4. outside comparison/control samples - 2 samples

Note: These samples were delivered to the contract lab, Aerotech P&K, 1501 W. Knudsen Drive, Phoenix, AZ 85027, for analyses in accordance with the American Industrial Hygiene Association (AIHA) Environmental Microbiology Laboratory Accreditation Program (EMLAP) as well as following the Food and Drug Administration (FDA) Good Laboratory Practice Guidelines.

### ***Visual and Moisture Inspection Results***

No visible mold was observed during the inspection. Visual evidence of water damage was observed in the main bathroom, although the floor of the vanity was repainted prior to the sampling event. Additionally the right front corner inside the garage was observed to have damaged sheetrock and an ant or other pest mound and a hole with standing water was observed on the outside garage wall at this same location. A hole was also observed in the rear of the residence approximately centered on the kitchen, again allowing water access at least under the foundation. Only the garage wall showed indications of moisture within the sheetrock.

### ***Temperature and Humidity Levels***

Temperature readings within the house were from 71.2 to 73.7 degrees Fahrenheit and humidity was noted to be between 48.9 to 52.8 percent

### ***Analytical Results***

The Allergenco air samples were collected by Astex personnel on the afternoon of July 9, 2007 and were delivered to the contract lab for analysis of total bioaerosols with the results being made a part of this report. The data generated in this report is based on the samples and accompanying information provided and represents concentrations at a point in time under the conditions sampled. Keep in mind, sample values fluctuate widely and single point-in-time samples can be highly variable.

Currently, there are no regulations, federal or state, establishing action limits for mold spores and mold particulates in indoor air. Also, there are no species of molds identified to be hazards to public health. Current practice is to compare interior to exterior samples, noting the species present and the contrasting levels of spores and particle.

During this limited investigation, the following observations were noted:

Allergenco (air):

- Low to moderate levels of Total Bioaerosols (893 to 3,680 count/M<sup>3</sup>) were identified in the three interior samples as compared with the outside control samples (5,973 to 7,920 count/M<sup>3</sup>) and all three samples contained generally the same qualitative mix of fungi.
- All three sampled areas however contained genera in levels elevated to the outside control samples.

#### Kitchen/living room

*Alternaria* - 187 count/M<sup>3</sup> inside versus 120 count/M<sup>3</sup> outside.

*Aspergillus/Penicillium*-like - 893 count/M<sup>3</sup> inside versus 547 count/M<sup>3</sup> outside.

*Bipolaris* - 667 count/M<sup>3</sup> inside versus 13 count/M<sup>3</sup> outside.

*Curvularia* - 413 count/M<sup>3</sup> inside versus 13 count/M<sup>3</sup> outside.

Hallway at return

*Aspergillus/Penicillium*-like - 627 count/M<sup>3</sup> inside versus 547 count/M<sup>3</sup> outside.  
*Bipolaris* - 173 count/M<sup>3</sup> inside versus 13 count/M<sup>3</sup> outside.  
*Curvularia* - 147 count/M<sup>3</sup> inside versus 13 count/M<sup>3</sup> outside.

Bedroom #4

*Aspergillus/Penicillium*-like - 560 count/M<sup>3</sup> inside versus 547 count/M<sup>3</sup> outside.  
*Bipolaris* - 67 count/M<sup>3</sup> inside versus 13 count/M<sup>3</sup> outside.

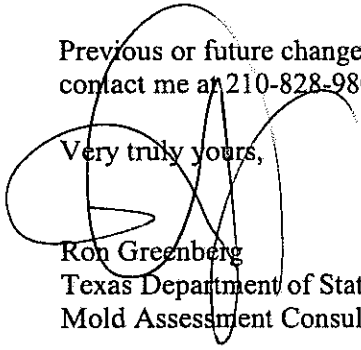
- No *Stachybotrys* spores were identified within the indoor air.

***Conclusions/Recommendations***

- Although the inside total fungal spore counts were below the outside levels on the day of sampling the fact that there were elevated levels of *Aspergillus/Penicillium* like spores; *Bipolaris*; and *Curvularia* inside would indicate that further investigation is warranted.
- At a minimum, the upstairs bathroom cabinet floor (base) should be replaced and the area beneath the cabinet should be wiped with a sanitizing solution and completely dried prior to installing the new cabinet floor. Additionally the ant mound should be removed and the area treated and the slightly damp corner wall should be dried out. Finally, the two holes that permit water under the slab should be investigated and/or filled.

Previous or future changes in mold concentrations cannot be inferred from these sample results. Please contact me at 210-828-9800 with any questions.

Very truly yours,



Ron Greenberg  
Texas Department of State Health Services (TDSHS)  
Mold Assessment Consultant No. MAC 0509

Attachments: Chain of Custody and Laboratory Results



An Affiliate of Severn Trent Laboratories, Inc.

Project Name: 511 Precious  
 Project Number: AES-07-C-4312  
 Date Received: 07/10/2007  
 Date Reported: 07/12/2007

Lab Number: 915-707-0642  
 AIHA EMLAP No. 102297  
 Total Fungal Spore, Mycelia and Pollen Counts-Air  
 Aerotech Method: A001.7 Other

Astex Environmental Services, Inc.  
 123 Catalpa  
 San Antonio, TX 78209  
 Attn: Ron Greenberg

Sample Number	1		2		3		4	
	0-1 Outside-Rear		0-2 Outside-Front		1-1 Inside-Kitch/Lr		1-2 Inside-Return	
	7/12/2007	7/12/2007	7/12/2007	7/12/2007	7/12/2007	7/12/2007	7/12/2007	
Date Analyzed	0.0750	0.0750	0.0750	0.0750	0.0750	0.0750	0.0750	
Volume (M <sup>3</sup> )	100% of Trace at 600x Magnification		100% of Trace at 600x Magnification		100% of Trace at 600x Magnification		100% of Trace at 600x Magnification	
Percent of Trace Analyzed	2		2		3		2	
Debris Rating	2		2		3		2	
Analyte	Total Count	Count/M <sup>3</sup>	DL	%	Total Count	Count/M <sup>3</sup>	DL	%
	Result	Result	Result	Result	Result	Result	Result	Result
Mycelial Fragments	12	160	13	n/a	5	67	13	n/a
Pollen	3	40	13	n/a	5	67	13	n/a
Total Fungal Spores	594	7,920	13	100	448	5,973	13	100
Fungal Spore Identification								
<i>Alternaria</i>	9	120	13	2	6	80	13	1
<i>Aspergillus</i>	79	1,053	13	13	134	1,787	13	30
<i>Aspergillus/Penicillium-Like</i>	41	547	13	7	22	293	13	5
<i>Basidiospores</i>	320	4,267	13	54	160	2,133	13	36
<i>Bipolaris/Drechslera</i>	1	13	13	<1	1	13	13	<1
<i>Botrytis</i>	1	13	13	<1	1	13	13	<1
<i>Cercospora</i>	2	27	13	<1	1	13	13	<1
<i>Chaetomium</i>	80	1,067	13	13	60	800	13	13
<i>Cladosporium</i>	1	13	13	<1	1	13	13	<1
<i>Curvularia</i>								
<i>Epitocum</i>								
<i>Fusarium</i>								
<i>Memnoniella</i>								
<i>Microspora</i>	9	120	13	2	3	40	13	<1
<i>Oidium/Peronospora</i>					2	27	13	<1
<i>Pitheomyces</i>					1	13	13	<1
<i>Rusts</i>	1	13	13	<1				
<i>Smuts/Myxomycetes/Periconia</i>	43	573	13	7	53	707	13	12
<i>Spiegelia</i>					1	13	13	<1
<i>Stachybotrys</i>								
<i>Stemphylium</i>								
<i>Tenella</i>	3	40	13	<1	2	27	13	<1
<i>Ulocladium</i>								
Unclassified Conidia	4	53	13	<1	2	27	13	<1
Data Qualifier								
Fungal Spore Identification								
Total Count	152	2,027	13	100	276	3,680	13	100
Result	147	1,947	13	n/a	16	213	13	n/a
DL	13	13	13	n/a	13	13	13	n/a
%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total Count	4	53	13	5	14	187	13	5
Result	40	527	13	11	29	387	13	11
DL	13	13	13	11	13	13	13	11
%	13	13	13	24	67	893	13	24
Total Count	17	227	13	7	20	267	13	7
Result	173	2,307	13	18	50	667	13	18
DL	13	13	13	<1	1	13	13	<1
%	<1	<1	<1	<1	<1	<1	<1	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	13	173	13	15	41	547	13	15
DL	13	13	13	11	31	413	13	11
%	13	13	13	<1	1	13	13	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	120	1,200	13	6	16	213	13	6
DL	13	13	13	<1	1	13	13	<1
%	<1	<1	<1	<1	<1	<1	<1	<1
Total Count	9	120	13	13	16	213	13	13
Result	27	360	13	13	1	13	13	13
DL	13	13	13	13	1	13	13	13
%	13	13	13	<1	1	13	13	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	13	173	13	11	11	147	13	11
DL	13	13	13	13	1	13	13	13
%	13	13	13	<1	1	13	13	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	120	1,200	13	6	9	120	13	6
DL	13	13	13	<1	1	13	13	<1
%	<1	<1	<1	<1	<1	<1	<1	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	13	173	13	11	11	147	13	11
DL	13	13	13	13	1	13	13	13
%	13	13	13	<1	1	13	13	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	120	1,200	13	6	9	120	13	6
DL	13	13	13	<1	1	13	13	<1
%	<1	<1	<1	<1	<1	<1	<1	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	13	173	13	11	11	147	13	11
DL	13	13	13	13	1	13	13	13
%	13	13	13	<1	1	13	13	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	120	1,200	13	6	9	120	13	6
DL	13	13	13	<1	1	13	13	<1
%	<1	<1	<1	<1	<1	<1	<1	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	13	173	13	11	11	147	13	11
DL	13	13	13	13	1	13	13	13
%	13	13	13	<1	1	13	13	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	120	1,200	13	6	9	120	13	6
DL	13	13	13	<1	1	13	13	<1
%	<1	<1	<1	<1	<1	<1	<1	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	13	173	13	11	11	147	13	11
DL	13	13	13	13	1	13	13	13
%	13	13	13	<1	1	13	13	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	120	1,200	13	6	9	120	13	6
DL	13	13	13	<1	1	13	13	<1
%	<1	<1	<1	<1	<1	<1	<1	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	13	173	13	11	11	147	13	11
DL	13	13	13	13	1	13	13	13
%	13	13	13	<1	1	13	13	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	120	1,200	13	6	9	120	13	6
DL	13	13	13	<1	1	13	13	<1
%	<1	<1	<1	<1	<1	<1	<1	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	13	173	13	11	11	147	13	11
DL	13	13	13	13	1	13	13	13
%	13	13	13	<1	1	13	13	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	120	1,200	13	6	9	120	13	6
DL	13	13	13	<1	1	13	13	<1
%	<1	<1	<1	<1	<1	<1	<1	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	13	173	13	11	11	147	13	11
DL	13	13	13	13	1	13	13	13
%	13	13	13	<1	1	13	13	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	120	1,200	13	6	9	120	13	6
DL	13	13	13	<1	1	13	13	<1
%	<1	<1	<1	<1	<1	<1	<1	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	13	173	13	11	11	147	13	11
DL	13	13	13	13	1	13	13	13
%	13	13	13	<1	1	13	13	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	120	1,200	13	6	9	120	13	6
DL	13	13	13	<1	1	13	13	<1
%	<1	<1	<1	<1	<1	<1	<1	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	13	173	13	11	11	147	13	11
DL	13	13	13	13	1	13	13	13
%	13	13	13	<1	1	13	13	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	120	1,200	13	6	9	120	13	6
DL	13	13	13	<1	1	13	13	<1
%	<1	<1	<1	<1	<1	<1	<1	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	13	173	13	11	11	147	13	11
DL	13	13	13	13	1	13	13	13
%	13	13	13	<1	1	13	13	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	120	1,200	13	6	9	120	13	6
DL	13	13	13	<1	1	13	13	<1
%	<1	<1	<1	<1	<1	<1	<1	<1
Total Count	1	13	13	<1	1	13	13	<1
Result	13	173	13	11	11	147	13	11
DL	13	13						



An Affiliate of Severn Trent Laboratories, Inc.

Project Name: 511 Precious  
 Project Number: AES-07-C-4312  
 Date Received: 07/10/2007  
 Date Reported: 07/12/2007

Lab Number: 915-707-0642  
 AIHA EMLAP No. 102297  
 Total Fungal Spore, Mycelia and Pollen Counts-Air  
 Aerotech Method: A001.7 Other

Astex Environmental Services, Inc.  
 123 Catalpa  
 San Antonio, TX 78209  
 Attn: Ron Greenberg

Sample Number	5		
	1-3 Inside-Br 4		
Sample Identification	7/12/2007		
Date Analyzed	0.0750		
Volume (M <sup>3</sup> )	100% of Traces at 600x Magnification		
Percent Of Trace Analyzed	2		
Debris Rating	Fungal Spore Identification		
Analyte	Total Count	Count/M <sup>3</sup>	%
	Result	DL	n/a
Mycelial Fragments	3	40	13
Pollen	3	40	13
Total Fungal Spores	67	893	13
<i>Alternaria</i>	2	27	13
<i>Arthrinium</i>			
<i>Ascospores</i>	3	40	13
<i>Aspergillus/Penicillium- Like</i>	42	560	13
<i>Basidiospores</i>	2	27	13
<i>Bipolaris/Brechislera</i>	5	67	13
<i>Botrytis</i>			
<i>Cercospora</i>			
<i>Chaetomium</i>			
<i>Cladosporium</i>	9	120	13
<i>Curvularia</i>			
<i>Epicoccium</i>	1	13	13
<i>Fusarium</i>			
<i>Memnoniella</i>			
<i>Nigrospora</i>			
<i>Oldium/Peronospora</i>			
<i>Pitheomyces</i>			
<i>Rusts</i>			
<i>Smuts/Myxomycetes/Periconia</i>	3	40	13
<i>Spizizilla</i>			
<i>Stachybotrys</i>			
<i>Stemphylium</i>			
<i>Tortula</i>			
<i>Ulocladium</i>			
Unclassified Conidia			
Data Qualifier			

Project Manager: *[Signature]*

Laboratory Manager: *[Signature]*

A001.7 AH CLIENT REPORT FORM, P 1 of 2, Revision 04, 9/20/04, LD

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Lab Number  
**915-707-0642**

Account Number <b>1135</b>		Page <u>1</u> of <u>1</u>		<b>WEATHER</b> Fog Rain Snow Wind Clear <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>								
Client Name <b>Astex Environmental Services, Inc.</b>				R/H	LEVEL			None				
Address <b>123 Catalpa</b>				Temp	Light							
City, State, Zip <b>San Antonio, TX 78209</b>				<b>Sample Type Codes</b> A - Air B - Bulk D - Dust S - Swab T - Tape W - Water WC - WallChek Other _____								
Contact <b>Ron Greenberg</b>		Sampler <b>RG</b>		<b>Analyses Requested</b> <small>Rush fees apply, please indicate time requirements</small>								
Phone <b>210-828-9800</b>		Project Name <b>511 PRECIOUS</b>		Rush			Rush			Rush		
FAX <b>210-829-4927</b>		Project Number <b>AES-07-C-4312</b>		Rush			Rush			Rush		
P.O. Number		Fax Results		Y			N					
E-mail <b>ron@astexinc.com</b>		E-mail Results		Y			N					
Sample Information												
#	Sample Identification			Date	Type	Area/Volume						
1	O-1 OUTSIDE - REAR			7/9	A	0.75 m <sup>3</sup>						
2	O-2 S - FRONT											
3	I-1 INSIDE - KITCH/LR											
4	I-2 S - RETURN											
5	I-3 S - BR 4											
Instructions/Special Requirements:												
<input checked="" type="checkbox"/> On Account (must have preapproved credit) <input type="checkbox"/> Check Enclosed <input type="checkbox"/> Credit Card Payment - (please circle one) VISA MC AMEX Discover Card Number _____ Expiration Date _____ Signature _____												
Date		Time		Samples Relinquished By				Samples Received By				
7/9		6:00 P		[Signature]				[Signature]				
7/10/07		9:50		[Signature]				[Signature]				

Analysis performed is subject to the Terms & Conditions available at www.aerotechpk.com or call 800.651.4802 to request a copy.