

DATE: April 14, 2015

TO: Chellie Adams, Principal

SUBJECT: Prairie Trail ES - IAQ - Initial Contact - Music Room

On Monday 4/13, I received Work Order #215974: "Teacher was wanted room to be check for mold; she said it has a strange smell. She is sick alot with colds." Yesterday 4/13 at 9:30 AM, I inspected the Music Room and talked to the teacher. She had concerns about the air being musty. I told her that I would have the room Air Tested. I will be requesting a P.O. to have the room Air Tested this week. Outside conditions should not be raining and above 60 degrees. Test should be completed within a week. As soon as I get the results, I will forward them to you. If you have any questions, please contact me.

Thanks, Paul

Paul Siddall Maintenance Energy Auditor (IAQ) Facility Services Lewisville ISD 469-446-8882



DATE: May 5, 2015

Paul

TO: Chellie Adams, Principal

SUBJECT: Prairie Trail ES - IAQ - Air Test results - Music room

On Wednesday 4/29, Apex-Titan Air tested the Music Room. It is typically assumed that indoor spore levels in an area with filtered or air conditioned air, and activity levels associated with schools average 10% to 40% of the outdoor levels. Data from the airborne fungi sampling indicated that the total indoor concentration of mold/fungi in the Music Room, was **2.4**% of the outdoor levels. Utilizing this theory, the indoor concentrations are well within the acceptable guidelines for areas with filtered air or air conditioning. If you have any questions, please call me. Thanks,

Paul Siddall Maintenance Energy Auditor (IAQ) Facility Services Lewisville ISD 469-446-8882



May 22, 2015

Lewisville Independent School District 340 Lake Haven Lewisville, Texas 75057 Attn: Mr. Paul Siddall

Re: Limited Mold Assessment Services

Prairie Trail Elementary School

Music Room

5555 Timber Creek Road Flower Mound, Texas LISD PO No. 91529947-00 Apex Project No. 7250115125

Introduction

Apex TITAN, Inc., a subsidiary of Apex Companies, LLC (APEX) conducted limited mold assessment activities for the Lewisville Independent School District (Lewisville I.S.D.) within Prairie Trail Elementary School located at 5555 Timber Creek Road in Flower Mound, Texas (hereinafter referred to as the "Site"). The investigation was limited to areas of the Site identified by Lewisville I.S.D. as described below. The assessment was performed by Mr. Darren G. Bowden, a State of Texas licensed Mold Assessment Consultant (Lic. No. MAC0321) on April 29, 2015. Apex's mold services definitions and limitations are included as an attachment to this report.

Investigation Areas

Lewisville I.S.D. identified the following physical portions of the Site as the target investigation areas ("Investigation Areas") for mold assessment: readily accessible areas within the music room. Apex's mold assessment services were limited to the Investigation Area(s) identified by Lewisville, I.S.D. Additional areas or portions of the Site were out-of-scope and not included in Apex's mold assessment or this report at this time.

Scope of Work

As set forth in Apex's Mold Assessment Proposal (No. P01151173) dated April 16, 2015. Apex's scope-of-work was to provide visual and/or analytical mold assessment and related services in the Investigation Areas which included:

Visual Reconnaissance: Apex performed a visual reconnaissance of the Investigation Areas for visible indications of moisture intrusion (as indicated by staining or visible moisture) and/or suspect mold growth. Apex's visual reconnaissance only included readily accessible or visible portions of the Investigation Areas.

Suspect Mold Growth Sampling and Analysis: Apex collected limited ambient air samples for nonviable mold spores utilizing Air-O-Cell cassettes. "Air-O-Cell" refers to slit impaction air sampling cassettes manufactured by Zefon Analytical Accessories, St. Petersburg, Florida.

Site Reconnaissance Observations/Findings and Recommendations

Apex' Mold Assessment Site reconnaissance was performed on April 29, 2015 by Mr. Darren G. Bowden. Apex's visual reconnaissance of the Investigation areas revealed the following:

Temperature and Relative Humidity

Temperature readings collected inside the room ranged from 73.2 to 73.8 degrees Fahrenheit while relative humidity ranged from 43.4 to 43.94 percent. Temperature readings collected outside the building ranged from 73.2 to 74.4 degrees Fahrenheit while outside relative humidity ranged from 23.8 to 24.2 percent.

Relative humidity is a measure of the moisture content of air and is closely tied to the comfort of the office/workplace temperature. As with temperature, there are no regulations governing acceptable office/workplace humidity ranges. Humidity levels in the office/workplace are not only related to health effects, but also have operational impacts on modern office equipment.

Workplace/office temperatures have historically been considered a subjective factor because the perception of uncomfortable temperature levels is specific to each individual. There are no regulations governing acceptable office/workplace temperature ranges, but significant research has been conducted which indicates that there are temperature ranges that are not only comfortable but also result in optimum performance. ASHRAE (American Society of Heating, Refrigerating & Air Conditioning Engineers) has published guidelines describing thermal environmental conditions that at least 80% of the persons who occupy that environment will find acceptable or "comfortable." Table I below explains the applicable limits and guidelines.

Table I									
Acceptable Ranges Of Temperature And Humidity									
Relative Humidity Winter Temperatures Summer Temperatures									
30%	68.5 to 76°F	74 to 80°F							
40%	68.5 to 75.5°F	73 to 79.5°F							
50%	68.5 to 74.5°F	73 to 79°F							
60%	68 to 74°F	72.5 to 78°F							

Air Monitoring Results

Apex collected one (1) sample from the interior of the investigation area and two (2) samples from the exterior of the building. The microbial samples were analyzed by Steve Moody Micro Services, LLC (SMMS) in Farmers Branch, Texas; SMMS is a State of Texas licensed mold analysis laboratory and accredited under the AIHA Laboratory Quality Assurance Program for Environmental Microbiology.

Air testing performed using spore traps indicated that total airborne mold spores in the classroom were lower as compared to those measured outside of the building at the time the sampling was performed. The total fungal spore concentration within the investigation area was reported as 568 counts/m³, while the exterior level ranged from 19,622 to 23,260 counts/m³.

The American Conference of Governmental Industrial Hygienists (ACGIH) sets forth assessment criteria related to the "indoor/outdoor" relationship where the indoor air quality should be at or below that of outdoor air quality with regard to fungal spores (see ACGIH Bioaerosols, Assessment and Controls publication, 1999).

Suspect Mold

No visible mold was observed during the assessment. No odors or excessive dust were noted.



Conclusions and Recommendations

Based on Apex's limited assessment and the analytical results collected, it appears that the indoor air quality, as it relates to airborne fungi was within recommended guidelines on the day of the assessment.

If you have any questions regarding this report or if we can assist you with any other matter, please contact the undersigned at (214) 350-5469.

Sincerely,

Apex TITAN, Inc.

Darren G. Bowden

Senior Program Manager

Texas Mold Assessment Consultant

Lic. No. MAC0321

Attachments: Analytical Results/Chain of Custody, Mold Services Definitions & Limitations



ATTACHMENT 1

Analytical Results/Chain of Custody





IAQ Mold Report

Summary DSHS License No.: LAB0117

AIHA EMPAT ID: 102577

2051 Valley View Lane

Farmers Branch, TX 75234 Phone: (972) 241-8460

Client: Apex TITAN, Inc. - Dallas, TX Lab Job No. 15F-05316

Project: Prairie Trail Report Date 05/01/2015 4:29 PM

Project #: 7250115125 **Sample Date :** 04/29/2015

Sample Type: Spore Trap, Non-cultured Spore Trap Type: Zefon - Air-O-Cell

Test Method: Mold: ASTM D7391-09 - Standard Profile Page 1 of 2

On 4/30/2015, three (3) samples were submitted by Darren Bowden of Apex TITAN, Inc. - Dallas, TX (located at 2351 W. NW Highway #3321, Dallas, TX 75220) for Spore Trap, Non-cultured mold analysis. This report consists of three sections; a summary section, a data detail section, and an analytical notes section.

Sample Number	Volume (liters)				ntration
1	150	Music * See Analytical Notes report for further details	Basidiospores Hyphal / Spore Fragments Aspergillus / Penicillium Cladosporium Ascospores Total:	327 87 80 47 27	58% 15% 14% 8% 5%
2	75	Outside	Basidiospores Cladosporium Aspergillus / Penicillium Ascospores Hyphal / Spore Fragments Coprinus group Agaricales group Fusarium Alternaria Chaetomium Total:	11410 6292 2239 2106 560 373 107 93 53 27 23260	49% 27% 10% 9% 2% <1% <1% <1% 100%



Client:

Project:

Project #:

IAQ Mold Report

Summary

2051 Valley View Lane

Farmers Branch, TX 75234 Phone: (972) 241-8460

Prairie Trail

7250115125

Sample Type: Spore Trap, Non-cultured

Apex TITAN, Inc. - Dallas, TX

Lab Job No. 15F-05316

Report Date 05/01/2015 4:29 PM

DSHS License No.: LAB0117

AIHA EMPAT ID: 102577

Sample Date: 04/29/2015

Spore Trap Type: Zefon - Air-O-Cell

Test Method: Mold: ASTM D7391-09 - Standard Profile Page 2 of 2

On 4/30/2015, three (3) samples were submitted by Darren Bowden of Apex TITAN, Inc. - Dallas, TX (located at 2351 W. NW Highway #3321, Dallas, TX 75220) for Spore Trap, Non-cultured mold analysis. This report consists of three sections; a summary section, a data detail section, and an analytical notes section.

Results may not be reported except in full. Data contained in this test report relates only to the samples tested. This report does not express or imply interpretation of

Moody Labs assumes no responsibility for the manner in which these samples were collected or handled prior to being received at this laboratory. Moody Labs assumes no responsibility for the qualifications of personnel performing sampling and/or interpretations of this data.

Rob Greene Analyst(s):

Lab Manager: Heather Lopez Lab Director: Bruce Crabb

Thank you for choosing Moody Labs

Approved Signatory: Bene Call

SMLMS v11.11



Client:

IAQ Mold Report

Data Detail

DSHS License No.: LAB0117

AIHA EMPAT ID: 102577

2051 Valley View Lane

Farmers Branch, TX 75234 Phone: (972) 241-8460

Apex TITAN, Inc. - Dallas, TX

Lab Job No.: 15F-05316

Project: Prairie Trail Report Date: 05/01/2015 4:29 PM

Project #: 7250115125 **Sample Date :** 04/29/2015

Sample Type: Spore Trap, Non-cultured Spore Trap Type: Zefon - Air-O-Cell

Test Method: Mold: ASTM D7391-09 - Standard Profile

Page 1 of 1

This report consists of three sections: a summary section, a data detail section, and an analytical notes section. Results may not be reported except in full.

This report consists of three sections; a summa	y section	i, a data	detail sectio	n, and a	ın anaiyı	icai not	es section. R	esuits n	nay not b	e report	ed except in	Tull.
Sample ID:	1			2				3				
Location:	Music				Outside				Outside			
Media Expires On:	Oct 2015			Oct 2015				Oct 2015				
Notes Included:												
Volume:			150		75				75			
	raw ct.	MDL	spores/m³		raw ct.	MDL	spores/m³		raw ct.	MDL	spores/m³	
Agaricales group					8	13.33	107	<1%	13	13.33	173	<1%
Alternaria					4	13.33	53	<1%	21	13.33	280	1%
Ascospores	4	6.67	27	5%	158	13.33	2106	9%	105	13.33	1400	7%
Aspergillus / Penicillium	12	6.67	80	14%	168	13.33	2239	10%	219	13.33	2919	15%
Basidiospores	49	6.67	327	58%	856	13.33	11410	49%	568	13.33	7571	39%
Chaetomium					2	13.33	27	<1%				
Cladosporium	7	6.67	47	8%	472	13.33	6292	27%	315	13.33	4199	21%
Coprinus group					28	13.33	373	2%	14	13.33	187	<1%
Epicoccum									9	13.33	120	<1%
Fusarium					7	13.33	93	<1%	5	13.33	67	<1%
Hyphal / Spore Fragments	13	6.67	87	15%	42	13.33	560	2%	115	13.33	1533	8%
Memnoniella												
Myxomycete / Periconia / Rust / Smut									85	13.33	1133	6%
Nigrospora									3	13.33	40	<1%
Stachybotrys												
TOTALS	85		568	100%	1745		23260	100%	1472		19622	100%
Analyst	Rob Greene				Rob Greene			Rob Greene				
Analysis Date	5/1/2015				5/1/2015			5/1/2015				
Debris Rating	5			4			5					
Debris Composition												
Fibers	3/5			2/5			2/5					
Inorganic/Other	3/5			4/5			5/5					
Insect Parts	0/5			0/5			2/5					
Pollen	0/5				2/5				3/5			
Skin/Dander	4/5						0/5		2/5			



IAQ Mold Report

Analytical Notes

DSHS License No.: LAB0117 2051 Valley View Lane AIHA EMPAT ID: 102577

Farmers Branch, TX 75234 Phone: (972) 241-8460

Client: Apex TITAN, Inc. - Dallas, TX **Lab Job No.:** 15F-05316

Project: Prairie Trail **Report Date:** 05/01/2015 4:29 PM

7250115125 Project #: **Sample Date:** 04/29/2015

Sample Type: Spore Trap, Non-cultured Spore Trap Type: Zefon - Air-O-Cell

Test Method: Mold: ASTM D7391-09 - Standard Profile Page 1 of 2 This report consists of three sections; a summary section, a data detail section, and an analytical notes section. Results may not be reported except in full.

Samples Analyzed

Sample No: 1: Music

Notes: 25% Occluded.

Sample No: 3: Outside Notes: 60% Occluded.

Field Blanks

No discernable field blanks were submitted with this set of samples.

NOTE: All remaining samples suitable for analysis.

Methods

Method: ASTM D7391-09: Categorization and Quantification of Airborne Fungal Structures in an Inertial Impaction Sample by Optical Microscopy.

Calculation: Spores/cubic meter = (Raw spore count)*(MDL)

Note: MDL (Minimum Detection Limit) is calculated based upon 1 raw spore count.

Moody Labs recommends two significant figures for calculated values based on ASTM D7391-09.

This report must not be used by the customer to claim product certification, approval, or endorsement by AIHA, ISO, or any agency of the Federal Government.

Debris Rating Key

- 0 No debris detected.
- 1 Trace debris.
- 2 Light debris.
- 3 Moderate debris.
- 4 Substantial debris.
- 5 Extensive debris.
- 6 Field blank.
- 10 Hold Sample

NOTE: Debris defined as skin, fibers, pollen grains, insect parts, and/or other non-fungal particles.



IAQ Mold Report

Analytical Notes

2051 Valley View Lane

Farmers Branch, TX 75234 Phone: (972) 241-8460

Client: Apex TITAN, Inc. - Dallas, TX Lab Job No.: 15F-05316

Project: Prairie Trail Report Date: 05/01/2015 4:29 PM

Project #: 7250115125 **Sample Date :** 04/29/2015

Sample Type: Spore Trap, Non-cultured Spore Trap Type: Zefon - Air-O-Cell

Test Method: Mold: ASTM D7391-09 - Standard Profile Page 2 of 2

This report consists of three sections; a summary section, a data detail section, and an analytical notes section. Results may not be reported except in full.



LAB#102577







DSHS License No.: LAB0117

AIHA EMPAT ID: 102577

DSHS License No.: LAB0117 AIHA EMPAT ID: 102577 05/01/2015 4:29 PM **Sample Date:** 04/29/2015 15F-05316 Report Date Lab Job No. Supplemental Overview IAQ Mold Report Farmers Branch, TX 75234 Phone: (972) 241-8460 Apex TITAN, Inc. - Dallas, TX 7250115125 Prairie Trail 2051 Valley View Lane 25000_— 20000 10000 5000-15000-Moody Labs Project #: Project: Client: Total Spores/m³

DSHS License No.: LAB0117 AIHA EMPAT ID: 102577 4:29 PM 05/01/2015 **Sample Date:** 04/29/2015 15F-05316 Report Date Lab Job No. ■ Sample ■ Average Reference 1 □ Average Reference 2 Supplemental Overview Standardes (BIN IAQ Mold Report Music www.sparepressions. - Epicocum Copillus group mnindeopelo Chaetonium sandsolvised Basiliosopoles Farmers Branch, TX 75234 Phone: (972) 241-8460 Apex TITAN, Inc. - Dallas, TX Average Reference 1 = Outside, Outside phemaria 7250115125 Prairie Trail -0009 1000 10000 -0006 -0008 7000 -0009 4000 3000-2000-2051 Valley View Lane Total Spores/m³ Moody Labs Project #: Project: Client:

AIHA EMPAT ID: 102577 DSHS License No.: LAB0117 4:29 PM 05/01/2015 **Sample Date:** 04/29/2015 15F-05316 Report Date Lab Job No. ■ Sample ■ Average Reference 1 □ Average Reference 2 Supplemental Overview Standardes (BIN IAQ Mold Report Outside www.shameryands/Bright , Epicocum Copillus group mnindeopelo Chaebonium salopodoles Basiliospotes Farmers Branch, TX 75234 Phone: (972) 241-8460 millionad sillipadsed Apex TITAN, Inc. - Dallas, TX Average Reference 1 = Outside, Outside Alternaria 7250115125 Prairie Trail 8000 -0009 4000-2000-12000-10000 2051 Valley View Lane Total Spores/m³ Moody Labs Project #: Project: Client:

DSHS License No.: LAB0117 AIHA EMPAT ID: 102577 4:29 PM 05/01/2015 **Sample Date:** 04/29/2015 15F-05316 Report Date Lab Job No. ■ Sample ■ Average Reference 1 □ Average Reference 2 Supplemental Overview Standardes (BIN IAQ Mold Report elemonnen elempert ends / bright Outside - Epicocum Sopring group Mundeopelo Chaetonium salopodoles Basiliospotes Farmers Branch, TX 75234 Phone: (972) 241-8460 minimulad sillipaded Apex TITAN, Inc. - Dallas, TX Average Reference 1 = Outside, Outside pitemaria 7250115125 Prairie Trail -0009 4000-10000 -0006 -0008 7000 -0009 3000-2000-1000 2051 Valley View Lane Total Spores/m³ Moody Labs Project #: Project: Client:



Lab Job # K5F-U5316	AOC:3
Lab Job #	
Lab Job #	

		Please call in	advance for immediat	e, after-hour,	, & weeker	nd pricing & availa	ability.	1 1
ASBESTOS F	PLM			MOLD			Page	e of
			☐ 3 day ☐ 5 day	Direct E Standa		☐ Immediate		
PCM Air (74	100)	☐ Analyze All	☐ Positive Stop	Expand		☐ Immediate	,	
		☐ 1 day ☐ 2 day	☐ 3 day ☐ 5 day	Culture		☐ 10-14 days		
TOTAL DUST	T (0500/06	00)				பாக ture Samples sub		re Growth**
		1 day 2 day		BACTERI			ject to calla	ic Glowell
ASBESTOS T Air AHERA Air 7402 (Bulk Water/Wip Analyze B	Method (Modified) De/Micro Vac	☐ 6 hr ☐ 12 hr ☐ 1 day ☐ 2 day ☐ 1 day ☐ 2 day ☐ 1 day ☐ 2 day ☐ 1 day ☐ No	☐ 3 day ☐ 3 day ☐ 5 day	Colony CC + G	Counts (C ram Stain n & E. col			
Billing Compa	any / City:	Apex Ti	ten			# of Samr	les:	?
Submitter's Co		/ · · · · · · · · · · · · · · · · · · ·	$L^{e_{i,j}}$			# Of Salify	4/2	9/15
Submitter's Na		PLA					, ,	.,
Project:		· Mail ·	A4 . (1)					115125
, <u> </u>								
							-	
						Fax #:		
Invoice Addres								
*Please review pap Notes:	erwork and sample	s before submitting to lab. U	nsealed / improperly package	d / damaged / exp		r excessive administrati		
Sample #		Sample Descript	ion	Vol. / Area (if applicable)		Location	/ Notes	
5	Musi	•		150	I	73.24	73.8) 0
2	octe			3,-	RH		43.	
2	11	<u> </u>	-	>	100			
					0	72.2	24	
					0	73. Z	76	7
					14	23.8	24	٠
					CN	-U wal	11	
					<u> </u>			
	-							
Released By	1 Pm		Date / Time:	Received By	(X)	'MA DAW	So Pate	/ Time:
Released By	y:		Date / Time:	Received B			Date	Time!

Moody Labs ◆ 2051 Valley View Ln. ◆ Farmers Branch, TX 75234 ◆ Phone (972) 241-8460 ◆ Fax (972) 241-8461 www.moodylabs.com Q-00134s-2015

ATTACHMENT 2

Mold Services Definitions & Limitations/Standard of Care and Reliance





Mold Services Definitions & Limitations

"Mold" defined. Mold is a general term used to describe various types of singled-celled naturally occurring biological organisms occurring worldwide. For purposes of this report the term "mold" is broadly defined to include any living or dead fungi or related products or parts, including spores, hyphae, and mycotoxins.

Limited Scope of Mold Assessment. The scope of Apex's mold assessment services as reflected in the Proposal and this report are limited in that (i) they were physically limited to certain portions of the building structure (e.g., the Client identified Investigation Areas); and (ii) limited by accessibility to building materials or components within the Investigation Area(s). In contrast to a Limited Assessment" is a comprehensive assessment, which involves destructive sampling methods and the scope of the assessment typically extending to the entire building structure.

Time sensitive. Mold assessments are essentially a "snap shot in time," and the results are only relevant at the time of site reconnaissance. Because mold, when biologically active, is a living organism, its presence is influenced and controlled by environmental conditions. Mold assessments, therefore, are "time sensitive" in that the presence and concentration of mold and similar organisms in building structures or in the air is directly influenced by environmental conditions (such as humidity, moisture, nutrients and substrates), whether natural or caused by man, which conditions may vary significantly over relatively short periods of time.

Methodologies. Currently, mold assessment methodologies and protocols are governed by persuasive guidelines (rather than promulgated federal/state or local regulations). Presently, there is no data that supports a threshold limit or dose-response relationship for exposure to mold aeroallergens, individual pathogens, opportunistic pathogens and/or mycotoxins. The Occupational Safety and Health Administration (OSHA), the National Institute of Occupational Safety and Health (NIOSH) and other non-governmental associations, have not yet established permissible exposure limits (PELs), recommended exposure limits (RELs), or other limit values for aeroallergens. Because no limit values presently exist, Apex will not and cannot represent that the site contains no harmful microbes, mold, fungi, or their metabolites, or other latent conditions beyond those identified by the limited scope of this mold assessment.

Findings limited. Findings from a limited mold assessment are limited because of the nature of the information obtained (e.g., visual reconnaissance of readily accessible areas of building structures, interview information, anecdotal information, and limited sampling data derived from one or more specific sampling events). Apex cannot warrant the accuracy of prior or subsequent information/data, reports and services performed by other firms at the Site. Apex assumes no responsibility or liability for errors in information or data provided by or through the client or third party sources. Apex's services are not to be construed as legal or medical interpretation or advice.

Moisture Intrusion Limitation. Apex performs mold assessment services and is not a moisture intrusion, HVAC, roofing, plumbing or building envelope specialist. However, during the course of conducting its mold assessment services, Apex will report observed areas of apparent moisture intrusion. Apex does not and will not investigate the cause or causes of such observed moisture intrusion. In the event apparent moisture intrusion is observed, Apex will recommend

that the client contact a specialist (i.e., plumbing contractor, building envelope specialist, HVAC contractor, water intrusion specialist, etc.) to assist the client in determining the specific cause or causes of the moisture intrusion and remedial options.

Standard of Care

Apex performed its Services in accordance with generally accepted practices of the profession undertaken in similar services at the same time and in the same geographical area. No other warranties, expressed or implied, apply to the Services hereunder or this report.

Reliance

Apex's proposal for this project, services and this report have been prepared on behalf of and for the exclusive use of Lewisville Independent School District solely for their use and reliance in assessing the presence of mold in the Investigation Areas of the site. Lewisville Independent School District is the only party to which Apex explained the risks and limitations of the services and was solely involved in shaping the scope of services. Accordingly, reliance on this report by any other party may involve assumptions leading to an unintended interpretation of findings and opinions. With the consent of the client, Apex may offer reliance to third parties or contract with other parties to develop findings and opinions related to such party's unique risk management concerns. Notwithstanding the foregoing, reliance by any and all third parties upon the proposal, the Services or this report shall be limited in the aggregate to all relying parties to the fair market value of the Services provided by Apex.

