

**DATE:** March 9, 2015

**TO:** Jennifer Spitzer, Principal

**SUBJECT:** B. B. Owen ES - IAQ - Initial Contact - Room A-21

This morning 3/9, I received Work Order #212455: "Please check Room A21/Communications class - ceiling tile above the sink looks like it has mold on it." This morning 3/9, I inspected Room A-21. Took a picture of the stained ceiling tile and sent it to Alex Del Rio, and asked for the East Zone to replace it. I will make a P.O. request to have Apex Titan Air Test the room. If the temperature is above 60 degrees and not raining, the test should be done during the week of March 16 to 20. As soon as I get the results, I will E-mail you. If you have any questions, please contact me.

Thanks,  
Paul

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

**DATE:** April 2, 2015

**TO:** Jennifer Spitzer, Principal

**SUBJECT:** B. B. Owen ES - IAQ - Air Test results - Room A-21

On Friday 3/27, Apex-Titan Air tested Room A-21. It is typically assumed that indoor spore levels in an area with filtered or air conditioned air, and activity levels associated with schools average 10% to 40% of the outdoor levels. Data from the airborne fungi sampling indicated that the total indoor concentration of mold/fungi in Room A-21, was **9.2%** of the outdoor levels. Utilizing this theory, the indoor concentrations are well within the acceptable guidelines for areas with filtered air or air conditioning. If you have any questions, please call me.

Thanks,  
Paul

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



April 1, 2015

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

Re: Limited Mold Assessment Services  
BB Owen Elementary School  
Room A-21  
5640 Squires  
The Colony, Texas  
LISD PO No. 91525457-00  
Apex Project No. 7250115090

### **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 BB Owen Elementary School located at 5640 Squires 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 March 27, 2015. Apex's mold services definitions and limitations are included as an attachment to this report.

### **Investigation Areas**

Lewisville I.S.D. identified the following physical portions of the Site as the target investigation areas ("Investigation Areas") for mold assessment: readily accessible areas within room A-21. 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. P01151123) dated March 17, 2015. Apex's scope-of-work was to provide visual and/or analytical mold assessment and related services in the Investigation Areas which included:

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

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

### **Site Reconnaissance Observations/Findings and Recommendations**

Apex' Mold Assessment Site reconnaissance was performed on March 27, 2015 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 74.1 degrees Fahrenheit while relative humidity was reported as 34.4 percent. Temperature readings collected outside the building ranged from 74.1 to 77.5 degrees Fahrenheit while outside relative humidity ranged from 27.8 to 29.1 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<br>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 8 to 11% 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 classroom were lower as compared to those measured outside of the building at the time the sampling was performed. The total fungal spore concentration within the investigation area was reported as 466 counts/m<sup>3</sup>, while the exterior level ranged from 3,546 to 5,052 counts/m<sup>3</sup>.

Four types of mold were identified at a higher concentration within the investigation area as compared to the sample collected from the exterior of the building. Air sample(s) collected within classroom A-21 reported *Stachybotrys* as 13 counts/m<sup>3</sup> while no exterior levels were reported. *Curvularia* was reported as 13 counts/m<sup>3</sup> while no exterior levels were reported. *Epicoccum* was reported as 7 counts/m<sup>3</sup> while no exterior levels were reported. *Drechslera/Bipolaris* group was reported as 7 counts/m<sup>3</sup> 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**

No visible mold was observed during the assessment. No odors or excessive dust were noted. However, a stained ceiling tile was noted over the sink area in the classroom.

### **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. Due to the presence of *Stachybotrys* further investigation may be considered for a higher level of confidence.

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

Sincerely,  
**Apex TITAN, Inc.**



Darren G. Bowden  
Senior Program Manager  
Texas Mold Assessment Consultant  
Lic. No. MAC0321

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

**ATTACHMENT 1**

Analytical Results/Chain of Custody



# IAQ Mold Report

## Summary

DSHS License No.: LAB0117

AIHA EMPAT ID: 102577

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

**Client :** Apex TITAN, Inc. - Dallas, TX

**Lab Job No.** 15F-03750

**Project :** BB Owen ES, Room A-21

**Report Date** 03/31/2015 1:12 PM

**Project # :** 7250115090.001

**Sample Date :** 03/27/2015

**Sample Type:** Spore Trap, Non-cultured

**Spore Trap Type:** Zefon - Air-O-Cell

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

Page 1 of 2

On 3/27/2015, three (3) samples were submitted by Clint Jech of Apex TITAN, Inc. - Dallas, TX (located at 2351 W. NW Highway #3321, Dallas, TX 75220) for Spore Trap, Non-cultured mold analysis. This report consists of three sections; a summary section, a data detail section, and an analytical notes section.

| Sample Number | Volume (liters) | Sample Description | Identification                       | Concentration spores/cubic meter |
|---------------|-----------------|--------------------|--------------------------------------|----------------------------------|
| 1             | 75              | Exterior, North    | Basidiospores                        | 1666 33%                         |
|               |                 |                    | Cladosporium                         | 1360 27%                         |
|               |                 |                    | Aspergillus / Penicillium            | 1186 23%                         |
|               |                 |                    | Ascospores                           | 387 8%                           |
|               |                 |                    | Hyphal / Spore Fragments             | 200 4%                           |
|               |                 |                    | Myxomycete / Periconia / Rust / Smut | 93 2%                            |
|               |                 |                    | Coprinus group                       | 80 2%                            |
|               |                 |                    | Alternaria                           | 67 1%                            |
|               |                 |                    | Cercospora / Pseudocercospora        | 13 <1%                           |
|               |                 |                    |                                      |                                  |
| 2             | 75              | Exterior, West     | Cladosporium                         | 1146 32%                         |
|               |                 |                    | Basidiospores                        | 893 25%                          |
|               |                 |                    | Aspergillus / Penicillium            | 746 21%                          |
|               |                 |                    | Myxomycete / Periconia / Rust / Smut | 240 7%                           |
|               |                 |                    | Hyphal / Spore Fragments             | 147 4%                           |
|               |                 |                    | Coprinus group                       | 147 4%                           |
|               |                 |                    | Ascospores                           | 107 3%                           |
|               |                 |                    | Agaricales group                     | 53 1%                            |
|               |                 |                    | Alternaria                           | 40 1%                            |
|               |                 |                    | Nigrospora                           | 27 <1%                           |
|               |                 |                    | Total:                               | 3546 100%                        |



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**Report Date** 03/31/2015 1:12 PM

**Project # :** 7250115090.001

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Page 2 of 2

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| Sample Number | Volume (liters) | Sample Description   | Identification  | Concentration spores/cubic meter   |
|---------------|-----------------|--|---|--|
| 3             | 150             | Room A-21<br>* See Analytical Notes report for further details | Basidiospores<br>Aspergillus / Penicillium<br>Hyphal / Spore Fragments<br>Myxomycete / Periconia / Rust / Smut<br>Alternaria<br>Cladosporium<br>Stachybotrys<br>Curvularia<br>Ascospores<br>Epicoccum<br>Drechslera / Bipolaris group<br><br><div style="text-align: right;">Total:</div> | 120 26%<br>120 26%<br>80 17%<br>33 7%<br>33 7%<br>27 6%<br>13 3%<br>13 3%<br>13 3%<br>7 2%<br>7 2%<br><br>466 100% |

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): Rob Greene

Lab Manager : Heather Lopez

Approved Signatory : \_\_\_\_\_

Lab Director : Bruce Crabb

Approved Signatory : \_\_\_\_\_

Thank you for choosing Moody Labs





# IAQ Mold Report

## Data Detail

DSHS License No.: LAB0117

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

**Client :** Apex TITAN, Inc. - Dallas, TX

**Lab Job No. :** 15F-03750

**Project :** BB Owen ES, Room A-21

**Report Date :** 03/31/2015 1:12 PM

**Project # :** 7250115090.001

**Sample Date :** 03/27/2015

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**Spore Trap Type:** Zefon - Air-O-Cell

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

Page 1 of 1

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

| Sample ID:                           | 1               |       |                       |      | 2              |       |                       |      | 3                    |      |                       |      |
|--------------------------------------|-----------------|-------|-----------------------|------|----------------|-------|-----------------------|------|----------------------|------|-----------------------|------|
| Location:                            | Exterior, North |       |                       |      | Exterior, West |       |                       |      | Room A-21            |      |                       |      |
| Media Expires On:                    | Oct 2015        |       |                       |      | Oct 2015       |       |                       |      | Oct 2015             |      |                       |      |
| Notes Included:                      |                 |       |                       |      |                |       |                       |      | See Analytical Notes |      |                       |      |
| Volume:                              | 75              |       |                       |      | 75             |       |                       |      | 150                  |      |                       |      |
|                                      | raw ct.         | MDL   | spores/m <sup>3</sup> |      | raw ct.        | MDL   | spores/m <sup>3</sup> |      | raw ct.              | MDL  | spores/m <sup>3</sup> |      |
| Agaricales group                     |                 |       |                       |      | 4              | 13.33 | 53                    | 1%   |                      |      |                       |      |
| Alternaria                           | 5               | 13.33 | 67                    | 1%   | 3              | 13.33 | 40                    | 1%   | 5                    | 6.67 | 33                    | 7%   |
| Ascospores                           | 29              | 13.33 | 387                   | 8%   | 8              | 13.33 | 107                   | 3%   | 2                    | 6.67 | 13                    | 3%   |
| Aspergillus / Penicillium            | 89              | 13.33 | 1186                  | 23%  | 56             | 13.33 | 746                   | 21%  | 18                   | 6.67 | 120                   | 26%  |
| Basidiospores                        | 125             | 13.33 | 1666                  | 33%  | 67             | 13.33 | 893                   | 25%  | 18                   | 6.67 | 120                   | 26%  |
| Cercospora / Pseudocercospora        | 1               | 13.33 | 13                    | <1%  |                |       |                       |      |                      |      |                       |      |
| Chaetomium                           |                 |       |                       |      |                |       |                       |      |                      |      |                       |      |
| Cladosporium                         | 102             | 13.33 | 1360                  | 27%  | 86             | 13.33 | 1146                  | 32%  | 4                    | 6.67 | 27                    | 6%   |
| Coprinus group                       | 6               | 13.33 | 80                    | 2%   | 11             | 13.33 | 147                   | 4%   |                      |      |                       |      |
| Curvularia                           |                 |       |                       |      |                |       |                       |      | 2                    | 6.67 | 13                    | 3%   |
| Drechslera / Bipolaris group         |                 |       |                       |      |                |       |                       |      | 1                    | 6.67 | 7                     | 2%   |
| Epicoccum                            |                 |       |                       |      |                |       |                       |      | 1                    | 6.67 | 7                     | 2%   |
| Hyphal / Spore Fragments             | 15              | 13.33 | 200                   | 4%   | 11             | 13.33 | 147                   | 4%   | 12                   | 6.67 | 80                    | 17%  |
| Memnoniella                          |                 |       |                       |      |                |       |                       |      |                      |      |                       |      |
| Myxomycete / Periconia / Rust / Smut | 7               | 13.33 | 93                    | 2%   | 18             | 13.33 | 240                   | 7%   | 5                    | 6.67 | 33                    | 7%   |
| Nigrospora                           |                 |       |                       |      | 2              | 13.33 | 27                    | <1%  |                      |      |                       |      |
| Stachybotrys                         |                 |       |                       |      |                |       |                       |      | 2                    | 6.67 | 13                    | 3%   |
| <b>TOTALS</b>                        | 379             |       | 5052                  | 100% | 266            |       | 3546                  | 100% | 70                   |      | 466                   | 100% |
| Analyst                              | Rob Greene      |       |                       |      | Rob Greene     |       |                       |      | Rob Greene           |      |                       |      |
| Analysis Date                        | 3/31/2015       |       |                       |      | 3/31/2015      |       |                       |      | 3/31/2015            |      |                       |      |
| Debris Rating                        | 4               |       |                       |      | 3              |       |                       |      | 4                    |      |                       |      |
| Debris Composition                   |                 |       |                       |      |                |       |                       |      |                      |      |                       |      |
| Fibers                               | 1/5             |       |                       |      | 1/5            |       |                       |      | 3/5                  |      |                       |      |
| Inorganic/Other                      | 5/5             |       |                       |      | 5/5            |       |                       |      | 5/5                  |      |                       |      |
| Insect Parts                         | 0/5             |       |                       |      | 0/5            |       |                       |      | 0/5                  |      |                       |      |
| Pollen                               | 2/5             |       |                       |      | 2/5            |       |                       |      | 0/5                  |      |                       |      |
| Skin/Dander                          | 1/5             |       |                       |      | 2/5            |       |                       |      | 5/5                  |      |                       |      |



# IAQ Mold Report

## 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, TX

**Lab Job No. :** 15F-03750

**Project :** BB Owen ES, Room A-21

**Report Date :** 03/31/2015 1:12 PM

**Project # :** 7250115090.001

**Sample Date :** 03/27/2015

**Sample Type:** Spore Trap, Non-cultured

**Spore Trap Type:** Zefon - Air-O-Cell

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

Page 1 of 2

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

### Samples Analyzed

Sample No: 3 : Room A-21

Notes: One typical stachybotrys, one fragment

### Field Blanks

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

**NOTE: All remaining samples suitable for analysis.**

### Methods

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

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

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

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

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

### Debris Rating Key

0 - No debris detected.

1 - Trace debris.

2 - Light debris.

3 - Moderate debris.

4 - Substantial debris.

5 - Extensive debris.

6 - Field blank.

10 - Hold Sample

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



# IAQ Mold Report

## Analytical Notes

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LAB # 102577



# IAQ Mold Report

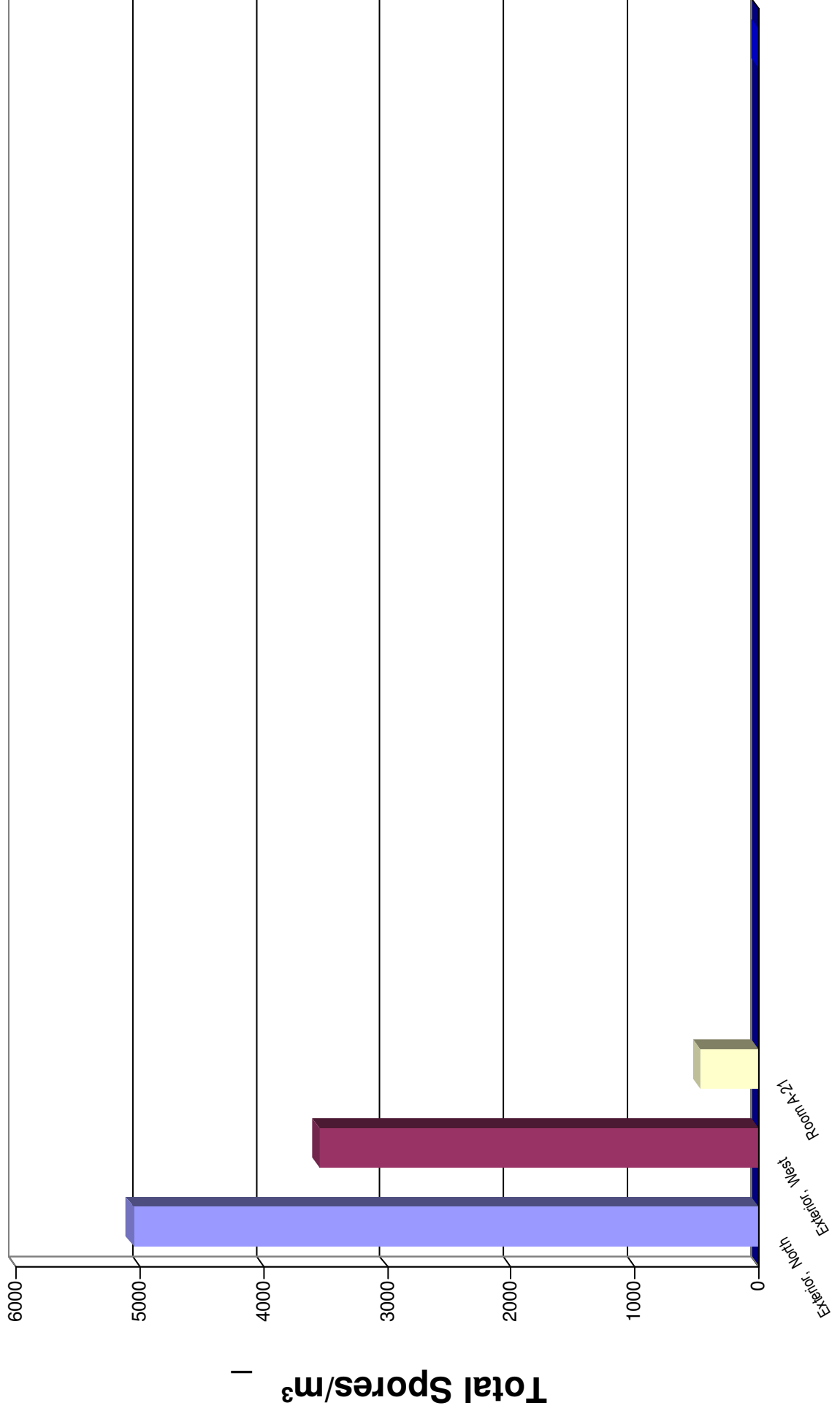
## Supplemental Overview

DSHS License No.: LAB0117  
AIHA EMPAT ID: 102577

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

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**Lab Job No.** 15F-03750  
**Report Date** 03/31/2015 1:12 PM  
**Sample Date :** 03/27/2015



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

# IAQ Mold Report

## Supplemental Overview

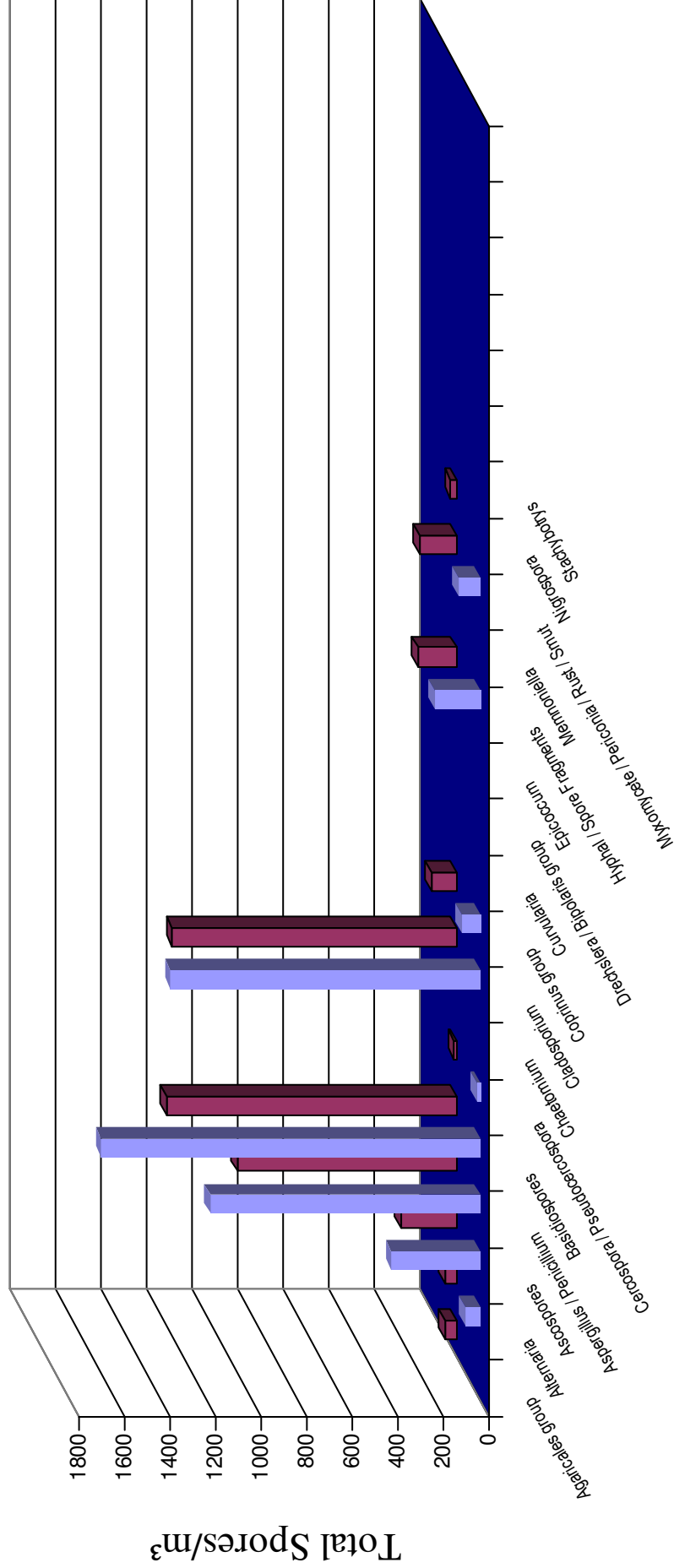
DSHS License No.: LAB0117  
 AIHA EMPAT ID: 102577

**Client :** Apex TITAN, Inc. - Dallas, TX  
**Project :** BB Owen ES, Room A-21  
**Project # :** 7250115090.001

**Lab Job No.** 15F-03750  
**Report Date** 03/31/2015 1:12 PM  
**Sample Date :** 03/27/2015

Exterior, North

■ Sample ■ Average Reference 1 □ Average Reference 2



Average Reference 1 = Exterior, North, Exterior, West



# IAQ Mold Report

## Supplemental Overview

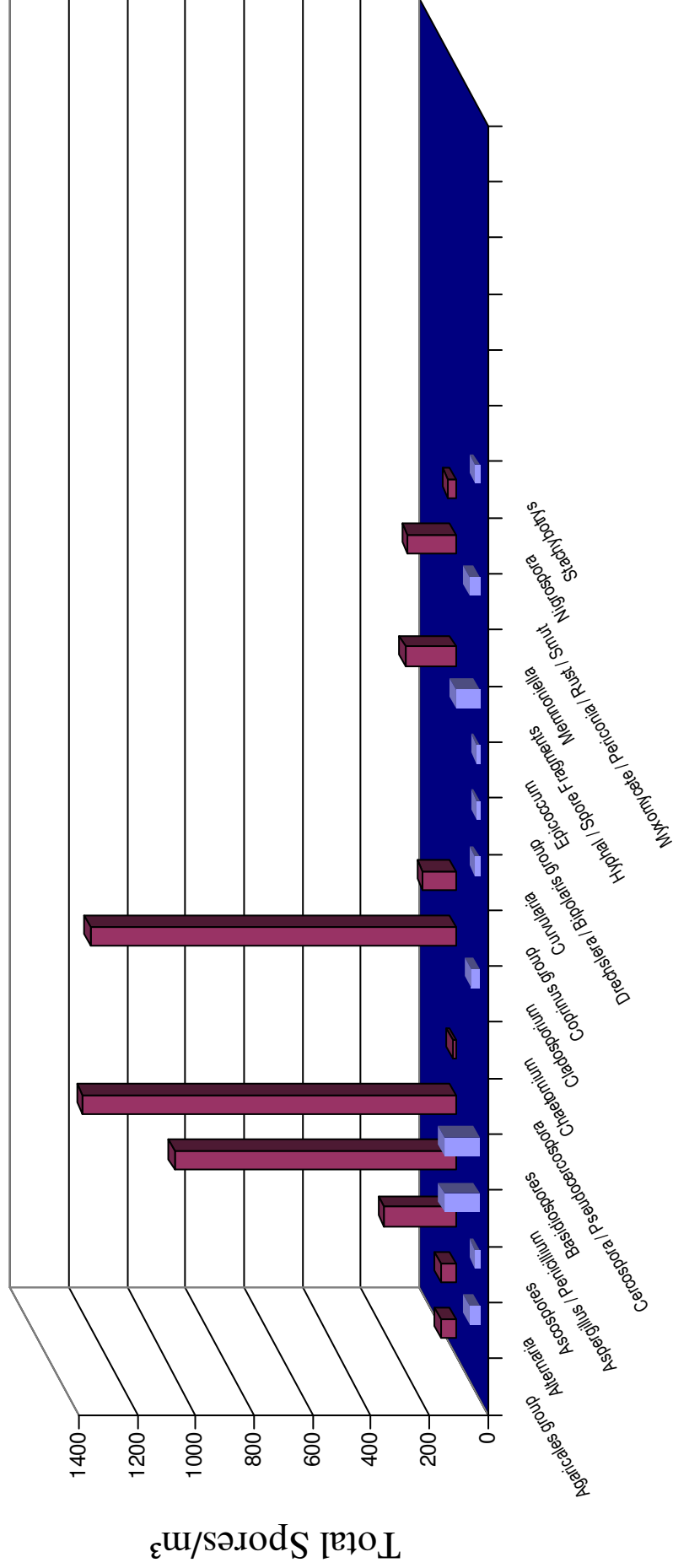
DSHS License No.: LAB0117  
 AIHA EMPAT ID: 102577

**Client :** Apex TITAN, Inc. - Dallas, TX  
**Project :** BB Owen ES, Room A-21  
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**Lab Job No.** 15F-03750  
**Report Date** 03/31/2015 1:12 PM  
**Sample Date :** 03/27/2015

Room A-21

■ Sample ■ Average Reference 1 □ Average Reference 2



Average Reference 1 = Exterior, North, Exterior, West



Chain of Custody

Lab Job # 15F-03750 Acc: 3
Lab Job #
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/Wipe/Micro Vac [ ] 1 day [ ] 2 day [ ] 3 day [ ] 5 day
Water [ ] 1 day [ ] 2 day [ ] 3 day
Analyze Blanks [ ] Yes [ ] No

MOLD

Direct Exam [ ] Immediate [ ] 1 day [ ] 2 day
Standard Air [ ] Immediate [ ] 1 day [x] 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\*

Total Colony Counts (CC) [ ] 3 day [ ] 5 day
CC + Gram Stain [ ] 3 day [ ] 5 day
Total Coliform & E. coli (P/A) [ ] 2-3 day

OTHER:

Billing Company / City: Apex Titan (Dental South)

Submitter's Company:

Submitter's Name: Clint Jech

Project: BB Owen ES, Room A-21

Contact Information: Name: Clint Jech

E-mail Results to: Clint/Darren/Vernice

Invoice Address: Vernice

# of Samples: 3

Sample Date: 3/27/2015

Project #: 7250115090.001

Phone #:

Mobile #: (972) 989-1031

Fax #:

P.O. #:

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

Notes: Stained Ceiling Tile Above Sink

Table with 4 columns: Sample #, Sample Description, Vol. / Area (if applicable), Location / Notes. Contains 3 rows of data for exterior and room samples.

Released By: [Signature] Date / Time: 3/27/2015 1547 Received By: [Signature] Date / Time: 3/27/15 3147



## **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.