

## POST-REMEDIATION MOLD ASSESSMENT AND CLEARANCE REPORT

## Marcus High School ROTC Hallway 5707 Morriss Road Flower Mound, Texas

August 17, 2015 LISD PO No. 91538989-00 Apex Project No. 7250115212

Prepared for:

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



August 17, 2015

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

Re: Post-Remediation Assessment And Clearance Report Marcus High School ROTC Hallway 5707 Morriss Road Flower Mound, Texas LISD PO No. 91538989-00 Apex Project No. 20196.001

Apex TITAN, Inc., a subsidiary of Apex Companies, LLC (Apex) is pleased to submit its final Post-Remediation Assessment and Clearance Report for recent mold remediation activities at the Site. Apex was retained to undertake Post-Remediation Assessment and Clearance services (hereinafter the "Services") for the Remediation Areas at the site in accordance with Apex's Proposal No. P01151291 dated June 24, 2015. The Services were authorized by Mr. Paul Siddall of the Lewisville Independent School District. Results of Apex's Post-Remediation Assessment and Clearance sampling indicate the Remediation Contractor successfully completed mold remediation activities in the Remediation Areas at the Site and that the Remediation Areas can now be renovated.

Supporting documentation for this report are included in the report appendices and include: a site diagram, photographs, analytical results, work protocol, a third party moisture intrusion statement, contractor's work plan and a copy of Apex's portion of the Texas Department of Insurance MDR-1 form.

SWG appreciates opportunity to provide Post-Remediation Assessment and Clearance Services. If you should have any questions, please contact me at (214) 350-5469.

Sincerely, Apex TITAN, Inc.

Darren G. Bowden Senior Program Manager Mold Assessor License No: MAC0321 License Expiration Date: 02/15/2016

Attachment

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#### 1.0 SCOPE OF SERVICES

Apex TITAN, Inc., a subsidiary of Apex Companies, LLC (Apex) was engaged by Lewisville Independent School District to conduct a post-remediation mold assessment and clearance sampling for the remediation area at Marcus High School – ROTC Hallway located at 5707 Morriss Road, in Flower Mound, Texas ("Site"). Apex's Post-Remediation Assessment and Clearance Services (hereinafter the "Services") were conducted for the Remediation Area of the site in accordance with the scope of work set forth in Apex's Proposal P01151291 dated June 24, 2015.

Apex's services for this project included:

- Visual Reconnaissance of the Lewisville Independent School District identified mold remediation areas (as defined in Section 3.2 below) to verify that the Remediation Area is free from all visible mold and wood rot.
- Visual reconnaissance of the Remediation Areas and review of the project Mold Remediation Protocol and Remediation Work Plan for the project to verify that the mold remediation work was completed in compliance with the Remediation Protocol and Work Plan.
- Conduct verification sampling in Remediation Areas and compare results to clearance criteria in project Mold Remediation Protocol.
- Determine, based upon available information, whether the moisture source identified as the underlying cause of the mold in the Remediation Areas was properly remediated such that it is reasonably certain that the mold will not return from that remediated cause.
- If clearance criteria for the Remediation Area(s) have been achieved, prepare the Mold Assessor's portion of the Mold Remediation Certificate (on Texas Department of Insurance Form MDR-1).

#### 2.0 STANDARD OF CARE, RELIANCE AND LIMITATIONS

#### 2.1 Standard of Care

Apex performed the 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, express or implied, apply to the Services hereunder or this report.

#### 2.2 Reliance

The Services were conducted and this report prepared for the benefit and exclusive use of the CLIENT and solely for its use and reliance in assessing whether mold in the project Remediation Areas of the Site had been remediated within clearance criteria set forth in the Mold Remediation Protocol. The CLIENT was 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 Services or this report shall be limited in the <u>aggregate</u> to the fair market value of the Services.

#### 2.3 Definitions

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

"Remediation Area" means that portion of the Site where mold remediation activities have been completed and as more particularly defined in Section 3.2 of this report.

#### 2.4 Services and Report Limitations

*Time sensitive*. One must keep in mind that mold assessments, including post-remediation mold assessment and clearance sampling, are essentially a *"snap-shot in time,"* and the results are only relevant as of the time of site reconnaissance and sampling. 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 in Texas 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.

*Moisture Intrusion Limitation.* Apex is not a moisture intrusion, HVAC, plumbing, roofing or building envelope contractor or specialist ("Building Trades Specialist"). In performing the Services, Apex has relied upon statements, certifications and/or findings made by the CLIENT, Site owner or Building Trades Specialists that the moisture source which is the underlying cause of mold in the Remediation Areas has been identified and remediated such that it is reasonably certain that the mold will not return from that remediated cause.

*Findings Limited.* Apex's findings from the Services are limited due to their "time-sensitive" nature and because they rely in part upon information prepared or provided by the CLIENT, the Site owner or third parties. Apex cannot warrant the accuracy of any services, investigations, information, data, reports, findings or conclusions prepared, made or performed by any other party in connection with the Mold Remediation Areas or other activities at the Site. Apex assumes no responsibility or liability for errors in information or data provided by or through the CLIENT, the Site owner or any third party sources. Apex's services are not to be construed as legal or medical interpretation or advice.



*Mold Remediation Certificate.* For mold remediation projects (above certain size thresholds), applicable Texas law (i.e., Texas Occupation Code Section 1958.54 and T.A.C. Section 295.397 (the Texas Mold Assessment and Remediation Rules), requires that a "Certificate of Mold Remediation" (hereinafter, "Mold Remediation Certificate") be issued by the Mold Remediation Contractor upon successful completion of the project. This certificate must be provided to property owners no later than the 10<sup>th</sup> day after the date on which the mold remediation is completed at a property. The Mold Remediation Certificate issued by the Mold Remediation Contractor must include a certification by the Mold Assessor that the mold remediation project has been successfully completed in accordance with the mold remediation protocol. Be advised that Apex's issuance of a Mold Remediation Certificate upon successful completion of a Mold Remediation project does not mean, warrant or otherwise guarantee that mold will not be subsequently found in any portion of the Remediation Area or the Site.

#### 3.0 SITE DESCRIPTION AND REMEDIATION AREAS

#### 3.1 Site Description

Based on the information provided by the client, the site consists of fungal growth associated with sheetrock ceiling within the shower area of the men's baseball locker room/shower area at Hebron High School.

#### 3.2 *Remediation Areas*

Mr. Paul Siddall of Lewisville Independent School District has identified the following physical portions of the Site as the "Remediation Areas" for performance of the Services: ROTC Hallway at Marcus High School. The Site diagram in Appendix A depicts the Remediation Area of the Site. Apex's Post Remediation Mold Assessment and Clearance Services will be limited to the Remediation Area. Additional areas or portions of the Site are out-of-scope and not covered by the Services or this report.

#### 4.0 MOLD ASSESSMENT AND MOLD ANALYTICAL RESULTS

#### 4.1 *Post-Remediation Mold Assessment Results*

Apex conducted a post-remediation mold assessment on July 2, 2015 which did achieve the analytical clearance criteria. Apex's reconnaissance of Remediation Areas revealed that remediation containment structures were in place and air filtration was observed to be operating. Apex's visual reconnaissance showed the Remediation Areas, to be free of all visible mold and wood rot. Photographs documenting the condition of the Remediation Areas are contained in Appendix B.

In conjunction with its visual reconnaissance of the Remediation Areas, Apex reviewed the Mold Remediation Protocol and Mold Remediation Work Plan for the Remediation Areas. Apex's visual reconnaissance of the Remediation Areas indicated that the Mold Remediation Contractor conducted the mold remediation activities in general accordance with the Mold Remediation Protocol and the Mold Remediation Work Plan for the Remediation Areas. Copies of the Mold Remediation Protocol and the Mold Remediation Work Plan for the Remediation Areas. Copies of the Mold Remediation Protocol and the Mold Remediation Work Plan are contained in Appendix C and D, respectively.



#### 4.2 *Mold Analytical Results*

The abatement was performed within one containment. Apex collected two samples inside the containments and two exterior samples utilizing Air O Cell cassettes.

Air O Cell refers to slit impaction air sampling cassette manufactured by Zefon. The collection media for these devices consist of a coverslip coated with a sticky transparent "acrylic" substrate. Containment clearance is contingent upon passing a visual and procedural inspection by an Apex representative in addition to obtaining air monitoring results indicating that airborne mold spore concentrations inside the containment are no more than 40% of those obtained outside the structure at the time the sampling was performed. In addition, non-target airborne mold spore concentrations must be similar inside the containment than those obtained outside the structure at the time the sampling was performed. Target molds should be individually less than or equal to outside levels. However, no levels of Stachybotrys will be accepted.

The target list of molds would generally include, but are not limited to, Aspergillus, Penicillium, Aureobasidium, Chaetomium, Fusarium, Trichoderma, Stachybotrys, and Ulocadium.

Upon collection, samples were identified and a chain-of custody-form was prepared. Two clearance testing sampling events were performed on separate dates within the containment area. The samples were submitted to Steve Moody Micro Services, LLC (SMMS) for subsequent analysis. SMMS is licensed by the State of Texas and maintains in-house quality control/quality assurance programs for their laboratory services.

Total fungal spore concentrations within the containments that achieved clearance on July 2, 2015 ranged from 754 to 1,648 counts/m<sup>3</sup> while the exterior levels ranged from 19,969 to 20,131 counts/m<sup>3</sup>. Analytical reports are contained in Appendix E.

Laboratory analytical results for the samples confirm that the mold clearance criteria set forth in the Mold Remediation protocol were successfully achieved.

#### 4.3 Underlying Cause of Mold

Based upon the documentation provided to Apex (copy attached in Appendix F), the source of moisture was identified as: moisture coming through the outside wall from the roof coping.

Based upon the documentation provided by Mr. Paul Siddall of Lewisville Independent School District, the underlying source of moisture causing mold in the Remediation Areas was successfully remediated. A copy of this documentation is contained in Appendix F.

#### 5.0 FINDINGS

Apex's findings are as follows:

- Based upon Apex's visual reconnaissance of the Remediation Areas on July 2, 2015 the Remediation Area is free from all visible mold and wood rot.
- Based upon Apex's visual reconnaissance of the Remediation Areas and review of the Remediation Protocol for the project, the remediation work was completed in compliance with the Remediation Protocol.



- Based upon Apex's visual reconnaissance of the Remediation Areas and review of the Remediation Work Plan for the project, the remediation work was completed in compliance with the Remediation Work Plan.
- Based upon the moisture intrusion report prepared by Mr. Paul Siddall, the moisture source identified as the underlying cause of the mold was moisture due to moisture coming through the outside wall form the roof coping. Based the information provided to Apex by Mr. Paul Siddall, the source has been properly remediated such that it is reasonably certain that the mold will not return from that remediated cause.
- Temperature and relatively humidity readings were taken during the post remediation inspection on July 2, 2015. Temperature readings were reported as 80.7 degrees Fahrenheit inside the containment while relative humidity was reported as 65.3 percent. Temperature readings taken outside the building ranged from 84.7 to 87.6 degrees Fahrenheit while relative humidity ranged from 44.7 to 45.1 percent.
- Based upon Apex's visual reconnaissance of the Remediation Area(s) and its clearance sampling analytical results, the remediation activities were successfully completed by the Remediation Contractor and meet the clearance criteria specified in the Remediation Protocol. A copy of Apex's Mold Assessor) portion of the Mold Remediation Certificate (on Texas Department of Insurance Form MDR-1) in contained in Appendix F.

#### 6.0 CONCLUSIONS

The mold remediation activities in the Remediation Area has been successfully completed, passed clearance, and the Remediation Areas approved for reconstruction.



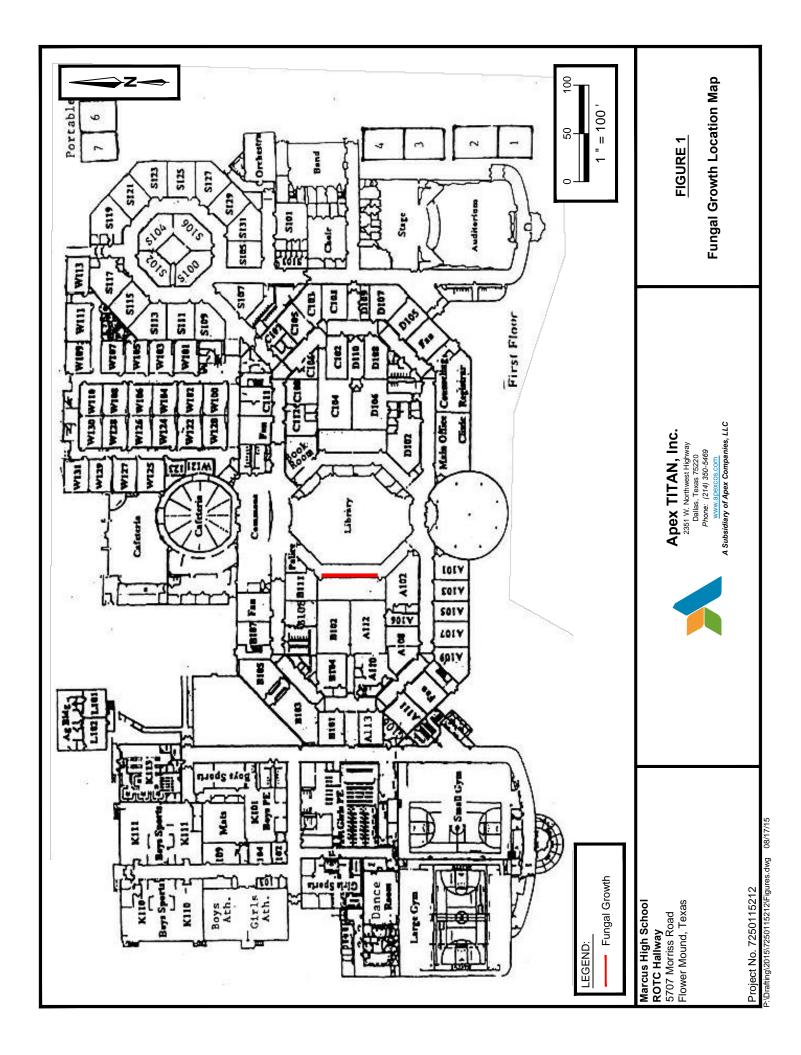
APPENDIX



## APPENDIX A

Site Diagram





## APPENDIX B

Photographs





#### SITE PHOTOGRAPHS

Lewisville Independent School District – Marcus High School

## Photograph 1

View of containment.



### Photograph 2

View of remediated area.



### Photograph 3

View of remediated area.





### SITE PHOTOGRAPHS

Lewisville Independent School District – Marcus High School

## Photograph 4

View of remediated area.



## APPENDIX C

Mold Remediation Protocol





#### MOLD REMEDIATION PROTOCOL

Marcus High School ROTC Hallway 5707 Morriss Road Flower Mound, Texas

June 25, 2015 LISD PO No. 91538989-00 Apex Project No. 7250115212

Prepared for:

Lewisville Independent School District 340 Lake Haven Lewisville, Texas 75057 Attention: Mr. Paul Siddell

In A Forte

Darren G. Bowden Mold Assessment Consultant Texas License No. MAC0321 Expiration Date: 02/15/2016

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#### **PROJECT / WORK IDENTIFICATION**

- I Material Description and Quantities
- II Work Practices
- III Removal
- IV Disposal
- V Clearance
- VI Notification
- VII Applicable Publications
- VIII Construction Notes



#### PROJECT/WORK IDENTIFICATION

<u>General</u>: Project name is Mold Remediation, Marcus High School, ROTC Hallway, Flower Mound, Texas, dated June 25, 2015

#### I. Material Description and Quantities

Briefly and without force and effect upon the contract documents, the work of the Contract can be summarized as the removal of fungal growth and associated drywall in the following approximate quantities: \*\*

Fungal Growth associated Drywall ...... 150 SF

\*\*Quantities listed are estimates only.

#### **II. Work Practices**

A. Respiratory Protection (at a minimum):

During the removal of the fungal growth, the workers will be required to wear, at a minimum, half-face air purifying respirators. The workers will be fit tested in accordance with current OSHA guidelines.

B. Protective Clothing:

During removal, workers will be required to wear disposable, full body coveralls, head covers, boots, goggles/eye protection and rubber gloves. Sleeves at wrists and cuffs at ankles shall be secure. Work clothes will be properly disposed of at the conclusion of work.

Authorized visitors, including the consultant's on-site representative, shall be provided with suitable protective clothing when they are required to enter the work area.

C. Containment:

Materials shall be abated in a full containment. The containment includes at a minimum: an enclosure consisting of two (2) layers of four (4) millimeter polyethylene sheeting on floors, walls and ceiling where applicable, in conjunction with a decontamination unit. Any non-movable objects that remain in the work area shall be sealed with two layers of 6-mil polyethylene sheeting.

Throughout the remediation activities, notice signs and barrier tape will be utilized to restrict unauthorized access to the work areas. The signs shall be at least eight (8) inches by ten (10) inches in size and shall bear the word, "NOTICE: Mold remediation project in progress" in black on a yellow background. The text of the signs must be legible from a distance ten (10) feet.

- A. Foule-

Darren G. Bowden



The containment will be placed under negative pressure during the project. In addition, air scrubber(s) shall be operated continuously after the remediation until the containment achieves clearance. Dehumidifiers will be utilized as needed to maintain the relative humidity below 60 percent.

No person shall remove or dismantle any walk-in containment structures or materials from a project site prior to receipt by the license mold remediation contractor or remediation company overseeing the project of a written notice from a licensed mold assessment consultant that the project has achieved clearance.

#### III. Removal

The Contractor will perform the removal and disposal in accordance with current local, state and federal regulations. The materials should be HEPA vacuumed and disinfected with Foster's 40/80, a hospital grade quaternary ammonium chloride disinfectant, or equivalent.

The fungal growth will be removed in conjunction with the substrate. Any mold affected wood studs will be sanded. The work area will be encapsulated with Foster's 40/20 or equivalent.

All porous and non-porous surfaces within the work area and areas adjacent to the work area should be cleaned by simple wet wipe techniques and/or HEPA vacuum. Individuals with known allergies to fungal incitants should not be permitted to work on the project.

#### IV. Disposal

It is the Consultant's understanding that no special disposal requirements apply to mold waste materials and the waste can be disposed of as general construction waste. However, it is the responsibility of the Contractor to determine current waste handling, transportation, and disposal requirements as it pertains to current local, state and federal regulations. Waste will be containerized (e.g., bagged and goose-necked) inside containment and thoroughly cleaned before leaving the work area. The containers will be transported to the waste container without spillage.

#### V. Clearance

Apex will conduct a post-remediation assessment using visual, procedural and analytical methods. The post remediation assessment shall be conducted while the containment is in place. As part of the post-remediation assessment, Apex will determine if the area is free from all visible mold and wood rot and if the remediation has been completed in accordance with this protocol and the contractor's work plan.

D. A. Farle

Darren G. Bowden



Clearance samples will be conducted using slit impaction air sampling cassettes. The collection media for these devices consist of a coverslip coated with a sticky transparent "acrylic" substrate. Containment clearance will require obtaining air monitoring results indicating that airborne mold spore concentrations inside the containment are no more than 40% of those obtained outside the structure at the time the sampling was performed. In addition, non-target airborne mold spore concentrations must be similar inside the containment than those obtained outside the structure at the time the sampling was performed. Target molds should be individually less than or equal to outside levels.

The target list of molds would generally include, but are not limited to, Aspergillus, Penicillium, Aureobasidium, Chaetomium, Fusarium, Trichoderma, Stachybotrys, and Ulocadium.

Apex is not a moisture intrusion assessment company. The client will retain responsibility for moisture intrusion remediation. The Client is encouraged to investigate the moisture intrusion and solicit a moisture intrusion remediation company to remediate the underlying cause of mold.

#### **VI. Notification**

The contractor is responsible for proper notification, if required, to all regulatory agencies having authority over proposed work including but not limited to city, county, state, and federal agencies. The TDSHS will be notified five (5) working days prior to the initiation of remediation activities on projects where more than twenty-five contiguous square feet of mold growth is scheduled for removal.

#### VII. Applicable Publications

The publications listed below form a part of this specification to the extent referenced. The publications are referenced in text by basic designation only and may not be fully conclusive. The Contractor shall be aware and compliant with all current regulations.

- A. Texas Department of State Health Services (TDSHS), Division of Occupational Health, Texas Mold Remediation Rules (TMARR), Texas Civil Statutes.
- B. National Institute for Occupational Safety and Health (NIOSH): "Respiratory Protection...A Guide for the Employee."
- C. American National Standards Institute (ANSI): Z86.1-197<sup>3</sup>...Commodity Specification for Air
- D. Code of Federal Regulations (CFR):
  - 1. 29 CFR 1910.1001, Occupational Safety and Health Act (OSHA)
  - 2. 20 CFR 1910.20, Subpart C, General Safety and Health Provisions

\_ A. Forle

Darren G. Bowden



#### **VIII. Construction Notes**

The Contractor will be responsible for routing water and electricity to the work areas. Water will be used only as needed to limit dust-related emissions and perform decontamination activities. No materials will be saturated with water during any part of this remediation project.

HVAC registers and ductwork present in the work areas are to be wiped and sealed by the Contractor prior to the initiation of remediation activities. The HVAC system is to be shutdown prior to and during the work.

The Contractor shall provide all items, articles, materials, operations or methods listed or mentioned including all labor, materials, equipment, applicable permits and notifications and all incidentals necessary and required for their use to complete the work specified.

Fire extinguishers shall be installed in the Equipment Room and Clean room or inside and outside of the containment if there is no decontamination unit specified.

The Contractor shall conduct a safety meeting for contractor's employees with emphasis on operation of fire extinguishers and emergency exits in case of fire.

Contractor's employees shall not wear protective clothing and equipment in areas of the building outside the work area.

The Consultant will not be responsible for site safety, or the ways and means utilized by the Contractor.

Neither the Contractor nor the Consultant is responsible for identification or the elimination of moisture intrusion.

Ground-fault circuit interrupter (GFCI) units shall be installed on all electrical circuits used within the regulated areas(s).

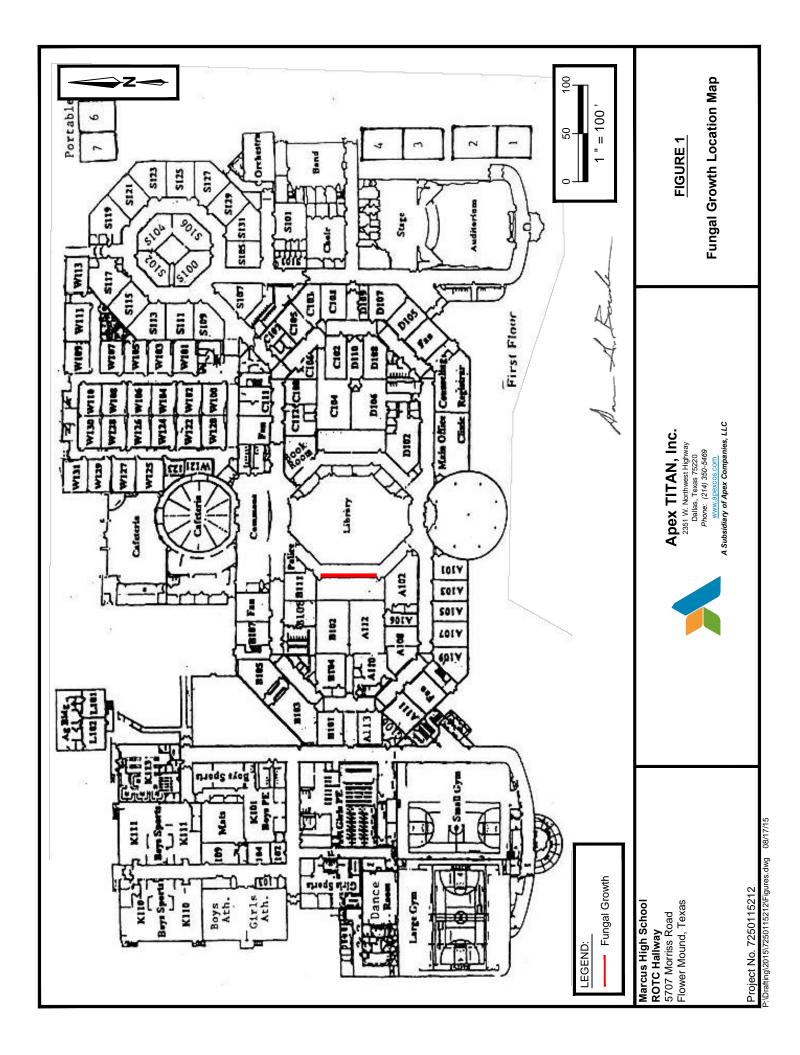
The Owner or Owner's representative has the authority to stop the remediation work at any time he/she determines that conditions are not within the specified mold remediation protocol and applicable regulations. The work stoppage shall continue until conditions have been corrected and measures have been taken to the satisfaction of the owner. Standby time required to resolve violations shall be at the Contractor's expense.

END OF SECTION

1. A Farling

Darren G. Bowden





## APPENDIX D

Remediation Work Plan



## **BIO-REMEDIATION WORK PLAN**

#### 06-25-2015

**Project Information:** 

Lewisville Independent School District 340 Lake Haven Lewisville, Texas 75957

**Prepared By:** 

ARC Abatement, Inc. 2710 National Place Garland, TX 75041

Mold Company License #RCO-0163 Expires: 03-09-16 Mold Remediation Contractor License # MRC- 1243

**Project Consultant:** 

Mr. Darren G. Bowden DSHS Mold Assessment Consultant APEX TITAN, Inc. 2351 W. Northwest Hwy., Suite 3321 Dallas, Texas 75220 Mold Consultant License # MAC-0321 02-15-2015

Jame

Mold Contractor License #MRC – 1243 Expires: 12-12-15

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MOLD REMEDIATION WORK PLAN

APPLICABLE RULES AND GUIDELINES FOR REMEDIATION

**REMEDIATION AREAS AND ESTIMATED QUANTITIES** 

**REMEDIATION METHODS** 

**PRODUCTS** 

**CONTAINMENT PROCEDURES** 

**CLEARANCE PROCEDURES AND CRITERIA** 

Contractors Initials:

## MOLD REMEDIATION WORK PLAN

The following Mold Remediation Work Plan follows the requirements set forth in 25 TAC 295.321 (e). The following Mold Remediation Protocol is based on the following Mold Protocol:

Prepared on: Performed by: License #:

06-25-2015 Darren G. Bowden MAC 0321

### APPLICABLE RULES AND GUIDELINES FOR REMEDIATION

The following documents were reviewed prior to developing this Work Plan. Some of these documents regulate the remediation process while others provide general guidance for the remediation process:

• Texas Department of State Health Services, Indoor Air Quality Division, *Texas Mold Assessment and Remediation Rules, 25 TAC 295.301 – 338*, May 2004.

• Occupational Safety and Health Administration, *Respiratory Protection, 29 CFR Parts 1910*. .134, January 1998.

• U.S. Department of Labor, Occupational Health and Safety Administration, *A Brief Guide to Mold in the Workplace*.

• Environmental Protection Agency, Office of Air and Radiation, Indoor Environments Division. *Mold Remediation in Schools and Commercial Buildings*. March 2001. EPA 402-K-01-001.

• New York City Department of Health, Bureau of Environmental and Occupational Disease Epidemiology. *Guidelines on Assessment and Remediation of Fungi in Indoor Environments*. November 20, 2000.

• Institute of Inspection, Cleaning and Restoration, *IICRC S520, Standard and Reference Guide for Professional Mold Remediation*, December 2003.

• National Air Duct Cleaners Association, Assessment, Cleaning, and Restoration of HVAC Systems, 2001.

• OSHA Respiratory Protection Standard, 29 CFR Parts 1910 and 1926.

· Current industry best practices and guidelines.

### **REMEDIATION AREAS AND ESTIMATED QUANTITIES**

The contaminated areas to be addressed by this Mold Remediation Work include the following area(s) located on walls below windows in hallway.

Remediation Area: Removal and Remediation and disposal of drywall beneath the window in the ROTC hallway. Remove fungal growth by removal of drywall and cleaning the wall cavity that it effects. Approximately 150 Sq. ft. This amount was increased after removing The drywall for 25 square feet was originally notified.

Contractors Initials:

<u>\_ABM\_</u>

## **REMEDIATION METHODS** DESCRIPTION OF THE WORK

PROJECT DESIGN FOR:

#### Wall System Mold Remediation

- 1. Install critical barriers constructed of two layer of 6-mil plastic sheeting (to separate the work area from adjacent areas and to any penetrations) and seal all HVAC ducts with a minimum of one layer of 6-mil plastic sheeting. Install critical barriers so they remain sealed for the duration of the project. The contractor shall establish a worker decontamination enclosure equipped with a 2-stage dry decontamination unit. All bags, equipment, etc. shall exit the enclosure shall be wet-wiped and cleaned.
- 2. Contractor shall use appropriate respirator and clothing (Ty-vek suit) as required when in the work area. When leaving each individual work area, contractor shall remove respirator and Ty-vek suit may remain on but must be HEPA-vacuumed or the suit removed and properly disposed of prior to exiting the work area. These procedures should be followed when mold/mildew damaged wall sheathing and insulation materials are identified on the interior faces of the wall cavity system. Respiratory protection shall be, at a minimum, dual cartridge air purifying respirators equipped with HEPA filters. The respiratory assessment to determine the required protection is the responsibility of the contractor.
- 3. Install air scrubbers (negative air filtration units) within the work areas as required.
- 4. All water damaged or mold/mildew on sheetrock in the work area, should be removed and disposed of beyond any visible water or mold/mildew damage on remaining surfaces. Any remaining water mold/mildew damaged sheetrock walls in the work area should be removed in locations identified in Darren Bowden's visual assessment. Remediation will commence on June 26<sup>th</sup>, 2015, at 8:00 AM and completed no later than June 26<sup>th</sup>, 2015.

Contractors Initials:

ASU/

5. All Mold Contaminated material is located beneath the window and the walls in the ROTC Hallway as found, will be removed and disposed of within the contained work area. The exposed cavity shall be cleaned and sanitized.

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- 6 Following the completion of the required remediation, HEPA vacuum clean all exposed wall cavities to remove gross accumulations of dust and debris.
- 7. Manually clean the exposed surfaces and associated items (framing members, walls, piping, conduits, etc.) using brushes and disposable towels. All exposed framing shall be cleaned with a wire brush to remove any staining and discoloration and sanitized with a biocide (EPA approved for intended use).
- 8. Following the initial manual cleaning, treat all surfaces within the work area with a biocide (EPA approved for intended use). Manually clean the wall cavities a second time (if required to remove any residual materials).
- 9. All materials removed from the building to be disposed of shall be placed in plastic bags; the bags shall be wiped with a biocide and removed from the facility for disposal. Covered buggies will be required to be used to remove bagged materials from the remediation work area.
- 10. In areas where water/mold damage is evident on the sheetrock or sheathing materials existing on the exterior wall system, the remediation contractor will clean, sanitize and treat the affected area. Following the cleaning, the wall cavities shall be coated with anti-microbial coating material (EPA approved for intended use) in areas identified in Darren Bowden's visual assessment.
- 11 The remediation contractor should place the bagged waste in a covered, lockable container until removed from the site.
- 12. The remediation contractor and Darren Bowden shall review and identify and verify that to the best of their knowledge the water mold damaged materials have been removed from the specified work areas and the affected areas have been sanitized.

Contractors Initials: \_\_\_\_\_

- 13. Following removal of the remaining water/mold damaged materials, and debris, all areas in the remediation work areas including walls, floors, etc shall be HEPA-vacuumed and cleaned (wiped, sprayed, etc.) with a biocide (EPA approved for intended use).
- 14. All work will be conducted in accordance with federal, state and local regulatory requirements and guidelines. Any items not covered in the remediation protocol should be brought to the attention of Darren Bowden promptly.
- 15. Following the completion of the remediation work, Darren Bowden will perform airborne microbial (Air-O-Cell) sampling in the work area for post remediation air testing.
- 16. A letter by an officer of the remediation company that all required permits, licenses, registrations and mold remediation training, respiratory fit testing and medical examination have been completed and available on-site. The letter shall include:
  - □ A list of each employee who will be on-site. The list must give name and social security number.
  - Date and type of all training for each employee on-site.
  - Date of last fit test for each employee on-site.
  - Date of last medical examination for each employee onsite.
  - Texas Department of State Health Services (TDSHS) license or registration number for each employee on-site.

**NOTE:** All documentation for the above listed items shall be available for review upon request by the Owner or his representative.

- Diriginal executed Certificates of Worker's Release Forms,
- An executed Notification of Mold Remediation submitted to the TDSHS

JBM

#### **PRODUCTS**

The following products shall be utilized in the remediation project.

 Anti-Microbial Coating: Foster Products Corporation's "Foster 40-20" and "Foster 40-30" fungicidal protective coating, Porter Paints' "Porta-Sept" anti-microbial wall coating, Aegis Environmental's "Aegis Antimicrobial" or approved equivalent. Anti-microbial coating shall be applied according to manufacturer's instructions. Anti-microbial coating shall be allowed to thoroughly dry after application prior to covering.

Biocide: An Environmental Protection Agency (EPA) registered biocide, such as Foster's, or approved equivalent. Biocide treatment shall be mixed and applied according to manufacture's instructions. After biocide treatment, surfaces shall be allowed to thoroughly dry.

Cleaning Solution: Trisodium phosphate cleaning solution, such as Sentinel 805 • (Sentinel Chemical Company) or approved equivalent. Cleaning solution shall be mixed and applied according to manufacturer's instructions

#### **POST REMEDIATION CLEARANCE TESTING**

Clearance samples will be conducted using silt impaction air sampling cassettes. The collection media for these devices consist of a coverslip coated with a sticky transparent "acrylic' substrate. Containment Clearance will be achieved upon passing a visual and procedural inspection by an APEX representative in addition to obtaining air monitoring results indicating that airborne mold spore concentrations are similar inside the containment than those obtained outside the structure at the time the sampling was performed.

Contractors Initials:

## APPENDIX E

Analytical Results



# Moody Labs

## **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

Project : Marcus HS Hallway Outside ROTC Room

**Project # :** 7250115212

Sample Type: Spore Trap, Non-cultured

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

Spore Trap Type: Zefon - Air-O-Cell

Page 1 of 3

On 7/2/2015, four (4) 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			ntration abic meter
1	75	Exterior, Center Court Yard * See Analytical Notes report for further details	Basidiospores Cladosporium Ascospores Coprinus group Myxomycete / Rust / Smut Hyphal / Spore Fragments Paecilomyces Agaricales group Alternaria Cercospora Asteromyces Periconia Fusarium Pyricularia Drechslera / Bipolaris group Nigrospora Pithomyces Ganoderma Oidium Curvularia Pestalotia Fusicladium	Total:	14000 1413 1053 933 773 613 333 213 120 120 80 53 53 53 40 27 27 13 13 13 13 13 13	70% 7% 5% 4% 3% 2% 1% <1% <1% <1% <1% <1% <1% <1% <1% <1%
				I otal:	19969	100%

# Moody Labs

## **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

**Project :** Marcus HS Hallway Outside ROTC Room

Project # : 7250115212

Sample Type: Spore Trap, Non-cultured

Lab Job No. 15F-08395 **Report Date** 07/02/2015 2:14 PM

Sample Date : 07/02/2015

Spore Trap Type: Zefon - Air-O-Cell

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

Page 2 of 3

On 7/2/2015, four (4) 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		ntration ubic meter
2	75	Exterior, Northwest * See Analytical Notes report for further details	Basidiospores Cladosporium Ascospores Myxomycete / Rust / Smut Coprinus group Hyphal / Spore Fragments Aspergillus / Penicillium Alternaria Drechslera / Bipolaris group Agaricales group Fusarium Cercospora Paecilomyces Curvularia Torula Epicoccum Ganoderma Nigrospora Peronospora Pithomyces Pyricularia	15066 1013 893 853 573 493 413 173 120 93 80 67 53 53 40 27 27 27 27 27 27 13 20131	75% 5% 4% 3% 2% 2% <1% <1% <1% <1% <1% <1% <1% <1% <1% <1

# Moody Labs

## **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

Project : Marcus HS Hallway Outside ROTC Room

**Project # :** 7250115212

Sample Type: Spore Trap, Non-cultured

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

Lab Job No. 15F-08395 Report Date 07/02/2015 2:14 PM Sample Date : 07/02/2015

Spore Trap Type: Zefon - Air-O-Cell

Page 3 of 3

On 7/2/2015, four (4) 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		ntration abic meter
3	150	Inside Containment	Basidiospores Aspergillus / Penicillium Hyphal / Spore Fragments Ascospores Coprinus group Paecilomyces Agaricales group Torula Myxomycete / Rust / Smut	460 160 40 33 27 13 7 7 7 7	61% 21% 5% 4% 4% 2% <1% <1% <1%
4	150	Inside Containment	Total: Basidiospores Aspergillus / Penicillium Cladosporium Ascospores Hyphal / Spore Fragments	887 380 167 67 60	100% 54% 23% 10% 4% 4%
			Coprinus group Myxomycete / Rust / Smut Agaricales group Drechslera / Bipolaris group Curvularia	40 20 13 7 7	2% 1% <1% <1%
			Total:	1648	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 :	Acat	he Lop
Approved Signatory : Thank you for choosing Moody Labs	Bime	Cull

SMLMS v11.21

	-
Moody	I ahe
modely	Lans

## IAQ Mold Report

Data Detail

2051 Valley View Lane

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

Client : Apex TITAN, Inc. - Dallas, TX

Project : Marcus HS Hallway Outside ROTC Room

**Project # :** 7250115212

Sample Type: Spore Trap, Non-cultured

DSHS License No.: LAB0117 AIHA EMPAT ID: 102577

Lab Job No.: 15F-08395

**Report Date :** 07/02/2015 2:14 PM

Sample Date : 07/02/2015

Spore Trap Type: Zefon - Air-O-Cell

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

Page 1 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.

Sample ID:			1				2				3	
Location:	Exter	Exterior, Center Court Yard			Exterior, Northwest				Inside Containment			
Media Expires On:		Mar 2016			Mar 2016				Mar 2016			
Notes Included:	S	See Analytical Notes See Analytical Notes					s					
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	16	13.33	213	1%	7	13.33	93	<1%	1	6.67	7	<1%
Alternaria	9	13.33	120	<1%	13	13.33	173	<1%				
Ascospores	79	13.33	1053	5%	67	13.33	893	4%	5	6.67	33	4%
Aspergillus / Penicillium					31	13.33	413	2%	24	6.67	160	21%
Asteromyces	6	13.33	80	<1%								
Basidiospores	105	133.33	14000	70%	113	133.33	15066	75%	69	6.67	460	61%
Cercospora	9	13.33	120	<1%	5	13.33	67	<1%				
Chaetomium												
Cladosporium	106	13.33	1413	7%	76	13.33	1013	5%				
Coprinus group	70	13.33	933	5%	43	13.33	573	3%	4	6.67	27	4%
Curvularia	1	13.33	13	<1%	4	13.33	53	<1%				
Drechslera / Bipolaris group	3	13.33	40	<1%	9	13.33	120	<1%				
Epicoccum					2	13.33	27	<1%				
Fusarium	4	13.33	53	<1%	6	13.33	80	<1%				
Fusicladium	1	13.33	13	<1%								
Ganoderma	1	13.33	13	<1%	2	13.33	27	<1%				
Hyphal / Spore Fragments	46	13.33	613	3%	37	13.33	493	2%	6	6.67	40	5%
Memnoniella												
Myxomycete / Rust / Smut	58	13.33	773	4%	64	13.33	853	4%	1	6.67	7	<1%
Nigrospora	2	13.33	27	<1%	2	13.33	27	<1%				
Oidium	1	13.33	13	<1%								
Paecilomyces	25	13.33	333	2%	4	13.33	53	<1%	2	6.67	13	2%
Periconia	4	13.33	53	<1%								
Peronospora					2	13.33	27	<1%				
Pestalotia	1	13.33	13	<1%								
Pithomyces	2	13.33	27	<1%	2	13.33	27	<1%				
Pyricularia	4	13.33	53	<1%	1	13.33	13	<1%				
Stachybotrys												
Torula					3	13.33	40	<1%	1	6.67	7	
TOTALS	553		19969	100%	493		20131	100%	113		754	100%
Analyst			ecca Lutz		Rebecca Lutz					ecca Lutz		
Analysis Date		7/2	2/2015		7/2/2015			7/2/2015				
Debris Rating			4		4					2		
Debris Composition												
Fibers			2/5				2/5				1/5	
Inorganic/Other			4/5		4/5					2/5		
Insect Parts			1/5				2/5				0/5	
Pollen		1/5		2/5			0/5					

Montest			IAQ Mold	Report				
Moody L	aDS		Data De	_	DSHS License No.: LAB011			
2051 Valley V	iew Lane				AIHA EMPAT ID: 10257			
		none: (972) 241-84	60					
Client :	Apex TITAN, J	Inc Dallas, TX		Lab Job N	lo.: 15F-08395			
Project :	-	lway Outside ROT	C Room		te: 07/02/2015 2:14 PM			
Project # :	7250115212	-		Sample Date : 07/02/2015				
Sample Type:	Spore Trap, No	on-cultured		Spore Tra	<b>p Type:</b> Zefon - Air-O-Cell			
		07391-09 - Standar			Page 2 of 3			
	s of three sections; a	summary section, a da			Its may not be reported except in full			
Skin/Dander			1/5	1/5	1/5			

Advertise to			IAQ	Mold	Repor	t					
Moody Labs			]	Data Detail			DSHS License No.: LAB0117				
2051 Valley View Lane										PAT ID: 10	
Farmers Branch, TX 75234 Pho	one: (972) 24	1-846	0					1111			/2011
Client : Apex TITAN, In	c Dallas, T	X				Lab Jo	b No.	: 15F-	08395	5	
•		Outside ROTC Room				<b>Report Date :</b> 07/02/2015 2:14 PM					
•	way Outside	NOIC	2 Room			-					141
<b>Project # :</b> 7250115212						Sample					
Sample Type: Spore Trap, Non	-cultured					Spore 7	Frap 7	Гуре:	Zefon	- Air-O-C	ell
Test Method: Mold: ASTM D7	7391-09 - Sta	ndard	l Profile							Page 3	of 3
This report consists of three sections; a s	ummary section	ı, a data	detail sectio	n, and an a	nalytical not	es section. R	Results n	nay not l	be repor	ted except ir	ı full.
Sample ID:			4							*	
Location:	Ir	nside C	Containment								
Media Expires On:			r 2016								
Notes Included:											
Volume:		150									
	raw ct.	MDL	spores/m <sup>3</sup>								
Agaricales group	2	6.67	13	<1%							
Alternaria											
Ascospores	10	6.67	67	4%							
Aspergillus / Penicillium	57	6.67	380	23%							
Asteromyces											
Basidiospores	133	6.67	887	54%							
Cercospora											
Chaetomium											
Cladosporium	25	6.67	167	10%							
Coprinus group	6	6.67	40	2%							
Curvularia	1	6.67	7	<1%							
Drechslera / Bipolaris group	1	6.67	7	<1%							
Epicoccum											
Fusarium											
Fusicladium											
Ganoderma											
Hyphal / Spore Fragments	9	6.67	60	4%							
Memnoniella											
Myxomycete / Rust / Smut	3	6.67	20	1%							
Nigrospora											<u> </u>
Oidium											<u> </u>
Paecilomyces											<u> </u>
Periconia											
Peronospora											
Pestalotia											
Pithomyces											
Pyricularia											
Stachybotrys											
Torula	247		1040	1000/							
TOTALS	247	D		100%							
Analyst			ecca Lutz								
Analysis Date		1/2	2/2015 2								
Debris Rating			2								
Debris Composition			1/5								
Fibers Inorganic/Other			2/5								
	1		<u>c</u> /J					1			
Insect Parts			0/5								

## **IAQ Mold Report**

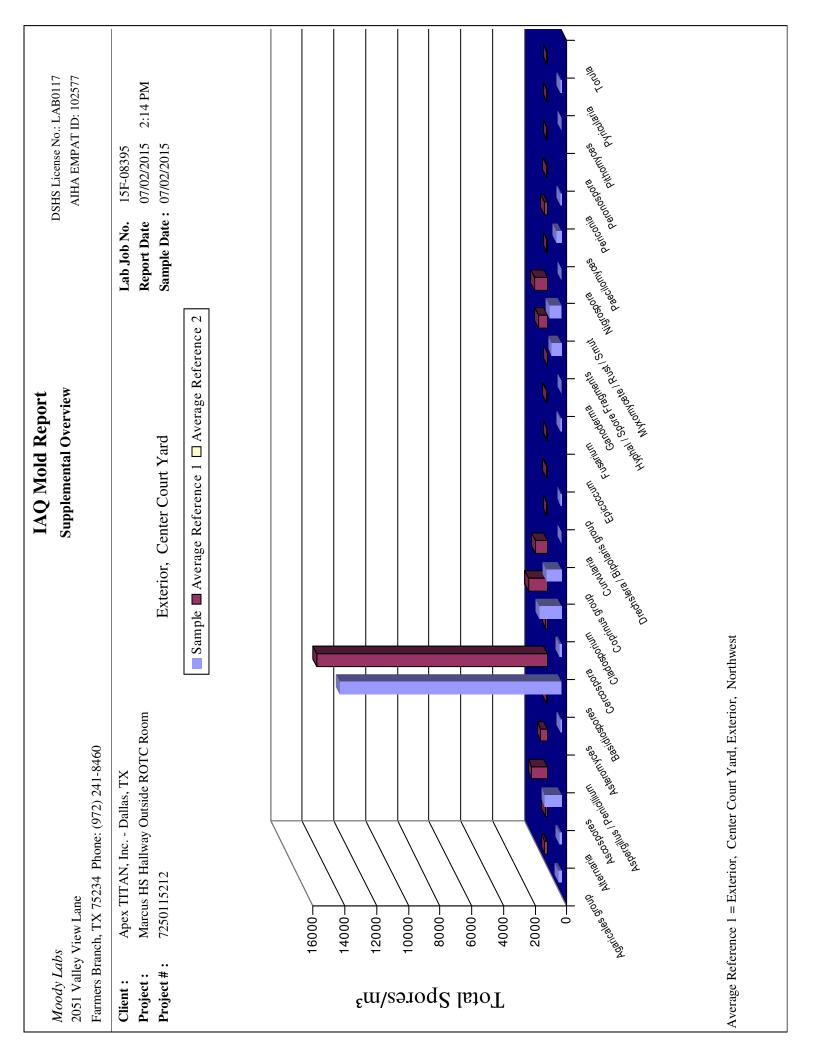
Moody L	IAQ Mo	old Report	
mooug	Analyt	ical Notes DSHS License	No.: LAB0117
2051 Valley	View Lane		AT ID: 10257
Farmers Bran	ch, TX 75234 Phone: (972) 241-8460		
Client :	Apex TITAN, Inc Dallas, TX	Lab Job No. : 15F-08395	
Project :	Marcus HS Hallway Outside ROTC Room	<b>Report Date : </b> 07/02/2015	2:14 PM
Project # :	7250115212	Sample Date : 07/02/2015	
Sample Type	e: Spore Trap, Non-cultured	Spore Trap Type: Zefon - Air-O-Cell	
	: Mold: ASTM D7391-09 - Standard Profile		Page 1 of 2
This report consis	sts of three sections; a summary section, a data detail section, and	an analytical notes section. Results may not be reporte	d except in full.
Samples Ai	nalyzed		
Sample No	1 : Exterior, Center Court Yard		
Notes:	Due to a high presence of Basidiospores, the M this fungal group. When comparing results to other		
Sample No	2: Exterior, Northwest		
Notes:	Due to a high presence of Basidiospores, the M this fungal group. When comparing results to ot		
	uns fungar group. When comparing results to of	ther samples, use calculated results, not raw	
No discernat NOTE: All rei Methods	<b>xs</b> ble field blanks were submitted with this set of sample <b>maining samples suitable for analysis.</b>	es.	
No discernat NOTE: All ren Methods Method: AS	<b>xs</b> ble field blanks were submitted with this set of sample	es.	
No discernat NOTE: All ren Methods Method: AS Sample by O	<b>KS</b> ble field blanks were submitted with this set of sample <b>maining samples suitable for analysis.</b> TM D7391-09: Categorization and Quantification of	es.	
No discernat NOTE: All rea Methods Method: AS Sample by O Calculation:	<b>KS</b> ble field blanks were submitted with this set of sample <b>maining samples suitable for analysis.</b> TM D7391-09: Categorization and Quantification of Optical Microscopy.	es. f Airborne Fungal Structures in an Inertial Ir	
No discernat NOTE: All ren Methods Method: AS Sample by O Calculation: Note: MDL	<b>cs</b> ble field blanks were submitted with this set of sample <b>maining samples suitable for analysis.</b> TM D7391-09: Categorization and Quantification of ptical Microscopy. Spores/cubic meter = (Raw spore count)*(MDL)	es. f Airborne Fungal Structures in an Inertial Ir n 1 raw spore count.	
No discernat NOTE: All ren Methods Method: AS Sample by O Calculation: Note: MDL Moody Labs This report n	<b>cs</b> ble field blanks were submitted with this set of sample <b>maining samples suitable for analysis.</b> TTM D7391-09: Categorization and Quantification of optical Microscopy. Spores/cubic meter = (Raw spore count)*(MDL) (Minimum Detection Limit) is calculated based upo	es. f Airborne Fungal Structures in an Inertial Ir n 1 raw spore count. alues based on ASTM D7391-09.	npaction
No discernation NOTE: All read Methods Method: AS Sample by O Calculation: Note: MDL Moody Labs This report many agency of	KS         ble field blanks were submitted with this set of sample         maining samples suitable for analysis.         TM D7391-09: Categorization and Quantification of Optical Microscopy.         Spores/cubic meter = (Raw spore count)*(MDL)         (Minimum Detection Limit) is calculated based upor recommends two significant figures for calculated values in the set of the Federal Government.	es. f Airborne Fungal Structures in an Inertial Ir n 1 raw spore count. alues based on ASTM D7391-09.	npaction
No discernation NOTE: All real Methods Method: AS Sample by O Calculation: Note: MDL Moody Labs This report n any agency of Debris Ration 0 - No linear	KS         ble field blanks were submitted with this set of sample         maining samples suitable for analysis.         TM D7391-09: Categorization and Quantification of optical Microscopy.         Spores/cubic meter = (Raw spore count)*(MDL)         (Minimum Detection Limit) is calculated based upo recommends two significant figures for calculated values of the Federal Government.         ing Key         trace detected	es. f Airborne Fungal Structures in an Inertial Ir n 1 raw spore count. alues based on ASTM D7391-09.	npaction
No discernation NOTE: All real Methods Method: AS Sample by O Calculation: Note: MDL Moody Labs This report m any agency of Debris Ration 0 - No linear 1 - Trace part	<b>xs b</b> le field blanks were submitted with this set of sample <b>maining samples suitable for analysis. TM D7391-09:</b> Categorization and Quantification of optical Microscopy.         Spores/cubic meter = (Raw spore count)*(MDL)         (Minimum Detection Limit) is calculated based upo recommends two significant figures for calculated value of the Federal Government. <b>ing Key</b> • trace detected ticulate/debris	es. f Airborne Fungal Structures in an Inertial Ir n 1 raw spore count. alues based on ASTM D7391-09.	npaction
No discernation NOTE: All real Methods Method: AS Sample by O Calculation: Note: MDL Moody Labs This report n any agency of Debris Ration 0 - No linear 1 - Trace par 2 - Light par	<b>KS</b> ble field blanks were submitted with this set of sample <b>maining samples suitable for analysis.</b> TM D7391-09: Categorization and Quantification of optical Microscopy.         Spores/cubic meter = (Raw spore count)*(MDL)         (Minimum Detection Limit) is calculated based upo recommends two significant figures for calculated value         nust not be used by the customer to claim product cere of the Federal Government. <b>ing Key</b> trace detected         ticulate/debris         ticulate/debris	es. f Airborne Fungal Structures in an Inertial Ir n 1 raw spore count. alues based on ASTM D7391-09.	npaction
No discernation NOTE: All real Methods Method: AS Sample by O Calculation: Note: MDL Moody Labs This report n any agency of Debris Ration 0 - No linear 1 - Trace par 2 - Light par 3 - Moderate	<b>Solution Solution Solution</b>	es. f Airborne Fungal Structures in an Inertial Ir n 1 raw spore count. alues based on ASTM D7391-09.	npaction
No discernation NOTE: All real Methods Method: AS Sample by O Calculation: Note: MDL Moody Labs This report n any agency of Debris Ration 0 - No linear 1 - Trace par 2 - Light par 3 - Moderate 4 - Substanti	<b>Solution Solution Solution</b>	es. f Airborne Fungal Structures in an Inertial Ir n 1 raw spore count. alues based on ASTM D7391-09.	npaction
No discernation NOTE: All read Methods Method: AS Sample by O Calculation: Note: MDL Moody Labs This report n any agency of Debris Ration 0 - No linear 1 - Trace par 2 - Light par 3 - Moderate 4 - Substanti	<b>S S</b>	es. f Airborne Fungal Structures in an Inertial Ir n 1 raw spore count. alues based on ASTM D7391-09.	npaction

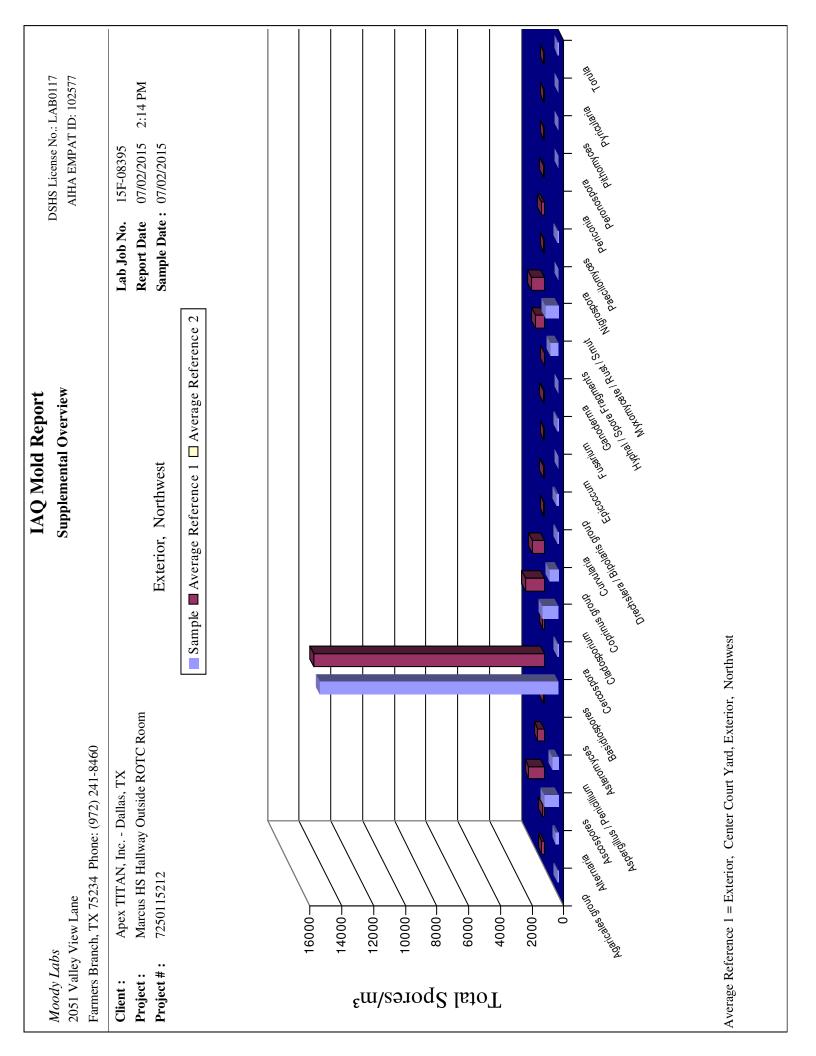
10 - Hold Sample

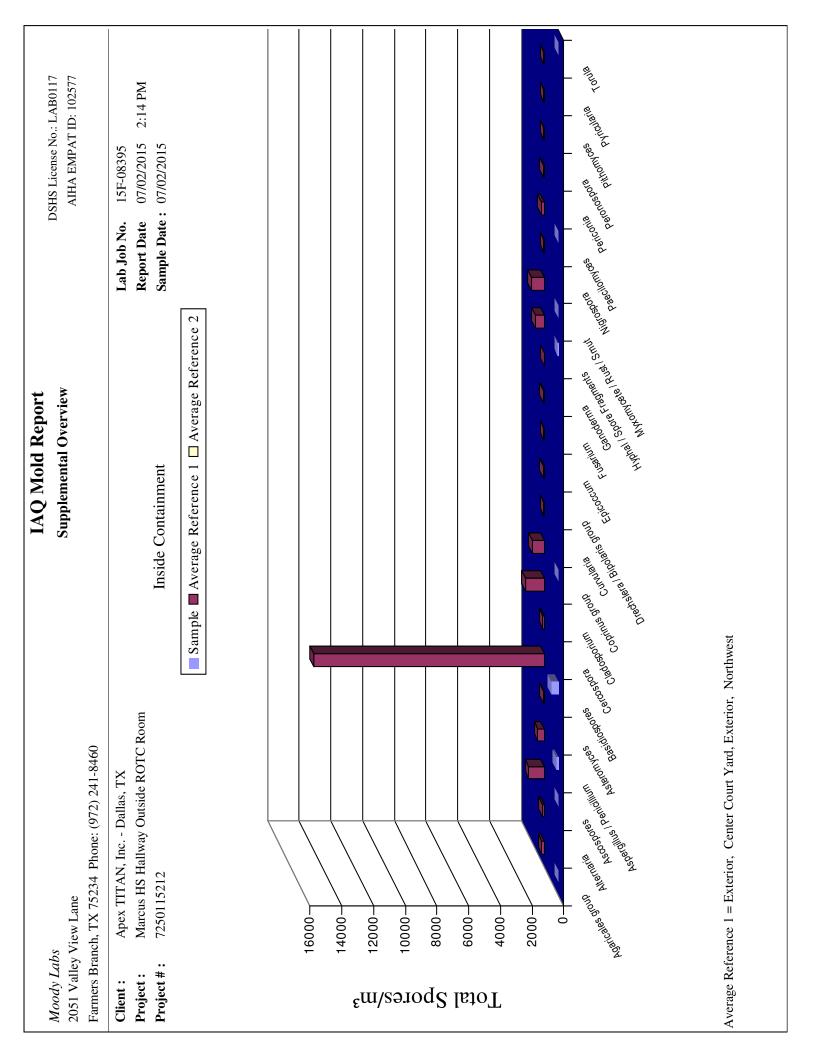
NOTE: Particulate/debris defined as skin, fibers, pollen grains, insect parts, and/or other non-fungal particles

Moody La	The	IAQ M	old Report	
mobuy L	aus	Analy	tical Notes	DSHS License No.: LAB0117
2051 Valley V	iew Lane			AIHA EMPAT ID: 102577
Farmers Branc	h, TX 75234 Phone: (972) 24	1-8460		
Client :	Apex TITAN, Inc Dallas, T	Ϋ́X	1	Lab Job No.: 15F-08395
Project :	Marcus HS Hallway Outside	ROTC Room	1	<b>Report Date :</b> 07/02/2015 2:14 PM
Project # :	7250115212		S	Sample Date : 07/02/2015
Sample Type:	Spore Trap, Non-cultured		Spore Trap Typ	e: Zefon - Air-O-Cell
Test Method:	Mold: ASTM D7391-09 - Sta	ndard Profile		Page 2 of 2
This report consist	s of three sections; a summary section	, a data detail section, ar	nd an analytical notes so	ection. Results may not be reported except in full.
		ENVIRONMENT ISO/IEC WWW.Aihaacc	AL MICROBIOLOGY 17025:2005 REDITEDLABS.ORG # 102577	Certified
Statewide Historica	In Underutilized Business Program		EXAS epartment of ate Health Services _AB0117	WBENE Women's Business Enterprise

<i>Moody Labs</i> 2051 Valley View Lane	fiew Lane	IAQ Mold Report Supplemental Overview	DSHS License No.: LAB0117 AIHA EMPAT ID: 102577
Farmers Brand Client : Project : Project # :	Farmers Branch, TX 75234 Phone: (972) 241-8460 Client : Apex TITAN, Inc Dallas, TX Project : Marcus HS Hallway Outside ROTC Room Project # : 7250115212	Lab Job No. Report Date Sample Date	Lab Job No. 15F-08395 Report Date 07/02/2015 2:14 PM Sample Date : 07/02/2015
_ <sup>5</sup> m∖s∋roqS lstoT			
	Exerior. Center Court Vard Exerior. Center Court Vard Exerior.		









¥ -	MO	ti light	Chain o	<u>f Custody</u>		Lab J	ob_# <u>15F-C</u> ob # ob #		
			*Please call in	advance for immedia	te, after-hour,	& weekend	i pricing & availa	bility.*	l'at i
	PCM Air (74 TOTAL DUS ASBESTOS Air AHER/ Air 7402 ( Bulk Water/Wi Analyze E	] Immediate [ <b>100)</b> ] Immediate [ <b>T (0500/0600</b> <b>TEM</b> A Method [ (Modified) [ pe/Micro Vac [ Blanks []	Analyze All         1 day       2 day         0)       2 day         1 day       2 day         6 hr       12 hr         1 day       2 day         6 hr       12 hr         1 day       2 day         Yes       No	☐ 3 day ☐ 3 day ☐ 5 day ☐ 3 day ☐ 3 day	Standar Expand Culture Analyze **Turnaro BACTERI Colony CC + G Coliforn Legione OTHER:	d Air ed Air ** e Blanks und of Cült A** Counts (CC ram Stain n & E. coli illa	(P/A)	□ 1 day □ 1 day □ 1 day □ No ject to Cultur □ 3 day □ 3 day □ 2-3 day □ 14 days	☐ 2 day ☐ 2 day e Growth** ☐ 5 day ☐ 5 day
	Billing Comp Submitter's C		per Tites	(Dellas Sou	-fh)		# of Samp Sample Da		2015
			+ Juch	<u></u>	· · ·			7250115	
	Project: M	ancus HS	Halland ou	ude Rote K	bom		Phone #: _	· · · ·	*
				<u>reh</u>			Mobile #: (		•
				anith					
	*Please review pa	perwork and samples	before submitting to lab, U	jneeelőd / improperty jackag	ed / damaged / exp	ired samples or			
	Sample #		Sample Descrip	tion	Vol. / Area (if applicable)		Location	/ Notes	
							• • • • • • • • • • • • • • • • • • • •	*	
	1	Exterior	Center (	and Yard	75	<b>İ</b>	7.6° N= 4	15.1.1.	·
	1		, Center ( r. Northu		• •• •	T = 8 T = 84	.+ • H= 4	4.7%	·
	3	Exterio		e#	75 75 150	T= 8 T= 84 T= 80.		4.7%	n=13.K
	1 2 3 4	Exterio Inside	r Northu	<b>e.șt</b>	75 75	T = 8 T = 84	.+ • H= 4	4.7%	øl <i>≠ 13-K</i> o *7
	3	Exterio Inside	r. Northu. Containment	<b>e.șt</b>	75 75 150	T= 8 T= 84 T= 80.	.+ • H= 4	4.7%	øl <i>€ 13-K</i> ¢ ~7
	3	Exterio Inside	r. Northu. Containment	<b>e.șt</b>	75 75 150	T= 8 T= 84 T= 80.	.+ • H= 4	4.7%	øl <i>≤ 13-K</i> ¢ 7
	3	Exterio Inside	r. Northu. Containment	<b>e.șt</b>	75 75 150	T= 8 T= 84 T= 80.	.+ • H= 4	4.7%	øl <i>← 13-K</i> 6 ~7
	3	Exterio Inside	r. Northu. Containment	<b>e.șt</b>	75 75 150	T= 8 T= 84 T= 80.	.+ • H= 4	4.7%	øl <i>€ 13-K</i> 6 ~7
	3	Exterio Inside	r. Northu. Containment	<b>e.șt</b>	75 75 150	T= 8 T= 84 T= 80.	.+ • H= 4	4.7%	øl <i>€ 13-K</i> o 7
	3	Exterio Inside	r. Northu. Containment	<b>e.șt</b>	75 75 150	T= 8 T= 84 T= 80.	.+ • H= 4	4.7%	øl <i>≤ 13·K</i> 7
	3	Exterio Inside	r. Northu. Containment	<b>e.șt</b>	75 75 150	T= 8 T= 84 T= 80.	.+ • H= 4	4.7%	øl <i>≤ 13.K</i> 7
	3	Exterio Inside	r. Northu. Containment	<b>e.șt</b>	75 75 150	T= 8 T= 84 T= 80.	.+ • H= 4	4.7%	øl € 13-16 7
	3	Exterio	r. Northu Containment Containment	<b>e.șt</b>	75 75 150	T = 8 T = 84 T = 80 T =	.+ • H= 4	4.7% 3% % #=	אל <i>בי ואני</i> יד וווויייייייייייייייייייייייייייייי

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## APPENDIS F

Moisture Intrusion Remediation Statement and MDR-1 Form





## DATE: August 13, 2015

TO: Apex-Titan, Inc. - Darren Bowden

**SUBJECT:** Marcus HS - ROTC Hallway Mold Remediation

The cause for the mold identified in ROTC Hallway Mold Remediation was moisture coming through the outside wall from the roof coping. This was repaired by spraying sealer on the two story wall and installing gutters just below the coping. Therefore, I certify with reasonable certainty that the underlying cause or causes of the mold that were identified for this project in the remediation protocol have been remediated.

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

## CERTIFICATE OF MOLD DAMAGE REMEDIATION

Certificate Number <u>15-03-046</u>	Date of Issuance July 02, 2	015
Name Lewisville Independent School District-AT	T: Mr. Paul Siddall	
Mailing Address 340 Lake Haven		
City_Lewisville	State Texas	Zip75057
Property Description:		
Name/Description Marcus High School ROTC H	aliway	
Number: 5707 Street: Morriss Ro	ad Lot <u>N/A</u>	Block Unknown
Addition or Tract ROTC Hallway	City _ Flower Mound	County Denton

### Mold Assessment Consultant License Holder Certification

 I hereby certify that based on visual, procedural and analytical evaluation, the mold contamination identified for this project has been remediated as outlined in the mold management plan or remediation protocol.

• I further certify with reasonable certainty that the underlying cause or causes of the mold that were identified for this project in the mold management plan or remediation protocol have been remediated. A copy of the written evaluation that forms the basis for my certification has been provided to the person named in this certificate.

Mold Assessment Consultant License Holder Signature

MAC0321, 2/15/2016 Department of State Health Services Mold Assessment Consultant License No. and Expiration Date July 2, 2015

Date

### Mold Remediation Contractor License Holder Certification

 I hereby certify that I completed mold remediation on this project and will provide the mold remediation certificate to the property owner no later than the 10<sup>th</sup> day after the date of completion.

Mold Remediation Contractor License Holder Signature MRC-1243 Department of State Health Services Mold Remediation Contractor License No. and Expiration Date July 02, 2015 Date of Completion

## Mold Assessment Consultant or Adjustor License Holder Certification

I hereby certify that I have inspected the property described in this certificate and that based on my
inspection I have determined that the property does not contain evidence of mold damage. A copy of the
written evaluation that forms the basis for my certification has been provided to the person named in this
certificate.

NUA	N/A	N/A
N/A Mold Assessment Consultant / Adjuster License Holder Signature	Department of State Health Services Mold Assessment Consultant / Adjuster License No. and Expiration Date	Date

MDR-1 (Rev. Eff. 10/19/05)

## APPENDIX G

Mold Assessment Consultant Licenses





# TEXAS DEPARTMENT OF STATE HEALTH SERVICES

Be it known that

## APEX TITAN INC

is licensed to perform as a

## Mold Assessment Company

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.

Dind They MD

David Lakey, M.D. Commissioner of Health

> License Number: <u>ACO1061</u> Expiration Date: <u>4/16/2016</u>

Control Number: <u>6751</u> (Void After Expiration Date)

VOID IF ALTERED NON-TRANSFERABLE



# TEXAS DEPARTMENT OF STATE HEALTH SERVICES

**BE IT KNOWN THAT** 

## DARREN G BOWDEN

is hereby licensed and authorized to perform as a

# Mold Assessment Consultant

Title 25, Texas Administrative Code, Chapter 295, relating to Texas Mold Assessment and Remediation in the State of Texas and is hereby governed by the rights, privileges, and responsibilities set forth in

Rules, as long as this license is not suspended or revoked.

Prid Thy MD

David L Lakey, M.D Commissioner of Health

License Number: <u>MAC0321</u> Control Number: <u>7957</u>

Expiration Date: <u>2/15/2016</u> (Void After Expiration Date)

VOID IF ALTERED NON-TRANSFERABLE



# TEXAS DEPARTMENT OF STATE HEALTH SERVICES

BE IT KNOWN THAT

## **CLINTON S JECH**

is hereby licensed and authorized to perform as a

# Mold Assessment Technician

Title 25, Texas Administrative Code, Chapter 295, relating to Texas Mold Assessment and Remediation in the State of Texas and is hereby governed by the rights, privileges, and responsibilities set forth in

Rules, as long as this license is not suspended or revoked.

Prid Thylo

David L Lakey, M.D Commissioner of Health

License Number: <u>MAT1075</u> Control Number: <u>6634</u>

Expiration Date: <u>3/12/2016</u> (Void After Expiration Date)

VOID IF ALTERED NON-TRANSFERABLE