

DATE: October 16, 2018

TO: Tim Greenwell, Principal

SUBJECT: Liberty ES - IAQ - Air Test Results - Rooms 505, 507, 409 and Hallway by
Rooms 505 & 507

On Wednesday 10/10, Apex-Titan Air tested Rooms 505, 507, 409 and Hallway by Rooms 505 & 507. 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 Room 505, was **5.8%**, Room 507, was **4.0%**, Room 409, was **20.2%**, and the Hallway by Rooms 505 & 507, was **4.1%**, 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



October 29, 2018

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

Re: Limited Mold Assessment
Liberty Elementary School
Room 505, Room 507, Corridor near/outside Room 505/507,
Room 409, Corridor near/outside room 409
4600 Quail Run Road
Flower Mound, Texas 75022
LISD PO No. 91905127-00
Apex Project No. 725010727152

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 Room 505, Room 507, Corridor near/outside Room 505/507, Room 409, Corridor near/outside room 409 of Liberty Elementary School located at 4600 Quail Run 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. David Davis, a State of Texas licensed Mold Assessment Consultant (Lic. No. MAC1135) on October 10, 2018. Apex's mold services definitions and limitations are included as an attachment to this report.

Regulatory Overview

The Texas Department of Licensing and Regulation (TDLR) regulates fungal assessment and remediation activities under the Texas Mold Assessment and Remediation Rules (TMARR). Effective January 1, 2005, the TMARR requires that fungal assessments be performed by a TDLR-licensed Mold Assessment Technician (MAT) or Mold Assessment Consultant (MAC) following specified minimum work practices and procedures. Bulk, surface and air samples collected during a fungal assessment must be analyzed by a TDLR-licensed mold analysis laboratory. Visible fungal growth that exceeds 25 contiguous square feet is considered a regulated quantity and must be remediated by a licensed Mold Remediation Contractor (MRC) in accordance with a site specific fungal remediation protocol prepared by a MAC.

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 505, Room 507, Corridor near/outside Room 505/507, Room 409 and the Corridor near/outside room 409. 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 established in Apex's Mold Assessment Proposal (No. P725010727181) dated October 4, 2018. Apex's scope-of-work was to provide visual and/or analytical mold assessment and related services in the Investigation Area 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 October 10, 2018 by Mr. David Davis, a TDLR-licensed MAC. Apex's visual reconnaissance of the Investigation areas revealed the following:

Visual Assessment

At the time of the assessment no visible mold growth (VMG), odors or excessive dust were noted within the Investigated Areas.

Temperature and Relative Humidity

Temperature, relative humidity and moisture content readings collected from within the investigation areas on October 10, 2018 are presented in Table 1 below.

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 1 Temperature, Relative Humidity and Moisture Content Readings October 11, 2018		
Applicable limits and guidelines	Temperature (°F)	Relative Humidity (%)
	Winter: 68-74.5°F Summer: 73-79°F	Winter: 22-60% Summer: 30-60%
Sample Location		
Room 505	71.5	71.2
Room 507	71.7	67.0
Corridor near/outside Room 505/507	72.5	62.3
Room 409	72.8	66.3
Corridor near/outside Room 505/507	73.1	64.1
Front of School near Main Entrance	72.5	57.9

Air Monitoring Results

Apex collected five (5) samples from the interior of the Investigation Areas and one (1) reference sample from the exterior of the building. The microbial samples were analyzed by Moody Labs (Moody) 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.

Room 505

Air testing performed using spore traps indicated that total airborne mold spores within Room 505 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 class room was reported as 2,199 spores/m³, while the exterior levels were reported as 38,208 spores/m³.

Room 507

Air testing performed using spore traps indicated that total airborne mold spores within Room 507 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 class room was reported as 1,517 spores/m³, while the exterior levels were reported as 38,208 spores/m³.

Corridor near/outside Room 505/507

Air testing performed using spore traps indicated that total airborne mold spores within the Corridor near/outside Room 505/57 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 class room was reported as 1,559 spores/m³, while the exterior levels were reported as 38,208 spores/m³.

Room 409

Air testing performed using spore traps indicated that total airborne mold spores within Room 409 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 class room was reported as 7,707 spores/m³, while the exterior levels were reported as 38,208 spores/m³.

Corridor near/outside Room 409

Air testing performed using spore traps indicated that total airborne mold spores within the 3rd Floor Corridor near Restrooms and Stairs 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 class room was reported as 1,959 spores/m³, while the exterior levels were reported as 38,208 spores/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).

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.

Limitations

Assessment findings and recommendations are subject to the following limitations:

1. This assessment was based on a limited assessment of conditions existing at the time of the site assessment and presumes that the conditions that caused the initial moisture incursion and resultant mold growth have been corrected as reported.
2. The samples collected are representative of the specific time and location where they were collected and may not be indicative of conditions throughout the entire structure. Results of the assessment should not be extrapolated to represent other areas in the building. Bioaerosol levels are highly variable from day-to-day with results depending on environmental factors such as occupancy, temperature, humidity, airflows, and sunlight levels.
3. The room was occupied at the time of the assessment therefore destructive exploration of duct work and sheetrock was not performed.

The recommendations and conclusions made in this report may change or need to be amended as new information is obtained, particularly as remediation or renovation processes occur and previously “hidden” or inaccessible areas (such as wall cavities and behind cabinetry) are exposed. The recommendations and conclusions contained within this report represent the best professional judgment of Apex based on the data collected at the time of the assessment as contained herein and this report should be reviewed in its entirety. Apex is not responsible for the use of this information outside of its intended purpose. All occupant health inquiries should be referred to a physician knowledgeable in the health effects of environmental mold exposure.

This document is the rendering of a professional service, the essence of which is the advice, judgment, opinion, or professional skill. In the event that additional information becomes available that could affect the conclusions reached in this investigation, Apex reserves the right to review some or all of the opinions presented herein and change the resulting recommendations, if required.

This report has been prepared for the exclusive use of Lewisville I.S.D. No unauthorized reuse or reproduction of this report, in part or whole, shall be permitted without prior written consent. If you have any questions regarding this report or if we can assist you with any other matter, please contact the undersigned at (469) 365-1100.

Sincerely,
Apex TITAN, Inc.



Phillip G. Fronczek, CHMM
Texas Mold Assessment Consultant
Lic. No. MAC1246

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

ATTACHMENTS

ATTACHMENT 1

ANALYTICAL RESULTS/CHAIN OF CUSTODY



IAQ Mold Report

Summary

TDLR 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. : 18F-13041
Project : Liberty Elem School, 4600 Quail Run Rd, Flower Mound	Report Date : 10/11/2018 4:12 PM
Project # : 725010727152	Sample Date: 10/10/2018
Sample Type: Spore Trap, Non-cultured	Spore Trap Type: Allergenco D
Test Method: Mold: ASTM D7391-17e1 - Standard Profile	Page 1 of 4

On 10/10/2018, six (6) samples were submitted by David Davis 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	Concentration spores/cubic meter
2646309	75	Area, Inside Room 505	Basidiospores	1026 47%
			Aspergillus / Penicillium	533 24%
			Cladosporium	240 11%
			Ascospores	173 8%
			Hyphal / Spore Fragments - Dematiaceous	147 7%
			Coprinus group	40 2%
			Curvularia	27 1%
			Drechslera / Bipolaris group	13 <1%
			Total:	2199 100%
			2646302	75
Cladosporium	253 17%			
Myxomycete / Rust / Smut	213 14%			
Aspergillus / Penicillium	147 10%			
Ascospores	93 6%			
Hyphal / Spore Fragments - Dematiaceous	80 5%			
Coprinus group	13 <1%			
Cercospora	13 <1%			
Drechslera / Bipolaris group	13 <1%			
Curvularia	13 <1%			
Alternaria	13 <1%			
Total:	1517 100%			



IAQ Mold Report

Summary

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2051 Valley View Lane
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Client : Apex Titan, Inc. - Dallas	Lab Job No. : 18F-13041
Project : Liberty Elem School, 4600 Quail Run Rd, Flower Mound	Report Date : 10/11/2018 4:12 PM
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Sample Number	Volume (liters)	Sample Description	Identification	Concentration spores/cubic meter			
2646329	75	Area, Corridor Near / Outside 505 / 507	Aspergillus / Penicillium	547 35%			
			Hyphal / Spore Fragments - Dematiaceous	320 21%			
			Basidiospores	293 19%			
			Ascospores	120 8%			
			Curvularia	80 5%			
			Drechslera / Bipolaris group	67 4%			
			Myxomycete / Rust / Smut	53 3%			
			Cladosporium	53 3%			
			Hyphal / Spore Fragments - Hyaline	13 <1%			
			Nigrospora	13 <1%			
			Total:	1559 100%			
			2646316	75	Area, Inside Room 409 * See Analytical Notes report for further details	Basidiospores	5440 71%
						Cladosporium	1280 17%
Ascospores	480 6%						
Aspergillus / Penicillium	267 3%						
Coprinus group	147 2%						
Myxomycete / Rust / Smut	40 <1%						
Hyphal / Spore Fragments - Dematiaceous	27 <1%						
Agaricales group	13 <1%						
Alternaria	13 <1%						
Total:	7707 100%						



IAQ Mold Report

Summary

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Client : Apex Titan, Inc. - Dallas	Lab Job No. : 18F-13041
Project : Liberty Elem School, 4600 Quail Run Rd, Flower Mound	Report Date : 10/11/2018 4:12 PM
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Test Method: Mold: ASTM D7391-17e1 - Standard Profile	Page 3 of 4

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Sample Number	Volume (liters)	Sample Description	Identification	Concentration spores/cubic meter
2646317	75	Area, Corridor Near / Outside 409	Basidiospores	453 23%
			Aspergillus / Penicillium	427 22%
			Cladosporium	267 14%
			Hyphal / Spore Fragments - Dematiaceous	253 13%
			Curvularia	187 10%
			Myxomycete / Rust / Smut	93 5%
			Ascospores	80 4%
			Drechslera / Bipolaris group	53 3%
			Coprinus group	40 2%
			Alternaria	40 2%
			Cercospora	27 1%
			Agaricales group	13 <1%
			Hyphal / Spore Fragments - Hyaline	13 <1%
			Stachybotrys	13 <1%
			Total:	1959 100%



IAQ Mold Report

Summary

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Project : Liberty Elem School, 4600 Quail Run Rd, Flower Mound
Project # : 725010727152
Sample Type: Spore Trap, Non-cultured
Test Method: Mold: ASTM D7391-17e1 - Standard Profile

Lab Job No. : 18F-13041
Report Date : 10/11/2018 4:12 PM
Sample Date: 10/10/2018
Spore Trap Type: Allergenco D

Page 4 of 4

On 10/10/2018, six (6) samples were submitted by David Davis 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	Concentration spores/cubic meter
2646303	75	Background, Front of School near Main Entrance * See Analytical Notes report for further details	Basidiospores Cladosporium Ascospores Coprinus group Aspergillus / Penicillium Myxomycete / Rust / Smut Cercospora Hyphal / Spore Fragments - Dematiaceous Paecilomyces Agaricales group Curvularia Alternaria Drechslera / Bipolaris group Hyphal / Spore Fragments - Hyaline Fusicladium Nigrospora Pyricularia Ulocladium / Stemphylium	29000 76% 4400 12% 3169 8% 866 2% 160 <1% 107 <1% 93 <1% 67 <1% 67 <1% 67 <1% 53 <1% 40 <1% 40 <1% 27 <1% 13 <1% 13 <1% 13 <1% 13 <1% Total: 38208 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 the results contained herein. Interpretation should be made by a qualified professional.

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): Rebecca Lutz

Lab Manager : Heather Lopez

Lab Director : Bruce Crabb

Approved Signatory : _____

Approved Signatory : _____

Thank you for choosing Moody Labs



IAQ Mold Report

Data Detail

TDLR 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 : Liberty Elem School, 4600 Quail Run Rd, Flower Mound
Project # : 725010727152
Sample Type: Spore Trap, Non-cultured
Test Method: Mold: ASTM D7391-17e1 - Standard Profile

Lab Job No. : 18F-13041
Report Date : 10/11/2018 4:12 PM
Sample Date: 10/10/2018
Spore Trap Type: Allergenco D

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:	2646309					2646302					2646329				
Location:	Area, Inside Room 505					Area, Inside Room 507					Area, Corridor Near / Outside 505 / 507				
Media Expires On:	May 2019					May 2019					May 2019				
Notes Included:															
Volume:	75					75					75				
	raw ct.	RL	spores/m ³	%total	spores/m ³ SF	raw ct.	RL	spores/m ³	%total	spores/m ³ SF	raw ct.	RL	spores/m ³	%total	spores/m ³ SF
Agaricales group															
Alternaria						1	13	13	<1%	10					
Ascospores	13	13	173	8%	170	7	13	93	6%	90	9	13	120	8%	120
Aspergillus / Penicillium	40	13	533	24%	530	11	13	147	10%	150	41	13	547	35%	550
Basidiospores	77	13	1026	47%	1000	50	13	666	44%	670	22	13	293	19%	290
Cercospora						1	13	13	<1%	10					
Chaetomium															
Cladosporium	18	13	240	11%	240	19	13	253	17%	250	4	13	53	3%	50
Coprinus group	3	13	40	2%	40	1	13	13	<1%	10					
Curvularia	2	13	27	1%	30	1	13	13	<1%	10	6	13	80	5%	80
Drechslera / Bipolaris group	1	13	13	<1%	10	1	13	13	<1%	10	5	13	67	4%	70
Fusicladium															
Hyphal / Spore Fragments - Dematiace	11	13	147	7%	150	6	13	80	5%	80	24	13	320	21%	320
Hyphal / Spore Fragments - Hyaline											1	13	13	<1%	10
Memnoniella															
Myxomycete / Rust / Smut						16	13	213	14%	210	4	13	53	3%	50
Nigrospora											1	13	13	<1%	10
Paecilomyces															
Pyricularia															
Stachybotrys															
Ulocladium / Stemphylium															
TOTALS	165		2199	100%	2200	114		1517	100%	1500	117		1559	100%	1600
Analyst	Rebecca Lutz					Rebecca Lutz					Rebecca Lutz				
Analysis Date	10/11/2018					10/11/2018					10/11/2018				
Debris Rating	3					3					4				
Debris Composition															
Fibers	2/5					1/5					2/5				
Inorganic/Other	3/5					3/5					3/5				
Insect Parts	1/5					0/5					1/5				
Pollen	0/5					0/5					0/5				
Skin/Dander	3/5					2/5					4/5				



IAQ Mold Report

Data Detail

TDLR 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 : Liberty Elem School, 4600 Quail Run Rd, Flower Mound
Project # : 725010727152
Sample Type: Spore Trap, Non-cultured
Test Method: Mold: ASTM D7391-17e1 - Standard Profile

Lab Job No. : 18F-13041
Report Date : 10/11/2018 4:12 PM
Sample Date: 10/10/2018
Spore Trap Type: Allergenco D

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:	2646316					2646317					2646303				
Location:	Area, Inside Room 409					Area, Corridor Near / Outside 409					Background, Front of School near Main Entrance				
Media Expires On:	May 2019					May 2019					May 2019				
Notes Included:	See Analytical Notes										See Analytical Notes				
Volume:	75					75					75				
	raw ct.	RL	spores/m ³	%total	spores/m ³ SF	raw ct.	RL	spores/m ³	%total	spores/m ³ SF	raw ct.	RL	spores/m ³	%total	spores/m ³ SF
Agaricales group	1	13	13	<1%	10	1	13	13	<1%	10	5	13	67	<1%	70
Alternaria	1	13	13	<1%	10	3	13	40	2%	40	3	13	40	<1%	40
Ascospores	36	13	480	6%	480	6	13	80	4%	80	103	31	3169	8%	3200
Aspergillus / Penicillium	20	13	267	3%	270	32	13	427	22%	430	12	13	160	<1%	160
Basidiospores	136	40	5440	71%	5400	34	13	453	23%	450	145	200	29000	76%	29000
Cercospora						2	13	27	1%	30	7	13	93	<1%	90
Chaetomium															
Cladosporium	96	13	1280	17%	1300	20	13	267	14%	270	121	36	4400	12%	4400
Coprinus group	11	13	147	2%	150	3	13	40	2%	40	65	13	866	2%	870
Curvularia						14	13	187	10%	190	4	13	53	<1%	50
Drechslera / Bipolaris group						4	13	53	3%	50	3	13	40	<1%	40
Fusicladium											1	13	13	<1%	10
Hyphal / Spore Fragments - Dematiace	2	13	27	<1%	30	19	13	253	13%	250	5	13	67	<1%	70
Hyphal / Spore Fragments - Hyaline						1	13	13	<1%	10	2	13	27	<1%	30
Memnoniella															
Myxomycete / Rust / Smut	3	13	40	<1%	40	7	13	93	5%	90	8	13	107	<1%	100
Nigrospora											1	13	13	<1%	10
Paecilomyces											5	13	67	<1%	70
Pyricularia											1	13	13	<1%	10
Stachybotrys						1	13	13	<1%	10					
Ulocladium / Stemphylium											1	13	13	<1%	10
TOTALS	306		7707	100%	7700	147		1959	100%	2000	492		38208	100%	38000
Analyst	Rebecca Lutz					Rebecca Lutz					Rebecca Lutz				
Analysis Date	10/11/2018					10/11/2018					10/11/2018				
Debris Rating	3					4					2				
Debris Composition															
Fibers	2/5					3/5					1/5				
Inorganic/Other	3/5					3/5					2/5				
Insect Parts	0/5					0/5					1/5				
Pollen	0/5					0/5					1/5				
Skin/Dander	3/5					4/5					1/5				

End of Data Detail section

18F-13041

SMLMS v12.87



IAQ Mold Report

Analytical Notes

TDLR 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. : 18F-13041

Project : Liberty Elem School, 4600 Quail Run Rd, Flower Mound

Report Date : 10/11/2018 4:12 PM

Project # : 725010727152

Sample Date : 10/10/2018

Sample Type: Spore Trap, Non-cultured

Spore Trap Type: Allergenco D

Test Method: Mold: ASTM D7391-17e1 - Standard Profile

Page 1 of 3

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Samples Analyzed

Sample No 2646316 : Area, Inside Room 409

Notes: Please note: the minimum detection limit for Basidiospores is 40 spores / cubic meter. When comparing results to other samples, use calculated results, not raw numbers.

Sample No 2646303 : Background, Front of School near Main Entrance

Notes: Please note: the minimum detection limit for Basidiospores is 200 spores / cubic meter. When comparing results to other samples, use calculated results, not raw numbers.
Please note: the minimum detection limit for Cladosporium is 36 spores / cubic meter. When comparing results to other samples, use calculated results, not raw numbers.
Please note: the minimum detection limit for Ascospores is 31 spores / cubic meter. When comparing results to other samples, use calculated results, not raw numbers.

Field Blanks

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

NOTE: All remaining samples suitable for analysis.



IAQ Mold Report

Analytical Notes

TDLR 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. : 18F-13041

Project : Liberty Elem School, 4600 Quail Run Rd, Flower Mound

Report Date : 10/11/2018 4:12 PM

Project # : 725010727152

Sample Date : 10/10/2018

Sample Type: Spore Trap, Non-cultured

Spore Trap Type: Allergenco D

Test Method: Mold: ASTM D7391-17e1 - Standard Profile

Page 2 of 3

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.

Methods

Method: ASTM D7391-17e1: Categorization and Quantification of Airborne Fungal Structures in an Inertial Impaction Sample by Optical Microscopy.

Samples are read at 100% unless noted. Partial readings may be employed when concentrations are elevated. 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 based upon 1 raw spore count.

Moody Labs recommends two significant figures for calculated values based on ASTM D7391-17e1.

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.



IAQ Mold Report

Analytical Notes

TDLR 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 : Liberty Elem School, 4600 Quail Run Rd, Flower Mound

Project # : 725010727152

Sample Type: Spore Trap, Non-cultured

Test Method: Mold: ASTM D7391-17e1 - Standard Profile

Lab Job No. : 18F-13041

Report Date : 10/11/2018 4:12 PM

Sample Date : 10/10/2018

Spore Trap Type: Allergenco D

Page 3 of 3

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.



End of Analytical Notes section

18F-13041

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IAQ Mold Report

Supplemental Overview

Client : Apex Titan, Inc. - Dallas

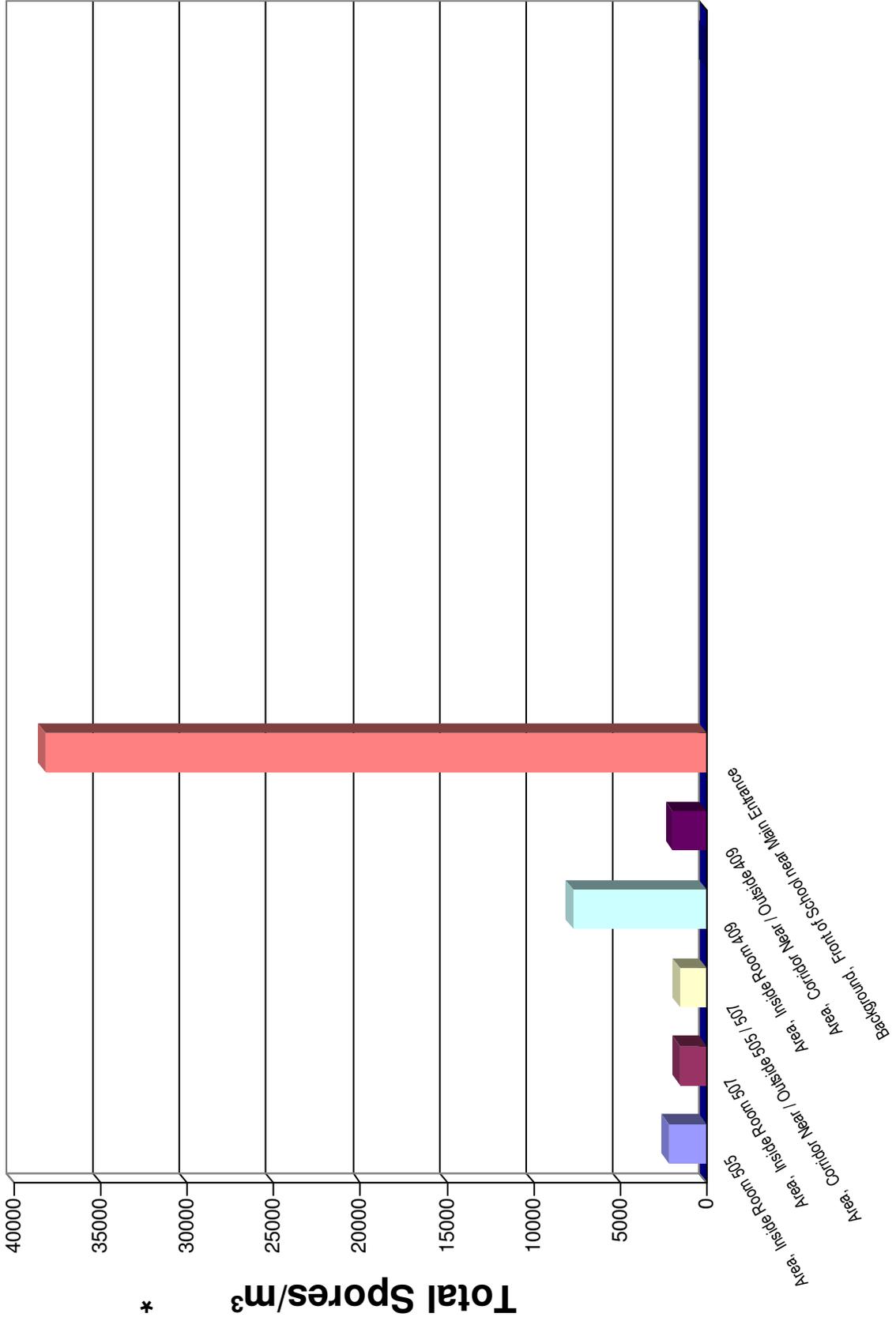
Project : Liberty Elem School, 4600 Quail Run Rd, Flower Mound

Project # : 725010727152

Lab Job No. 18F-13041

Report Date 10/11/2018 4:12 PM

Sample Date : 10/10/2018



*



2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

IAQ Mold Report

Supplemental Overview

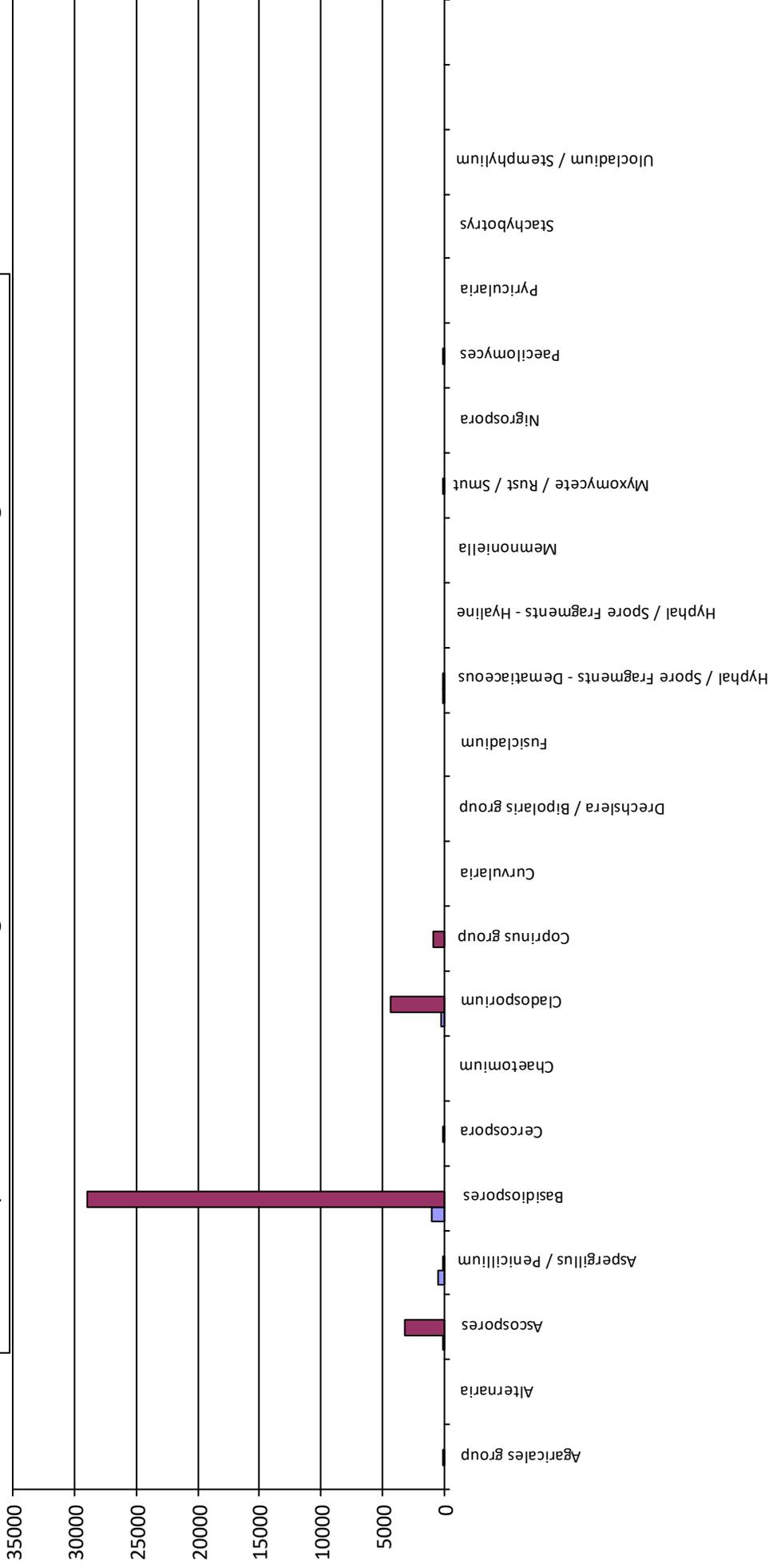
TDLR License No.: LAB0117
AIHA EMPAT ID: 102577

Client : Apex Titan, Inc. - Dallas
Project : Liberty Elem School, 4600 Quail Run Rd, Flower Mound
Project # : 725010727152

Lab Job No. 18F-13041
Report Date 10/11/2018 4:12 PM
Sample Date : 10/10/2018

Area, Inside Room 505

Sample
 Average Reference 1
 Average Reference 2



Average Reference 1 = Background, Front of School near Main Entrance



2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

IAQ Mold Report

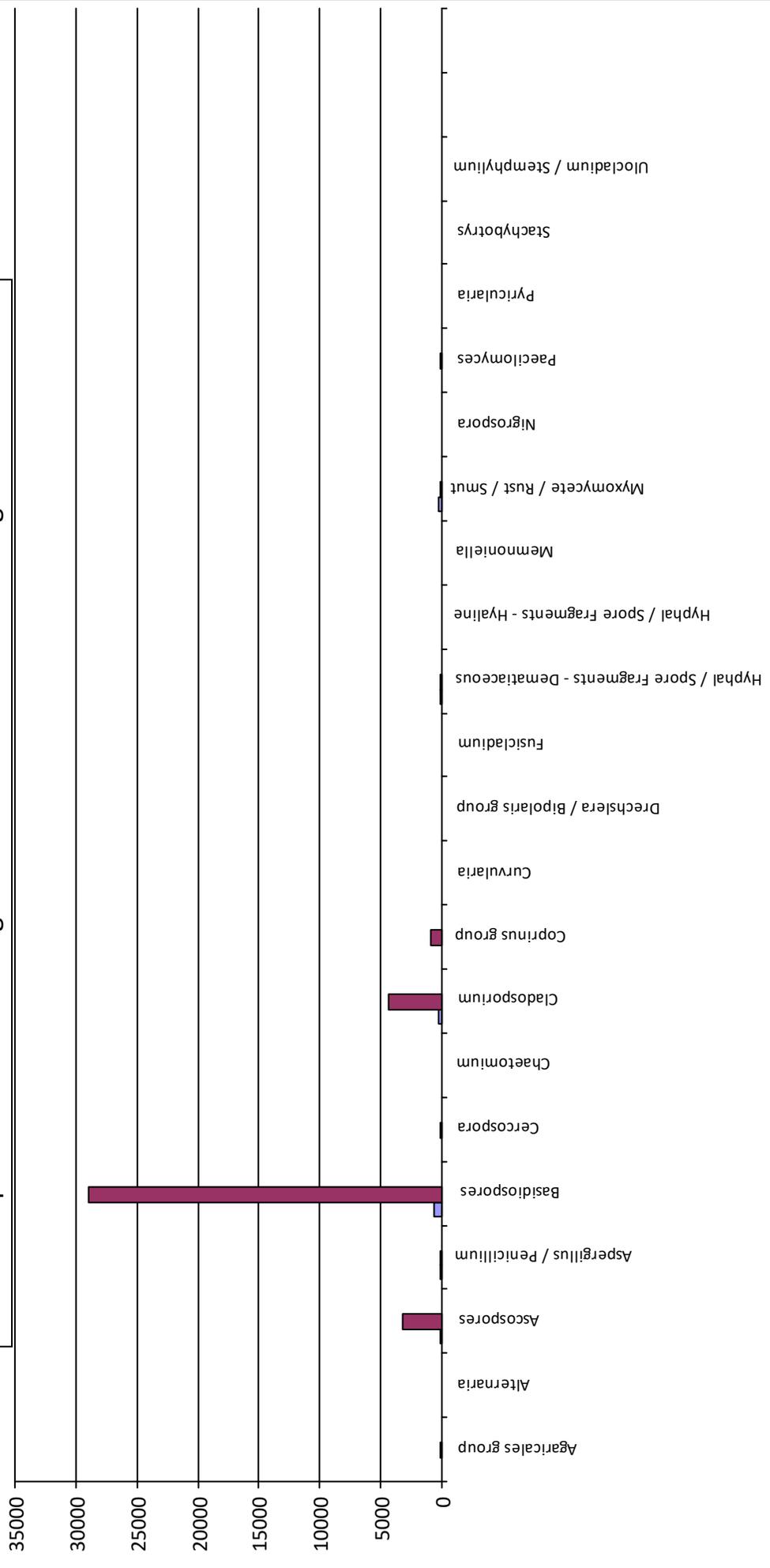
Supplemental Overview

TDLR License No.: LAB0117
AIHA EMPAT ID: 102577

Client : Apex Titan, Inc. - Dallas
Project : Liberty Elem School, 4600 Quail Run Rd, Flower Mound
Project # : 725010727152

Lab Job No. 18F-13041
Report Date 10/11/2018 4:12 PM
Sample Date : 10/10/2018

Area, Inside Room 507



Average Reference 1 = Background, Front of School near Main Entrance

IAQ Mold Report

Supplemental Overview

TDLR License No.: LAB0117
 AIHA EMPAT ID: 102577

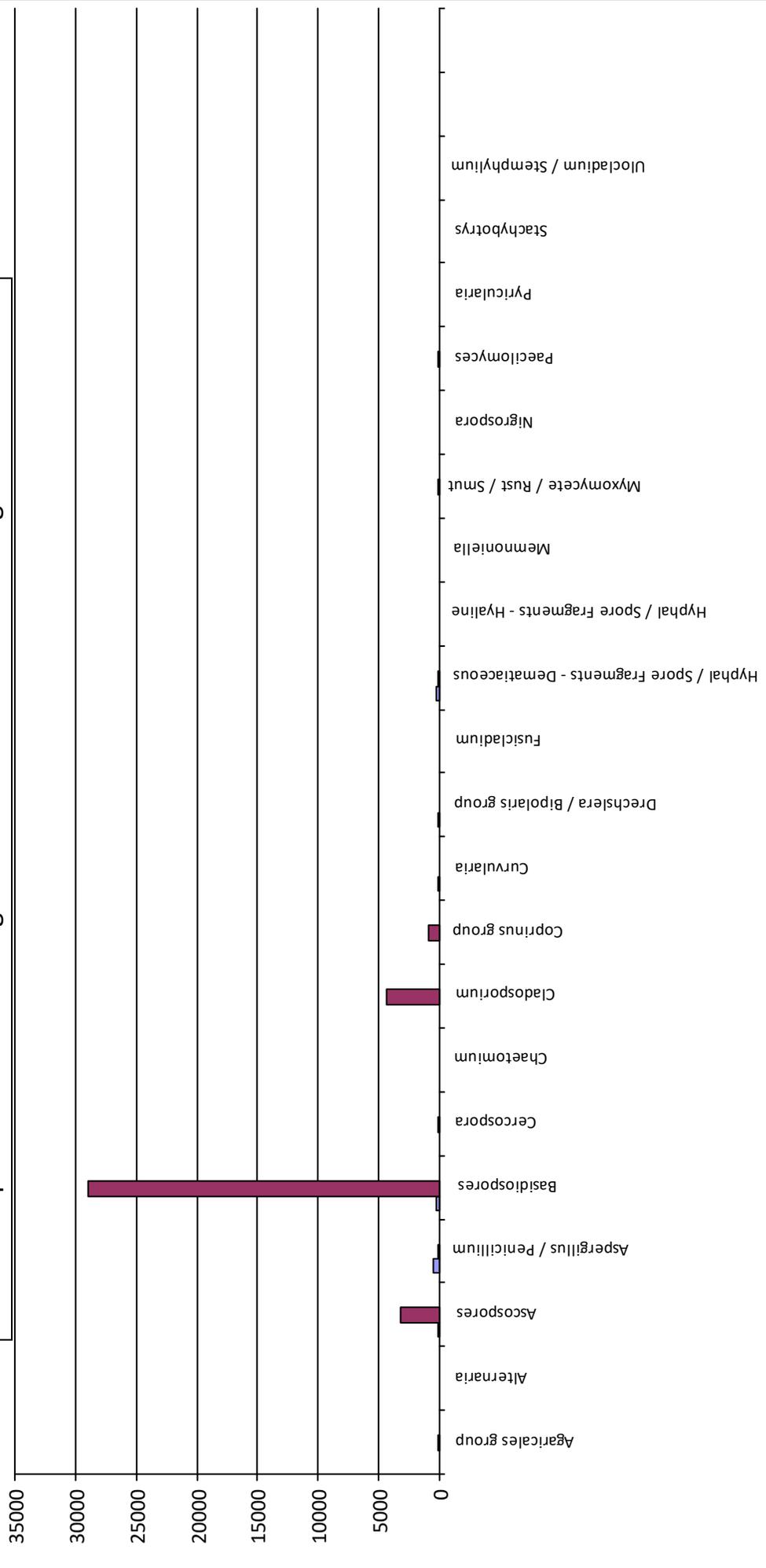


2051 Valley View Lane
 Farmers Branch, TX 75234 Phone: (972) 241-8460

Client : Apex Titan, Inc. - Dallas
Project : Liberty Elem School, 4600 Quail Run Rd, Flower Mound
Project # : 725010727152

Lab Job No. 18F-13041
Report Date 10/11/2018 4:12 PM
Sample Date : 10/10/2018

Area, Corridor Near / Outside 505 / 507



Average Reference 1 = Background, Front of School near Main Entrance

IAQ Mold Report

Supplemental Overview

TDLR License No.: LAB0117
 AIHA EMPAT ID: 102577

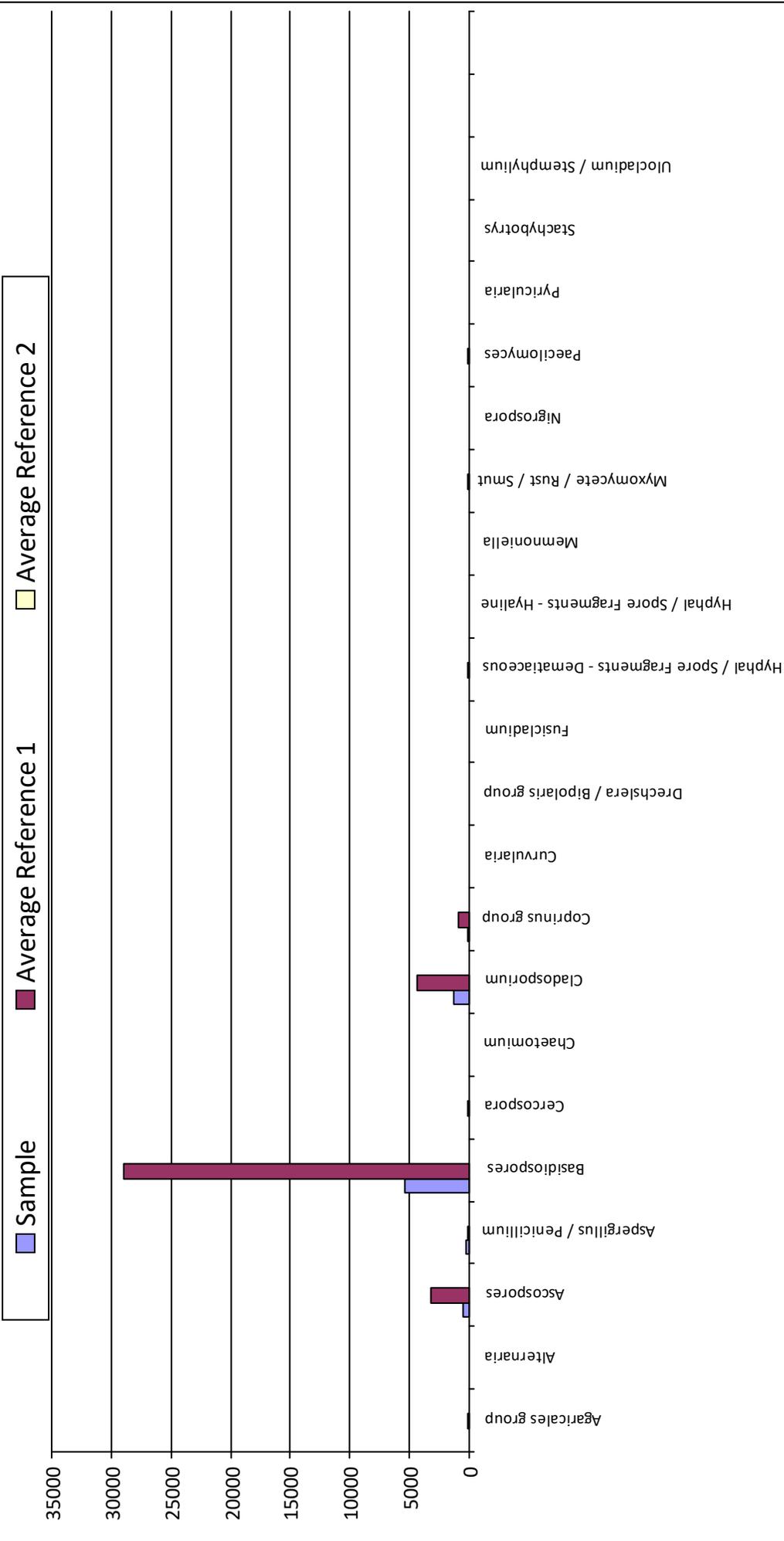


2051 Valley View Lane
 Farmers Branch, TX 75234 Phone: (972) 241-8460

Client : Apex Titan, Inc. - Dallas
Project : Liberty Elem School, 4600 Quail Run Rd, Flower Mound
Project # : 725010727152

Lab Job No. 18F-13041
Report Date 10/11/2018 4:12 PM
Sample Date : 10/10/2018

Area, Inside Room 409



Average Reference 1 = Background, Front of School near Main Entrance

IAQ Mold Report

Supplemental Overview

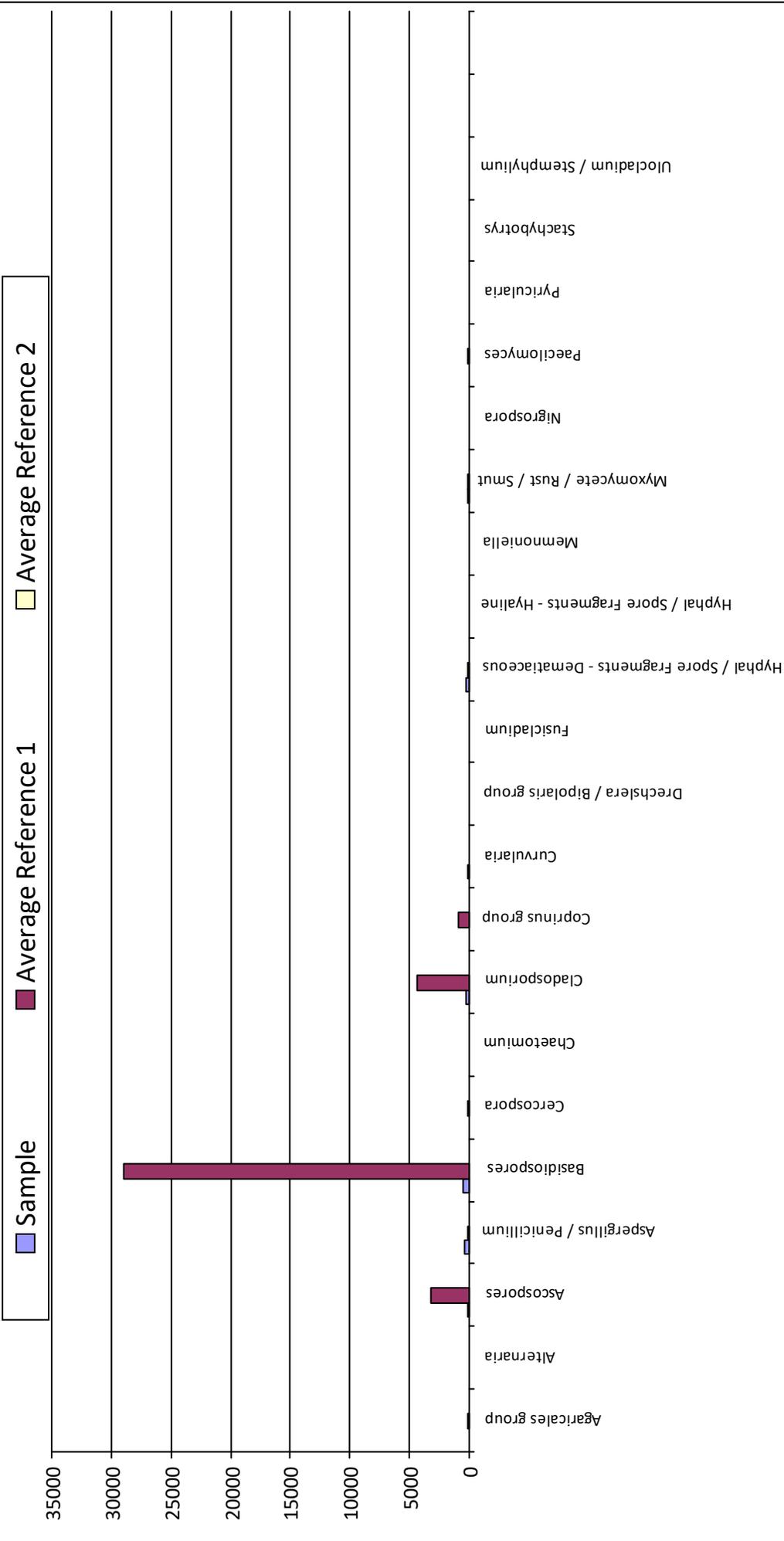
TDLR License No.: LAB0117
 AIHA EMPAT ID: 102577



2051 Valley View Lane
 Farmers Branch, TX 75234 Phone: (972) 241-8460

Client : Apex Titan, Inc. - Dallas
Project : Liberty Elem School, 4600 Quail Run Rd, Flower Mound
Project # : 725010727152
Area, Corridor Near / Outside 409

Lab Job No. 18F-13041
Report Date 10/11/2018 4:12 PM
Sample Date : 10/10/2018



Average Reference 1 = Background, Front of School near Main Entrance

IAQ Mold Report

Supplemental Overview

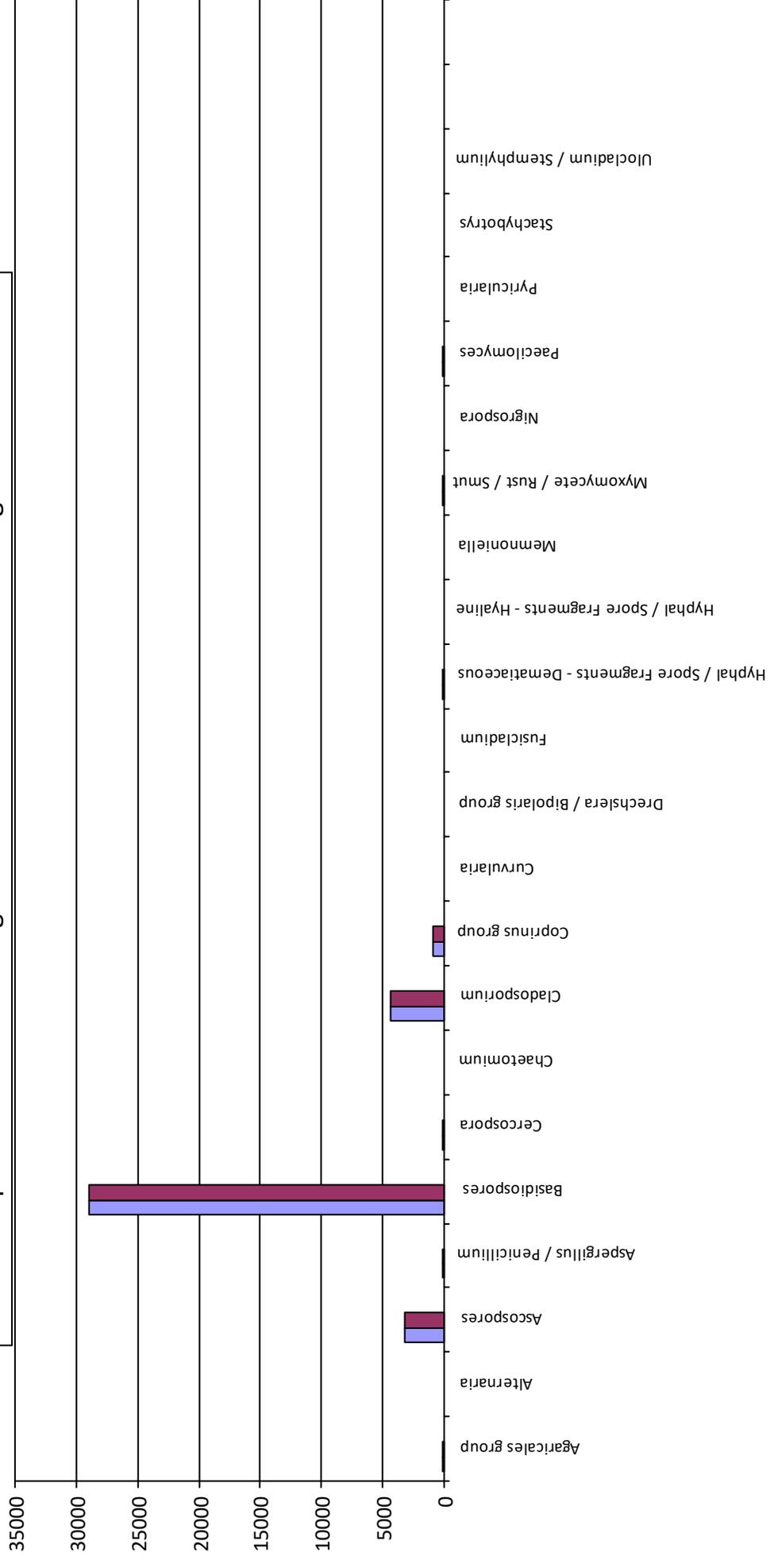
TDLR License No.: LAB0117
 AIHA EMPAT ID: 102577



2051 Valley View Lane
 Farmers Branch, TX 75234 Phone: (972) 241-8460

Client : Apex Titan, Inc. - Dallas
Lab Job No. 18F-13041
Project : Liberty Elem School, 4600 Quail Run Rd, Flower Mound
Report Date 10/11/2018 4:12 PM
Project # : 725010727152
Sample Date : 10/10/2018

Background, Front of School near Main Entrance



Average Reference 1 = Background, Front of School near Main Entrance



Chain of Custody

Lab Job # 130B-13041
 Lab Job # Adorg. 6
 Lab Job # _____

Please call in advance for immediate, after-hour, & weekend pricing & availability.

ASBESTOS PLM

Bulk Immediate 1 day 2 day 3 day 5 day
 Analyze All **Positive Stop**

PCM Air (7400)

Immediate 1 day 2 day 3 day 5 day

TOTAL DUST (0500/0600)

1 day 2 day

ASBESTOS TEM

Air AHERA Method 6 hr 12 hr 24 hr
 Air 7402 (Modified) 1 day 2 day 3 day
 Bulk 1 day 2 day 3 day 5 day
 Water/Wipe/Micro Vac 1 day 2 day 3 day
 Analyze Blanks Yes No

MOLD

Direct Exam Immediate 1 day 2 day
 Standard Air Immediate 1 day 2 day
 Expanded Air Immediate 1 day 2 day
 Culture** 10-14 days
 Analyze Blanks Yes No

Turnaround of Culture Samples subject to Culture Growth

BACTERIA**

Colony Counts (CC) 3 day 5 day
 CC + Gram Stain 3 day 5 day
 Coliform & E. coli (P/A) 2-3 day
 Legionella 14 days

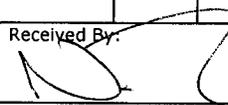
OTHER: _____

Billing Company / City: Apex Titan Inc., Dallas # of Samples: 6
 Submitter's Company: Apex Titan Inc., Dallas Sample Date: 10-10-18
 Submitter's Name: DAVID DAVIS Project #: 725010727152
 Project: Liberty Elementary School, 4600 Quail Run Road, Flower Mound, Texas Phone #: 469-365-1100
 Contact Information: Name: Apex Titan Inc., Dallas. Mobile #: 763-286-7775
 E-mail Results to: david.davis@apexcoss.com; vewald@apexcoss.com

Invoice Address: 12100 Ford Road, #401, Dallas, TX 75234

Please review paperwork and samples before submitting to lab. Unsealed / improperly packaged / damaged / expired samples or excessive administrative requests may incur additional fees

Notes: ASSESSMENT ROOMS 505, 507, 409

Sample #	Sample Description	VOLUME	RH	TEMP	Location / Notes
2646309	AREA	75	71.2	71.5	INSIDE ROOM 505
2646302	AREA	75	67.0	71.7	INSIDE ROOM 507
2646329	AREA	75	62.3	72.5	CORRIDOR NEAR/OUTSIDE 505/507
2646316	AREA	75	66.3	72.8	INSIDE ROOM 409
2646317	AREA	75	64.1	73.1	CORRIDOR NEAR/OUTSIDE 409
2646303	BACKGROUND	75	57.9	72.5	FRONT OF SCHOOL NEAR MAIN ENTRANCE
Released By: DAVID DAVIS		Date / Time: 10-10-18		Received By: 	
Released By:		Date / Time:		Received By:	

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.

ATTACHMENT 3

STATE LICENSES

Mike Arismendez
Chair

Thomas F. Butler
Vice Chair



Gerald R. Callas, M.D.
Helen Callier
Rick Figueroa
Gary F. Wesson, D.D.S., M.S.
Deborah A. Yurco

Mold Assessment Company
APEX TITAN INC

License Number: ACO1061

The entity named above is licensed by the Texas Department of Licensing and Regulation.

License Expires: April 16, 2020

A handwritten signature in cursive script that reads "Brian E. Francis".

Brian E. Francis
Executive Director



TEXAS DEPARTMENT OF STATE HEALTH SERVICES

BE IT KNOWN THAT

DAVID A DAVIS

is hereby licensed and authorized to perform as a

Mold Assessment Consultant

in the State of Texas and is hereby governed by the rights, privileges, and responsibilities set forth in Title 25, Texas Administrative Code, Chapter 295, relating to Texas Mold Assessment and Remediation Rules, as long as this license is not suspended or revoked.

A handwritten signature in cursive script, appearing to read "John Hellerstedt".

John Hellerstedt, M.D.
Commissioner of Health

License Number: MAC1335

Control Number: 8845

Expiration Date: 1/5/2020
(Void After Expiration Date)

VOID IF ALTERED NON-TRANSFERABLE

Mike Arismendez
Chair

Thomas F. Butler
Vice Chair



Gerald R. Callas, M.D., F.A.S.A.

Helen Callier

Rick Figueroa

Gary F. Wesson, D.D.S., M.S.

Deborah A. Yurco

Mold Assessment Consultant
PHILLIP G FRONCZEK

License Number: MAC1246

The person named above is licensed by the Texas Department of Licensing and Regulation.

License Expires: October 28, 2020

Brian E. Francis
Executive Director

Mike Arismendez
Chair

Thomas F. Butler
Vice Chair



Gerald R. Callas, M.D.
Helen Callier
Rick Figueroa
Gary F. Wesson, D.D.S., M.S.
Deborah A. Yurco

Mold Analysis Laboratory
STEVE MOODY MICRO SERVICES LLC

License Number: LAB0117

The entity named above is licensed by the Texas Department of Licensing and Regulation.

License Expires: March 01, 2020

Brian E. Francis
Executive Director



AIHA Laboratory Accreditation Programs, LLC

acknowledges that

Steve Moody Micro Services, LLC

2051 Valley View Lane, Farmers Branch, TX 75234

Laboratory ID: 102577

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

- INDUSTRIAL HYGIENE
- ENVIRONMENTAL LEAD
- ENVIRONMENTAL MICROBIOLOGY
- FOOD
- UNIQUE SCOPES

- Accreditation Expires:
- Accreditation Expires:
- Accreditation Expires: September 01, 2019
- Accreditation Expires:
- Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

William Walsh, CIH
Chairperson, Analytical Accreditation Board

Revision 15: 03/30/2016

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Date Issued: 08/31/2017



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

Steve Moody Micro Services, LLC
 2051 Valley View Lane, Farmers Branch, TX 75234

Laboratory ID: **102577**
 Issue Date: 08/31/2017

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Environmental Microbiology Laboratory Accreditation Program (EMLAP)

Initial Accreditation Date: 06/01/2003

EMLAP Category	Field of Testing (FoT)	Method	Method Description <i>(for internal methods only)</i>
Fungal	Air - Culturable	SOP Q-00039	In House: Determination of Fungal Concentrations in Airborne Samples Utilizing Brightfield Microscopy (cultured)
	Bulk - Culturable	SOP Q-00040	In House: Determination of Fungal Concentration in Bulk and Surface Samples Utilizing Brightfield Microscopy (cultured)
	Surface - Culturable	SOP Q00040	In House: Determination of Fungal Concentrations in Bulk and Surface Samples Utilizing Brightfield Microscopy (cultured)
	Air - Direct Examination	SOP Q-00037	ASTM D7391-09 (Modified): Determination of Fungal Concentrations in Airborne Samples Utilizing Brightfield Microscopy (noncultured)
	Bulk - Direct Examination	SOP Q-00038	In House: Determination of Fungal Particulates in Bulk and Surface Samples Utilizing Brightfield Microscopy (noncultured)
	Surface - Direct Examination	SOP Q-00038	In House: Determination of Fungal Particulates in Bulk and Surface Samples Utilizing Brightfield Microscopy (noncultured)

A complete listing of currently accredited Environmental Microbiology laboratories is available on the AIHA-LAP, LLC website at: <http://www.aihaaccreditedlabs.org>