

December 28, 2011

Mr. Ben Mankin
Rutherford County Court House
Public Square
Murfreesboro, TN 37130

RE: DECEMBER 2011 MOLD TESTING – RUTHERFORD COUNTY JUDICIAL BUILDING, PUBLIC SQUARE, MURFREESBORO, TENNESSEE
G&M Project Number 300-43

Dear Mr. Mankin:

As you requested, Griggs & Maloney, Inc. (G&M) conducted mold testing for the Rutherford County Judicial Building during December 2011. The mold testing involved analysis of a sample provided to G&M by Rutherford County personnel and air sampling inside and outside the building on December 19, 2011.

Overview of Mold Biology

Molds, living organisms being a subset of the fungi, are ubiquitous in all environments. Fungi are found in every ecological niche, and are necessary for the recycling of organic building blocks that allow plants and animals to live. Included in the group “fungi” are yeasts, molds and mildews. Fungi require organic food sources and water (moisture) to remain viable. Molds can grow on cloth, carpet, leather, wood, sheet rock, insulation, and foodstuffs. Since molds grow in moist, or wet indoor environments, people can be exposed to molds or their products (including spores, fragments, and possibly aerosolized toxins) through airborne concentrations or physical contact.

Molds generally reproduce by generating airborne concentrations of spores, which, if they land on a moist food source, can generate new cultures. Because of the ubiquitous nature of mold and mold spores, any space that is high in surface and/or air moisture content has potential to exhibit visible mold colonies. Mold colonies can also “hide” in spaces that are obstructed from view or are inaccessible. Molds thrive in a wide range of environmental conditions. However, moisture is typically the primary factor in mold development and the elimination and/or control of moisture is critical in solving mold issues.

Humans have varying degrees of susceptibility in exposure to molds and mold products, as well as varying symptoms experienced as a result of exposure. Symptoms of exposure to molds and mold products generally fall into four categories – allergy, infection, irritation (mucous membrane and sensory), and toxicity. The most common physical response to mold exposure is allergy. Mucous

membrane irritation (rhinitis) is the most common chronic disease experienced by humans and can result from mold exposure as an allergic response. Sensitivity to light exposure is another symptom that can manifest as a result of exposure to mold. Infection resulting from exposure to mold that grows indoors is uncommon. Susceptibility to volatile organic compounds (VOCs) that are generated by molds as an off-gas during metabolism is more uniform in the human population but is generally minimal except in highly concentrated areas of mold growth and exceptionally limited air exchange (outdoor air entrained into indoor spaces).

Scope of Work:

The scope of work for this evaluation included laboratory evaluation of tape lift and air samples for the presence and concentration of mold. The objective of the scope of work was to evaluate the potential for respiratory exposure for mold at the time of testing.

County Judicial Building:

The Rutherford County Judicial Building is located on the north side of the Public Square in Murfreesboro, Tennessee. It comprises a five-story structure containing offices and courtrooms and apparently two (2) two-story adjacent structures. Bulkheads and doorways connect these structures. The structures appear to have been three separate store/offices buildings in the past.

The eastern, five-story portion of the building has been renovated and appears to be in generally good condition. A new roof membrane was installed over the old roof within the past month. This portion of the building supports a roof-mounted 125-ton heating, ventilation, and air-conditioning (HVAC) unit. Two newly installed roof vents are located near the roof-mounted HVAC unit.

The central, two-story portion of the building comprises offices on the first floor and records storage rooms, a restroom, and a lounge on the second floor. This portion of the Judicial Building has the lowest elevation roof of the three structures constituting the building. Damage on the interior surfaces of the northern exterior wall of this portion of the structure and nearby ceilings and on second floor ceiling and adjacent walls in the northern portion of the building on both floors indicate chronic water intrusion in these areas. The damage includes cracked and delaminated plaster, cracked and delaminated paint, and water stained ceiling surfaces.

The western, two-story structure in the Judicial Building comprises offices on the first (ground) floor, a "partial" basement, and records storage rooms on the second floor. A carpeted HVAC room housing mechanical equipment is located in a closet on the first floor in the northern portion of this part of the building. A sewage grinder and HVAC equipment are located in the basement, which has bare soil walls and floors. Damage on the interior surfaces of the northern exterior wall of this portion of the structure and nearby ceilings and on second floor ceiling and adjacent walls in the northern portion of the building indicate chronic water intrusion in these areas. The damage includes cracked and delaminated plaster, cracked and delaminated paint, and stained ceiling surfaces and drop ceiling tiles.

G&M conducted a mold evaluation in the Rutherford County Judicial Building in October 2007. The October 2007 mold evaluation included analysis of four (4) samples of suspect material, interviews of complainants and a reconnaissance of the building interior and roof. The results of that evaluation indicated no mold exposure issues in the building.

December 2011 Sampling:

The Rutherford County maintenance staff provided G&M with a sample comprising tape covering discolored (black) spots covered with clear adhesive tape as a sample of material that apparently was generated in exhaust air from the HVAC in the County Judicial Building. The sample (a "tape lift sample") was labeled as having been collected from the surface of Virginia Faulkner's desk and was in a plastic container when it arrived at G&M's office. The sample was reportedly collected on Friday morning, December 16, 2011, after the paper had been placed on her desk the previous evening. G&M labeled the plastic container "Sample 1" and submitted to a commercial carrier for overnight delivery to Triangle Environmental Services Center, Inc. (TESC) in Midlothian, Virginia.

On December 19, 2011, you requested that G&M collect air cassette samples for mold evaluation from the County Judicial Building. Typically, sample of air for mold projects include collecting a cassette sample(s) from the interior of a building and a cassette sample(s) from the exterior of the building and comparing the results of the interior and exterior samples to determine the relative mold exposure within the building.

On the evening of December 19, 2011, G&M collected one air cassette sample (Sample 1) from the hallway adjacent to the Circuit Court Clerk's Criminal office (Room 108) near the door to the room containing a staircase to the second floor and one air cassette sample (Sample 2) from the exterior of the building along Maple Street. These samples were submitted to a commercial carrier for overnight delivery to TESC for mold evaluation.

Sample Laboratory Results:

The attached sample results indicate that the tape lift sample collected from the desk of Virginia Faulkner contained a "very low" concentration of Penicillium/Aspergillus Type mold and that no pollen was observed. This means that the sample on the sample paper contained mostly dirt and dust residue. The sampling method and sample results indicate that the discolored areas on the sample paper were the result of dirt and dust residue being exhausted from the ductwork and diffusers associated with the HVAC system in the building. Such dirt containing very low concentrations of mold, particularly Penicillium/Aspergillus Type mold which is one of the most common types of mold found in this area of Tennessee, is not unusual in any building.

The attached sample results for the air cassette mold evaluation indicate that mold was not detected in the indoor sample (Sample 1) or in the outdoor sample (Sample 2).

Conclusions:


Based on the sampling and analytical information described herein, G&M could identify no actionable mold-in-air exposure problems in the County Judicial Building at this time. This finding is valid for the time at which the sampling was conducted in and near the County Judicial Building. If the conditions of the building change, for example if new areas of moisture intrusion (i.e., leaks in the roof or plumbing) occur, the mold conditions of the building can change significantly.

Had indoor samples been higher in mold concentrations than outdoor concentrations, we might have evidence that mold is active in the building. However, this does not appear to be the case. It is not surprising to find no mold concentrations in outdoor air during the winter months since mold is generally inactive during colder months of the year in our area. The complaints associated with potential mold in the building appear to be associated with typical outdoor and indoor exposures to respiratory and upper respiratory irritants associated with this area of Tennessee. These irritants likely comprise plant pollen or other particulates found in irritants other than mold.

If building conditions change to enhance potential for the growth of mold or new suspected mold colonies are observed, action should be taken to minimize the moisture intrusion conditions causing this increased potential. No further investigation of "mold-in-air" conditions in the building appear to be warranted at this time.

If you have any questions, or need additional information, please call me at 895-8221.

Sincerely,
GRIGGS & MALONEY, INC.



Kerry Given
Sr. Environmental Scientist

TRIANGLE ENVIRONMENTAL SERVICE CENTER, INC.

15549 Fox Cove Circle · Moseley, VA 23120
Tel: 804-739-1751 · Fax: 804-739-1753

FUNGAL SPORE AND POLLEN DIRECT EXAMINATION

CLIENT: Griggs & Maloney, Inc.
P. O. Box 2968
Murfreesboro, TN 37133-2968

TESC LOGIN#: 111219K

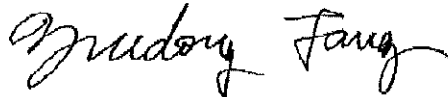
DATE OF RECEIPT: 12/19/11
DATE OF ANALYSIS: 12/19/11
DATE OF REPORT: 12/19/11

CLIENT JOB #: 300-Ask Kerry

JOB SITE: Bank Bldg.

ANALYST: F. Jiang

TESC Sample #	1			
Client Sample #	1			
Date Collected	12/15/2010			
Sample Location				
Sample Medium	Tape-lift			
SPORE TYPE	ESTIMATED* CONCENTRATION	ESTIMATED* CONCENTRATION	ESTIMATED* CONCENTRATION	ESTIMATED* CONCENTRATION
ALTERNARIA				
ASCOSPORES				
BASIDIOSPORES				
CHAETOMIUM				
CLADOSPORIUM				
CURVULARIA				
DRECHSLERA				
EPICOCCUM				
MYXOMYCETES				
PEN/ASP-TYPE	Very Low			
PERICONIA				
RUSTS				
STACHYBOTRYS				
TORULA				
ULOCLADIUM				
UNKNOWN SPORES				
COMMENT:				
POLLEN (GRAIN) IDENTIFIED	ESTIMATED* CONCENTRATION	ESTIMATED* CONCENTRATION	ESTIMATED* CONCENTRATION	ESTIMATED* CONCENTRATION
	No Pollen Observed			



Feng Jiang, MS, Senior Geologist, Laboratory Director
Yuedong Fang, Senior Geologist

* Estimates are based on the following subjective estimation: 1) Very Low: Less than 5 spores in entire sample; 2) Low: less than 10% spores in entire sample; 3) Medium: Less than 50% spores in entire sample; 4) High: Greater than 50% spores in entire sample; 5) Very High: Great than 90% spores in entire sample.

These results are accurate for the date and time the sample was taken. Any variation in the date or time may cause variation in the result. This analysis is a microscopic screen for common genera of fungi and pollen. [LEGEND Asp= Aspergillus sp., Pen= Penicillium sp.]

TESC LOGIN NUMBER: 111219K

TRIANGLE ENVIRONMENTAL SERVICE CENTER

15549 Fox Cove Circle • Moseley • VA • 23120 • Tel: 804-739-1751 • Fax: 804-739-1753

CHAIN OF CUSTODY FORM

LAB CUSTOMER: Griggs & Maloney, Inc.

ADDRESS: P.O. Box 2968

CITY, STATE, ZIP: Murfreesboro, TN 37133-2968

TAT: 2 Hour: 6 Hour: 24 Hour: 48 Hour: 3 Day: 5 Day:

CONTACT METHOD: Phone: 615-895-8221

Fax: 615-895-0632

Email: keiven@griggsandmaloney.com

DATE: 12/15/11
 CONTACT NAME: Kerry Given

PROJECT #: 300- Ask Kerry

PROJECT SITE: Bank Bldg.

Sample number	Sample Date	Asbestos							Lead							Other Metals				Air Quality/Mold			Comments								
		Bulk ID by PLM	PCM Fiber Count	PLM Point Count 400	PLM Point Count 1000	PLM Gravimetric	CARB 435 (Soil only)	TEM AHERA Air	TEM Bulk Chatfield	Air	Paint(% & PPM)	Soil(PPM)	Wipe	TCLP (Pb)	Waster Water	Drinking Water (Pb)	TCLP RCRA 8	CAM 17	Welding Fume	Toxic Metal Profile	Biocassette	Slide		Surface Tape	Surface Swab	Bulk	Air Volume (L)	Wipe Area (ft ²)	Scrape Area (cm ²)		
1	12/15/2011																														Type/Concentration

Released by: Kerry Given
 Signature: Date/Time: 12/15/11 @ 3:33 PM
 Received by: Signature: Date/Time: 12/15/11 @ 3:33 PM
 Received by: Signature: Date/Time: 12/15/11 @ 3:33 PM

TRIANGLE ENVIRONMENTAL SERVICE CENTER, INC.

15549 Fox Cove Circle • Moseley, VA 23120

Tel: 804-739-1751 • Fax: 804-739-1753

FUNGAL SPORE AND POLLEN GRAIN COUNT ANALYSIS

CLIENT: Griggs & Maloney, Inc.
P. O. Box 2968
Murfreesboro, TN 37133

TESC LOGIN#: 111221C

DATE OF RECEIPT: 12/21/11

DATE OF ANALYSIS: 12/21/11

CLIENT JOB #: 300-43

DATE OF REPORT: 12/21/11

JOB SITE: Judicial Bldg.

ANALYST: F. Jiang

TESC Sample #	1	2				
Client Sample #	1	2				
Sample Location	Inside	Outside				
Volume (L)	100	100				
Sample Medium	Air-O-Cell	Air-O-Cell	Air-O-Cell			
SPORE TYPE	Fungal Spore Count		Fungal Spore Count		Fungal Spore Count	
	Total Count	Spores/M ³	Total Count	Spores/M ³	Total Count	Spores/M ³
ALTERNARIA						
ASCOSPORES						
BASIDIOSPORES						
CHAETOMIUM						
CLADOSPORIUM						
CURVULARIA						
DRECHSLERA						
EPICOCCUM						
MYXOMYCETES						
PEN/ASP-TYPE						
PERICONIA						
RUSTS						
STACHYBOTRYS						
TORULA						
ULOCLADIUM						
UNKNOWN SPORES						
TOTALS:	No Spores Observed		No Spores Observed			
POLLEN GRAIN	Pollen Grain Count		Pollen Grain Count		Pollen Grain Count	
	Total Count	Grain/M ³	Total Count	Grain/M ³	Total Count	Grain/M ³
POLLEN	0		0			
TOTALS:	0		0			

Feng Jiang

Feng Jiang, MS, Senior Geologist, Laboratory Director
Yuedong Fang, Senior Geologist

These results are accurate for the date and time the sample was taken. Any variation in the date or time may cause variation in the results.
[LEGEND Asp= Aspergillus sp., Pen= Penicillium sp.]

TESC LOGIN NUMBER: 111221C

111221C

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CHAIN OF CUSTODY FORM

LAB CUSTOMER: Griggs & Maloney, Inc.

DATE: Dec. 20, 2011

ADDRESS: P.O. Box 2968

CONTACT NAME: Kerry Given

CITY, STATE, ZIP: Murfreesboro, TN 37133-2968

PROJECT #: 300-43

TAT: 2 Hour: 6 Hour: 24 Hour: 48 Hour: 3 Day: 5 Day:

PROJECT SITE: Judicial Bldg.

CONTACT METHOD: Phone: 615-895-8221

Fax: 615-895-0632

Email: kgiven@griggsandmaloney.com

Sample number	Sample Date	Asbestos								Lead								Other Metals				Air Quality/Mold				Comments					
		Bulk ID by PLM	PCM Fiber Count	PLM Point Count 400	PLM Point Count 1000	PLM Gravimetric	CARB 435 (Soil only)	TEM AHERA Air	TEM Bulk Chatfield	Air	Paint(% & PPM)	Soil(PPM)	Wipe	TCLP (Pb)	Waster Water	Drinking Water (Pb)	TCLP RCRA 8	CAM 17	Welding Fume	Toxic Metal Profile	Biocassette	Slide	Surface Tape	Surface Swab	Bulk		Air Volume (L)	Wipe Area (ft ²)	Scrape Area (cm ²)		
1	12/19/2011																														Inside
2	12/19/2011																														Outside

Released by: Kerry Given Signature: 

Received by: Signature: _____

Released by: Signature: _____

Received by:  Signature: _____

Date/Time: 12/20/11 @ 3:30 PM

Date/Time: _____

Date/Time: _____

Date/Time: 12/21/11 10:20 AM