

April 29, 2013

Mr. Ben Mankin
c/o Jim Cope, Rutherford County Attorney
Cope, Hudson, Reed & McCreary, PLLC, Attorneys at Law
P.O Box 884
Murfreesboro, TN 37133

**RE: APRIL 25, 2013 INDOOR AIR QUALITY EVALUATION – RUTHERFORD COUNTY OFFICE
BUILDING, 319 NORTH MAPLE STREET, MURFREESBORO, TENNESSEE
G&M Project Number 300-51**

Dear Mr. Mankin:

As you requested, Griggs & Maloney, Inc. (G&M) conducted an Indoor Air Quality (IAQ) evaluation in the Rutherford County Judicial Building on April 29, 2013. The IAQ evaluation involved visual review of interior surfaces, the exterior building perimeter and collection and analysis of air samples from inside and outside the building for the presence and concentration of mold. We also used a direct reading volatile organic compound (VOC) detection instrument to conduct “real-time” air evaluations (VOC screening) in indoor areas as part of the IAQ evaluation. We understand that the IAQ evaluation request was made in response to a complaint by an employee of the County Clerk’s Office stationed in Suite 121 on the first (ground) floor of allergy-type symptoms including sneezing.

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 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 IAQ evaluation included the following:

- Conducting a visual review of interior surfaces, the exterior building perimeter;
- Collecting air samples from inside and outside the building and laboratory evaluation of the samples for the presence and concentration of mold; and
- Conducting a real-time evaluation of the presence and concentration of VOCs through the use of a VRAE Multi Gas Monitor (Model PGM-7800, Serial Number 102099).

The objective of the scope of work was to evaluate the building for detectible concentrations of VOCs, seek visual evidence of significant mold colonies on accessible surfaces and evaluate the potential for respiratory exposure to mold through air sampling and analysis. This scope of work reflects the condition of the building at the time of evaluation and does not indicate previous or future exposure IAQ problems in the building.

Rutherford County Office Building:

The Rutherford County Office Building is located on the west side of North Maple Street in Murfreesboro, Tennessee. It comprises a two-story, masonry structure supported by a concrete foundation containing offices and having a basement containing heating, ventilation and air conditioning (HVAC) equipment, elevator and electrical equipment and a sump room. No offices or normally occupied areas are located in the basement.

April 25, 2013, Visual Review of Surfaces

The key to finding the occurrence of mold colonies in a building is finding sources of uncontrolled moisture. Such sources would include, but may not be limited to, leaks in plumbing, roof leaks, condensate leakage or uncontrolled condensation generated from HVAC equipment or associated

ductwork. A visual review of surfaces in the basement including the sump room chiller room, HVAC room, and elevator room and office suites on the first floor including the Clerk's Office Suite and the Register of Deeds Suite and the second floor containing the Tax Assessor's Office Suite found no visual evidence of current or historical uncontrolled moisture. A review of the exterior perimeter of the building found no areas of concern with regard to uncontrolled moisture that might penetrate the building envelope.

April 25, 2013, Sampling:

VOC Screening: G&M used the VRAE Multi Gas Monitor throughout each floor of the building. The monitor measures detectible VOCs as a percentage of the lower explosive limit (LEL) of the volatile organic compound (i.e., the LEL of o-xylene is 0.9% or 9,000 parts per million [ppm] and a percent of the 9,000 ppm LEL for o-xylene is 90 ppm). The monitor detected no VOCs in any portion of the building.

Mold Sampling: A typical mold-in-air evaluation comprises collection of air samples pulled through sample cassettes supplied by the laboratory and comprising a plastic casing surrounding a mixed cellulose ether filter medium (Air-O-Cell cassettes manufactured by Zefon International, Inc.). High volume air pumps calibrated to pull 15 liters per minute (l/min.) are operated for a period of ten minutes to represent an exposure of 150 liters of air in indoor areas and an outdoor area near the building. The indoor air sample results are compared to the outdoor air sample results. Typically, indoor sample results should be lower in concentration than outdoor air sample results. If indoor air sample results are significantly higher than outdoor air sample results, one would expect that indoor mold colonies are generating airborne (respirable) concentrations of microscopic mold spores or parts of mold structures and investigation of the location of the mold colonies would be indicated.

G&M collected Air Sample A in the basement of the building near the air handler portion of the HVAC system. Sample B was collected at Sandra Elam's desk in Suite 121 on the first floor of the building. Sample C was collected in the western (open) office area of the Tax Assessor's Office on the second floor of the building and Sample D was collected outside the building along the east-facing brick wall near the front door at the intersection of North Maple Street and West Lytle Street. Each sample cassette was sealed after air sample collection. G&M labeled each air sample plastic container labeled it and submitted the four (4) samples to a commercial carrier for overnight delivery to Triangle Environmental Services Center, Inc. (TESC) in Midlothian, Virginia.

Sample Laboratory Results:

The attached laboratory evaluation results indicate that no mold detected (Total Count - 0) in each sample submitted to TESC. Therefore, indoor air mold concentrations are not greater than outdoor air mold concentrations.

Conclusions:

Based on the sampling and analytical information and visual inspection results as described herein, G&M could identify no actionable mold-in-air or VOC exposure problems in the County Office Building at this time. This finding is valid for the time at which the sampling was conducted in and near the County Office Building only. 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 air samples resulted in higher concentrations of mold indoors than outdoors, 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 and periods of frequent rain. 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, pet dander, dust 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 this 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.

13509 E. Boundary Rd. Suite B · Midlothian, VA 23112
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#: 130429Q

DATE OF RECEIPT: 04/29/13
DATE OF ANALYSIS: 04/29/13
DATE OF REPORT: 04/29/13

CLIENT JOB #: 300-51

JOB SITE: Clerk's Office

ANALYST: Y. Fang

TESC Sample #	1		2		3		4	
Client Sample #	1		2		3		4	
Sample Location	Basement		Elan's Desk		Tax Assess. West Side		Outside Front Door	
Volume (L)	0		150		150		150	
Sample Medium	Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell	
SPORE TYPE	Fungal Spore Count		Fungal Spore Count		Fungal Spore Count		Fungal Spore Count	
	Total Count	Spores/M ³	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								
ULOCADIUM								
UNKNOWN SPORES								
TOTALS:	No Spores Observed		No Spores Observed		No Spores Observed		No Spores Observed	
POLLEN GRAIN	Pollen Grain Count		Pollen Grain Count		Pollen Grain Count		Pollen Grain Count	
	Total Count	Grain/M ³	Total Count	Grain/M ³	Total Count	Grain/M ³	Total Count	Grain/M ³
POLLEN	0		0		0		0	
	0		0		0		0	

Yuedong Fang

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.]

TRANGLE ENVIRONMENTAL SERVICE CENTER

TESC LOGIN NUMBER: 1304290

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:

DATE: 4/26/13

CONTACT NAME: Kerry Given

PROJECT #: 300-51

PROJECT SITE: Clerk's Office

Email: kgiven@griggsandmaloney.com

CONTACT METHOD: Phone: 615-895-8221

Fax: 615-895-0632

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 Chaffield	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)	
A	4/24/2013																													Basement
B	4/24/2013																												Elam's Desk	
C	4/24/2013																												Tax Assess. West Side	
D	4/24/2013																												Outside Front Door	
Released by:		Kerry Given		Signature:		<i>[Signature]</i>		Date/Time:		4/26/13 at 3:30 PM		Date/Time:				Date/Time:				Date/Time:				Date/Time:						
Received by:				Signature:				Date/Time:				Date/Time:				Date/Time:				Date/Time:				Date/Time:						
Released by:				Signature:		<i>[Signature]</i>		Date/Time:		4/26/13 10:30 AM		Date/Time:				Date/Time:				Date/Time:				Date/Time:						
Received by:				Signature:		<i>[Signature]</i>		Date/Time:				Date/Time:				Date/Time:				Date/Time:				Date/Time:						