

DATE: May 12, 2017

TO: Amy Boughton, Principal

SUBJECT: Griffin MS - IAQ - Initial Contact - Lion's Den

Today 5/12, I received Work Order #410857: "Musty Smell in the Lion's Den all the time. PS". I have submitted a P.O. request to do an Air Test. Test will be done by Apex-Titan on Monday 5/15 or Tuesday 5/16. We should have the results back by the end of the week. If you have any questions, please contact me. Thanks, Paul

Paul Siddall Maintenance Energy Auditor (IAQ) Facility Services Lewisville ISD 340 Lake Haven Rd Lewisville, TX 75057

Cell: 469-446-8882



DATE: May 16, 2017

TO: Amu Boughton, Principal

SUBJECT: Griffin MS - IAQ - Initial Contact - Room 1227 (8th Grade Teachers Workroom)

Yesterday 5/15, I received Work Order #410500: "We have a HORRIFIC mildew smell in the 8th grade teacher's workroom. The smell is getting worse and a huge concern of mold in this area". This morning at 6:50 AM, I inspected the area. Found 1 stained ceiling tile in the Storage Room. I met with the East Zone Facility Services, and they will replace that ceiling tile. I have submitted a P.O. request to do an Air Test. Test will be done by Apex-Titan on Thursday 5/18 or Friday 5/19. We should have the results back by Tuesday 5/23. If you have any questions, please contact me. Thanks,

Paul

Paul Siddall
Maintenance Energy Auditor (IAQ)
Facility Services
Lewisville ISD
340 Lake Haven Rd
Lewisville, TX 75057

Cell: 469-446-8882



DATE: May 22, 2017

TO: Amy Boughton, Principal

SUBJECT: Griffin MS - IAQ - Air Test results - Lion's Den & Room 1227

On Wednesday 5/17, Apex-Titan Air tested the Lion's Den and Room 1227. It is typically assumed that indoor spore levels in an area with filtered or air conditioned air, and activity levels associated with schools average below the outdoor levels. Data from the airborne fungi sampling indicated that the total indoor concentration of mold/fungi in the Lion's Den, was 5.7%, and in Room 1227, was 22.4% of the outdoor levels. Utilizing this theory, the indoor concentrations are within the acceptable guidelines for areas with filtered air or air conditioning. If you have any questions, please call me. Thanks,

Paul

Paul Siddall Maintenance Energy Auditor (IAQ) **Facility Services** Lewisville ISD 340 Lake Haven Rd Lewisville, TX 75057



May 24, 2017

Lewisville Independent School District 340 Lake Haven Lewisville, Texas 75057

Attn: Mr. Paul Siddall

Re: Limited Mold Assessment Services

Griffin Middle School

Lion's Den

5105 N Colony Boulevard

The Colony, Texas

LISD PO No. 91736552-00 Apex Project No. 725010727077

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 Griffin Middle School located at 5105 N Colony Boulevard in The Colony, 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. Clinton S. Jech, a State of Texas licensed Mold Assessment Technician (Lic. No. MAT1075) on May 17, 2017. 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 Lion's Den. 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. P725010727088) dated May 12, 2017. 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 May 12, 2017 by Mr. Clinton S. Jech. Apex's visual reconnaissance of the Investigation areas revealed the following:

Temperature and Relative Humidity

Temperature readings collected inside the room was reported as 71.0 degrees Fahrenheit while relative humidity was reported as 51.6 percent. Temperature readings collected outside the building ranged from 83.6 to 87.0 degrees Fahrenheit while outside relative humidity ranged from 34.8 to 35.8 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							

Apex utilized a Protimeter Moisture Measurement System (MMS) instrument (Model No. BLD2000) to measure and diagnose dampness in the drywall within random areas. The MMS is a battery powered handheld unit that is equipped with hydrostick probes to measure moisture content in wood, drywall and other and non-conductive materials. The device measures electrical conductivity of building materials and compares the conductivity readings to an internal, electronic standard reading for normal or "dry" materials.

Moisture content readings were obtained by pushing the moisture probe pins into surfaces. The measured values were then displayed on a colored scale depicting if the materials measured were normal (dry), higher than normal but not critical (at risk) or contained excessive moisture levels (wet). Based on the manufacturer's guidelines, the instrument measurement values are described below:

< 5%	Out of Range
> 5% but < 16%	Normal
> 17% but < 20%	Higher than Normal but Not Critical
> 20%	Excessive Moisture Levels

Moisture meter readings taken from the walls within the room ranged from 14-40% which is considered normal to excessive moisture levels by the manufacturer.



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 room was 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 281 counts/m³, while the exterior level ranged from 3,781 to 4,920 counts/m³.

Two types of mold were identified at a higher concentration within the investigation area as compared to the samples collected from the exterior of the building. Air sample(s) collected within the Lion's Den reported Aspergillus/Penicillium as 80 counts/m³ while exterior levels were reported as 60 counts/m³ and Curvulaira as 7 counts/m³ while no exterior levels were reported.

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

Apex noted high levels of moisture beneath the corkboards within the room. A musty odor was observed and the time of the assessment. No excessive dust was noted at the time of the assessment.

Conclusions and Recommendations

Apex recommend that the wet materials be removed.

If you have any questions regarding this report or if we can assist you with any other matter, please contact the undersigned at (469) 365-1140.

Sincerely,

Apex TITAN, Inc.

Clinton. S. Jech

Manager, Field Services

Texas Mold Assessment Technician, Lic. No. MAT1075

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





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 Lab Job No.: 17F-05838

Project: Griffin MS Lion's Den **Report Date:** 05/19/2017 1:41 PM

Project #: 725010727-077 **Sample Date:** 05/17/2017

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 5/17/2017, three (3) samples were submitted by Clint Jech of Apex Titan, Inc. - Dallas (located at 12100 Ford. Rd., Suite 401, Farmers Branch, TX 75234) 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)	Sample Description	Identification		ntration
1	150	Exterior, South	Basidiospores Myxomycete / Rust / Smut Ascospores Cladosporium Hyphal / Spore Fragments - Dematiaceous Drechslera / Bipolaris group Aspergillus / Penicillium Alternaria Oidium Pithomyces Chaetomium	1740 727 620 440 80 60 60 27 13 7	46% 19% 16% 12% 2% 2% 41% <1% <1% <1%
2	150	Exterior, Northwest	Basidiospores Ascospores Myxomycete / Rust / Smut Cladosporium Aspergillus / Penicillium Alternaria Hyphal / Spore Fragments - Dematiaceous Stachybotrys Oidium Nigrospora	3781 1800 1520 980 500 40 33 20 13 7	100% 37% 31% 20% 10% <1% <1% <1% <1% <1% <1%
			Total:	4920	100%



Client:

Project:

Project #:

IAQ Mold Report

Summary

2051 Valley View Lane

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

Griffin MS Lion's Den

Apex Titan, Inc. - Dallas

Lab Job No.: 17F-05838

Report Date: 05/19/2017 1:41 PM

DSHS License No.: LAB0117

AIHA EMPAT ID: 102577

Sample Date: 05/17/2017

Spore Trap Type: Zefon - Air-O-Cell

Page 2 of 2

Sample Type: Spore Trap, Non-cultured

725010727-077

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

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Sample Number	Volume (liters)	Sample Description	Identification		ntration ubic meter
3	150	Lion's Den	Aspergillus / Penicillium	80	28%
			Myxomycete / Rust / Smut	60	21%
			Hyphal / Spore Fragments - Dematiaceous	33	12%
			Cladosporium	27	10%
			Ascospores	27	10%
			Drechslera / Bipolaris group	20	7%
			Basidiospores	20	7%
			Curvularia	7	2%
			Alternaria	7	2%
			Total	281	100%
				1	

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

Thank you for choosing Moody Labs

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.

Analyst(s): Nina Mims

Lab Manager: Heather Lopez

Lab Director: Bruce Crabb

Approved Signatory: Bene Call



Client:

Project:

Project #:

IAQ Mold Report

Data Detail

2051 Valley View Lane

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

Apex Titan, Inc. - Dallas

Griffin MS Lion's Den

Sample Type: Spore Trap, Non-cultured

Lab Job No.: 17F-05838

_ _ _

Report Date : 05/19/2017 1:41 PM

725010727-077 **Sample Date:** 05/17/2017

Spore Trap Type: Zefon - Air-O-Cell

DSHS License No.: LAB0117

AIHA EMPAT ID: 102577

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

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.

Sample ID:	1			2				3				
Location:	Exterior, South				Exterior, Northwest				Lion's Den			
Media Expires On:	May 2018					Ма	y 2018		May 2018			
Notes Included:												
Volume:			150		150				150			
	raw ct.	MDL	spores/m³		raw ct.	MDL	spores/m³		raw ct.	MDL	spores/m³	
Alternaria	4	6.67	27	<1%	5	6.67	33	<1%	1	6.67	7	2%
Ascospores	31	20.00	620	16%	76	20.00	1520	31%	4	6.67	27	10%
Aspergillus / Penicillium	3	20.00	60	2%	2	20.00	40	<1%	12	6.67	80	28%
Basidiospores	87	20.00	1740	46%	90	20.00	1800	37%	3	6.67	20	7%
Chaetomium	1	6.67	7	<1%								
Cladosporium	22	20.00	440	12%	25	20.00	500	10%	4	6.67	27	10%
Curvularia									1	6.67	7	2%
Drechslera / Bipolaris group	9	6.67	60	2%					3	6.67	20	7%
Hyphal / Spore Fragments - Dematiac	12	6.67	80	2%	3	6.67	20	<1%	5	6.67	33	12%
Hyphal / Spore Fragments - Hyaline												
Memnoniella												
Myxomycete / Rust / Smut	109	6.67	727	19%	147	6.67	980	20%	9	6.67	60	21%
Nigrospora					1	6.67	7	<1%				
Oidium	2	6.67	13	<1%	1	6.67	7	<1%				
Pithomyces	1	6.67	7	<1%								
Stachybotrys					2	6.67	13	<1%				
TOTALS	281		3781	100%	352		4920	100%	42		281	100%
Analyst		Nin	a Mims			Nin	a Mims			Nin	a Mims	
Analysis Date		5/1	9/2017			5/1	9/2017			5/1	9/2017	
Debris Rating			4				3				1	
Debris Composition												
Fibers			0/5				0/5				1/5	
Inorganic/Other			4/5				3/5				1/5	
Insect Parts			1/5				1/5				1/5	
Pollen			1/5				1/5				0/5	
Skin/Dander			0/5				0/5		1/5			

End of Data Detail section 17F-05838



Analytical Notes

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 Lab Job No.: 17F-05838

Project: Griffin MS Lion's Den **Report Date:** 05/19/2017 1:41 PM

Project #: 725010727-077 **Sample Date :** 05/17/2017

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.

NOTE: No abnormalities or exceptions noted during analysis. All samples suitable for analysis.

NOTE: No discernable field blanks were included with this sample set.

Methods

Method: ASTM D7391-09. A standard spore trap reading consists of a 30% reading for small spores; 100% of the sample is read for medium and large spores. A 100% reading is provided for containment samples, upon request, or otherwise as noted. Use final spore concentrations, not raw spore counts, for interpretation of results.

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

Note: RL (Reporting 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 linear trace detected
- 1 Trace particulate/debris
- 2 Light particulate/debris
- 3 Moderate particulate/debris.
- 4 Substantial particulate/debris
- 5 Extensive particulate/debris
- 6 Field blank
- 10 Hold Sample
- 11 Modified Analysis per Client Instructions

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



Client:

IAQ Mold Report

Analytical Notes

2051 Valley View Lane

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

Apex Titan, Inc. - Dallas

Lab Job No.: 17F-05838

Project: Griffin MS Lion's Den **Report Date:** 05/19/2017 1:41 PM

Project #: 725010727-077 **Sample Date :** 05/17/2017

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



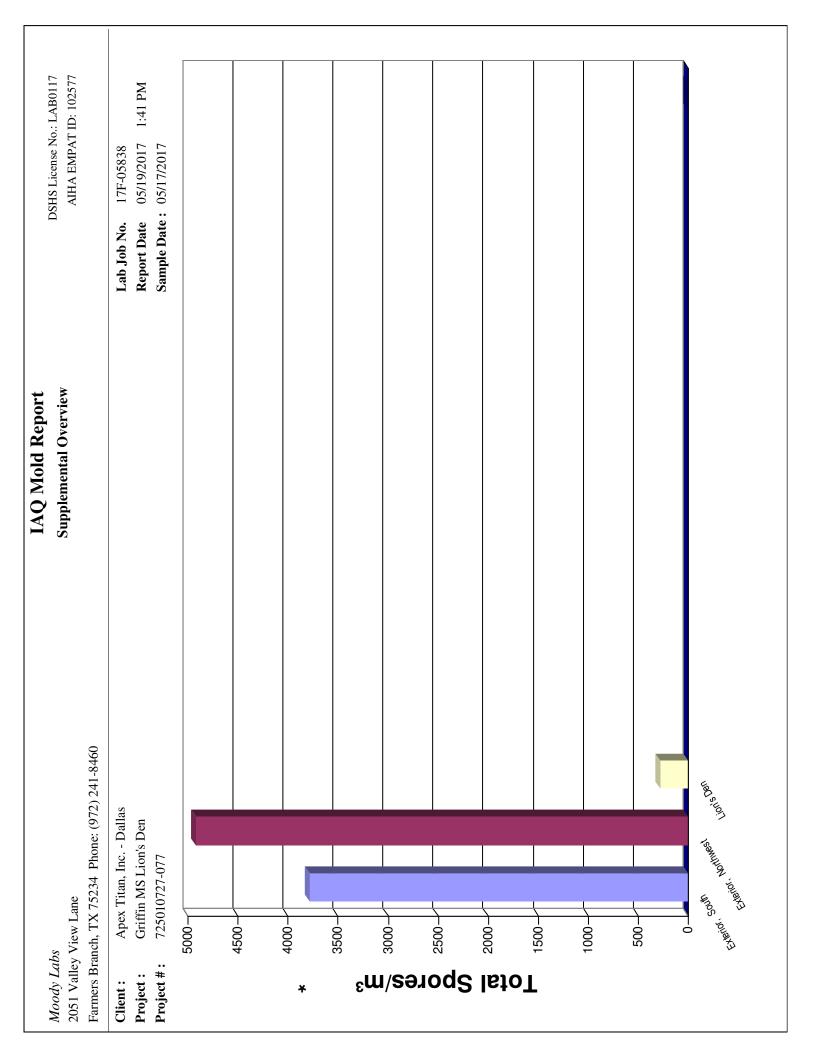




DSHS License No.: LAB0117

AIHA EMPAT ID: 102577

End of Analytical Notes section 17F-05838





2051 Valley View Lane

IAQ Mold Report

Supplemental Overview

DSHS License No.: LAB0117 AIHA EMPAT ID: 102577

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

Client: Apex Titan, Inc. - Dallas

Project: Griffin MS Lion's Den **Project #:** 725010727-077

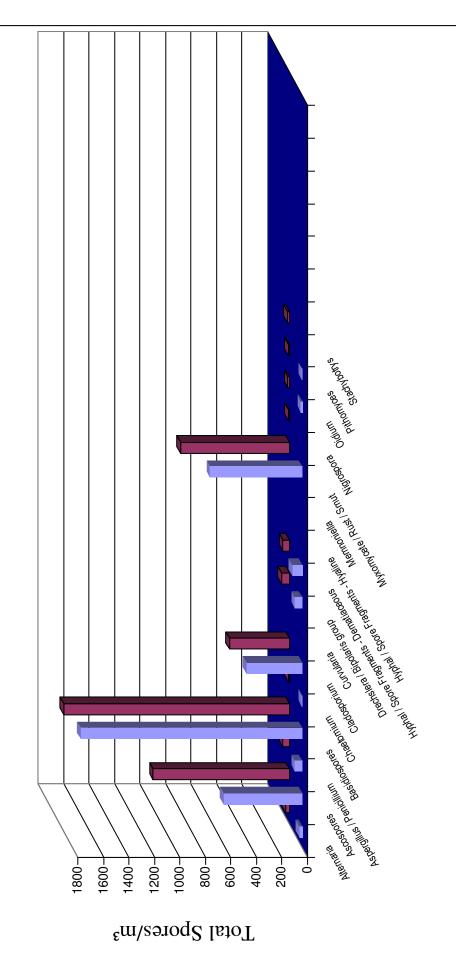
Exterior, South

 Lab Job No.
 17F-05838

 Report Date
 05/19/2017
 1:41 PM

Sample Date: 05/17/2017

🗖 Sample 🔳 Average Reference 1 🗖 Average Reference 2



Average Reference 1 = Exterior, South, Exterior, Northwest



Supplemental Overview

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

Project: Griffin MS Lion's Den

Project #: 725010727-077

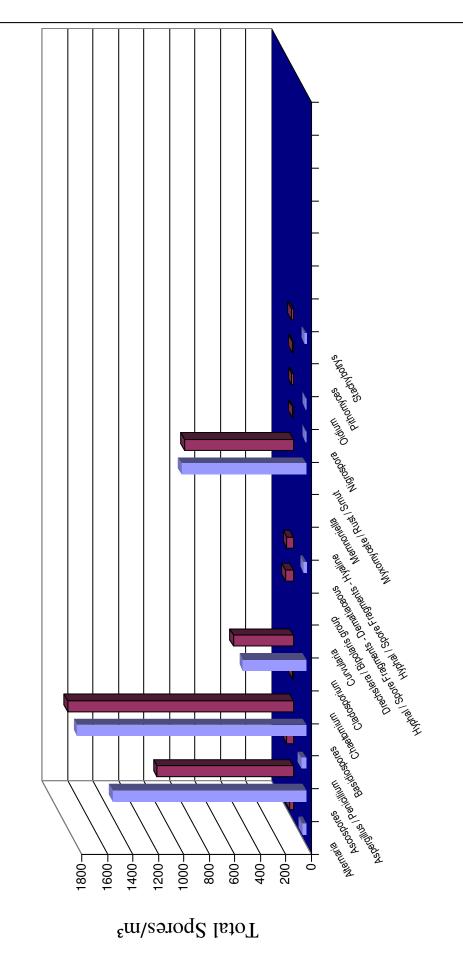
Exterior, Northwest

Lab Job No. 17F-05838

Report Date 05/19/2017 1:41 PM

Sample Date: 05/17/2017





Average Reference 1 = Exterior, South, Exterior, Northwest



Supplemental Overview

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

Project: Griffin MS Lion's Den

Project #: 725010727-077

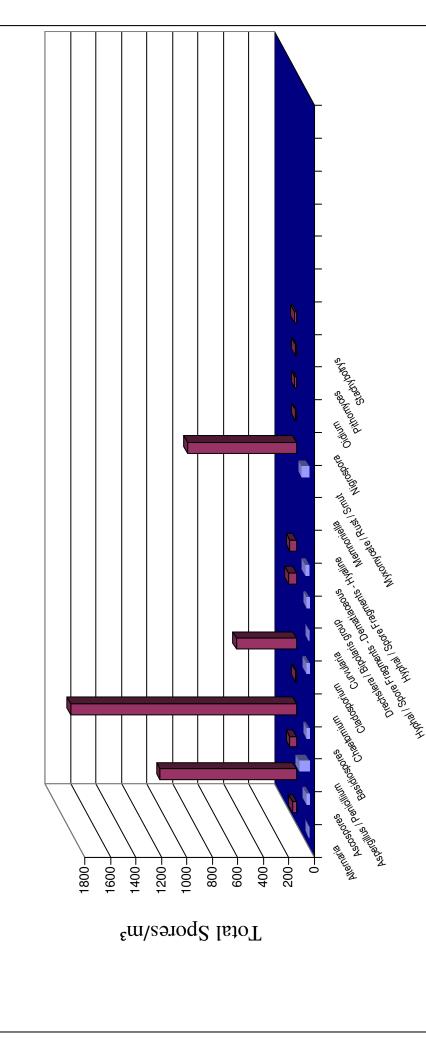
Lion's Den

Sample ■ Average Reference 1 □ Average Reference 2

Lab Job No. 17F-05838

Report Date 05/19/2017 1:41 PM

Sample Date: 05/17/2017



Average Reference 1 = Exterior, South, Exterior, Northwest

End of Supplemental Overview section

7F-05838



Chain of Custody

	or OTAZZ ANZ
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Lab Job #	
Lab Job #_	

	*Please call in advar	ice for imme	diate, after-hour, a	& weekend pri	cing & avails	hiliw *	Door	. 1
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PCM Air (74	☐ Analyze		Positive Stop	Standa	rd Air	☐ Immediate	1 day	☐ 2 day ② 2 day
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	T(0500/0600)			Allalyze	e Blanks	Yes	□ No	
	1 day	☐ 2 day		BACTERI	und of Cultui A**	e Samples subj	ect to Cultu	re Growth**
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AIT /402 (MC	odified) ∐ 1 day [☐ 2 day 「	∃3 dav		am Stain 1 & E. coli (F)/A\	☐ 3 day	☐ 5 day
Bulk Water/Wipe/	☐ 1 day [/Micro Vac ☐ 1 day [ີໄ2 dav Γ	3 day D 5 day	Legione		/ <i>^</i>)	☐ 2-3 day	
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Submitter's Na	me: Cliaton S.	JELL				Project #. *		127077
roject: عني	ittin M3 Lion's	Den				Phone #1		
Contact Infor	mation: Name: <u>Clia</u> :	tech				Mahila # .		· · · · · · · · · · · · · · · · · · ·
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Sample #	Sample	Descriptio	n	Vol. / Area (if applicable)		Location	/ Notes	
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	Same	/ _						
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2	Exterior, North	west		150	Te 83.	6 . H=	35.8 %.	
	Exterior, South Exterior, North Lion's Dan	west			To 83.	6 4 H=	35.8 %.	M= ·/.
	Exterior, North	west		150	To 83.	6 4 H=	35.8 %.	M= ·/.
	Exterior, North	west		150	To 83. To 71.	O H= 5	35.8 %. 1.4 % Tild	M= ·/.
	Exterior, North	west		150	To B3. To 71.1 Ceilings Wells =1	O H= 5	35.8 %. 1.4 %. Tilue mel, lock	M= ·/.
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	Exterior, North	west		150	To B3. To 71.1 Coilings Walls = 1 Floor = 6 Musty South /	Control Con	35.8 %. 1.4 % Tilu mel, lock c Beneut	M= ·/. Bourd on Slee L Cart Bo-
	Exterior, North	west		150	To 83. To 71.1 Ceiling: Walls = 1 Floor = 6 Musty: South / 20-40	Co H= 5 Ceiling Voud Wall Pa Floor Sill Smell Southeast Moistur	85.8 %. 1.4 % Tilu mel, lock Beneut L A E	Bourd on Slee 4 Costs Bourd
	Exterior, North	west		IS _D	To B3. To 71.1 Coiling: Walls #1 Floor = 6 Musty South / 20-40	Co H= 5 Ceiling Voud Wall Pa Floor Sill Smell Southeast Moistur	85.8 %. 1.4 %. Tilu Beneut A E	M= ·/. Bourd on Olee L Cort Book 14-15/-
	Exterior, North	west		IS _D	To B3. To 71.1 Coiling: Walls #1 Floor = 6 Musty South / 20-40	Control Southeast Moistur He Moistur He Moistur He He He He He He He He He H	85.8 %. 1.4 %. Tilu Beneut A E	M= ·/. Bourd on Olee L Cort Book 14-15/-
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	Lion's Dan	Nest		IS _D	To B3. To 71.1 Ceiling: Walls #1 Floor = (Musty) South / 20-40 Morther Moistur	Control Southeast Moistur He Moistur He Moistur He He He He He He He He He H	85.8%. 1.4 % Tile Beneut A E St Walk K. Cark	Bourd on Beach Last Bourd 14-155-

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.





May 24, 2017

Lewisville Independent School District 340 Lake Haven Lewisville, Texas 75057

Attn: Mr. Paul Siddall

Re: Limited Mold Assessment Services

Griffin Middle School

Room 1227

5105 N Colony Boulevard

The Colony, Texas

LISD PO No. 91736786-00 Apex Project No. 725010727080

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 Griffin Middle School located at 5105 N Colony Boulevard in The Colony, 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. Clinton S. Jech, a State of Texas licensed Mold Assessment Technician (Lic. No. MAT1075) on May 17, 2017. 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 room 1227. 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. P725010727091) dated May 16, 2017. 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's Mold Assessment Site reconnaissance was performed on May 17, 2017 by Mr. Clinton S. Jech. Apex's visual reconnaissance of the Investigation areas revealed the following:

Temperature and Relative Humidity

Temperature readings collected inside the room was reported as 73.2 degrees Fahrenheit while relative humidity was reported as 45.2 percent. Temperature readings collected outside the building ranged from 83.6 to 87.0 degrees Fahrenheit while outside relative humidity ranged from 34.8 to 35.8 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								

Apex utilized a Protimeter Moisture Measurement System (MMS) instrument (Model No. BLD2000) to measure and diagnose dampness in the drywall within random areas. The MMS is a battery powered handheld unit that is equipped with hydrostick probes to measure moisture content in wood, drywall and other and non-conductive materials. The device measures electrical conductivity of building materials and compares the conductivity readings to an internal, electronic standard reading for normal or "dry" materials.

Moisture content readings were obtained by pushing the moisture probe pins into surfaces. The measured values were then displayed on a colored scale depicting if the materials measured were normal (dry), higher than normal but not critical (at risk) or contained excessive moisture levels (wet). Based on the manufacturer's guidelines, the instrument measurement values are described below:

< 5%	Out of Range
> 5% but < 16%	Normal
> 17% but < 20%	Higher than Normal but Not Critical
> 20%	Excessive Moisture Levels

Moisture meter readings taken from the walls within the room ranged from 10-14% which is considered normal by the manufacturer.



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 classrooms 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 1,413 counts/m³, while the exterior level ranged from 4,735 to 6,308 counts/m³.

One type of mold was identified at a higher concentration within the investigation area as compared to the samples collected from the exterior of the building. Air sample(s) collected within the room 1227 reported Aspergillus/Penicillium as 400 counts/m³ while exterior levels were reported as 60 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 excessive dust or odors were noted during the inspection.

Conclusions and Recommendations

Apex recommends that the room be cleaned and retested.

If you have any questions regarding this report or if we can assist you with any other matter, please contact the undersigned at (469) 365-1140.

Sincerely,

Apex TITAN, Inc.

Clinton. S. Jech

Manager, Field Services

Texas Mold Assessment Technician, Lic. No. MAT1075

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





2051 Valley View Lane

IAQ Mold Report

Summary

DSHS License No.: LAB0117 AIHA EMPAT ID: 102577

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

Client: Apex Titan, Inc. - Dallas **Lab Job No.:** 17F-05839

Project: Griffin MS Room 1227, 8th Grade Teacher's Workroom **Report Date:** 05/19/2017 1:05 PM

725010727080 Project #: **Sample Date:** 05/17/2017

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 5/17/2017, three (3) samples were submitted by Clint Jech of Apex Titan, Inc. - Dallas (located at 12100 Ford. Rd., Suite 401, Farmers Branch, TX 75234) 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.

1 150	Exterior, South	Basidiospores Myxomycete / Rust / Smut Ascospores Cladosporium Hyphal / Spore Fragments - Dematiaceous Drechslera / Bipolaris group Aspergillus / Penicillium Alternaria Oidium Chaetomium		2100 1081 820 460 100 67 60 33	44% 23% 17% 10% 2% 1%
		Hyphal / Spore Fragments - Dematiaceous Drechslera / Bipolaris group Aspergillus / Penicillium Alternaria Oidium		100 67 60	2% 1% 1%
		Aspergillus / Penicillium Alternaria Oidium		60	1%
		Alternaria Oidium			
		Oidium		33	-1%
					\1 /U
		Chaetomium		7	<1%
				7	<1%
			Total:	4735	100%
2 150	Exterior, Northwest	Basidiospores		2480	39%
		Myxomycete / Rust / Smut		2401	38%
		Ascospores		1120	18%
		Cladosporium		140	2%
		Aspergillus / Penicillium		60	<1%
		Alternaria		53	<1%
		Cercospora		27	<1%
		Hyphal / Spore Fragments - Dematiaceous		20	<1%
		Oidium		7	<1%
			Total:	6308	100%



Client:

Project:

Project #:

IAQ Mold Report

Summary

2051 Valley View Lane

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

725010727080

Apex Titan, Inc. - Dallas

Griffin MS Room 1227, 8th Grade Teacher's Workroom

Lab Job No.: 17F-05839

Report Date: 05/19/2017 1:05 PM

DSHS License No.: LAB0117

AIHA EMPAT ID: 102577

Sample Date: 05/17/2017

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

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Sample Number	Volume (liters)	Sample Description	Identification	Concentration spores/cubic me		
3	150	Room 1227, 8th Grade Teacher's	Basidiospores	440	31%	
		Workroom	Aspergillus / Penicillium	400	28%	
			Cladosporium	260	18%	
			Ascospores	240	17%	
			Myxomycete / Rust / Smut	33	2%	
			Drechslera / Bipolaris group	20	1%	
			Hyphal / Spore Fragments - Dematiaceous	13	<1%	
			Alternaria	7	<1%	
			Total:	1413	100%	

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.

Analyst(s): Nina Mims

Lab Manager: Heather Lopez

Lab Director: Bruce Crabb

Thank you for choosing Moody Labs

Approved Signatory: Bene Cult



Client:

IAQ Mold Report

Data Detail

2051 Valley View Lane

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

Lab Job No.: 17F-05839

DSHS License No.: LAB0117

AIHA EMPAT ID: 102577

Project: Griffin MS Room 1227, 8th Grade Teacher's Workroom **Report Date:** 05/19/2017 1:05 PM

Project #: 725010727080 **Sample Date:** 05/17/2017

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

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

Apex Titan, Inc. - Dallas

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.

Sample ID:	1			2				3				
Location:	Exterior, South				Exterior, Northwest				Room 1227, 8th Grade Teacher's Workroom			
Media Expires On:	May 2018					Ма	y 2018		May 2018			
Notes Included:												
Volume:			150		150				150			
	raw ct.	MDL	spores/m³		raw ct.	MDL	spores/m³		raw ct.	MDL	spores/m³	
Alternaria	5	6.67	33	<1%	8	6.67	53	<1%	1	6.67	7	<1%
Ascospores	41	20.00	820	17%	56	20.00	1120	18%	12	20.00	240	17%
Aspergillus / Penicillium	3	20.00	60	1%	3	20.00	60	<1%	20	20.00	400	28%
Basidiospores	105	20.00	2100	44%	124	20.00	2480	39%	22	20.00	440	31%
Cercospora					4	6.67	27	<1%				
Chaetomium	1	6.67	7	<1%								
Cladosporium	23	20.00	460	10%	7	20.00	140	2%	13	20.00	260	18%
Drechslera / Bipolaris group	10	6.67	67	1%					3	6.67	20	1%
Hyphal / Spore Fragments - Dematiac	15	6.67	100	2%	3	6.67	20	<1%	2	6.67	13	<1%
Hyphal / Spore Fragments - Hyaline												
Memnoniella												
Myxomycete / Rust / Smut	162	6.67	1081	23%	360	6.67	2401	38%	5	6.67	33	2%
Oidium	1	6.67	7	<1%	1	6.67	7	<1%				
Stachybotrys												
TOTALS	366		4735	100%	566		6308	100%	78		1413	100%
Analyst		Nin	a Mims			Nin	a Mims		Nina Mims			
Analysis Date		5/1	9/2017			5/1	9/2017			5/1	9/2017	
Debris Rating			3				3				2	
Debris Composition												
Fibers			1/5				1/5				1/5	
Inorganic/Other			3/5				3/5				2/5	
Insect Parts			1/5				1/5				0/5	
Pollen			1/5				1/5				0/5	
Skin/Dander			0/5				0/5				1/5	

End of Data Detail section 17F-05839



Analytical Notes

DSHS License No.: LAB0117

Lab Job No.: 17F-05839

AIHA EMPAT ID: 102577

2051 Valley View Lane

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

Client: Apex Titan, Inc. - Dallas

Project: Griffin MS Room 1227, 8th Grade Teacher's Workroom Report Date: 05/19/2017 1:05 PM

Project #: 725010727080 Sample Date: 05/17/2017

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.

NOTE: No abnormalities or exceptions noted during analysis. All samples suitable for analysis.

NOTE: No discernable field blanks were included with this sample set.

Methods

Method: ASTM D7391-09. A standard spore trap reading consists of a 30% reading for small spores; 100% of the sample is read for medium and large spores. A 100% reading is provided for containment samples, upon request, or otherwise as noted. Use final spore concentrations, not raw spore counts, for interpretation of results.

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

Note: RL (Reporting 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 linear trace detected
- 1 Trace particulate/debris
- 2 Light particulate/debris
- 3 Moderate particulate/debris.
- 4 Substantial particulate/debris
- 5 Extensive particulate/debris
- 6 Field blank
- 10 Hold Sample
- 11 Modified Analysis per Client Instructions

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



Analytical Notes

2051 Valley View Lane

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

Client: Apex Titan, Inc. - Dallas Lab Job No.: 17F-05839

Project: Griffin MS Room 1227, 8th Grade Teacher's Workroom **Report Date:** 05/19/2017

Project #: 725010727080 Sample Date: 05/17/2017

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

End of Analytical Notes section 17F-05839

DSHS License No.: LAB0117 AIHA EMPAT ID: 102577 05/19/2017 1:05 PM **Sample Date:** 05/17/2017 17F-05839 Report Date Lab Job No. Supplemental Overview **IAQ Mold Report** Griffin MS Room 1227, 8th Grade Teacher's Workroom mowow stacked agency of the promited that the promited the Farmers Branch, TX 75234 Phone: (972) 241-8460 Apex Titan, Inc. - Dallas 70007 -0009 5000 3000 2000 1000 0 4000-725010727080 Total Spores/m3 2051 Valley View Lane Moody Labs Project #: Project: Client:



Supplemental Overview

AIHA EMPAT ID: 102577 DSHS License No.: LAB0117

2051 Valley View Lane

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

Apex Titan, Inc. - Dallas Client:

Project :

Project #:

Griffin MS Room 1227, 8th Grade Teacher's Workroom 725010727080

Exterior, South

■ Sample ■ Average Reference 1 □ Average Reference 2

1:05 PM 05/19/2017 17F-05839 Report Date Lab Job No.

Sample Date: 05/17/2017

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Average Reference 1 = Exterior, South, Exterior, Northwest



Supplemental Overview

DSHS License No.: LAB0117 AIHA EMPAT ID: 102577

2051 Valley View Lane

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

Apex Titan, Inc. - Dallas Client:

Griffin MS Room 1227, 8th Grade Teacher's Workroom Project:

725010727080

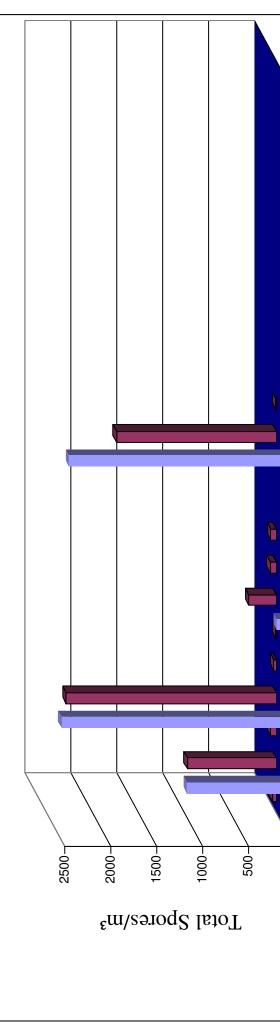
Project #:

Exterior, Northwest

■ Sample ■ Average Reference 1 □ Average Reference 2

1:05 PM 05/19/2017 17F-05839 Report Date Lab Job No.

Sample Date: 05/17/2017



Average Reference 1 = Exterior, South, Exterior, Northwest

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Supplemental Overview

DSHS License No.: LAB0117 AIHA EMPAT ID: 102577

2051 Valley View Lane

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

Apex Titan, Inc. - Dallas Client:

Griffin MS Room 1227, 8th Grade Teacher's Workroom Project:

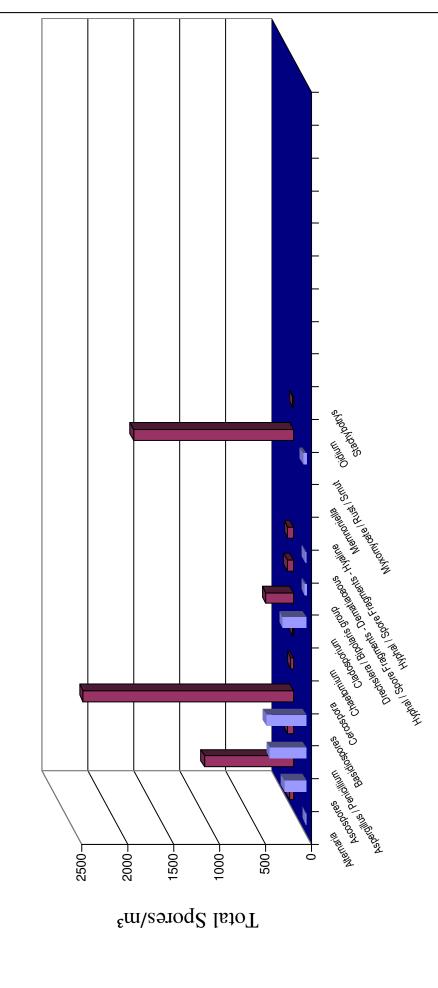
725010727080 Project #:

Room 1227, 8th Grade Teacher's Workroom

1:05 PM 05/19/2017 17F-05839 Report Date Lab Job No.

Sample Date: 05/17/2017





Average Reference 1 = Exterior, South, Exterior, Northwest

End of Supplemental Overview section



Chain of Custody

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Lab Job #	11-	05839 AOG	5
Lab Job #_	•		_
Lab Job #_			

ASBESTO	*Please call in advance for im S PLM	nmediate, after-hour, 8	weekend price MOLD	ing & availa	bility.*	Page	of		
Bulk PCM Air (☐ Immediate ☐ 1 day ´ ☐ 2 day ☐ Analyze All 7400)	☐ 3 day ☐ 5 day ☐ Positive Stop	Direct Ex Standard Expande	d Air	☐ Immediate ☐ Immediate ☐ Immediate	☐ 1 day ☐ 1 day ☐ 1 day	2 2 day		
2-311-111-1	☐ Immediate ☐ 1 day ☐ 2 day	3 day	Culture*	*	☐ 10-14 days	□ 1 day	∐ 2 day		
TOTAL DI	ST(0500/0600)				ட res re Samples subj		e Growth**		
ASBESTOS TEM Air AHERA Method Late Night* 6 hr 12 hr 24 hr Air 7402 (Modified) 1 day 2 day 3 day Bulk 1 day 2 day 3 day Water/Wipe/Micro Vac 1 day 2 day 3 day Analyze Blanks Yes No *Late night analysis surcharges apply		BACTERIA** Colony Counts (CC) CC + Gram Stain Coliform & E. coli (P/A) Legionella OTHER:			☐ 3 day ☐ 3 day ☐ 2-3 day ☐ 14 days	☐ 5 day			
Billing Cor	pany / City: Apex Titen,	Inc			# of Sample	es: 3			
Submitter's Company:						Sample Date: 9/17/2017			
Submitter's	Name: Cliaton S. Jed				Project #:		27080		
Project: _	-eiffin MS Room 1227	(8th Grade Teach	her's Works	<u> </u>	_ Phone #: _				
Contact Information: Name: Clint Jech						Mobile #: (972) 989-1031			
E-mail Results to: Cliat/Darren/Veronica					_ Fax #:	Fax #:			
Invoice Address: Vcconico *Please review paperwork and samples before submitting to lab. Unsealed / improperly packaged / damaged / expired samples or excess									
Notes:	paperwork and samples perore submitting to lab. U	Insealed / improperly package	d / damaged / expire	d samples or ex	cessive administrative	requests may in	cur additional fees*		
Sample	# Sample Descri	ption	Vol. / Area (if applicable)		Location	/ Notes			
1	Exterior, South	Exterior, South		T= 87	0° H= 34.8%				
2	Exterior, Northwest		150	i		° 4=35.8 %			
3	Room 1227 (8th Grade	Teachers	150		2 " H=45	-	= 10-14-/		
	No(Kroom)								
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ATTACHMENT 2

Mold Services Definitions & Limitations/Standard of Care and Reliance





Mold Services Definitions & Limitations

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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.

