Big 2 Panel

PenAsp¹ and Stach² Assays

228 Midway Lane, Suite B Oak Ridge, Tennessee 37830 Toll Free: (866) 547-1727 Local: (865) 813-1700 Fax: (865) 813-1705

Fax: (865) 813-1705 Email: info@assuredbio.com www.assuredbio.com



REVIEWED

By Joshua Birkebak, Ph.D. at 10:12 am, Oct 12, 2018

| Inspector: | Dylan Graves | Date Collected: | 10/4/2018 |
|-------------------------|--------------------|-----------------|---------------------|
| Project Name: | Fred D. Brown Hall | Date Received: | 10/8/2018 |
| Project Number: | | Date Reported: | 10/11/2018 |
| Assured Bio Identifier: | DG100818-4 | Analyst(s): | M. Reed, S. McClurg |

Selected References

Haugland, R. A., S. J. Vesper and L. J. Wymer. 1999. Quantitative measurement of *Stachybotrys chartarum* conidia using real-time detection of PCR products with the TagManTM fluorogenic probe system. Molecular and Cellular Probes 13:329-340.

Meklin, T. M., R. A. Haugland, T. Reponen, M. Varma, Z. Lummus, D. Bernstein, L. J. Wymer and S. J. Vesper. 2004. Quantitative PCR analysis of house dust can reveal abnormal mold conditions. Journal of Environmental Monitoring 6:615-620.

Vesper, S. J. 2006. Developing the EPA Relative Moldiness Index® based on mold-specific quantitative PCR. The Synergist April 2006:39-43.

Vesper, S. J., C. McKinstry, C. Yang, R. A. Haugland, C. M. Kercsmar, I. Yike, M. D. Schluchter, H. L. Kirchner, J. Sobolewski, T. M. Alltan and D. G. Dearborn. 2006. Specific molds associated with asthma in water-damaged homes. Journal of Occupational and Environmental Medicine 48:852-858.

Vesper, S., C. McKinstry, P. Ashley, R. Haughland, K. Yeatts, K. Bradhan and E. Svendsen. 2007. Quantitative PCR analysis of molds in the dust from homes of asthmatic children in North Carolina. Journal of Environmental Monitoring 9:826-830.

Accreditation

Assured Bio Labs, LLC is accredited by the American Industrial Hygiene Association Laboratory Accreditation Programs, LLC (AIHA-LAP, LLC; Lab ID # 183867) in the Environmental Microbiology accreditation program for "qPCR - Mold Specific qPCR" Fields of Testing as documented by the Scope of Accreditation Certificate and associated Scope. AIHA-LAP, LLC accreditation complies with the ISO/IEC Standard 17025:2005 requirements, but this does not imply ISO certification or registration."

Limitations

ASSURED BIO LABS, LLC MAKES NO WARRANTIES AND EXPRESSLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PURPOSE. INSPECTOR ACKNOWLEDGES THAT ASSURED BIO LABS, LLC HAS NOT INSPECTED THE SUBJECT PROPERTY AND THAT THE INSPECTOR IS SOLELY RESPONSIBLE FOR CHOOSING THE LOCATION OF SAMPLE COLLECTION. ASSURED BIO LABS, LLC SHALL NOT BE LIABLE TO INSPECTOR FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES OF ANY KIND OR NATURE, INCLUDING, WITHOUT LIMITATION, ANY DAMAGES TO PROPERTY OR PERSONAL INJURY WHETHER SUCH LIABILITY IS ASSERTED ON THE BASIS OF CONTRACT, TORT, OR OTHERWISE, EVEN IF ASSURED BIO LABS, LLC HAS BEEN WARNED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGE. UNDER NO CIRCUMSTANCES SHALL ASSURED BIO LABS, LLC BE LIABLE FOR DAMAGES UNDER OR ARISING OUT OF THIS REPORT IN AN AMOUNT EXCEEDING THE AMOUNT PAID BY THE INSPECTOR TO ASSURED BIO LABS, LLC FOR THIS ANALYSIS AND REPORT. THIS REPORT IS FOR THE SOLE USE OF THE INSPECTOR AND CREATES NO THIRD PARTY BENEFICIARIES OR RIGHTS HEREUNDER.

Methods of Analysis

Assured Bio Labs uses the following methods for the MSQPCR analysis: CD 23: Data Reporting for MSQPCR Testing, CD 143: Preparation, Processing, and Analysis of MSQPCR Samples, CD 225: Bead Based DNA Extraction

<u>Notes</u>

¹The PenAsp assay detects species of the genera *Aspergillus, Penicillium,* and *Paecilomyces variotii.*²The Stach assay detects *Stachybotrys chartarum* also commonly referred to as "toxic black mold."

Reporting Limits

Method Detection Limit (MDL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The minimum concentration of an analyte that, in a given matrix and with a specific method, has a 99 percent probability of being identified, qualitatively or quantitatively measured, and reported to be greater than zero."

Reporting Limit (RL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The lowest concentration of analyte in a sample that can be reported with a defined, reproducible level of certainty."

Values less than one will be rounded up to one per reported unit.

Method Detection Limits (in Spores)

Stac - 0.1624, PenAsp - 0.2161

Reporting Limit Calculations

Unless otherwise stated in comments, the following equations are used to calculate the reporting limit per sample: Dust RL – MDL/5 mg Swab RL – MDL/1 swab, Unconcentrated Liquid RL – MDL/0.1 ml, Concentrated Liquid RL – MDL/ml filtered, MTrap RL – MDL \times (1000/L sampled)

Assured Bio Identifier: FBC Sample Condition: Intact FBC Sample ID: Sample Type: Mtrap Sample Description: Outside Control Sample Volume: 300 L Spores/Cubic Meter <u>Assay</u> PenAsp: 34 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-1 Sample Condition: Intact Sample ID: Sample Type: Mtrap Floor - Room Sample Description: Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-2 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: **Below Detectable Limits Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: DG100818-4-3 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 4 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG100818-4-4 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 1 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-5 Sample Condition: Intact Sample ID: Sample Type: Mtrap Floor - Room Sample Description: Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-6 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 1 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-7 Sample Condition: Intact Sample ID: Sample Type: Mtrap Floor - Room Sample Description: Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 17 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG100818-4-8 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 34 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-9 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-10 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-11 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG100818-4-12 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 23 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-13 Sample Condition: Intact Sample ID: Sample Type: Mtrap Floor - Room Sample Description: Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 15 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-14 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-15 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: Floor - Room 150 L Spores/Cubic Meter **Assay** PenAsp: 15 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG100818-4-16 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 19 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-17 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 31 Stach: **Below Detectable Limits** Comments: Assured Bio Identifier: DG100818-4-18 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-19 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: Floor - Room 150 L Spores/Cubic Meter **Assay** PenAsp: 32 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG100818-4-20 Sample Condition: Intact Sample ID: 20 Sample Type: Mtrap Sample Description: Floor Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 58 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-21 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 32 Stach: **Below Detectable Limits** Comments: Assured Bio Identifier: DG100818-4-22 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 17 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-23 Sample Condition: Intact Sample ID: Sample Type: Mtrap Floor - Room Sample Volume: Sample Description: 150 L Spores/Cubic Meter **Assay** PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG100818-4-24 Sample Condition: Intact Sample ID: 24 Sample Type: Mtrap Sample Description: Floor Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 15 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-25 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 34 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-26 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 12 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-27 Sample Condition: Intact Sample ID: Sample Type: Mtrap Floor - Room Sample Description: Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 12 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG100818-4-28 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 24 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-29 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 35 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: DG100818-4-30 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 13 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-31 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Room Spores/Cubic Meter **Assay** PenAsp: 30 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG100818-4-32 Sample Condition: Intact Sample ID: 32 Sample Type: Mtrap Sample Description: Floor Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 5 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-33 Sample Condition: Intact Sample ID: Sample Type: Mtrap Floor Room Sample Description: Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 5 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-34 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 18 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-35 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: Floor - Room 150 L Spores/Cubic Meter **Assay** PenAsp: 13 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG100818-4-36 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 24 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-37 Sample Condition: Intact Sample ID: Sample Type: Mtrap Floor - Room Sample Description: Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 9 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-38 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 50 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-39 Sample Condition: Intact Sample ID: Sample Type: Mtrap Floor - Room Sample Description: Sample Volume: 150 L Spores/Cubic Meter **Assay** 25 PenAsp: Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG100818-4-40 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 6 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-41 Sample Condition: Intact Sample ID: Sample Type: Mtrap Floor - Room Sample Description: Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 53 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-42 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 7 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-4-43 Sample Condition: Intact Sample ID: Sample Type: Mtrap Floor - Room Sample Description: Sample Volume: 150 L Spores/Cubic Meter **Assay** 5 PenAsp: Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG100818-4-44

Sample ID:

Sample Type: Mtrap Floor - Room Sample Description: Sample Volume: 150 L

> <u>Assay</u> Spores/Cubic Meter

Sample Condition: Intact

PenAsp: 41

3 Stach:

Comments: None.

|) | Assured Bio Labs, LLC | ı | | | | Project Name: | | Frad | 5 | ם | | <u> </u> | 5 | = | | |
|-----------------------|--|----------------------|-------------|--|--------------------------|--|-----------------|----------------|-----------|----------|-------------|--------------|---------------|-----------------|------------|----------|
| 1 | Oak Ridge, TN 37830 | ľ | | | | Project Nu | ct Number: | | | 7 | | 1 | <u> </u> | Inside | 1 | Outoido |
| assured hio | | General | Chain | General Chain of Custody | | | | | | %RH | | \dashv | | | \dashv | Carolido |
| | (000) 613-1700 | | | of Quarray | | Collection Date: |)ate: | 4 | æ | Temp | Temperature | _ | | | + | |
| Inspector: Wan | Games | Company Nam | ne: Ass | Company Name: Assured Bio L | Labs | AB Identifier: (for internal use only) | er: (for | interna | al use c | only) | 3 | - | 7 | - | _ | |
| 228 Midway | <u>,</u> | Suite B, | Oal | Oak Ridge, | TN 37830 | - | | - | - | | _G | 1 | | 0 | \dashv | |
| Phone: (865) 813-1700 | 700 | E-mail: info(| ໝassເ | E-mail: info@assuredbio.com | | chybot borne I | | | | teria* | | SIM) | | | | |
| For Water Tests | Sample Codes (SC) | B - Bulk | Outside | Outside Conditions (Circle all that apply) | Il that apply) | | | | _ |) Bad | | | | | | |
| Sampling Time: | MT - M-TRAP® | TL - Tape Lift | C - Clear | TS - Thunderstorm | orm | _ | | | | ies IC | | | | | | |
| Water Temperature: | SP - Spore Trap | D - Dust | R-Rain | S - Snow | | | | | | Spec | | _ | _ | .02 | _ | |
| Sample ID | Description | | SC T | Total Volume or Area | Comments | | /loldSi | iaSca iaSca | iaScar | iaSca | RMI | urvey | egione | egione HA/VA | oliform | her:** |
| 1 Floor | - Room | | ΤM | 150 L | | ┵┠ | ᆜᅡ | =¦⊦ | ᆜᅡ | | ᆜᅡ | ⊣⊢ | ᆛᅡ | ┵ | ┵┝ | |
| 2 Floor | - Room | | TM | 150 L | | <u>く</u> | | <u> </u> | 7 | | _][| _ | ┩┝ | ╡┝ | ╗ | |
| 3 Floor | - Room | | TM | 150 L | | ✓ [| | _ L | | | | - | ╡╞ | ╡┝ | 7 F | |
| 4 Floor | - Room | | MT | 150 L | | |] | <u> </u> | | | | <u> </u> | ᅴ┝ | | 키 片 | |
| 5 Floor | - Room | | MT | 150 L | | ✓ | | _ | | | _ | <u> </u> | - | ┪╏ | ٦'n | |
| 6 Floor | - Room | | MT | 150 L | | ✓ | | | | | _ | | - | - | | |
| 7 Floor | - Room | | MT | 150 L | | ✓ | | | | | _ | | - | ┪╏ | ٦ř | |
| 8 Floor | - Room | | MT | 150 L | | | _ | = | | | | <u> </u> | <u> </u> | - | | |
| 9 Floor | - Room | | TM | 150 L | | | | | | | _ | ╛┟ | ╡╞ | - - | | |
| 10 Floor | Room | | MT | 150 L | | | _ | | | | _ | - | ┥┝ | <u> </u> | | |
| 11 Floor | Room | | TM | 150 L | | | 4 | | | | | ┩┟ | ╡╞ | ╡╏ | | |
| 12 Floor | Room | | TM | 150 L | | | | | ji | | _ | | | - - | | |
| blinguished By: | without Bio. **Please specify other analysis. Some nonstandard analyses may be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Labs. | ntracted to ELIM Bio | D. **Please | specify other analysis. | Some nonstandard analyse | s may be subc | xontracted 入 | d to Huffn | nan Labs, | Indoor E | 3iotechn | ologies, | EMS, S | GS Galso | on, or W | ard Lab. |
| Relinquished By: | | Date: WY | g | Time: R | Received By: | Z | | | Date: | 8.0 | 31.18 | | Time: | 3.00 | Page 1 | 1 of 4 |

| - Room | | Sample ID [| Water Temperature:SW - Swab | Residual Chlorine: SP - Spore Trap | Sampling Time: MT - M-TRAP® | 107 | (865) 813-1700 | ZZO IVIIUV | Company Address: 339 Midu | IIIspector: | | | assuredbio" (865) 8- | www.as | Assured 228 Mic Oak Ric |
|-----------|----------|----------------------------------|-----------------------------|------------------------------------|----------------------------------|--|-----------------------------|--|---------------------------|---------------------------------|------------|----------------|--|--------------------|--|
| B | | Description | ab W - Water | re Trap D - Dust | 'RAP [®] TL - Tape Lift | Sample Codes (SC) B - Bulk | E-mail: inf | vay Ln, Suite | | Company I | | | into@assuredbio.com (865) 813-1700 Gener | www.assuredbio.com | Assured Bio Labs, LLC 228 Midway Lane, Suite B Oak Ridge, TN 37830 |
| MT 150 L | | SC Total Volume or Area Comments | W - Wind O - Other | R - Rain S - Snow | | Outside Conditions (Circle all that apply) | E-mail: info@assuredbio.com | 220 Mildway Ln, Sulte B, Oak Ridge, TN 37830 | | Company Name: Assured Bio Labs | | | General Chain of Custody | | |
| <u> </u> | l | ig 2 | (Per | n/Asp | o and | d Sta | chybo | - | T | AB | T | Colle | | Proje | |
| | \vdash | _ | | _ | _ | | irborne | Molds | | dentifier: (for internal use on | | Collection Dat | | ect Number | ect Name |
| _ | Н | _ | Scan | | _ | | | | | r: (for | L | ate: | | nber: | ¬ı" |
| _ - | Н | | can C can S | _ | _ | | | | | intern | 7 | | | | <u> </u> |
| | Н | | | _ | _ | | Count | | | al use | g | 5 | | | |
| ī | V | iaSc | an S | peci | es i |) Ba | cteria* | | | only) | l em | 1 | %RH | Τ | B |
| $\bar{]}$ | Ε | RMI | | | | | | | 6 | 2 | emperature | | _ | | 0 |
| | Si | urve | y of I | ndo | or Mo | olds | (SIM) | | 9.8180019 | | _ | | | | red D. Brown Hal |
| | Le | egio | nella | (Cui | ture) | | | | OX | | | | | | 품 |
| | \vdash | | nella | | | | | | 2 | 5 | | | | Inside | = |
| | \vdash | _ | A W | _ | | | | _ | 2 | : | | 4 | | Ц | |
| | | her: | m/E. ** | coli | l est | (+/- |) | | | | | | | Outside | |
| | | | | | | | | _ | | | _ | | | Ц | |

Relinquished By: *Culture and PCR doyle at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab. Date: 10-4-18 Time: Received By: (5) MW Date: 10-8-18 Time: 9'- CO Page 2 of 4

23

Floor

Room

Floor

Room

MT

150 L

150 L

150 L

150 L

150 L

22

Floor

Room

2

Floor

Room-

20

Floor

Room

19

Floor

Room

M

150 L

∠

150 L

M

150 L

M

150 L

M

150 L

 \leq

150 L

2

Floo

Room

Floor

Room

<u>1</u>6

Floo

Room

15

Floor

Room

4

Floor

Room

| | | | <u> </u> | 5/ | \prec | | < | | < | 1 | | _ | - | | | | | | | | | | / | | | |
|------------------|---|------------------|----------|----------|--|---|--------------------------------------|--------------|---------------|----------|--------------|------------------|-------------|----------------------|---------------------|--------------|--------------------|--|---------------------|------------------------------|-----------|--|------------------|------------------------------------|--------------------|---|
| Kelinquisned By: | - | 36 *Culture a | 35 | 34 | 33 | 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | Sample ID | mater l'emperature. | Water Temper | Residiual Chlorine | Sampling Time: | (OC | Phone: | Company A | Inspector: | | assu | 5 | |
| 700 | | Floor | Floor | Floor | Floor | Floor | Floor | Floor | Floor | Floor | Floor | Floor | Floor | | awie. | of Iro | rine: | p. 85 | (865) 813-1/00 | 77 | ddress: | | > | assuredbio" | 1 | |
| | Some nonstandard analyses (Please specify other analysis, Some nonstandard analyses) | - Room | - Room | - Room | - Room | - Room | - Room | Room | - Room | - Room | - Room | - Room | - Room | Description | - Swab | Charles Lab | SP - Spore Tran | Sample Codes (SC) | /00 | Phone: /225 2/2 IVIIOWAY LN, | | (| 1 | Info@assuredbio.com (865) 813-1700 | www.assuredbio.com | Assured Bio Labs, LLC 228 Midway Lane, Suite B Oak Ridos TN 37820 |
| Date: | contracted to ELIM Bio. **PI | | | | | | | | | | | | | | W - Water | D- Dasi | l L- lape Lift | B - Bulk | E-mail: info | | 、 L | Company Na | | Genera | | C Ite B |
| 0 | | ΙM | M | M | MT | MT | MT | MT | MT | M | MT | M | M | SC | W - Wind | R - Rain | C - Clear | Outsid | @ass | 000 | | me: Δ c | | Chai | | |
| _ Time:R | e specify other analysis. S | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | Total Volume or Area | nd 0 - Other | n S - Snow | • | Outside Conditions (Circle all that apply) | info@assuredbio.com | Oak Ridge, | | Company Name: Assured Bis I | | General Chain of Custody | | |
| Received By: | ome nonstandard analys | | | | | | | | | | | | | Comments | | | orm | II that apply) | | TN 37830 | Labs | 8 | | | | |
| | es may be | | ✓ | | | <u> </u> | | <u> </u> | ₹ | | | <u> </u> | - | _ | | | _ | | achybo | _ | | AB Ide | Collecti | | Project | riojec |
| 2 | subcontra | | | | |] | | | | | _ | <u> </u> | -∤⊦ | Mold | _ | _ | | | | Molds | | AB Identifier: (for internal use only) | Collection Date: | | Project Number: | Toject Name: |
| 5 | cted to Hu | | | | | | | | | | | | | ViaSo | can | Gen | us IE |) Fun | gi | | | or inte | 2-01 | | * | Fred |
| Date: | ffman Lab | | | = | ╡ | | 4 | | _ | - | $\exists $ | - | ╣ | ViaSc ViaSc | | | | | ingi* Count | | | mal use | ā | | | ă D |
| 3.01 | s, Indoor | | | | | | | | | | | | =: - | - | _ | _ | | | cteria | - | | only) | Tem | %RH | Н | |
| 8 | Biotechno | | | | | |][| |][| | | | ᆜᅡ | ERMI | | | | | | | プロ | | Temperature | | Ш | Brown |
| ∏i | logies, EN | | - | = - | ┧┝ | ╡┝ | ╡╞ | ┪╏ | | ╡╞ | - - | | ⇉⊦ | egior | _ | _ | | | (SIM) | \dashv | 0 | H | \dashv | _ | H | |
| Time: 4:00 | AS, SGS G | | | | ֓֞֞֞֞֞֞֞֞֞֞֞֞֜֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֡֓֡֡֡֡֡֡֡֡֡ | ֓֞֞֞֞֞֞֞֞֓֓֞֞֓֓֓֓֓֓֞֞֞֓֓֡֡֞֞֓֓֡֡֡֡֡֡֡֡֡ | ֓֞֞֞֞֞֞֓֓֞֞֜֞֜֞֓֓֓֓֞֞֜֞֡֓֓֓֡֞֡֓֡֡֡֡֡ | | | jĖ | JĖ | | ᆜᅡ | egion. | _ | _ | _ | , | | \exists | 800 | | | | Inside | Hall |
| | alson, or | | ╡┟ | <u> </u> | <u> </u> | ┥┝ | <u> </u> | - - | $\frac{1}{2}$ |][| 7[| $\exists \lceil$ | ᆜᅡ | HA/V | | | | | | | 8/8 | L | | | | |
| Page 3 of 4 | may be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab. | | | | | | | | | | | | 그는 | Colifor Other:* | | . col | 165 | it (+/- | ·) | - | ナー | | | | Outside | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Culture and PCR Relinquished By: | | | | | 44 Flo | 43 Flo | 42 Flo | 41 Fig | 40 Fig | 39 Flo | 38 Flo | 37 Flo | Sample ID | Water Temperature: | Residiual Chlorine: | Sampling Time: | For Water Tests | Phone: (865) 813-1700 | Company Address: 228 Midway | Inspector: | assuredbio | | | |
|--|-----------|-------------|---|-------|------------|----------|--------|---------|-------------|----------|--------------|-----------|----------------------|--------------------|---------------------|-------------------|--|-----------------------------|-----------------------------|--|------------------|---|---------------------|--|
| done at Assur | | | | ortro | Floor - | Floor | Floor | Floor - | Floor - | Floor | Floor - | Floor | | (0 | (0 | 2 1 | | 3-1700 | 228 N | | 1 | | | N 7- |
| uished By: ### Date: US | | | | | Room | Room | Room | Room | Room | Room | Room | Room | Description | SW - Swab | SP - Spore Trap | MT - M-TRAP® | Sample Codes (SC) | | | | (865) 813-1700 | www.assuredbio.com info@assuredbio.com | Oak Ridge, TN 37830 | Assured Bio Labs, LLC 228 Midway I ane, Suite B |
| cing subcontracted t | - | | | | | | | | | | | | | W - Water | D - Dust | | | E-mail: | Ln, Suite | Compan | 9 | _ | 830 | LLC Suite B |
| | | | | | M T | ≤ | M | _ ĭ | M | <u>M</u> | M | M | SC | W - Wind | R - Rain | | Outs | nfo@as | 'n | y Name: A | | Cha | | |
| Please specify other analysis. Some nonstandard analyses m Received By: | | | | | 150 L | 150 L | 750 L | 750 L | 150 L | 150 L | 150 L | 150 L | Total Volume or Area | Vind O - Other | | ear TS-Thu | Outside Conditions (Circle all that apply) | E-mail: info@assuredbio.com | Oak Ridge, | Company Name: Assured Bio | | | | |
| analysis. Some nonstai | - | | | | 1 | 1 | 1 | 1 | ' | ' | ' | • | | St. | W | TS - Thunderstorm | ircle all that an | com | Z | io Labs | 5 | <u>.</u> | | |
| onstandard analy. d By: | | | | | | | | | | | | | Comments | | | (1) | nly) | | 37830 | | | | | |
| ses may be | | | | | | | | | | | | | ⊢ | | | | _ | irborne | otrys) e Molds | AB Identifier: (for internal use only) | Collection Date: | | Project Number: | Project I |
| Subcont L L | H | | H | H | | \Box | Ш | H | \parallel | H | H | \exists | \vdash | _ | | irect E | | _ | , morac | tifier: (| n Date: | | Numbe | ect Name: |
| Zaged to | | | | | | | | | | | | | Via | Scan | Gen | us ID | Fun | ıgi | | or inte | 0 | | 7 | Fred |
| Huttma | | | | | | | | | | | | | Via | Scan | Spe | cies II | D Fι | ıngi* | | rnal us | 8 | | | ۾ ا |
| Date: | | | | | Ц | Щ | Ц | Щ | Щ | Ц | Ц | Ц | - | _ | | | _ | Coun | - | se only | | % | H | 2 |
| Indoor Biot | \square | \parallel | H | H | H | H | Н | H | 믬 | Н | \mathbb{H} | 님 | ERI | | Spe | CIES II | | acteria | - | () | Temperature | %RH | Ш | Brown |
| S – 18 | | H | H | | | 님 | П | | H | H | | 님 | \vdash | | of Ind | oor M | lolds | (SIM |) | 9 | ure | | Ш | § |
| ogies, E | H | H | 님 | 片 | \exists | H | H | H | H | H | | | Leg | ionel | la (C | ulture |) | | \exists | 8001 | | | H | $T \mid$ |
| EMS, SGS | | | | | | | | | | | | | Leg | ionel | la (ql | PCR) | | | | Ø | | | Inside | |
| S Galson | | | | | | | | | | | | | | | | er Tes | | | | N. | | | Ц | |
| ray be subcontragled to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab MS | | | | | | | | | | Ц | | | - | _ | /E. co | oli Tes | st (+ | -/-) | \dashv | ナ | | | Out | |
| of 4 | | | Ш | | Ш | | | Ш | Ш | | Ш | | Oth | er:** | | | | | | | | | Outside | |

Big 2 Panel

PenAsp¹ and Stach² Assays

228 Midway Lane, Suite B Oak Ridge, Tennessee 37830 Toll Free: (866) 547-1727 Local: (865) 813-1700 Fax: (865) 813-1705

Email: info@assuredbio.com www.assuredbio.com



REVIEWED

By Olga Khaliukova at 11:13 am, Oct 16, 2018

| Inspector: | Shawn McClurg | Date Collected: | 10/5/2018 |
|-------------------------|--------------------|-----------------|------------|
| Project Name: | North Carrick Hall | Date Received: | 10/9/2018 |
| Project Number: | | Date Reported: | 10/16/2018 |
| Assured Bio Identifier: | SM100918-99 | Analyst(s): | M. Reed |

Selected References

Haugland, R. A., S. J. Vesper and L. J. Wymer. 1999. Quantitative measurement of Stachybotrys chartarum conidia using real-time detection of PCR products with the TagManTM fluorogenic probe system. Molecular and Cellular Probes 13:329-340.

Meklin, T. M., R. A. Haugland, T. Reponen, M. Varma, Z. Lummus, D. Bernstein, L. J. Wymer and S. J. Vesper. 2004. Quantitative PCR analysis of house dust can reveal abnormal mold conditions. Journal of Environmental Monitoring 6:615-620.

Vesper, S. J. 2006. Developing the EPA Relative Moldiness Index© based on mold-specific quantitative PCR. The Synergist April 2006:39-

Vesper, S. J., C. McKinstry, C. Yang, R. A. Haugland, C. M. Kercsmar, I. Yike, M. D. Schluchter, H. L. Kirchner, J. Sobolewski, T. M. Alltan and D. G. Dearborn. 2006. Specific molds associated with asthma in water-damaged homes. Journal of Occupational and Environmental Medicine 48:852-858.

Vesper, S., C. McKinstry, P. Ashley, R. Haughland, K. Yeatts, K. Bradhan and E. Svendsen. 2007. Quantitative PCR analysis of molds in the dust from homes of asthmatic children in North Carolina. Journal of Environmental Monitoring 9:826-830.

Accreditation

Assured Bio Labs, LLC is accredited by the American Industrial Hygiene Association Laboratory Accreditation Programs, LLC (AIHA-LAP, LLC; Lab ID # 183867) in the Environmental Microbiology accreditation program for "qPCR - Mold Specific qPCR" Fields of Testing as documented by the Scope of Accreditation Certificate and associated Scope. AIHA-LAP, LLC accreditation complies with the ISO/IEC Standard 17025:2005 requirements, but this does not imply ISO certification or registration."

ASSURED BIO LABS, LLC MAKES NO WARRANTIES AND EXPRESSLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PURPOSE. INSPECTOR ACKNOWLEDGES THAT ASSURED BIO LABS, LLC HAS NOT INSPECTED THE SUBJECT PROPERTY AND THAT THE INSPECTOR IS SOLELY RESPONSIBLE FOR CHOOSING THE LOCATION OF SAMPLE COLLECTION. ASSURED BIO LABS, LLC SHALL NOT BE LIABLE TO INSPECTOR FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES OF ANY KIND OR NATURE, INCLUDING, WITHOUT LIMITATION, ANY DAMAGES TO PROPERTY OR PERSONAL INJURY WHETHER SUCH LIABILITY IS ASSERTED ON THE BASIS OF CONTRACT, TORT, OR OTHERWISE, EVEN IF ASSURED BIO LABS, LLC HAS BEEN WARNED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGE. UNDER NO CIRCUMSTANCES SHALL ASSURED BIO LABS, LLC BE LIABLE FOR DAMAGES UNDER OR ARISING OUT OF THIS REPORT IN AN AMOUNT EXCEEDING THE AMOUNT PAID BY THE INSPECTOR TO ASSURED BIO LABS, LLC FOR THIS ANALYSIS AND REPORT. THIS REPORT IS FOR THE SOLE USE OF THE INSPECTOR AND CREATES NO THIRD PARTY BENEFICIARIES OR RIGHTS HEREUNDER.

Methods of Analysis

Assured Bio Labs uses the following methods for the MSQPCR analysis: CD 23: Data Reporting for MSQPCR Testing, CD 143: Preparation, Processing, and Analysis of MSQPCR Samples, CD 225: Bead Based DNA Extraction

Notes

¹The PenAsp assay detects species of the genera Aspergillus, Penicillium, and Paecilomyces variotii.

²The Stach assay detects *Stachybotrys chartarum* also commonly referred to as "toxic black mold."

Reporting Limits

Method Detection Limit (MDL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The minimum concentration of an analyte that, in a given matrix and with a specific method, has a 99 percent probability of being identified, qualitatively or quantitatively measured, and reported to be greater than zero."

Reporting Limit (RL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The lowest concentration of analyte in a sample that can be reported with a defined, reproducible level of certainty."

Values less than one will be rounded up to one per reported unit.

Method Detection Limits (in Spores)

Stac - 0.1624, PenAsp - 0.2161

Reporting Limit Calculations

Unless otherwise stated in comments, the following equations are used to calculate the reporting limit per sample: Dust RL - MDL/5 mg Swab RL - MDL/1 swab, Unconcentrated Liquid RL - MDL/0.1 ml, Concentrated Liquid RL - MDL/ml filtered, MTrap RL - MDL \times (1000/L sampled)

Assured Bio Identifier: NCC Sample Condition: Intact NCC Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: Control 300 L Spores/Cubic Meter <u>Assay</u>

> PenAsp: 40

Stach: **Below Detectable Limits**

Comments: None.

Assured Bio Identifier: SM100918-99-1 Sample Condition: Intact

Sample ID: 45 Sample Type: Mtrap Sample Description: Floor Room Sample Volume: 150 L

Spores/Cubic Meter <u>Assay</u>

29 PenAsp:

Stach: **Below Detectable Limits**

Comments: None.

Assured Bio Identifier: SM100918-99-2 Sample Condition: Intact

Sample ID: Sample Type: 46 Mtrap

Sample Description: Sample Volume: 150 L Floor Room

Spores/Cubic Meter <u>Assay</u>

> PenAsp: 59

Stach: **Below Detectable Limits**

Comments: None.

Assured Bio Identifier: SM100918-99-3 Sample Condition: Intact

Sample ID: Sample Type: Mtrap

Sample Description: Floor Room Sample Volume: 150 L

> Spores/Cubic Meter <u>Assay</u>

PenAsp: 26

Stach: **Below Detectable Limits**

Comments: None.

SM100918-99-4 Sample Condition: Assured Bio Identifier: Intact 48 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Floor Spores/Cubic Meter <u>Assay</u> PenAsp: 159 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM100918-99-5 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 175 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM100918-99-6 Sample Condition: Intact Sample ID: Sample Type: Mtrap Floor Room Sample Description: Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 68 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM100918-99-7 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Floor - Room Spores/Cubic Meter **Assay** 5 PenAsp: **Below Detectable Limits** Stach: Comments: None.

SM100918-99-8 Sample Condition: Assured Bio Identifier: Intact 52 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Floor - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 75 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM100918-99-9 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 57 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM100918-99-10 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 62 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM100918-99-11 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Floor - Room Spores/Cubic Meter **Assay** 46 PenAsp: Below Detectable Limits Stach: Comments: None.

SM100918-99-12 Sample Condition: Assured Bio Identifier: Intact 56 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Floor Spores/Cubic Meter <u>Assay</u> PenAsp: 27 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM100918-99-13 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: 150 L Floor - Room Sample Volume: Spores/Cubic Meter <u>Assay</u> 52 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM100918-99-14 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 28 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM100918-99-15 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Floor - Room Spores/Cubic Meter **Assay** 18 PenAsp: **Below Detectable Limits** Stach:

Comments:

None.

Assured Bio Identifier: SM100918-99-16 Sample Condition: Intact 60 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Floor - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 17 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: SM100918-99-17 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 34 Stach: 1 Comments: Assured Bio Identifier: SM100918-99-18 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 1 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM100918-99-19 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Floor - Room Spores/Cubic Meter **Assay** 3 PenAsp: Stach: 1 Comments: None.

Assured Bio Identifier: SM100918-99-20

64 Sample ID:

Sample Description: Floor - Room

> Spores/Cubic Meter <u>Assay</u>

7 PenAsp:

Below Detectable Limits Stach:

Comments: None.

Assured Bio Identifier: SM100918-99-21

Sample ID:

Sample Description: Floor - Room

> Spores/Cubic Meter <u>Assay</u>

PenAsp: 19

Below Detectable Limits Stach:

Comments:

Assured Bio Identifier: SM100918-99-22

Sample ID:

Sample Description: Floor - Room

<u>Assay</u>

PenAsp:

Stach:

Comments: None. Sample Condition: Intact

Sample Condition:

Sample Type:

Sample Volume:

Sample Condition:

Sample Type:

Sample Volume:

Intact

Mtrap

150 L

Intact

Mtrap

150 L

Sample Type: Mtrap Sample Volume: 150 L

Spores/Cubic Meter

31

Below Detectable Limits

| Relinquished By: | 56 Floor Roor | | 54 Floor | 53 Floor | 52 Floor | 51 Floor | 50 Floor | 49 Floor | 48 Floo | 47 Floo | 46 Floo | 45 Floo | | Water Temperature: | Residiual Chlorine: | Sampling Time: | For Water Tests | Phone: (865) 813-1700 | 228 Midway | Inspector Shown | | assured bio [™] | N N | |
|---|---------------------|-------|----------|----------|----------|----------|------------------|----------|----------|--------------|-----------|---------|----------------------|--------------------|---------------------|-----------------------------|--------------------------------------|-----------------------|----------------|-------------------------------------|-------------|---------------------------------------|--------------------|--|
| | | Roor | Roor | Roor | - Roor | - Roor | - Roor | - Roor | - Roor | - Rool | - Roo | - Roor | Description | SW - Swab | SP - Spore Trap | | ample Codes (SC) | | lidway Ln, | McClure | | into@assuredbio.com (865) 813-1700 | www.assuredbio.com | Assured Bio Labs, LLC 228 Midway Lane, Suite B Oak Ridge, TN 37830 |
| Date:Time: Received By: | htracted to ELIMBio | - | | | | | | | | | | | | W - Water | | e Lift | R-Bulk Countries Countries Countries | E-mail: info@ | Suite B, | Company Name: Assured Bio Labs | | General (| | 8 |
| =! | MT | M | MT | MT | T | M T | TM | TM | TM | M | ĭ | M | SC Tota | W - Wind | R - Rain | C - Clear | gassul | 200011 | Oak | e: Assu | | Chain o | | |
| Time: | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | Total Volume or Area | O - Other | S - Snow | C - Clear TS - Thunderstorm | edpio.coi | odhio oor | Oak Ridge, | red Bio | | General Chain of Custody | | |
| 10/10 | 4 | | | | | | | | | | | | Comments | | | all that apply) | | 5 | TN 37830 | _abs | | | | |
| analyses may be substituted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab. $O = V - V = V$ Time: $V = V = V$ Page 1 of 2 | | | | | | | ✓ [| ✓ | ✓ | ✓ | | ✓ □ | _ | _ | | and and ation o | _ | _ | trys) Molds | AB Identif | | Calleati | Project Number: | Project Name: |
| Contracted | | | | |][| | |][| | | | | | | _ | ect Ex | | | | Identifier: (for internal use only) | Date: | | umber: | |
| to Huffma | | | | | | | | | \dashv | - | \exists | | | | | s ID F es ID | | i* | - | internal | 14 | | | North Carrick Hall |
| Date: $10-9-18$ | | |] | | | | | | | | | | | _ | | al Colo | | _ | | use on | 8 | L | | n C |
| door Biote | H | | <u> </u> | | | <u> </u> | ╛┟ | <u> </u> | |] [| 4 | 퓜 | ViaS ERM | | pecie | es ID | Bacte | ria* | - | < / | Temperature | %RH | П | arrio |
| chnologie / & | | | Ji | | | | jĖ | | | | | | Surve | | ndoc | r Mole | ds (SI | M) | 1 | 111 | ture | | | 웃 |
| Es, EMS, | | | | | | |][| | | | | | Legio | _ | | | | | | 5 | | | | 直 |
| EMS, SGS Galson, or Ward L | | ┥╏ | - L | \dashv | | <u> </u> | $\exists \vdash$ | ┥┝ | - L | - | - | ╬ | Legio FHA/ | | | | | | 1 | 816 | | | Inside | |
| on, or Wa | | | | | |][| jĖ | 7 | 36 | | - | ╡ | Colifo | _ | | | +/-) | | \dashv | 0 | | | Н | |
| ard Lab. | | | | | | | | |][| | | | Other | ** | | | | | | ٥ | | | Outside | |

| | | | | | | | 1 | | I | | | | | | | | | | |
|-----------------------|------------------|--|--------------------------------|-----------|---|-------------------------|------------------|------------------------------------|----------|--------------------|---------------|------------------|---------------|-------------------|---------------|-------------------|----------|----------|------------|
| | 7 | Assured Bio Labs, LLC 228 Midway Lane, Suite B Oak Ridge TN 37830 | îte B | | | | rroject Name: | Name: | O | North Carrick Hall | 0 | arr | <u> </u> | I | all | | | | |
| (>) | To | www.assuredbio.com | | | | | Project Number: | Numbe | 7 | | | П | П | Ц | | Inside | | | Outside |
| assur | assuredbio" | (865) 813-1700 | | Chain | General Chain of Custody | | | | | | L | %RH | | | | | | | |
| lnenosto: | - 1 | | | | | | Collection Date: | n Date: | 0- | 9.5 | | Temperature | rature | | | | | | |
| Company Address: | DOWN MIC | GMP | | ne: As | Company Name: Assured Bio L | Labs | AB Ident | lentifier: (for internal use only) | or inte | rnal u | se on | 3 | | | | | | | |
| Company Au | 228 | 228 Midway Ln, | Suite B, | | Oak Ridge, | TN 37830 | | 7 | | | | | | - | | | | | |
| Phone: (865) 813-1700 |) 813-170 | 00 | | @assi | | | ybotry | | | | | eria* | | IM) | | | | | |
| For Water Tests | | Sample Codes (SC) | B - Bulk | Outside | Conditions (Circles | | | _ | ungi | | _ | 3acte | | ds (S | | | | +/-) | |
| Sampling Time: | | MT - M-TRAP® | e L if t | C - Clear | C - Clear TS - Thunderstorm | rnat apply) | | | ID F | | _ | s ID E | | _ | | _ | | est (- | |
| Residiual Chlorine | | SP - Spore Trap | D - Dust | R - Rain | | 30.4-010.00 Pz | | | enus | _ | - | pecie | | | | | | coli 1 | |
| Sample ID | e. | SW - Swab | W - Water | W - Wind | 0 - Other | | | dScan | can G | can S | an Ba | can S | | ey of li | nella (| nella (| /A Wa | rm/E. | ** |
| 77 | | Description | | SC. | Total Volume or Area | Comments | | \vdash | Via | | _ | | ERN | | | | | Colife | Other |
| 3 9 | | 11001117 | | 3 | 150 L | | < | | | | | 닉 | 긬 | 4 | ╛ | _ | 릐 | ᆀ | 4 |
| ပ္ထ | Floor | Room 2 | | M | 150 L | | <u>\</u> | | | | 4 | 4 | <u> </u> | ᆛ | <u> </u> | | <u> </u> | ╛╘ | J L |
| 59 | Floor | Room 2 | | TM | 150 L | | | |][| _ | <u> </u> | <u> </u> | - | ╡┝ | ╛╘ | ╡╘ | ┥┝ | ╛╘ | J L |
| 60 | Floor | Room 2 | | M | 150 L | | | jį | | 4 | - - | ╡╞ | Ⅎ╞ | ┧┝ | ╡╞ | - - | ╡┝ | ╛┝ | <u> </u> |
| 61 | Floor | - Room | | M⊤ | 150 L | | | | | 4 | - - | ╡┝ | ╡╞ | ᆛ┝ | ╡┝ | ╡┝ | ╡╞ | ╛┝ | J L |
| 62 | Floor | - Room | | LW | 150 L | | \ | |][| <u> </u> | ┥┝ | ╡╞ | - - | ╡╞ | ╡╞ | ╡┢ | ┧┝ | <u> </u> | J [_ |
| 63 | Floor | - Room | | TM | 150 L | | | |][| 4 | - - | ╡╞ | ╡┝ | ╡┝ | ┥┝ | ┥┝ | ╡╞ | ╛┝ | _ |
| 64 | Floor | - Room | | TM | 150 L | | | Ī | | | ╡╞ | - | 4 F | ┥┝ | - - | ┥┝ | ┧┝ | ╛┝ | J L |
| 65 | Floor | Room | | ΜŢ | 150 L | | | | <u> </u> | ╡┝ | ╡╞ | $\exists \vdash$ | ┧┝ | ┧┝ | ╡╞ | - | ┥┝ | ∤ | J <u>L</u> |
| 66 | Floor | Room | | M | 150 L | | | | ╛┞ | $\exists \models$ | 4 | ╡╞ | ┧┝ | ╡┝ | ┪┝ | ┧┝ | ┥┝ | ╣┝ | J [|
| | | M | 81.5001 mg | | | | | | <u> </u> | ╡╞ | ╡╞ | - - |] <u> </u> | - - | ╡┝ | ┥┝ | ╡╞ | ┪┝ | |
| CC | CONTRO | | | 3 | 3.9.5 3.9.5 3.9.5 3.9.5 3.9.5 | 8.2 | <u> </u> | | 4 | ╡╞ | $\exists F$ | ┥┝ | ╡┝ | ┪╞ | ╡╞ | ╡╞ | ┪╞ | ┥┝ | _ |
| elinquished By: | or work at house | uished By: Date: Date | contracted to ELIM Bio. Date: | **Please | specify other analysis. So | ome nonstandard analyse | s may be sut | ocontract | ed to Hu | ffman L | abs, inc | oor L Bio | echnol | ogies, E | EMS L | GS G | Ison, or | Ward | ab L |
| | | | Purc. | | | Received By: | | | | Č | | | | | | | | | |

Received By:

Page 1 of 2

Big 2 Panel

PenAsp¹ and Stach² Assays

228 Midway Lane, Suite B Oak Ridge, Tennessee 37830 Toll Free: (866) 547-1727 Local: (865) 813-1700 Fax: (865) 813-1705

Fax: (865) 813-1705
Email: info@assuredbio.com
www.assuredbio.com



REVIEWED

By Olga Khaliukova at 4:02 pm, Oct 16, 2018

| Inspector: | Shawn McClurg | Date Collected: | 10/9/2018 |
|-------------------------|---------------|-----------------|------------|
| Project Name: | Clement Hall | Date Received: | 10/10/2018 |
| Project Number: | | Date Reported: | 10/16/2018 |
| Assured Bio Identifier: | SM101018-3 | Analyst(s): | M. Reed |

Selected References

Haugland, R. A., S. J. Vesper and L. J. Wymer. 1999. Quantitative measurement of *Stachybotrys chartarum* conidia using real-time detection of PCR products with the TagManTM fluorogenic probe system. Molecular and Cellular Probes 13:329-340.

Meklin, T. M., R. A. Haugland, T. Reponen, M. Varma, Z. Lummus, D. Bernstein, L. J. Wymer and S. J. Vesper. 2004. Quantitative PCR analysis of house dust can reveal abnormal mold conditions. Journal of Environmental Monitoring 6:615-620.

Vesper, S. J. 2006. Developing the EPA Relative Moldiness Index© based on mold-specific quantitative PCR. The Synergist April 2006:39-43

Vesper, S. J., C. McKinstry, C. Yang, R. A. Haugland, C. M. Kercsmar, I. Yike, M. D. Schluchter, H. L. Kirchner, J. Sobolewski, T. M. Alltan and D. G. Dearborn. 2006. Specific molds associated with asthma in water-damaged homes. Journal of Occupational and Environmental Medicine 48:852-858.

Vesper, S., C. McKinstry, P. Ashley, R. Haughland, K. Yeatts, K. Bradhan and E. Svendsen. 2007. Quantitative PCR analysis of molds in the dust from homes of asthmatic children in North Carolina. Journal of Environmental Monitoring 9:826-830.

Accreditation

Assured Bio Labs, LLC is accredited by the American Industrial Hygiene Association Laboratory Accreditation Programs, LLC (AIHA-LAP, LLC; Lab ID # 183867) in the Environmental Microbiology accreditation program for "qPCR - Mold Specific qPCR" Fields of Testing as documented by the Scope of Accreditation Certificate and associated Scope. AIHA-LAP, LLC accreditation complies with the ISO/IEC Standard 17025:2005 requirements, but this does not imply ISO certification or registration."

Limitations

ASSURED BIO LABS, LLC MAKES NO WARRANTIES AND EXPRESSLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PURPOSE. INSPECTOR ACKNOWLEDGES THAT ASSURED BIO LABS, LLC HAS NOT INSPECTED THE SUBJECT PROPERTY AND THAT THE INSPECTOR IS SOLELY RESPONSIBLE FOR CHOOSING THE LOCATION OF SAMPLE COLLECTION. ASSURED BIO LABS, LLC SHALL NOT BE LIABLE TO INSPECTOR FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES OF ANY KIND OR NATURE, INCLUDING, WITHOUT LIMITATION, ANY DAMAGES TO PROPERTY OR PERSONAL INJURY WHETHER SUCH LIABILITY IS ASSERTED ON THE BASIS OF CONTRACT, TORT, OR OTHERWISE, EVEN IF ASSURED BIO LABS, LLC HAS BEEN WARNED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGE. UNDER NO CIRCUMSTANCES SHALL ASSURED BIO LABS, LLC BE LIABLE FOR DAMAGES UNDER OR ARISING OUT OF THIS REPORT IN AN AMOUNT EXCEEDING THE AMOUNT PAID BY THE INSPECTOR TO ASSURED BIO LABS, LLC FOR THIS ANALYSIS AND REPORT. THIS REPORT IS FOR THE SOLE USE OF THE INSPECTOR AND CREATES NO THIRD PARTY BENEFICIARIES OR RIGHTS HEREUNDER.

Methods of Analysis

Assured Bio Labs uses the following methods for the MSQPCR analysis: CD 23: Data Reporting for MSQPCR Testing, CD 143: Preparation, Processing, and Analysis of MSQPCR Samples, CD 225: Bead Based DNA Extraction

Notes

¹The PenAsp assay detects species of the genera Aspergillus, Penicillium, and Paecilomyces variotii.

²The Stach assay detects *Stachybotrys chartarum* also commonly referred to as "toxic black mold."

Reporting Limits

Method Detection Limit (MDL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The minimum concentration of an analyte that, in a given matrix and with a specific method, has a 99 percent probability of being identified, qualitatively or quantitatively measured, and reported to be greater than zero."

Reporting Limit (RL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The lowest concentration of analyte in a sample that can be reported with a defined, reproducible level of certainty."

Values less than one will be rounded up to one per reported unit.

Method Detection Limits (in Spores)

Stac - 0.1624, PenAsp - 0.2161

Reporting Limit Calculations

Unless otherwise stated in comments, the following equations are used to calculate the reporting limit per sample: Dust RL - MDL/5 mg Swab RL - MDL/1 swab, Unconcentrated Liquid RL - MDL/0.1 ml, Concentrated Liquid RL - MDL/ml filtered, MTrap RL - MDL × (1000/L sampled)

Assured Bio Identifier:CCSample Condition:IntactSample ID:CCSample Type:Mtrap

Sample Description: Control Outside Composite Sample Volume: 300 L

Assay Spores/Cubic Meter

PenAsp: 55

Stach: Below Detectable Limits

Comments: None.

Assured Bio Identifier: SM101018-3-1 Sample Condition: Intact

Sample ID: 67 Sample Type: Mtrap

Sample Description: Floor - Room Sample Volume: 150 L

Assay Spores/Cubic Meter

PenAsp: 57

Stach: Below Detectable Limits

Comments: None.

Assured Bio Identifier: SM101018-3-2 Sample Condition: Intact

Sample ID:68Sample Type:Mtrap

Sample Description: Floor - Room - 150 L Sample Volume: 150 L

Assay Spores/Cubic Meter

PenAsp: 1

Stach: Below Detectable Limits

Comments: None.

Assured Bio Identifier: SM101018-3-3 Sample Condition: Intact

Sample ID: 69 Sample Type: Mtrap

Sample Description: Floor Room Sample Volume: 150 L

Assay Spores/Cubic Meter

PenAsp: 52

Stach: Below Detectable Limits

Comments: None.

Assured Bio Identifier: SM101018-3-4 Sample Condition: Intact 70 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Floor - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 14 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-3-5 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 1 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-3-6 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 8 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-3-7 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Floor Spores/Cubic Meter **Assay** 31 PenAsp:

Comments:

Stach:

None.

Below Detectable Limits

Assured Bio Identifier: SM101018-3-8 Sample Condition: Intact 74 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Floor Room Spores/Cubic Meter <u>Assay</u> PenAsp: 57 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-3-9 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 15 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-3-10 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 44 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-3-11 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Floor - Room Spores/Cubic Meter **Assay** 1 PenAsp:

Stach:

None.

Comments:

Below Detectable Limits

SM101018-3-12 Sample Condition: Assured Bio Identifier: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Floor - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 362 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-3-13 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 7 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-3-14 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 29 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-3-15 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Floor Room Spores/Cubic Meter **Assay** 4 PenAsp: **Below Detectable Limits** Stach:

Comments:

None.

SM101018-3-16 Sample Condition: Assured Bio Identifier: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Floor - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 40 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-3-17 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 52 PenAsp: Stach: **Below Detectable Limits** Comments: Assured Bio Identifier: SM101018-3-18 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Floor Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-3-19 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Floor Room Spores/Cubic Meter **Assay** 18

Page 7 of 8

Comments:

PenAsp:

Stach:

None.

Below Detectable Limits

Assured Bio Identifier: SM101018-3-20 Sample Condition: Intact Sample ID: 86 Sample Type: Mtrap Sample Description: Floor - Room Sample Volume: 150 L

<u>Assay</u> <u>Spores/Cubic Meter</u>

PenAsp: 45

Stach: Below Detectable Limits

Comments: None.

Assured Bio Identifier: SM101018-3-21 Sample Condition: Intact

Sample ID:87Sample Type:MtrapSample Description:FloorRoomSample Volume:150 L

Assay Spores/Cubic Meter

PenAsp: 95

Stach: Below Detectable Limits

Comments:

Assured Bio Identifier: SM101018-3-22 Sample Condition: Intact

Sample ID: 88 Sample Type: Mtrap

Sample Description: Floor - Room - 150 L

Assay Spores/Cubic Meter

PenAsp: 6

Stach: Below Detectable Limits

Comments: None.

Comments:

Assured Bio Identifier: SM101018-3-23 Sample Condition: Intact

Sample ID:89Sample Type:Mtrap

Sample Description: Floor Room Sample Volume: 150 L

Assay Spores/Cubic Meter

PenAsp: Below Detectable Limits

Stach: Below Detectable Limits

None.

Confidential Page 8 of 8 Proprietary Document of Assured Bio Labs, LLC

Project Name: Clement Hall

|) | Assured Bio Labs, LLC | D | | | | | | $\frac{\mathcal{C}}{\mathcal{C}}$ | Clement | eni | I | Hall | | | | | |
|----------------------------------|---|--------------------|-------------|--|-----------------------|--|-----------|-----------------------------------|---------|---------|-------------|--------|---------|---------|-----------------|-----------|---|
| | Oak Ridge, TN 37830 | | | | | Project | Number: | * | | | | | Ц | 5 | Inside | Н | Outside |
| | www.assuredbio.com info@assuredbio.com | | | | | | | | | | %RH | | | | | | |
| assured bio " | (865) 813-1700 | General | Cnain | General Chain of Custody | | Collection Date: | n Date: | 10 | E | 7 | Temperature | rature | | | | | |
| nspector: Shallty | Millura | Company Nam | e: As | Company Name: Assured Bio Labs | | AB Identifier: (for internal use only) | tifier: (| for int | ernal u | Ise on | | 5 | 200 | | 8) | | W |
| company Address: 228 Midway Ln, | 100 | Suite B, | | Oak Ridge, TN | TN 37830 | \dashv | Moldo | \dashv | | | | _ | | _ | | \neg | |
| ^{»hone:} (865) 813-1700 | 00 | E-mail: info(| ĝass | E-mail: info@assuredbio.com | | achybo Airborne | | ngi | ungi* | y Count | acteria | | s (SIM | | | +/-) | |
| or Water Tests | Sample Codes (SC) | B - Bulk | Outside | Outside Conditions (Circle all that apply) | at apply) | - | | D Fu | IDF | Colon | ID B | | | - | | | |
| Sampling Time: | MT - M-TRAP® | TL - Tape Lift | C - Clear | r TS - Thunderstorm | | | - | nus I | ecies | erial (| ecies | | - | | | | |
| Residiual Chlorine: | SP - Spore Trap | D - Dust | R - Rain | S - Snow | | | - | Ger | Spe | Bacte | Spe | | | _ | - 0.0 | | |
| Vater Temperature: | SW - Swab | W - Water | W - Wind | d 0 - Other | | | oldSca | aScan | aScan | Scan | aScan | RMI | | gionel | gionel IA/VA | liform | her:** |
| valiible in | Description | | Ϋ́ | i otal volume of Area | Comments | Н | \vdash | V | ٧ | ٧ | V | E | ⊢ | ⊢ | Н | H | 0 |
|) 67 Floo | | | ≤ | 150 L | | | Ш | П | | | | | Щ | | 닠 | | |
| √ 68 Floo | | | MT | 150 L | | | H | \Box | | | | | | Ш | 님 | H | |
| √69 Floo | | | M | 150 L | | | | \Box | | | | | | | H | | |
| √70 Floo | | | M | 150 L | | | | H | | | | | | Щ | H | H | |
| √71 Floo | | | ≤ | 150 L | | | | H | | | | | | | | | |
| √72 Floo | | | M | 150 L | | | H | H | | | | | | Ц | 님 | H | |
| √73 Floc | | | МТ | 150 L | | | H | H | | | | | | Ц | 님 | H | |
| √74 Floc | | | MT | 150 L | | | Н | H | П | | | | | Щ | 닠 | H | |
| 75 Floo | | | MT | 150 L | | | | H | П | | | | | | Ц | | |
| √76 Floc | | | ≤ | 150 L | | | H | H | Ħ | | | | | | Ц | H | |
| /77 Floo | | | M | 150 L | - | | H | | | | | | | | | H | |
| / 78 Flod | | | MT | 150 L | | | H | 님 | П | | | | | Ц | Щ | Н | |
| *Culture and PCR done at As | *Culture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may | contracted to ELIM | Bio, **Plea | se specify other analysis. So | me nonstandard analys | | e subcon | ıtracted | o Huffm | an Labs | , Indoor | Biotec | nologie | s, EMS | , ses e | alson, or | be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab. |
| inquished By: | Milley | Date: [W] | 11.1 | Time: 7 7 Receiv | Received By: | 1 | 0 | 1 | Date: | - | 81-01-0 | 2 | | Time: 8 | Low | Page 1 of | of 2 |

Relinquished By:



| Assured Bio Labs, LLC 228 Midway Lane, Suite B | ω | | | | Proje | Project Name: | | Clement Hal | 凝 | <u> </u> | ᄪ | <u> </u> | | | | | | |
|--|----------------|-----------|--|------------|--------|------------------------------------|---------|-------------|--------|----------|------------|---|---------|--------|---------------|-------|---------|---|
| Oak Ridge, TN 37830 www.assuredbio.com info@assuredbio.com | |) | | | Proje | ct Number: | nber: | | | 8 | %RH | | + | ng. | Inside | -H | Outside | 0 |
| assuredbio (865) 813-1700 | General | Chain | General Chain of Custody | | Collec | Collection Date: | ate: | | | 4 | emperature | ature | - | | | - | | |
| Inspector: | Company Nam | e: Ass | Company Name: Assured Bio Labs | S | AB Id | lentifier: (for internal use only) | er: (fo | rinter | nal us | e only | | 2 | 5 | 5 | SM 101018-3 | الم | | |
| Company Address: 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | Suite B, | Oa | k Ridge, TI | N 37830 | otrys) | Molds | | | _ | _ | | -1 | -1 | | | -1 | | |
| Phone: (865) 813-1700 | E-mail: info(| ĝass | E-mail: info@assuredbio.com | | achybo | Airborne | m) | ngi | ungi* | y Count | acteria | (0)11.0 | s (SIM) | | | +/_\ | | |
| For Water Tests Sample Codes (SC) | B - Bulk | Outside | Outside Conditions (Circle all that apply) | nat apply) | nd St | n of / | Exa |) Fu | ID F | _ | ID B | | _ | _ | | | ,50 (| |
| Sampling Time: MT - M-TRAP® | TL - Tape Lift | C - Clear | r TS - Thunderstorm | _ | sp ar | catio | irect | us II | cies | | cies | _ | _ | _ | | | JII 10 | |
| Residiual Chlorine: SP - Spore Trap | D - Dust | R - Rain | S - Snow | | en/As | lentifi | n (D | Gen | Spe | - | Spe | | - | _ | | | | |
| Water Temperature:SW - Swab | W - Water | W - Wind | d O - Other | | 2 (Pe | ies Id | dSca | Scan | Scan | | | | | ionell | ioneil VVA | form/ | | |
| Sample ID Description | | SC . | Total Volume or Area | Comments | Big | Spec | Mol | Via | Via | | _ | ERN | _ | _ | | | Othe | |
| √79 Floor | | TM | 150 L | | V | | | | | 4 | 4 | 4 | 4 | | _ | - | | |

*Culture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab e2 of 2

√85

Floor

84

Floor

√ 83

Floor

82

Floor

√ 88

Floor

89

Floor

Company

MT

150 L

M

150 L

₹

150 L

Z T

150 L

M

150 L

₹

150 L

 \leq

150 L

M

150 L

 \leq

150 L

87

Floor

86

Floor

V80

Floor

≤

150 L

81

Floor

| Relinquished By: |
|------------------|
| |
| Date |
| 99 |
| Time: |
| Received B |
| W. Colonia |
| X |
| 1 |
| 1 |
| |
| _Date: |
| 5 |
| 1,0 |
| 9 |
| 18 |
| Time: |
| 2 |
| 8 |
| age |

Big 2 Panel

PenAsp¹ and Stach² Assays

228 Midway Lane, Suite B
Oak Ridge, Tennessee 37830
Toll Free: (866) 547-1727
Local: (865) 813-1700
Fax: (865) 813-1705



REVIEWED

By Joshua Birkebak, Ph.D. at 5:02 pm, Oct 12, 2018

Email: info@assuredbio.com
www.assuredbio.com

By Jos

Inspector: Hunter Woodall Date Collected: 10/5/2018

Project Name: Hess Hall Date Received: 10/10/2018

Project Number: Date Reported: 10/12/2018

Assured Bio Identifier: HW101018-22 Analyst(s): M. Reed, S. McClurg

Selected References

Haugland, R. A., S. J. Vesper and L. J. Wymer. 1999. Quantitative measurement of *Stachybotrys chartarum* conidia using real-time detection of PCR products with the TaqManTM fluorogenic probe system. Molecular and Cellular Probes 13:329-340.

Meklin, T. M., R. A. Haugland, T. Reponen, M. Varma, Z. Lummus, D. Bernstein, L. J. Wymer and S. J. Vesper. 2004. Quantitative PCR analysis of house dust can reveal abnormal mold conditions. Journal of Environmental Monitoring 6:615-620.

Vesper, S. J. 2006. Developing the EPA Relative Moldiness Index© based on mold-specific quantitative PCR. The Synergist April 2006:39-43.

Vesper, S. J., C. McKinstry, C. Yang, R. A. Haugland, C. M. Kercsmar, I. Yike, M. D. Schluchter, H. L. Kirchner, J. Sobolewski, T. M. Alltan and D. G. Dearborn. 2006. Specific molds associated with asthma in water-damaged homes. Journal of Occupational and Environmental Medicine 48:852-858.

Vesper, S., C. McKinstry, P. Ashley, R. Haughland, K. Yeatts, K. Bradhan and E. Svendsen. 2007. Quantitative PCR analysis of molds in the dust from homes of asthmatic children in North Carolina. Journal of Environmental Monitoring 9:826-830.

Accreditation

Assured Bio Labs, LLC is accredited by the American Industrial Hygiene Association Laboratory Accreditation Programs, LLC (AIHA-LAP, LLC; Lab ID # 183867) in the Environmental Microbiology accreditation program for "qPCR - Mold Specific qPCR" Fields of Testing as documented by the Scope of Accreditation Certificate and associated Scope. AIHA-LAP, LLC accreditation complies with the ISO/IEC Standard 17025:2005 requirements, but this does not imply ISO certification or registration."

Limitations

ASSURED BIO LABS, LLC MAKES NO WARRANTIES AND EXPRESSLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PURPOSE. INSPECTOR ACKNOWLEDGES THAT ASSURED BIO LABS, LLC HAS NOT INSPECTED THE SUBJECT PROPERTY AND THAT THE INSPECTOR IS SOLELY RESPONSIBLE FOR CHOOSING THE LOCATION OF SAMPLE COLLECTION. ASSURED BIO LABS, LLC SHALL NOT BE LIABLE TO INSPECTOR FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES OF ANY KIND OR NATURE, INCLUDING, WITHOUT LIMITATION, ANY DAMAGES TO PROPERTY OR PERSONAL INJURY WHETHER SUCH LIABILITY IS ASSERTED ON THE BASIS OF CONTRACT, TORT, OR OTHERWISE, EVEN IF ASSURED BIO LABS, LLC HAS BEEN WARNED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGE. UNDER NO CIRCUMSTANCES SHALL ASSURED BIO LABS, LLC BE LIABLE FOR DAMAGES UNDER OR ARISING OUT OF THIS REPORT IN AN AMOUNT EXCEEDING THE AMOUNT PAID BY THE INSPECTOR TO ASSURED BIO LABS, LLC FOR THIS ANALYSIS AND REPORT. THIS REPORT IS FOR THE SOLE USE OF THE INSPECTOR AND CREATES NO THIRD PARTY BENEFICIARIES OR RIGHTS HEREUNDER.

Methods of Analysis

Assured Bio Labs uses the following methods for the MSQPCR analysis: CD 23: Data Reporting for MSQPCR Testing, CD 143: Preparation, Processing, and Analysis of MSQPCR Samples, CD 225: Bead Based DNA Extraction

Notes

¹The PenAsp assay detects species of the genera Aspergillus, Penicillium, and Paecilomyces variotii.

²The Stach assay detects Stachybotrys chartarum also commonly referred to as "toxic black mold."

Reporting Limits

Method Detection Limit (MDL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The minimum concentration of an analyte that, in a given matrix and with a specific method, has a 99 percent probability of being identified, qualitatively or quantitatively measured, and reported to be greater than zero."

Reporting Limit (RL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The lowest concentration of analyte in a sample that can be reported with a defined, reproducible level of certainty."

Values less than one will be rounded up to one per reported unit.

Method Detection Limits (in Spores)

Stac - 0.1624, PenAsp - 0.2161

Reporting Limit Calculations

Unless otherwise stated in comments, the following equations are used to calculate the reporting limit per sample: Dust RL - MDL/5 mg Swab RL - MDL/1 swab, Unconcentrated Liquid RL - MDL/0.1 ml, Concentrated Liquid RL - MDL/ml filtered, MTrap RL - MDL \times (1000/L sampled)

Assured Bio Identifier:HCSample Condition:Sample ID:HCSample Type:

Sample Description: Hess Control Sample Volume: 300 L

Assay Spores/Cubic Meter

PenAsp: 2

Stach: Below Detectable Limits

Intact

Mtrap

Comments: None.

Assured Bio Identifier: HW101018-22-1 Sample Condition: Intact

Sample ID: 90 Sample Type: Mtrap
Sample Description: Sample Volume: 150 L

Assay Spores/Cubic Meter

PenAsp: 61

Stach: Below Detectable Limits

Comments: None.

Assured Bio Identifier:HW101018-22-2Sample Condition:IntactSample ID:91Sample Type:Mtrap

Sample ID: 91 Sample Type: Mtrap
Sample Description: Sample Volume: 150 L

Assay Spores/Cubic Meter

PenAsp: 13

Stach: Below Detectable Limits

Comments: None.

Assured Bio Identifier: HW101018-22-3 Sample Condition: Intact

Sample ID: 92 Sample Type: Mtrap
Sample Description: Sample Volume: 150 L

Assay Spores/Cubic Meter

PenAsp: 25

Stach: Below Detectable Limits

None.

Comments:

Assured Bio Identifier: HW101018-22-4 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 8 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-5 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L **Spores/Cubic Meter** <u>Assay</u> PenAsp: 7 Stach: Below Detectable Limits Comments: None. Assured Bio Identifier: HW101018-22-6 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 25 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-7 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Floor Spores/Cubic Meter **Assay** PenAsp: Below Detectable Limits Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-8 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 18 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-9 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: Floor - Room 150 L **Spores/Cubic Meter** <u>Assay</u> PenAsp: 36 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-10 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Floor Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 20 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-11 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Floor - Room Spores/Cubic Meter **Assay** PenAsp: 18 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-12 Sample Condition: Intact Sample ID: 101 Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 57 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-13 Sample Condition: Intact Sample ID: Sample Type: 102 Mtrap Floor - Room **Sample Description:** Sample Volume: 150 L **Spores/Cubic Meter** <u>Assay</u> PenAsp: 23 Stach: Below Detectable Limits Comments: None. Assured Bio Identifier: HW101018-22-14 Sample Condition: Intact Sample ID: 103 Sample Type: Mtrap **Sample Description:** Floor Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 12 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-15 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Floor - Room Spores/Cubic Meter **Assay** 7 PenAsp: Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-16 Sample Condition: Intact 105 Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Floor Room Spores/Cubic Meter <u>Assay</u> PenAsp: 34 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-17 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: Floor - Room 150 L **Spores/Cubic Meter** <u>Assay</u> PenAsp: 1 Stach: **Below Detectable Limits** Comments: Assured Bio Identifier: HW101018-22-18 Sample Condition: Intact Sample ID: 107 Sample Type: Mtrap **Sample Description:** Floor Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 1 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-19 Sample Condition: Intact Sample ID: 108 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter Assay** 3 PenAsp: Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-20 Sample Condition: Intact 109 Sample ID: Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 17 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-21 Sample Condition: Intact Sample ID: 110 Sample Type: Mtrap **Sample Description:** Floor Sample Volume: 150 L **Spores/Cubic Meter** <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: Assured Bio Identifier: HW101018-22-22 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 8 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-23 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Floor - Room Spores/Cubic Meter **Assay** 8 PenAsp: Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-24 Sample Condition: Intact Sample ID: 113 Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 20 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-25 Sample Condition: Intact Sample ID: Sample Type: 114 Mtrap **Sample Description:** Sample Volume: Floor - Room 150 L **Spores/Cubic Meter** <u>Assay</u> PenAsp: 3 Stach: Below Detectable Limits Comments: None. Assured Bio Identifier: HW101018-22-26 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 23 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-27 Sample Condition: Intact Sample ID: 116 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Floor - Room **Spores/Cubic Meter Assay** 6 PenAsp: Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-28 Sample Condition: Intact 117 Sample ID: Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 12 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-29 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: Floor - Room 150 L **Spores/Cubic Meter** <u>Assay</u> PenAsp: 10 Stach: Below Detectable Limits Comments: None. Assured Bio Identifier: HW101018-22-30 Sample Condition: Intact Sample ID: 119 Sample Type: Mtrap **Sample Description:** Floor Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 15 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-31 Sample Condition: Intact Sample ID: 120 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Floor Room Spores/Cubic Meter **Assay** PenAsp: 17 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-32 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 32 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-33 Sample Condition: Intact Sample ID: 122 Sample Type: Mtrap **Sample Description:** Sample Volume: Floor - Room 150 L **Spores/Cubic Meter** <u>Assay</u> PenAsp: 25 Stach: Below Detectable Limits Comments: None. Assured Bio Identifier: HW101018-22-34 Sample Condition: Intact Sample ID: 123 Sample Type: Mtrap **Sample Description:** Floor Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 56 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-35 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Floor - Room Spores/Cubic Meter **Assay** PenAsp: 17 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-36 Sample Condition: Intact 125 Sample ID: Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 13 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-37 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: Floor - Room 150 L **Spores/Cubic Meter** <u>Assay</u> PenAsp: 20 Stach: Below Detectable Limits Comments: None. Assured Bio Identifier: HW101018-22-38 Sample Condition: Intact Sample ID: 127 Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 44 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-39 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Floor - Room Spores/Cubic Meter **Assay** PenAsp: 36 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-40 Sample Condition: Intact 129 Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: Floor Room 150 L **Spores/Cubic Meter** <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-41 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: Floor - Room 150 L **Spores/Cubic Meter** <u>Assay</u> PenAsp: 30 Stach: Below Detectable Limits Comments: None. Assured Bio Identifier: HW101018-22-42 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 39 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-43 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Floor - Room Spores/Cubic Meter **Assay** PenAsp: 14 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-44 Sample Condition: Intact Sample ID: 133 Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 34 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-45 Sample Condition: Intact Sample ID: Sample Type: 134 Mtrap **Sample Description:** Sample Volume: Floor 150 L **Spores/Cubic Meter** <u>Assay</u> PenAsp: 58 Stach: Below Detectable Limits Comments: None. Assured Bio Identifier: HW101018-22-46 Sample Condition: Intact Sample ID: 135 Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 12 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-47 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Floor - Room Spores/Cubic Meter **Assay** PenAsp: 28 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-48 Sample Condition: Intact 137 Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: Floor Room 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 52 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-49 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: Floor - Room 150 L **Spores/Cubic Meter** <u>Assay</u> PenAsp: 18 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-50 Sample Condition: Intact Sample ID: 139 Sample Type: Mtrap **Sample Description:** Floor Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 6 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-51 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Floor Room Spores/Cubic Meter **Assay** PenAsp: 13 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-52 Sample Condition: Intact 141 Sample ID: Sample Type: Mtrap **Sample Description:** Floor - Rooms Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 18 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-53 Sample Condition: Intact Sample ID: Sample Type: 142 Mtrap **Sample Description:** Sample Volume: Floor - Room 150 L **Spores/Cubic Meter** <u>Assay</u> PenAsp: 21 Stach: Below Detectable Limits Comments: None. Assured Bio Identifier: HW101018-22-54 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 19 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-55 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Floor - Room Spores/Cubic Meter **Assay** PenAsp: 27 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-56 Sample Condition: Intact Sample ID: 145 Sample Type: Mtrap **Sample Description:** Sample Volume: Floor Room 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 22 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-57 Sample Condition: Intact Sample ID: 146 Sample Type: Mtrap **Sample Description:** Floor Room Sample Volume: 150 L **Spores/Cubic Meter** <u>Assay</u> PenAsp: 24 Stach: Below Detectable Limits Comments: None. Assured Bio Identifier: HW101018-22-58 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Floor - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: **Below Detectable Limits Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-59 Sample Condition: Intact Sample ID: 148 Sample Type: Mtrap **Sample Description:** Floor Room Sample Volume: 150 L Spores/Cubic Meter **Assay** 9 PenAsp: Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-60 Sample Condition: Intact 149 Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-61 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter** <u>Assay</u> PenAsp: 17 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-62 Sample Condition: Intact Sample ID: 151 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Room Spores/Cubic Meter **Assay** PenAsp: 68 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-63 Sample Condition: Intact Sample ID: 152 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** PenAsp: 26 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-64 Sample Condition: Intact Sample ID: 153 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 14 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-65 Sample Condition: Intact Sample ID: Sample Type: 154 Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter** <u>Assay</u> PenAsp: 13 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-66 Sample Condition: Intact Sample ID: 155 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** PenAsp: 22 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-67 Sample Condition: Intact Sample ID: 156 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Room **Spores/Cubic Meter Assay** PenAsp: 24 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-68 Sample Condition: Intact Sample ID: 157 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 36 Stach: **Below Detectable Limits** Comments: None. Sample Condition: Assured Bio Identifier: HW101018-22-69 Intact Sample ID: Sample Type: 158 Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter** <u>Assay</u> PenAsp: 53 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-70 Sample Condition: Intact Sample ID: 159 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Room Spores/Cubic Meter **Assay** PenAsp: 31 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-71 Sample Condition: Intact Sample ID: 160 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Room **Spores/Cubic Meter Assay** PenAsp: 25 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-72 Sample Condition: Intact Sample ID: 161 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 16 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-73 Sample Condition: Intact Sample ID: Sample Type: 162 Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter** <u>Assay</u> PenAsp: 8 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-74 Sample Condition: Intact Sample ID: 163 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** PenAsp: 30 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-75 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter Assay** PenAsp: 63 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-76 Sample Condition: Intact Sample ID: 165 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-77 Sample Condition: Intact Sample ID: 166 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter** <u>Assay</u> PenAsp: 20 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-78 Sample Condition: Intact Sample ID: 167 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** PenAsp: 19 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-79 Sample Condition: Intact Sample ID: 168 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Room Spores/Cubic Meter **Assay** PenAsp: 44 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-80 Sample Condition: Intact Sample ID: 169 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 13 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-81 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter** <u>Assay</u> PenAsp: 102 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-82 Sample Condition: Intact Sample ID: 171 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Room Spores/Cubic Meter **Assay** PenAsp: 7 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-83 Sample Condition: Intact Sample ID: 172 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** PenAsp: 28 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-84 Sample Condition: Intact Sample ID: 173 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 5 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-85 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter** <u>Assay</u> PenAsp: 51 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-86 Sample Condition: Intact Sample ID: 175 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Room Spores/Cubic Meter **Assay** PenAsp: 30 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: HW101018-22-87 Sample Condition: Intact Sample ID: 176 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter Assay** 3 PenAsp: Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: HW101018-22-88 Sample Condition: Intact Sample ID: Sample Type: 177 Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** 68 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-89 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter** <u>Assay</u> PenAsp: 19 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: HW101018-22-90 Sample Condition: Intact Sample ID: 179 Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** 2

Stach: **Below Detectable Limits**

Comments: None.

Assured Bio Labs, LLC Project Name: Hess Hall

| | | 1 | 228 Midway Lane, Suite | œ | | | | | | | (| 9 | = | | | | | | |
|---|-----------------------|--------------------|---|----------------------|------------|--|-------------------------|--------------------|-------------------------------------|----------|---|-----------|----------------------|----------|-----------|---------|-------------------------|------------------|---------|
| | 1 | 1 | Oak Ridge, TN 37830 | | | | | Project | ject Number: | 7 | | \dashv | П | П | Н | Inside | o l | | Outside |
| | 2000 | <u>}</u> | | General (|) hain | of Cietody | | | | | | 9 | %RH | | | | | | |
| | assuredioio | | (865) 813-1700 | 9 | | Celleral Citalii of Custody | | Collection | ection Date: | 10/ | /5/18 | | Temperature | ature | | | | | |
| | Inspector: Hu | inter | Hunter Woodall | Company Nam | e: As | Company Name: Assured Bio Labs | | AB Ident | Identifier: (for internal use only) | for inte | rnal u | se only | 工 | 5 | MIDIDIX | -7 | | | |
| | Company Addre | ³⁸⁵ 228 | Company Address: 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | Suite B, | Oa | k Ridge, 1 | N 37830 | - | \dashv | | | | | - | - | | | | |
| | Phone: (865) 813-1700 | 813-17 | 700 | E-mail: info@ | ĝass | E-mail: info@assuredbio.com | | achybo Airborne | | ngi | ungi* | y Count | acteria [*] | s (SIM) | - (Olivi) | | | - /-) | |
| | For Water Tests | | Sample Codes (SC) | B - Bulk | Outside | Outside Conditions (Circle all that apply) | I that apply) | _ | _ |) Fui | ID F | | ID B | Moids | | | st | est (+ | |
| | Sampling Time: | | _ MT - M-TRAP® | TL - Tape Lift | C - Clear | ır TS - Thunderstorm | orm | | | us IE | cies | | cies | oor N | _ | | er Te | oli Te | |
| | Residiual Chlorine: | | SP - Spore Trap | D - Dust | R - Rain | | | | | Gen | Spec | | Spec | f Inde | | | Vate | E. cc | |
| | Water Temperature | | _ SW - Swab | W - Water | W - Wind | d 0 - Other | | | ldSca | Scan | Scan | | - | | ionell | ionell | VVA ' | form/ | er:** |
| | Sample ID | | Description | | SC | Total Volume or Area | Comments | | _ | Via | Via | | _ | Sur | | _ | FH/ | Coli | Othe |
| 1 | 90 | | | | MΤ | 150 L | | | \exists | | | | Щ | 님 | H | | | | |
| | 91 | | | | MT | 150 L | | | Н | | | | | Щ | H | | | | |
| | 92 | Floor | I | | M | 150 L | | | Н | | | | | | H | | | | |
| | 93 | Floor | ı | | ĭ | 150 L | | | | | | | Щ | | H | | | | |
| | 94 | Floor | ı | | M | 150 L | | | H | | | | Н | H | H | | | | |
| | 95 | Floor | ł | | M | 150 L | | | Н | | | | | 님 | 님 | | | | |
| | 96 | Floor | I | | MT | 150 L | | | \exists | | | | | | | | | | |
| | 97 | Floor | I | | MT | 150 L | | | Н | | | | Ц | | 님 | | | | |
| _ | 98 | Floor | i | | MT | 150 L | | | | | | | \square | H | 片 | H | | | |
| - | 99 | Floor | ı | | MT | 150 L | | | | | | | | | 片 | | | | |
| _ | 100 | Floor | 1 | | ĭ | 150 L | | | Н | | | | Щ | 믬 | H | | | | |
| _ | 101 | Floor | 1 | | MT | 150 L | | | H | | | | | | | | | | |
| | *Culture and | PCR done at A | *Culture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses m | contracted to ELIM B | io. **Plea | se specify other analysis. | Some nonstandard analys | es may be | nay be subcontracted | acted to | to Huffman Labs, Indoor Biotechnologies, EMS, | ı Labs, I | ndoor B | iotechno | logies, I | ems, sg | SGS Galson, or Ward Lab | າ, or Wa | d Lab. |

Relinquished By: Houle Woodall

Date: 10/10/18 Time: 4:50 Received By:

Date: 15/10/18

Time: 10:30 Page 1 of 8



| | | | | | | | | l |
|---|---|--|-------------|------|--------|-----|---------|---|
| Assured Bio Labs, LLC 228 Midway Lane, Suite B | Œ. | Project Name: Hess H | Hall | | | | | |
| Oak Ridge, TN 37830 | | Project Number: | | | Inside | | Outside | |
| www.assuredbio.com info@assuredbio.com | | | %RH | | | | | |
| SUred bio " (865) 813-1700 | General Chain of Custody | Collection Date: | Temperature | 7 | | | | |
| r | Company Name: Assured Bio Labs | AB Identifier: (for internal use only) | MU101018-22 | 860 | -22 | | | |
| ^{Address:} 228 Midway Ln, | ^{Address:} 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | Molds | | _ | | | | |
| 865) 813-1700 | E-mail: info@assuredbio.com | ngi | acteria | | | | +/-) | |
| Tests Sample Codes (SC) | B - Bulk Outside Conditions (Circle all that apply) | on of A | | ıre) | ₹) | est | est (- | |

| - | Inspector: | | | Company Nam | e: Ass | Company Name: Assured Bio Labs | | 2 | relimiter. | 1 | 1 | a us | (for littles lide use offly) | | 101 | -810101MH | -22 | | | |
|--------------|---------------------|-----------------------|--|----------------------|------------|--|-------------------------|----------|------------|------------|----------|--------------------------------------|------------------------------|----------|------------------------|-----------|--------|------------|--------------|----------|
| - | Company Add | lress: 228 | ^{Company Address:} 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | Suite B, | Oak | د Ridge, T | N 37830 | trys) | Molds | 4 | \dashv | \dashv | - | \dashv | \dashv | \dashv | \neg | | \perp | |
| - | Phone: (865 | Phone: (865) 813-1700 | 0 | E-mail: info(| ข้อรรเ | E-mail: info@assuredbio.com | | achybo | Airborne | | | ungi* | y Count acteria | | s (SIM) | | | | ⊬-) | |
| - | For Water Tests | | Sample Codes (SC) | B - Bulk | Outside | Outside Conditions (Circle all that apply) | that apply) | d Sta | n of A | <u> </u> | _ | | _ | | Molds | e) |) | st | est (+ | |
| - | Sampling Time: | | MT - M-TRAP® | TL - Tape Lift | C - Clear | TS - Thunderstorm | m | p an | catio | | | - | | | oor N | ultur | PCR | er Te | oli Te | |
| - | Residiual Chlorine: | ē. | SP - Spore Trap | D - Dust | R - Rain | S - Snow | | n/As | entifi | _ | _ | | - | | f Ind | a (C | a (ql | Wate | E. co | |
| _ | Water Temperature: | ure: | SW - Swab | W - Water | W - Wind | O - Other | | 2 (Pe | cies Id | dSca | Scan | | _ | 1119 | | ionell | ionell | VVA | form/ | er:** |
| - | Sample ID | | Description | | SC T | Total Volume or Area | Comments | Big | Spec | - | _ | - | _ | ERI | _ | Leg | Leg | FH/ | Coli | Oth |
| - | 102 | Floor | | | MT | 150 L | | ✓ | | Щ | Ш | 닠 | 닖 | 님 | H | | 同 | | | |
| _ | 103 | Floor | | | TM | 150 L | | | | Ш | | | | H | H | \exists | | | | |
| _ | 104 | Floor | | | MT | 150 L | | | | Ш | Щ | 닠 | H | | | H | | | | |
| _ | 105 | Floor | | | M | 150 L | | | Ш | | Щ | Щ | Н | 님 | 님 | H | | | | |
| _ | 106 | Floor | | | ĭ | 150 L | | | | Ц | Щ | \mathbb{H} | H | 님 | Η | H | П | | | |
| _ | 107 | Floor | | | M | 150 L | | | | Ц | | | | H | 님 | | 一 | | | Ш |
| | 108 | Floor | | | MΤ | 150 L | | | | | | | H | 님 | | H | 一 | | | |
| | 109 | Floor | | | MT | 150 L | | < | | Ш | | | 님 | 님 | H | H | 一 | | | |
| _ | 110 | Floor | | | MT | 150 L | | | | Ш | Щ | Щ | | 님 | | 片 | Ħ | | | |
| _ | 111 | Floor | | | МТ | 150 L | | | | | | | | 片 | | H | H | | | |
| _ | 112 | Floor | | | TM | 150 L | | | | | Ц | Н | | | H | H | П | | | |
| | 113 | Floor | | | MT | 150 L | | S | | Ш | | Щ | | | | H | | | | |
| | *Culture a | nd PCR done at Ass | *Culture and PCR done at Assurad Bio I abs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some populated analyses m | contracted to ELIM F | in **Diage | e specify other analysis | Some ponetandard analys | , may | 5 | non-france | 5 | ay he subcontracted to Huffman I abo | | <u> </u> | Indoor Diotochnologies | | EMO CO | ecte Calan | n or Mord of | <u>i</u> |

| Relinquished |
|----------------|
| الا الا |
| Sunt |
| the |
| pac/ |
| |
| |
| Date: 1 |
|)ate: |
| 10/1 |
| 8)/0 |
| 10/10/18 Time: |
| |
| |
| ₽ Pe |
| ceived E |
| ŽĮ. |
| |
| What |
| |
| |
| |
| Date |
| 12 |
| 10/17 |
| |
| Tim |
| e (5) |
| 533 |
| ⊃age2o |
| - |



| Assured Bio Labs, LLC 228 Midway Lane, Suite B Oak Ridge, TN 37830 www.assuredbio.com info@assuredbio.com (865) 813-1700 | General Chain of Custody | | %RH Temperature | Inside | Outside |
|--|--|--|------------------|--------|---------|
| www.assuredbio.com info@assuredbio.com | | r oject Nulliber. | %RH | | Culsing |
| assuredbio (865) 813-1700 | | Collection Date: | Temperature | | |
| Inspector: | Company Name: Assured Bio Labs | AB Identifier: (for internal use only) | nly) HW101018-22 | 18-22 | |
| Company Address: 228 Midway Ln. | Company Address: 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | otrys) Molds | | | |
| Phone: /oce 043 4700 | | _ | eria SIM) | | |

| | 1 | 1 | - | | | | | 1 | | (| | | | 5 | וק | S | TI | 77 | |
|--|-------|-----------|-------|-------|-------|---------|-------|--------|-------|-------|-------|-------|----------------------|--------------------|---------------------|----------------------|--|-----------------------------|-------|
| *Culture a | 125 | 124 | √123 | √122 | 121 | V 120 | √ 119 | 118 | 117 | 116 | 115 | 114 | Sample ID | Water Temperature: | Residiual Chlorine: | Sampling Time: | For Water Tests | 398) hone: | |
| nd PCR done at Assured Bio Labs, se | Floor | Floor | Floor | Floor | Floor | Floor | Floor | Floor | Floor | Floor | Floor | Floor | | ure: | те: | | 10. | Phone: (865) 813-1700 | |
| *Culture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab | | | | | | | | | | | | | Description | SW - Swab | SP - Spore Trap | MT - M-TRAP® | Sample Codes (SC) | 00 | , |
| subcontracted to ELIM E | | | | | | | | | | | | | | W - Water | D - Dust | TL - Tape Lift | B - Bulk | E-mail: info(| , , , |
| 3io. **Plea | MT | ТМ | MT | MT | MT | МТ | МТ | MT | MT | TM | ТМ | TM | SC | W - Wind | R - Rain | C - Clear | Outside | ĝass | |
| ase specify other analysi | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | Total Volume or Area | nd O - Other | n S - Snow | ar TS - Thunderstorm | Outside Conditions (Circle all that apply) | E-mail: info@assuredbio.com | |
| s. Some nonstandard a | | | | | | | | | | | | | Comments | | | torm | all that apply) | 7 | |
| malyses n | | | | | | | 一 | | | | | | Big : | 2 (Pe | n/As | p an | d St | achybo | otr |
| nay be su | | | | | | | | H | H | | | | Spec | ies Id | entifi | cation | of A | Airborne | e N |
| ıbcontra | | | | | | | | | | | | | Mol | dSca | n (D | irect | Exa | m) | |
| cted to H | | | | | | | | | | | | | _ | Scan | | | _ | _ | |
| luffman | | Щ | Щ | | | | | Щ | | | | | | | | | _ | ungi* | _ |
| Labs, Inc | H | Н | Н | H | | 님 | Н | Н | Н | | | 님 | | | | | _ | y Count ——— acteria | _ |
| door Biot | H | | 님 | | | H | H | H | H | | | | ERN | _ | | | | | _ |
| echnolog | Ħ | \exists | П | | | | П | \Box | П | | | | Sun | vey of | f Ind | oor N | /lold | s (SIM) |) |
| jies, EM | | | | | | | | | | | | | Leg | ionell | a (C | ulture | ∋) | | |
| s, sgs | | | | | | | | | | | | | _ | ionell | | _ | _ | | |
| Galson, o | | | | | | | | | | Щ | Щ | 川 | _ | VVA \ | | _ | _ | . / \ | _ |
| or Ward | | | | | | | | | | | | 닠 | Othe | form/ | ⊏. C(|)I I E | -) st | H-) | |
| Lab. | | L | | | Ш | <u></u> | | | Ш | | | | Suit | -1. | | | | | |

Date: 10/10/16 Received By: Transmitted and Date: 19/19/18

Time: 10.50 Page 3 of 8



Assured Bio Labs, LLC
228 Midway Lane, Suite B
Oak Ridge, TN 37830
www assuredbio com Project Name: Hess Hall Project Number: Inside

Outside

| | | www.assuredbio.com info@assuredbio.com | General (| Chain | General Chain of Custody | | | | | | | e D | | | | | | | | |
|---|---|--|-----------------------|--|--|--|--------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--|
| | | | | | | | | , | l | | | 8 | | | Γ | l | L | 1 | | |
| | | (865) 813-1700 | | | | | Collection | ection Date: | A | | | Tem | peratu | a | | | | | | |
| Inspector: | | | Company Nam | e: As | sured Bio La | | | tifier: | (for in | terna | use c | nly) | # = = | 0 | 810 | 12 | , | | | |
| ny Address | ^{s:} 228 | Midway Ln, | Suite B, | Oa | k Ridge, ⊺ | 「N 37830 | - | IVIOIDS | \dashv | \dashv | | | | | | | | | | |
| (865) 8 | 13-17 | 00 | E-mail: info@ |) ass | uredbio.com | | | | | | y Count | acteria | | s (SIM) | | | | ⊬-) | | |
| For Water Tests | | Sample Codes (SC) | B - Bulk | Outside | Conditions (Circle al | I that apply) | | | | _ | olony | ID Ba | | Noids | e) |) | st | est (+ | | |
| Sampling Time: | | MT - M-TRAP® | e Lift | C - Clea | r TS - Thunderst | orm | | | _ | | rial C | cies | | oor N | ulture | PCR) | er Te | oli Te | | |
| Residiual Chlorine: | | SP - Spore Trap | D - Dust | R - Rain | S - Snow | | _ | | | - | Bacte | Spec | | f Indo | a (Cı | a (qF | Wate | E. co | | |
| Water Temperature:_ | | SW - Swab | W - Water | W - Win | d 0 - Other | | | | | | Scan E | Scan | ΜI | vey o | ionell | ionell | VVA | form/ | er:** | _ |
| Sample ID | | Description | | SC | Total Volume or Area | Comments | \vdash | \vdash | \vdash | \vdash | ViaS | Vias | ERM | Sur | Leg | Leg | FH/ | Coli | Oth | |
| 126 F | loor | | | MT | 150 L | | | H | H | 님 | H | | П | \Box | | | | | | |
| 127 F | loor | | | MT | 150 L | | | Щ | Н | H | H | | 一 | | | | | | | |
| 128 F | loor | | | MT | 150 L | | | | 믐 | | H | Ħ | | 同 | 一 | | | | | |
| 129 F | oor | | | MT | 150 L | | | Н | | H | H | 岗 | П | | | | | | | |
| 130 F | loor | | | MT | 150 L | | | Н | H | H | H | П | П | | 同 | | | | | |
| 131 F | loor | | | MT | 150 L | | | \mathbb{H} | H | H | H | H | П | 同 | | | | | | |
| 132 F | loor | | | ΙM | 150 L | | | 믬 | H | | H | H | | 同 | | | | | | |
| 133 F | loor | | | MT | 150 L | | | Н | H | | 一 | 님 | | | | | | | | |
| 134 F | loor- | | | M⊤ | 150 L | | | \mathbb{H} | 님 | 님 | H | H | | $\overline{\Box}$ | 同 | | | | | |
| 135 F | loor | | | MT | 150 L | | | <u> </u> | H | H | | H | П | П | \Box | | | | | |
| 136 F | loor | | | ĭ | 150 L | | | | | H | H | \Box | П | П | 同 | Ħ | | | | |
| 137 F | loor | | | MT | 150 L | | | | H | H | H | H | П | \Box | | | | | | |
| ulture and Po | CR done at As | ssured Bio Labs, sequencing su | bcontracted to ELIM B | io. **Plea | se specify other analysis. | Some nonstandard analy | ses may b | e subco | ntracteo | I to Huff | man La | bs, indo | or Biote | chnolog | jies, EN | AS, SGS | S Galson | 1, or Wa | ard Lab. | |
| 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | Time: Chlorine: Time: Time: Thesis Time: Thesis Time: The F F F F F F F F F F F F F F F F F F F | Address: 228 (865) 813-17 (865) 813-17 (7 Tests Time: Chlorine: Ch | Inspector: | Company Nam y Address: 228 Midway Ln, Suite B, (865) 813-1700 Frests Chlorine: Chlorine: SP - Spore Trap SP - Spore Trap Description Floor F | Address: 228 Midway Ln, Suite B, Oa (865) 813-1700 E-mail: info@ass ITests Sample Codes (SC) B-Bulk C-Clea Chlorine: | Company Name: Assured Bio Livy Address: 228 Midway Ln, Suite B, Oak Ridge, 7 | Company Name: Assured Bio Labs | Company Name: Assured Bio Labs AB | Ilidway Ln, Suite B, Oak Ridge, TN 37830 E-mail: Infr@ assured bio com E-mail: Infr@ assured bio com Company Name: Assured bio com Company Name: Assured bio Labs P- Spore Togal: Infr@ assured bio com Company Name: Assured bio com E-mail: Infr@ assured bio com Company Name: Assured bio Labs Company Name: Assured bi |

Relinquished By:

Date: 10/10/18

Time: 9:50 Received By: Houte Unabell

Date: 10/10/18

Time: 10:30 Page 4 of 8



| Assured Bio Labs, LLC 228 Midway Lane, Suite B | | Project Name: | me | 6 | ess Hal | 품 | | | | | | |
|---|---|---------------------|-----------|------|-------------------|---------|------------|---------|-------------|----------|--------|---------|
| Oak Ridge, TN 37830 | | Project Number: | ≣ Ber | | | | | Н | Inside | de | | Outside |
| www.assuredbio.com info@assuredbio.com | | | | | | .0 | %RH | | | | | |
| Iredbio (865) 813-1700 | General Chain of Custody | Collection Date: | Date: | | | | emperature | _ | | | | |
| | Company Name: Assured Bio Labs | AB Identifier: (for | ier: (fo | =- | nternal use only) | se on | | 010 | 15-210101mf | 4 | | |
| ddress: 228 Midway Ln, | ddress: 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | - | | | | t | |) | \dashv | \dashv | \neg | |
| 35) 813-1700 | E-mail: info@assuredbio.com | achybo Airborne | ım) | ngi | ungi* | y Count | Bacteria | ls (SIM | | | +/-) | |
| sts Sample Codes (SC) | B - Bulk Outside Conditions (Circle all that apply) | | Exa |) Fu | ID F | olon | | _ | e)) | st | est (| |

| inspector: | | | Company Name | Ass | ured Bio L | | AB Ider | tifier: | (for in | ternal | use o | 3 | 퓝 | 100 | 2 | 22 | | | |
|-----------------|--|---------------------------------|---|--|---|-----------------------------|--------------------------------|---|--|--|--------------------------------|---|--|---------|----------|---------------------------------|--|---|--------------------------------|
| mpany Add | ress: 228 | Midway Ln, | Suite B, | Oal | < Ridge, | TN 37830 | - | iviolas | \dashv | \dashv | | * | | | _ | \dashv | - | \dashv | |
| one: (865 | i) 813-17 | 00 | E-mail: info@ |)assı | redbio.cor | מ | - | | | | y Count | acteria | | s (SIM | | | ./.\ | +/-) | |
| r Water Tests | | Sample Codes (SC) | B - Bulk | Outside | Conditions (Circle | all that apply) | _ | _ | _ | _ | Colon | ID B | | Vlold | _ | _ | | esi (| |
| Sampling Time: | | MT - M-TRAP® | TL - Tape Lift C | Clear | TS - Thunder | storm | _ | _ | | - | erial C | cies | | loor | | _ | _ | OII I | |
| sidiual Chlorin | ĕ. | SP - Spore Trap | D - Dust F | ₹- Rain | S - Snow | | _ | | | _ | 3acte | Spe | | f Ind | | _ | | 'E. C | |
| ter Temperati | ure: | _ SW - Swab | W - Water V | V - Wind | 0 - Other | | _ | _ | | _ | Scan I | Scan | MI | vey c | | _ | | | |
| Sample ID | | Description | | \Box | otal Volume or Area | Comments | \vdash | H | \vdash | \vdash | Via | Via | ERI | Sur | \vdash | \vdash | \vdash | - | |
| 138 | Floor | | | MT | 150 L | | | H | 님 | \exists | П | | | | | | Н | Н | |
| 139 | Floor | | | MT | 150 L | | | Н | H | H | Ħ | | | | | | | | |
| 140 | Floor | | | M | 150 L | | | H | H | | П | | | | | Ц | Н | 님 | Ш |
| 141 | Floor | | | <u> </u> | 150 L | | | | H | | Ħ | | | | | Ц | 님 | 님 | |
| 142 | Floor | | | M | 150 L | | | H | \vdash | H | Ħ | | | | | | | H | |
| 143 | Floor | 1 | | <u> </u> | 150 L | | | | H | \exists | H | | | | | Щ | Щ | Н | |
| 144 | Floor | | | M | 150 L | | | \blacksquare | H | H | H | | | | | | | | |
| 145 | Floor | | | M | 150 L | | | Н | H | H | Ħ | | | | | | | | Ш |
| 146 | Floor | | | MT | 150 L | | | H | 님 | | 冒 | | | | | | | Н | |
| 147 | Floor | | | MT | 150 L | | | 님 | H | | H | | | | | | | 믬 | Ш |
| 148 | Floor | | | M | 150 L | | | | H | | H | | | | | | 닠 | \vdash | |
| 149 | Floor | | | MT | 150 L | | | H | | H | H | | | | | | | | |
| *Culture a | nd PCR done at A | ssured Bio Labs, sequencing sub | ocontracted to ELIM Bio | o. **Pleas | se specify other analys | sis. Some nonstandard analy | ses may t | e subco | ntracte | to Huffi | man Lab | s, Indoo | or Biotec | hnologi | es, EMS | s, sgs (| Galson, o | or Ward | lab. |
| | mpany Add none: (865 r Water Tests mpling Time: sidiual Chlorir ster Temperati Sample ID 138 139 140 141 142 144 145 146 147 148 149 *Culture a | Inspector: | Inspector: Company Address: 228 Midway Ln, Phone: (865) 813-1700 For Water Tests Sampling Time: Sample Codes (SC) MT - M-TRAP® SP - Spore Trap Water Temperature: SW - Swab Sample ID Description 138 | Company Address: 228 Midway Ln, Suite B, | spector: Company Name: ASS company Address: 228 Midway Ln, Suite B, Oal Info@assured Bio Labs, sequencing subcontracted to ELIM Bio.**Pleas Colliure and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio.***Pleas Collitre and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio.****Pleas Collitre and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio.************************************ | Spector: | Company Name: Assured Bio Labs | Specific Company Address: 228 Midway Ln, Suite B, Oak Ridge, TN 37830 Page Tests Sample Codes (SC) B-Buk Codes (SC) Codes TS - Thunderstorm Sc - Snow Sec Total Volume or Area Comments Sc Total Volume Sc Total Volume or Area Comments Sc Total Volume Sc Total V | Company Name: Assured Bio Labs Company Name: Assured Bio Labs Company Name: Assured Bio Labs | Company Name: Assured Bio Labs Company Name: Assured Bio Labs Company Name: Assured Bio Labs | Company Name: Assured Bio Labs | Company Name: Assured Bio Labs Company Name: Assured Bio Labs | Company Name: Assured Bio Labs Company Name: Name: Info@assuredbio.com Company Name: Info@assuredbio.com Name: Na | | | Company Name: ASSurred Bio Labs | Company Address: 228 Midway Lm, Suite B, Oak Ridge, TN 37830 Company Address: 228 Midway Lm, Suite B, Oak Ridge, TN 37830 Company Address: 228 Midway Lm, Suite B, Oak Ridge, TN 37830 Company Address: 228 Midway Lm, Suite B, Oak Ridge, TN 37830 Company Address: 228 Midway Lm, Suite B, Oak Ridge, TN 37830 Company Address: 228 Midway Lm, Suite B, Oak Ridge, TN 37830 Company Address: 228 Midway Lm, Suite B, Oak Ridge, TN 37830 Company Address: 228 Midway Lm, Suite B, Oak Ridge, TN 37830 Company Address: 228 Midway Lm, Suite B, Oak Ridge, TN 37830 Company Address: 228 Midway Lm, Suite B, Oak Ridge, TN 37830 Company Address: 228 Midway Lm, Suite B, Oak Ridge, TN 37830 Company Address: 228 Midway Lm, Suite B, Oak Ridge, TN 37830 Company Address: 228 Midway Lm, Suite B, Oak Ridge, TN 37830 Company Midway Lm, Suite B, Oak Ridge, TN 37830 Company Address: 228 Midway Lm, Suite B, Oak Ridge, TN 37830 Company Midw | Company Address: 228 Midway Ln, Suite B, Oak Ridge, TN 37830 Company Address: 228 Midway | Company Name: Assured Bio Labs |

Relinquished By:

Date: 10/10/18 Time: 9150 Received By: Hard Ukolell

Time: 10:30 Page 5 of 8



| 9 | Assured Bio Labs, LLC 228 Midway Lane, Suite | 60 | Project Name: Hess Hall | all | | |
|----------------|---|---|--|-----------------|--------|---------|
| | Oak Ridge, TN 37830 | | Project Number: | | Inside | Outside |
| No. | www.assuredbio.com info@assuredbio.com | | ٠ | %RH | | |
| (865) 813-1700 | (865) 813-1700 | General Chain of Custody | Collection Date: | Temperature | | |
| | | Company Name: Assured Bio Labs | AB Identifier: (for internal use only) | mly HW101018-22 | 18-22 | |
| dress: 228 | Midway Ln, | ^{dress:} 228 Midway Ln, Suite B, Oak Ridge, TN 37830 👳 💈 | Molds | | | |

| | | | | | | | | | | | | | 1000 | i emberature | | | | _ | | _ |
|---|---------------------|-----------------------|--|-----------------------|--------------|--|------------------------|--|-----------|--------------|--------------|---------|----------|--------------|---------|--------|----------|----------|--------------------|----|
| | Inspector: | | | Company Name | AS | Company Name: Assured Bio Labs | | AB Identifier: (for internal use only) | ntifier | (for i | nterna | use o | 11/1/2 | HW101013-22 | 00 | 文 | 22 | | | |
| | Company Ad | dress: 228 | ^{Company Address:} 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | Suite B, | 00 | ık Ridge, T | N 37830 | | Molds | \dashv | \dashv | | _ | | | | \perp | \dashv | \dashv | |
| | Phone: (86 | Phone: (865) 813-1700 | 700 | E-mail: info@ | gass | E-mail: info@assuredbio.com | | achybo | Airborne | | ungi* | y Count | acteria | | s (SIM) | | | | +1-) | |
| | For Water Tests | ivi | Sample Codes (SC) | B - Bulk | Outsid | Outside Conditions (Circle all that apply) | that apply) | | | _ | | olon | ID B | | Mold | e) | | | -) 12 : | |
| | Sampling Time: | | _ MT - M-TRAP® | TL - Tape Lift | C - Clear | ar TS - Thunderstorm | m | _ | - | _ | - | rial C | cies | | oor I | ultur | _ | _ |)II 1€ | |
| | Residiual Chlorine: | ne: | _ SP ~ Spore Trap | D - Dust | R - Rain | n S - Snow | | _ | - | _ | _ | Bacte | Spe | | f Ind | a (C | | | E. CC | |
| | Water Temperature: | ture: | _ SW - Swab | W - Water | W - Wind | nd O - Other | | | | dSca Scan | _ | Scan E | Scan | VΙ | vey o | ionell | ionell | \VA | form/ er:** | |
| | Sample ID | | Description | | SC | Total Volume or Area | Comments | H | H | ⊢ | ⊢ | ViaS | Via | ERM | Sur | Leg | <u> </u> | - | _ | |
| - | 150 | Floor | | | MT | 150 L | | | Н | H | | Н | П | | | | | Щ | | |
| | 151 | Floor | | | MT | 150 L | | | Н | Н | H | | | | | | | Ц | | |
| | 152 | Floor | | | MT | 150 L | | | | Щ | | H | Ħ | | | | | | | Ш |
| | 153 | Floor | | | M ■ T | 150 L | | | | \mathbb{H} | H | H | | | | | | | | |
| | 154 | Floor | | Ţ | MT | 150 L | | | | 님 | H | Н | П | | | | | 닖 | 님 | |
| 4 | 155 | Floor | | | M | 150 L | | | \square | \vdash | H | H | 同 | | | | | Ц | Ц | |
| 1 | 156 | Floor | | | ≤ | 150 L | | | Ц | 님 | | | П | | | | | Ц | | |
| - | 157 | Floor | | | M | 150 L | | | \sqcup | \square | Н | | П | | | | | | | Ш |
| _ | 158 | Floor | | | ≤ | 150 L | | | | 님 | H | | П | | | | | | | Ш |
| | 159 | Floor | | | ₹ | 150 L | | | | | \mathbb{H} | H | П | | | | | | | Ш |
| 1 | 160 | Floor | | | ₹ | 150 L | | | | \mathbb{H} | H | | 同 | | | | | Щ | Ц | |
| - | 161 | Floor | | | ≤ | 150 L | | | | Щ | | H | | | | | | Ш | | |
| | *Culture : | and PCR done at A | *Culture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab | contracted to ELIM Bi | io. **Ple | ase specify other analysis. | Some nonstandard analy | ses may b |)e subc | ontracte | d to Huf | man Lal | os, Indo | or Biotec | hnologi | es, EM | s, sgs | Galson, | or Ward | ab |

Relinquished By:

Date: 10/10/17 Time: 9:50 Received By: A Undell

Date: 15/10/18

Time: 10:30 Page6 of 8



Assured Bio Labs, I 228 Midway Lane, S Oak Ridge, TN 378: www.assuredbio.co info@assuredbio.cc (865) 813-1700

| | Company | 9 | com | 7830 | , LLC , Suite B | |
|---------------------------------|--|----------------------------|-----|-----------------|-------------------------|--|
| 5 C D. O. D. D. J. T. D. 2000) | Company Name: Assured Bio Labs | General Citalli of Custody | | | | |
| dis | AB Identifier: (for internal use only) | Collection Date: | | Project Number: | Project Name: Hess Hall | |
| | MW1010 | Temperature | %RH | | | |
| | 18-22 | | | Inside | | |
| | | | | Outside | | |

| ř | | | | | | | | | | | | | | | _ | | | _ | | |
|-----|---------------------|-----------------------|---|-----------------------|------------|--|-----------------------------|--|----------------------|--------------|----------|---------|-----------|---------|-----------|----------------|-------------|-----------|---|---|
| T | Inspector: | | | Company Nam |) Se | Company Name: Assured Bio Labs | Labs | AB Identifier: (for internal use only) | ntifier | (for ir | ternal | use o | | 包 | HW1010t8- | 8-2 | 22 | | | |
| | Company Ad | dress: 228 | Company Address: 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | Suite B, | Ő | ak Ridge, | TN 37830 | - | Molds | \dashv | | \neg | | | \dashv | \dashv | \exists | | | |
| _ | hone: (86 | Phone: (865) 813-1700 | 00 | E-mail: info@ | gas | E-mail: info@assuredbio.com | a | achybo | virborne | | | / Count | acteria' | | s (SIM) | | | -/-) | | |
| 1 | For Water Tests | ı | Sample Codes (SC) | B - Bulk | Outsic | Outside Conditions (Circle all that apply) | all that apply) | | | _ | _ | olony | D Ba | | | _ | _ | st (+ | | |
| | Sampling Time: | | MT - M-TRAP® |)e Lift | C - Clear | ear TS - Thunderstorm | rstorm | | | | | rial C | cies I | | | | | oli Te | | |
| _ | Residiual Chlorine: | ne: | SP - Spore Trap | D - Dust | R - Rain | in S - Snow | | _ | | | | Bacter | Spec | | | | | E. cc | | |
| - | Water Temperature: | ture: | SW - Swab | W - Water | W - Wind | ind O - Other | | | ies Id ——d Sca | Scan | Scan | can E | Scan | | | onell onell | /VA \ | form/ | er:** | |
| _ | Sample ID | | Description | | റ്റ | Total Volume or Area | a Comments | _ | _ | | _ | ViaS | Vias | ERN | | | | Coli | Othe | |
| - | 162 | Floor | | | TM | 150 L | | ✓ | Щ | Н | | | | | 닠 | | - | | | I |
| - | 163 | Floor | | | MT | 150 L | | | | | П | Ħ | | | Щ | | | Ħ | | |
| - | 164 | Floor | | | MT | 150 L | | | | H | | П | | | Щ | | | | | |
| | 165 | Floor | | | M | 150 L | | | Щ | \mathbb{H} | | Ħ | | | Щ | | | | | |
| - | 166 | Floor | | | M I | 150 L | | | Ц | | Н | П | | | \square | | H | | | |
| 1 | 167 | Floor | | | M I | 150 L | | | Щ | H | H | | | | Щ | | | | | |
| - | 168 | Floor | | | M | 150 L | | | | H | H | П | | | | | | | | |
| - | 169 | Floor | | | ≤ | 150 L | | | Щ | 님 | H | П | | | Щ | 片 | | \Box | | |
| - | 170 | Floor | | ~ | I I | 150 L | | | Щ | H | 一 | 一 | | | Щ | Щ | | | | |
| 1 | 171 | Floor | | | ĭ | 150 L | | | | | | П | | | \sqcup | | | H | | |
| 1 | 172 | Floor | | | Ĭ | 150 L | | | Щ | 片 | H | Π | | | Щ | | H | | | |
| - | 173 | Floor | | | ĭ | 150 L | | | | H | H | П | | | | | H | H | | |
| 271 | Culture & | ind PCR done at As | Uniture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. "Please specify other analysis. Some nonstandard analyses | ocontracted to ELIM B | io. ***Ple | ase specify other analyse. | sis. Some nonstandard analy | ses may t | be subco | ntractec | to Huffr | nan Lab | s, Indoor | Biotech | nologies | S, EMS, | SGS Gal | son, or V | may be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab. | |
| _ | Relinquished By: | Ш | Creciard | Date: 19/10/18 | 7 | Time: 4: > 0 | Received By: | stima | M | | | Date: | 10/10 | 1/2 | | Time:_ | Time: 12:30 | 1 | Page 7 of 8 | |
| | | | | | | | | | | | | | | | | | | | | |



Assured Bio Labs, LLC 228 Midway Lane, Suite B Project Name: Hess Hall

| | The second of the second | • | | | | - | | | | | | | | | | | | |
|--|---|---------------------------|-----------|--|-----------------------|-------------------|------------------------------------|----------|----------|----------------|----------|-------------|--------------|------------|--------|---------|--|----------|
| P | Oak Ridge, TN 37830 www.assuredbio.com | | | | | Proje | Project Number: | ıber: | | | 8 | Ĕ | Ш | \forall | Inside | е | | Outside |
| assured bio " | | General C | hain | General Chain of Custody | | Collec | Collection Date: | Ę. | | | 교 | Temperature | ure | \dashv | | | | |
| Inspector: | | Company Name: Assured Bio | »: Ass | ured Bio La | Labs | AB Id | lentifier: (for internal use only) | r: (for | intern | al use | only) | | | Hillolo (X | 1 | 7 | | |
| Company Address: 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | Midway Ln, | Suite B, | Oak | Ridge, T | N 37830 | trys) | Molds | -1 | - | - | | - 18 | - 2 | | 1720 | | | |
| Phone: (865) 813-1700 | 00 | E-mail: info@ |)assu | E-mail: info@assuredbio.com | | achybo | Airborne | | | ungi" Count | acteria | | (SIM) | | | | /-) | |
| For Water Tests | (SC) | B - Bulk | Outside (| Outside Conditions (Circle all that apply) | that apply) | nd Sta | - | | _ | | | | Volds | e) |) | st | est (+ | |
| Sampling Time: | MT - M-TRAP® | TL - Tape Lift (| C - Clear | TS - Thunderstorm | i | Asp a | _ | | | | | | door l | Cultur | qPCR | ter Te | coli Te | |
| Water Temperature: | | ** | W - Wind | 0 - Other | | Pen. | | Scan | can G | can S | | _ | | nella | nella | VA W | orm/E. | ** |
| Sample ID | Description | | SC | Total Volume or Area | Comments | Big 2 | _ | _ | - | | | ERM | - | Legio | Legio | FHA | Colif | Othe |
| 174 Floor | | | M | 150 L | | V | | 닏 | 닠 | | 님 | 닉 | | | ٦ | = | | |
| 175 Floor | | | MT | 150 L | | | | | | \dashv | | | | = | Ħi | Ti | | |
| 176 Floor | | | M | 150 L | | | | Щ | | | | | - | 7 | | ٦i | | |
| 177 Floor | | | MT | 150 L | | 区 | | Щ | | | | Hi | | | | | | |
| 178 Floor | | | MT | 150 L | | | | | Ц | | H | 님 | | | 10 | | | |
| 179 Floor | | | M | 150 L | | $\overline{\leq}$ | | Щ | 닠 | H | H | | | | i i | | | |
| HC | Control | - | 3 | 7008 | | | | | | | H | H | H | | П | | | |
| | | | | | | | | Ц | | 님 | H | H | | | | | | |
| | | | | | | | | | | | | | | | ٦í | | | |
| | | | | | | | | H | | 닠 | 님 | | \Box | | | | | |
| | | | | | | | | | Щ | H | H | H | | | Ħ | | | |
| | | | | | | | | Щ | 片 | H | | H | | | | | | |
| *Culture and PCR done at As | *Culture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may | ontracted to ELIM Bio | **Please | specify other analysis. S | ome nonstandard analy | | be subc | ontracto | ad to Hu | ffman L | abs, ind | oor Biot | echnolo | igies, El | MS, SG | S Galso | be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab | ard Lab. |
| Relinquished By: | Truche Honor cll | Date: 19/10/18 | O. | Time: 9:50 Re | Received By: | Hent to | booko | 1 | | Date: | | 10/10/18 | , | = | Time:f | 10:30 | _ Page 8 of 8 | 8 of 8 |

Big 2 Panel

PenAsp¹ and Stach² Assays

228 Midway Lane, Suite B
Oak Ridge, Tennessee 37830
Toll Free: (866) 547-1727
Local: (865) 813-1700
Fax: (865) 813-1705

Fax: (865) 813-1705 Email: info@assuredbio.com www.assuredbio.com



REVIEWED

By Olga Khaliukova at 2:35 pm, Oct 16, 2018

| Inspector: | Shawn McClurg | Date Collected: 10/8/2018 | |
|---------------------|-----------------|----------------------------------|--|
| Project Name: | Massey Hall | Date Received: 10/10/2018 | |
| Project Number: | | Date Reported: 10/16/2018 | |
| Assured Bio Identif | ier: SM101018-1 | Analyst(s): M. Reed | |

Selected References

Haugland, R. A., S. J. Vesper and L. J. Wymer. 1999. Quantitative measurement of *Stachybotrys chartarum* conidia using real-time detection of PCR products with the TagManTM fluorogenic probe system. Molecular and Cellular Probes 13:329-340.

Meklin, T. M., R. A. Haugland, T. Reponen, M. Varma, Z. Lummus, D. Bernstein, L. J. Wymer and S. J. Vesper. 2004. Quantitative PCR analysis of house dust can reveal abnormal mold conditions. Journal of Environmental Monitoring 6:615-620.

Vesper, S. J. 2006. Developing the EPA Relative Moldiness Index© based on mold-specific quantitative PCR. The Synergist April 2006:39-43

Vesper, S. J., C. McKinstry, C. Yang, R. A. Haugland, C. M. Kercsmar, I. Yike, M. D. Schluchter, H. L. Kirchner, J. Sobolewski, T. M. Alltan and D. G. Dearborn. 2006. Specific molds associated with asthma in water-damaged homes. Journal of Occupational and Environmental Medicine 48:852-858.

Vesper, S., C. McKinstry, P. Ashley, R. Haughland, K. Yeatts, K. Bradhan and E. Svendsen. 2007. Quantitative PCR analysis of molds in the dust from homes of asthmatic children in North Carolina. Journal of Environmental Monitoring 9:826-830.

Accreditation

Assured Bio Labs, LLC is accredited by the American Industrial Hygiene Association Laboratory Accreditation Programs, LLC (AIHA-LAP, LLC; Lab ID # 183867) in the Environmental Microbiology accreditation program for "qPCR - Mold Specific qPCR" Fields of Testing as documented by the Scope of Accreditation Certificate and associated Scope. AIHA-LAP, LLC accreditation complies with the ISO/IEC Standard 17025:2005 requirements, but this does not imply ISO certification or registration."

Limitations

ASSURED BIO LABS, LLC MAKES NO WARRANTIES AND EXPRESSLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PURPOSE. INSPECTOR ACKNOWLEDGES THAT ASSURED BIO LABS, LLC HAS NOT INSPECTED THE SUBJECT PROPERTY AND THAT THE INSPECTOR IS SOLELY RESPONSIBLE FOR CHOOSING THE LOCATION OF SAMPLE COLLECTION. ASSURED BIO LABS, LLC SHALL NOT BE LIABLE TO INSPECTOR FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES OF ANY KIND OR NATURE, INCLUDING, WITHOUT LIMITATION, ANY DAMAGES TO PROPERTY OR PERSONAL INJURY WHETHER SUCH LIABILITY IS ASSERTED ON THE BASIS OF CONTRACT, TORT, OR OTHERWISE, EVEN IF ASSURED BIO LABS, LLC HAS BEEN WARNED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGE. UNDER NO CIRCUMSTANCES SHALL ASSURED BIO LABS, LLC BE LIABLE FOR DAMAGES UNDER OR ARISING OUT OF THIS REPORT IN AN AMOUNT EXCEEDING THE AMOUNT PAID BY THE INSPECTOR TO ASSURED BIO LABS, LLC FOR THIS ANALYSIS AND REPORT. THIS REPORT IS FOR THE SOLE USE OF THE INSPECTOR AND CREATES NO THIRD PARTY BENEFICIARIES OR RIGHTS HEREUNDER.

Methods of Analysis

Assured Bio Labs uses the following methods for the MSQPCR analysis: CD 23: Data Reporting for MSQPCR Testing, CD 143: Preparation, Processing, and Analysis of MSQPCR Samples, CD 225: Bead Based DNA Extraction

Notes

¹The PenAsp assay detects species of the genera Aspergillus, Penicillium, and Paecilomyces variotii.

²The Stach assay detects *Stachybotrys chartarum* also commonly referred to as "toxic black mold."

Reporting Limits

Method Detection Limit (MDL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The minimum concentration of an analyte that, in a given matrix and with a specific method, has a 99 percent probability of being identified, qualitatively or quantitatively measured, and reported to be greater than zero."

Reporting Limit (RL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The lowest concentration of analyte in a sample that can be reported with a defined, reproducible level of certainty."

Values less than one will be rounded up to one per reported unit.

Method Detection Limits (in Spores)

Stac - 0.1624, PenAsp - 0.2161

Reporting Limit Calculations

Unless otherwise stated in comments, the following equations are used to calculate the reporting limit per sample: Dust RL - MDL/5 mg Swab RL - MDL/1 swab, Unconcentrated Liquid RL - MDL/0.1 ml, Concentrated Liquid RL - MDL/ml filtered, MTrap RL - MDL × (1000/L sampled)

Assured Bio Identifier: MC Sample ID: MC

Sample Description: Massey Outdoor Control Composite

Assay Spores/Cubic Meter

Sample Condition: Intact

Mtrap

300 L

Sample Type:

Sample Volume:

PenAsp: Below Detectable Limits

Stach: Below Detectable Limits

Comments: None.

Assured Bio Identifier: SM101018-1-1 Sample Condition: Intact

Sample ID: 180 Sample Type: Mtrap

Sample Description: Room Sample Volume: 150 L

Assay Spores/Cubic Meter

PenAsp: 11

Stach: Below Detectable Limits

Comments: None.

Assured Bio Identifier: SM101018-1-2 Sample Condition: Intact

Sample ID:181Sample Type:Mtrap

Sample Description: Sample Volume: 150 L

Assay Spores/Cubic Meter

PenAsp: 19

Stach: Below Detectable Limits

Comments: None.

Assured Bio Identifier: SM101018-1-3 Sample Condition: Intact

Sample ID:182Sample Type:Mtrap

Sample Description: Room Sample Volume: 150 L

Assay Spores/Cubic Meter

PenAsp: 3

Stach: Below Detectable Limits

Comments: None.

SM101018-1-4 Assured Bio Identifier: Sample Condition: Intact Sample ID: 183 Sample Type: Mtrap Sample Volume: Sample Description: 150 L Room Spores/Cubic Meter <u>Assay</u> PenAsp: 48 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-5 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 22 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-6 Sample Condition: Intact 185 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter PenAsp: 29 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-7 Sample Condition: Intact Sample ID: 186 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 65 PenAsp: Stach: **Below Detectable Limits** Comments: None.

Page 4 of 13

SM101018-1-8 Assured Bio Identifier: Sample Condition: Intact Sample ID: 187 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 9 Stach: **Below Detectable Limits** Comments: None. SM101018-1-9 Assured Bio Identifier: Sample Condition: Intact Sample ID: 188 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 7 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-10 Sample Condition: Intact 189 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter PenAsp: 25 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-11 Sample Condition: Intact Sample ID: 190 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 7 PenAsp: Stach: **Below Detectable Limits** Comments: None.

SM101018-1-12 Assured Bio Identifier: Sample Condition: Intact Sample ID: 191 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 1 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-13 Sample Condition: Intact Sample ID: 192 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 108 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-14 Sample Condition: Intact 193 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter PenAsp: 31 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-15 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 22 PenAsp: Stach: **Below Detectable Limits** Comments: None.

SM101018-1-16 Assured Bio Identifier: Sample Condition: Intact Sample ID: 195 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-17 Sample Condition: Intact Sample ID: 196 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 51 Stach: **Below Detectable Limits** Comments: Assured Bio Identifier: SM101018-1-18 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 1 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-19 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 22 Stach: **Below Detectable Limits** Comments: None.

SM101018-1-20 Assured Bio Identifier: Sample Condition: Intact Sample ID: 199 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 47 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-21 Sample Condition: Intact Sample ID: 200 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 38 PenAsp: Stach: **Below Detectable Limits** Comments: Assured Bio Identifier: SM101018-1-22 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter PenAsp: 39 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-23 Sample Condition: Intact Sample ID: 202 Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 10 PenAsp: Stach: **Below Detectable Limits** Comments: None.

Page 8 of 13

SM101018-1-24 Assured Bio Identifier: Sample Condition: Intact Sample ID: 203 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 39 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-25 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 30 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-26 Sample Condition: Intact 205 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter PenAsp: 60 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-27 Sample Condition: Intact Sample ID: 206 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 20 PenAsp: Stach: **Below Detectable Limits** Comments: None.

SM101018-1-28 Assured Bio Identifier: Sample Condition: Intact Sample ID: 207 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 1 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-29 Sample Condition: Intact Sample ID: 208 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 5 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-30 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter 40 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-31 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 7 PenAsp: Stach: **Below Detectable Limits** Comments: None.

SM101018-1-32 Assured Bio Identifier: Sample Condition: Intact Sample ID: 211 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 17 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-33 Sample Condition: Intact Sample ID: 212 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 2 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-34 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter PenAsp: 12 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-35 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None.

SM101018-1-36 Assured Bio Identifier: Sample Condition: Intact Sample ID: 215 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 1 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-37 Sample Condition: Intact Sample ID: 216 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 49 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-38 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter PenAsp: 23 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-1-39 Sample Condition: Intact Sample ID: 218 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 11 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: SM101018-1-40

Sample ID: 21

219

Sample Description: - Room

Sample Condition: Intact

Sample Type: Mtrap

Sample Volume: 150 L

Sample Condition:

Sample Type:

Sample Type:

Sample Volume:

Sample Volume:

Intact

Mtrap

150 L

Mtrap

150 L

<u>Assay</u> <u>Spores/Cubic Meter</u>

PenAsp: 32

Stach: Below Detectable Limits

Comments: None.

Assured Bio Identifier: SM101018-1-41

Sample ID: 220

Sample Description: - Room

Assay Spores/Cubic Meter

PenAsp: 36

Stach: Below Detectable Limits

Comments: None.

Assured Bio Identifier: SM101018-1-42 Sample Condition: Intact

Sample ID: 221

Sample Description: - Room

Assay Spores/Cubic Meter

PenAsp: Below Detectable Limits

Stach: Below Detectable Limits

Comments: None.



Assured Bio L 228 Midway L Oak Ridge, Th

| Labs, LLC Lane, Suite B | | Project Name: Massey Hall | Hall | | |
|----------------------------|------------------------------------|---|-------------|--------|----------|
| ΓN 37830 | | Project Number: 19 70 | | Inside | Outside |
| dbio.com dbio.com | | 00 | %RH | | |
| 00 | General Chain of Custody | Collection Date: | Temperature | | |
| No. | Company Name: Assured Bio Labs | AB Identifier: (for internal use only) $SM[($ | NS WIC | 81019 | <u> </u> |
| y Ln, | y Ln, Suite B, Oak Ridge, TN 37830 | Molds | | | |

| 1 | Cak Ridge, IN 37830 | | | IP. | Project Number: | | nside | Outside |
|--|--|----------------------------|--|------------------------------------|--|--------------------|------------------------------------|-------------------------------|
| | www.assuredbio.com info@assuredbio.com |) - | | | 10 K | %RH | | |
| assuredbio | (865) 813-1700 | General Cna | General Chain of Custody | Col | ection Date: | Temperature | | |
| Inspector: Shawm | Milliano | Company Name: A | Company Name: Assured Bio Labs |)S AB | 3 Identifier: (for internal use only) | MS | 81010 | -1 |
| Company Address: 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | Midway Ln, | Suite B, O | ak Ridge, TN | | Molds | | | |
| Phone: (865) 813-1700 |)0 | E-mail: info@as | E-mail: info@assuredbio.com | achybo | Airborne m) | acteria s (SIM) | | +/-) |
| For Water Tests | Sample Codes (SC) | B - Bulk Outs | Outside Conditions (Circle all that apply) | | Exam D Fur | | 2) | est (- |
| Sampling Time: | MT - M-TRAP® | TL - Tape Lift C - Clear | lear TS - Thunderstorm | sn ar | icatio irect nus II | | PCR | oli Te |
| Residiual Chlorine: | SP - Spore Trap | D - Dust R - Rain | ain S - Snow | ⊃n/Δs | dentifi an (D Gen | | la (q | |
| Water Temperature: | SW - Swab | W - Water W - Wind | Vind O - Other | 2 (Pi | cies lo IdScan Scan | MI | jione jione A/VA | iform |
| Sample ID | Description | SC | Total Volume or Area | Comments | Spe Mo Via | ER | Leç | - |
| √180 Floor | | MT | 「 150 L | ▼ | | | | |
| 181 Floor | | TM | 150 L | A | | | | |
| √182 Floo | ٠ | TM | 150 L | A | | | | |
| √183 Floo | ٠ | TM | 750 L | 4 | | | | |
| /184 Floor | ٠ | МТ | 7 150 L | ₹ I | | | | |
| √185 Floo | ٠ | MT | Г 150 L | 4 | | | | |
| √186 Floor | | TM | 150 L | 4 | | | | |
| √187 Floo | ٠ | TM | 150 L | | | | | |
| √188 Floo | ٠ | TM | 150 L | 4 | | | | |
| √189 Floo | , | MT | Г 150 L | 4 | | | | |
| √190 Flooi | • | MT | 150 L | | | | | |
| √191 Floo | | MT | 150 L | V | | | | |
| Relinquished By: | oried bio Labs, sequencing sub- | Date: W. D. | uished By: IMMU IMMU Date: ID: Time: Y.M. Received By: | ne nonstandard analyses seived By: | may be subcontracted to Huttman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab A S Date: 10-10-18 Time: 9',00 Page 1 of 4 | 10-10-18 | as, EMS, SGS Galso Time: 9', 00 | on, or Ward Lab. Page 1 of 4 |
| | | 0 | | | | | | 1 |



| Assured Bio Labs, LLC 228 Midway Lane, Suitu | í | Project Name: Massey Hall | / Hall | | |
|---|---|--|-------------|------------|---------|
| Oak Ridge, TN 37830 | | Project Number: | | Inside | Outside |
| www.assuredbio.com | | 2004 | %RH | | |
| ECIDIO (865) 813-1700 | General Chain of Custody | Collection Date: | Temperature | | |
| | Company Name: Assured Bio Labs | AB Identifier: (for internal use only) | MY SMI | SM101018-1 | + |
| ^{ress:} 228 Midway | ress: 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | otrys) Molds | * | | |

| | | | | | | | | | | | | remperature | ature | _ | | | | |
|-----------------------|--------------------|--|-----------------------|-----------|--|------------------|---------|-------------------------------------|------------|---------|---------|-------------|-----------|---------|-------|-------|--------|-------|
| Inspector: | | | Company Nami | e: Ass | Company Name: Assured Bio Labs | | AB Iden | Identifier: (for internal use only) | for int | ernal u | se on | | OIOIMS | 6 | 6 | 8 | 4 | |
| Company Addre | ^{38:} 228 | company Address: 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | Suite B, | Oa | k Ridge, T | N 37830 | - | NIOIGS | \neg | | | | | | | | | |
| Phone: (865) 813-1700 | 813-17 | 00 | E-mail: info@ |)ass | E-mail: info@assuredbio.com | | achybo | _ | ngi | ungi* | y Count | acteria | o /CIM | s (SIM) | | | +/-) | |
| For Water Tests | | Sample Codes (SC) | B - Bulk | Outside | Outside Conditions (Circle all that apply) | that apply) | | |) Fu | ID F | olon | ID B | Mold | | - | st | est (- | |
| Sampling Time: | | MT - M-TRAP® | TL - Tape Lift | C - Clear | r TS - Thunderstorm | 3 | | | us II | cies | rial C | cies | | | _ | er Te | oli Te | |
| Residiual Chlorine: | | SP - Spore Trap | D - Dust | R - Rain | S - Snow | | _ | | Gen | Spe | Bacte | Spe | ام ما 4 | _ | _ | Wate | /E. c | |
| Water Temperature: | iò | SW - Swab | W - Water | W - Wind | d O - Other | | - | dSca | Scan | Scan | Scan E | - | | ionel | ionel | ₩VA | iform/ | er:** |
| Sample ID | | Description | | SC | Total Volume or Area | Comments | _ | | Via | Via | Vias | _ | ERI | - | _ | FHA | Coli | Oth |
| J 192 | Floor | | | MT | 150 L | | | 님 | H | | | Ц | Щ | | | | | |
| √193 | Floor | | | MT | 150 L | | | H | H | | | | H | | H | | | |
| √194 | Floor | ı | | MT | 150 L | | | H | Ħ | | | | Н | Н | | | | |
| √195 | Floor | 1 | | MT | 150 L | 1 | | H | H | | | | H | 님 | | | | |
| √196 | Floor | 9 | | MT | 150 L | | | H | H | | | | 빔 | H | H | | | |
| V197 | Floor | 1 | | MT | 150 L | | | Н | H | 靣 | | | Н | H | | | | |
| <i>J</i> 198 | Floor | 1 | | MT | 150 L | • | | H | H | | | | Щ | H | H | | | |
| √199 | Floor | ı | | MT | 150 L | | | 님 | H | | | | Ц | | H | | | |
| V 200 | Floor | | | MT | 150 L | | | Н | | | | | \sqcup | | H | | | |
| √201 | Floor | | | MT | 150 L | | | H | H | | | | Ц | 님 | H | | | |
| V 202 | Floor | | | MT | 150 L | | | H | H | | | | | H | H | | | |
| 1 203 | Floor | | | MT | 150 L | | | | H | | | | \square | H | H | | | |
| pue autifility | DCD done at As | on the state of the second Rich I shall encountry the second to ETM Bio. **Bloom specification of the second second to ETM Bio. ** | contracted to E1 IM D | :· **DIO | aa anaaifi athar anabaic (| ome perstand and | | , autooptro | troated to | | 260 | 1 | Distashas | | 2000 | 5 | | |

| Relinquished By |
|----------------------|
| 7. |
| |
| |
| ate: |
| |
| |
| |
| ie: |
| |
| Received By: |
| |
| $\langle I \rangle$ |
| 4 |
| J. M. |
| 7 |
| y low / |
| 7 |
| 7 |
| Dat |
| Dat |
| Dat |
| Date: 10-10-18 Time: |
| Dat |
| Date: 10-10-18 Time: |



Assure 228 M

| ed Bio Labs, LLC | Project Name: Massey Hall | | | |
|-----------------------------------|---------------------------|-------------|--------|-----|
| lidway Lane, Suite B | , and a | 5 | | |
| Ridge, TN 37830 | Project Number: | | Inside | Out |
| assuredbio.com | * 0 mm | %RH | | |
| 813-1700 General Chain of Custody | Collection Date: | Temperature | | |

| 1 228 M | 228 Midway Lane, Suite B | | | | | | | | | | | | | | | | |
|---|----------------------------|-----------------------------|--|-------------|--|----------------|----------|--------|---------|-------------|--------|---------|--------|--------|-------|--------|---------|
| Oak R | Oak Ridge, TN 37830 | | | | Project | Number: | er: | | | | | Ц | | Inside | Ц | 0 | Outside |
| | info@assuredbio.com | operal Chain | of Custody | | | | | | | %R¥ | | | | | | | |
| assured bio (865) | (865) 813-1700 | Gelleral Citalli of Custody | of Custouy | | Collectio | ion Date: | | | | Temperature | rature | 3- | | | | | |
| nspector: | Com | any Name: AS: | Company Name: Assured Bio Labs | | AB Identifier: (for internal use only) | tifier: | (for in | ernal | ise on | 20.0 | Z | 5 | 010 | _ | × | ٦ | |
| ^{Company Address:} 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | way Ln, Sui | te B, Oa | k Ridge, T | N 37830 | - | IVIOIOS | \dashv | \neg | | | | - | | | | | |
| ^{Phone:} (865) 813-1700 | E-ma | [⊪] info@ass | E-mail: info@assuredbio.com | | achybo | Airborne m) | | ungi* | y Count | acteria | | s (SIM) | | | | +/-) | |
| or Water Tests Sampl | Sample Codes (SC) B - Bulk | | Outside Conditions (Circle all that apply) | that apply) | | _ | | ID F | Colon | ID B | | Mold | e) | !) | est | est (| |
| Sampling Time: MT - W | MT - M-TRAP® TL - T. | TL - Tape Lift C - Clear | r TS - Thunderstorm | m | | | | cies | erial (| cies | | loor | Cultur | PCR | er Te | oli T | |
| Residiual Chlorine: SP - Si | SP - Spore Trap D - Dust | st R - Rain | | | | | | Spe | Bacte | Spe | | of Inc | lla (C | lla (q | Wat | /E. c | |
| Water Temperature:SW - Swab | wab W - Water | ater W - Wind | d O - Other | | | oldSca | aScan | aScan | Scan | aScan | RMI | rvey | gione | gione | IA/VA | liform | her:** |
| | Description | 9 | ו כומו עכושווים כו אופמ | Considera | Н | H | - | 1 | V | ١ | E | 5 | L | L | F | | |
| V204 Floor | | <u> </u> | 100 L | | | | \vdash | | | | | | | | | | |
| /205 Floor | | MT | 150 L | | | H | H | | | | | | | | | | |
| √206 Floor | | MT | 150 L | | | | H | П | | | | | | | | | |
| 207 Floor | | MT | 150 L | | | H | H | 同 | | | | | | | | | |
| / ₂₀₈ Floor | | MT | 150 L | | | H | H | 同 | | | | | | | | | |
| /209 Floor | | MT | 150 L | | | | H | Ħ | | | | | | | | | |
| /210 Floor | | MT | 150 L | | | 님 | H | Ħ | | | | | | | | | |
| /211 Floor | | TM | 150 L | | | H | H | Ħ | | | | | | | | | |
| 212 Floor | | МТ | 150 L | | | 님 | | Ħ | | | | | | | | | |
| الالالال 213 Floor | | МТ | 150 L | | | | H | H | | | | | | | | | |
| $\sqrt{214}$ Floor | | MT | 150 L | | | H | H | H | | | | | | | | | |
| √215 Floor | | MT | 150 L | | | \mathbb{H} | | \Box | | | | | | | | | |

*Culture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab.

| Relinquished By: |
|------------------|
| Da |
| 6 |
| |
| Time: |
| |
| |
| Received By: |
| G |
| B |
| 8 |
| 2 |
| 1 |
| 1 |
| |
| 1 |
| Date: |
| C |
| 0, |
| 0 |
| 8 |
| ` ≓ |
| ne: |
| ، ، ' |
| 0 |
| Pa |
| % |



Phone: (865) 813-1700

Sampling Time:

For Water Tests

Water Temperature: Residiual Chlorine:

Total Volume or Area

Description

Sample ID

216

Floor

 \leq

150 L

 \leq

150 L

J217

Floor

219

Floor

220

Floor

Floor

M

150 L

M

150 L

 \leq

150 L

 \leq

150 L

218

Floor

Company Ado

Inspector:

| Assured Bio Labs, LLC 228 Midway Lane, Suite B | D | | Project Name: | lame: | \leq | Massey | ey | 포 | <u>=</u> | | | | | | |
|---|----------------|---|------------------------|----------|--------|----------------|--------|----------|------------|---------|-------|--------|-------|-------|--------|
| Oak Ridge, TN 37830 | | | Project Number: | umbe | ا ٦ | | | | | | | Inside | | | utside |
| | | | • | | | | | %RH | | | | | | | |
| ed bio (865) 813-1700 | General | General Chain of Custody | Collection Date: |) Date: | | | | Temp | emperature | ,,, | | | | | |
| | Company Nam | Company Name: Assured Bio Labs | AB Identifier: (for in | ifier: (| | ernal use only | se or | y) | 5 | 3 | 7 | 2 | 2 | 5 | ピ |
| ress: 228 Midway Ln, | Suite B, | ress: 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | - | \dashv | \neg | | t | 1* | |) | | | | | |
|) 813-1700 | E-mail: info(| E-mail: info@assuredbio.com | tachybo Airborne | | ngi | ungi* | y Coun | Bacteria | | ls (SIM | | | | +/-) | |
| Sample Codes (SC) | B - Bulk | Outside Conditions (Circle all that apply) | | _ | D Fu | ID F | Colon | ID E | | Molo | re) | ₹) | est | est (| |
| MT - M-TRAP® | TL - Tape Lift | C - Clear TS - Thunderstorm | _ | _ | ius I | cies | rial (| cies | | loor | ultu | PCF | er To | oli T | |
| ıe:SP - Spore Trap | D - Dust | R - Rain S - Snow | | _ | Gen | Spe | Bacte | Spe | | of Ind | la (C | la (q | Wat | /E. c | |
| ure:SW - Swab | W - Water | W - Wind O - Other | | dSca | Scan | Scan | Scan I | Scan | Vii | vey c | ionel | ionel | ₩VA | iform | er:** |
| Description | | SC Total Volume or Area Comments | | | Via | Via | Vias | Via | ERI | Sur | Leg | Leg | FH | Col | Oth |

| Relinquish | *CL | |
|--------------|---|--------|
| ed By: | ulture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nons | |
| | R done at A | |
| | ssured Bio L | |
| | abs, sequer | |
| Date: | icing subcor | |
| ate: | ntracted to E | |
| | :LIM Bio. **I | |
| Time: | lease spec | |
| | fy other ana | |
| Receive | lysis. Some | |
| Received By: | ₹ | |
| 9 | andard analyses n | _ T |
| 3 | nay be subc | |
| 7 | ontracted to | |
| Date: | Huffman Labs, In | |
| 81.01-01 | door E | |
| | iotechnolog | |
| Time: | ies, EMS, S | |
| ,000 P | GS Galson, | |
| age 4of 4 | Biotechnologies, EMS, SGS Galson, or Ward Lab | |

Relinquished By:

Big 2 Panel

PenAsp¹ and Stach² Assays

228 Midway Lane, Suite B Oak Ridge, Tennessee 37830 Toll Free: (866) 547-1727 Local: (865) 813-1700 Fax: (865) 813-1705 Email: info@assuredbio.com

www.assuredbio.com



REVIEWED

By Olga Khaliukova at 12:10 pm, Oct 16, 2018

| Inspector: | Dylan Graves | Date Collected: | 10/9/2018 |
|-------------------------|--------------|-----------------|---------------------|
| Project Name: | Morrill Hall | Date Received: | 10/10/2018 |
| Project Number: | | Date Reported: | 10/16/2018 |
| Assured Bio Identifier: | DG101018-4 | Analyst(s): | M. Reed, S. McClurg |

Selected References

Haugland, R. A., S. J. Vesper and L. J. Wymer. 1999. Quantitative measurement of *Stachybotrys chartarum* conidia using real-time detection of PCR products with the TagManTM fluorogenic probe system. Molecular and Cellular Probes 13:329-340.

Meklin, T. M., R. A. Haugland, T. Reponen, M. Varma, Z. Lummus, D. Bernstein, L. J. Wymer and S. J. Vesper. 2004. Quantitative PCR analysis of house dust can reveal abnormal mold conditions. Journal of Environmental Monitoring 6:615-620.

Vesper, S. J. 2006. Developing the EPA Relative Moldiness Index© based on mold-specific quantitative PCR. The Synergist April 2006:39-43

Vesper, S. J., C. McKinstry, C. Yang, R. A. Haugland, C. M. Kercsmar, I. Yike, M. D. Schluchter, H. L. Kirchner, J. Sobolewski, T. M. Alltan and D. G. Dearborn. 2006. Specific molds associated with asthma in water-damaged homes. Journal of Occupational and Environmental Medicine 48:852-858.

Vesper, S., C. McKinstry, P. Ashley, R. Haughland, K. Yeatts, K. Bradhan and E. Svendsen. 2007. Quantitative PCR analysis of molds in the dust from homes of asthmatic children in North Carolina. Journal of Environmental Monitoring 9:826-830.

Accreditation

Assured Bio Labs, LLC is accredited by the American Industrial Hygiene Association Laboratory Accreditation Programs, LLC (AIHA-LAP, LLC; Lab ID # 183867) in the Environmental Microbiology accreditation program for "qPCR - Mold Specific qPCR" Fields of Testing as documented by the Scope of Accreditation Certificate and associated Scope. AIHA-LAP, LLC accreditation complies with the ISO/IEC Standard 17025:2005 requirements, but this does not imply ISO certification or registration."

Limitations

ASSURED BIO LABS, LLC MAKES NO WARRANTIES AND EXPRESSLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PURPOSE. INSPECTOR ACKNOWLEDGES THAT ASSURED BIO LABS, LLC HAS NOT INSPECTED THE SUBJECT PROPERTY AND THAT THE INSPECTOR IS SOLELY RESPONSIBLE FOR CHOOSING THE LOCATION OF SAMPLE COLLECTION. ASSURED BIO LABS, LLC SHALL NOT BE LIABLE TO INSPECTOR FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES OF ANY KIND OR NATURE, INCLUDING, WITHOUT LIMITATION, ANY DAMAGES TO PROPERTY OR PERSONAL INJURY WHETHER SUCH LIABILITY IS ASSERTED ON THE BASIS OF CONTRACT, TORT, OR OTHERWISE, EVEN IF ASSURED BIO LABS, LLC HAS BEEN WARNED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGE. UNDER NO CIRCUMSTANCES SHALL ASSURED BIO LABS, LLC BE LIABLE FOR DAMAGES UNDER OR ARISING OUT OF THIS REPORT IN AN AMOUNT EXCEEDING THE AMOUNT PAID BY THE INSPECTOR TO ASSURED BIO LABS, LLC FOR THIS ANALYSIS AND REPORT. THIS REPORT IS FOR THE SOLE USE OF THE INSPECTOR AND CREATES NO THIRD PARTY BENEFICIARIES OR RIGHTS HEREUNDER.

Methods of Analysis

Assured Bio Labs uses the following methods for the MSQPCR analysis: CD 23: Data Reporting for MSQPCR Testing, CD 143: Preparation, Processing, and Analysis of MSQPCR Samples, CD 225: Bead Based DNA Extraction

Notes

¹The PenAsp assay detects species of the genera Aspergillus, Penicillium, and Paecilomyces variotii.

²The Stach assay detects *Stachybotrys chartarum* also commonly referred to as "toxic black mold."

Reporting Limits

Method Detection Limit (MDL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The minimum concentration of an analyte that, in a given matrix and with a specific method, has a 99 percent probability of being identified, qualitatively or quantitatively measured, and reported to be greater than zero."

Reporting Limit (RL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The lowest concentration of analyte in a sample that can be reported with a defined, reproducible level of certainty."

Values less than one will be rounded up to one per reported unit.

Method Detection Limits (in Spores)

Stac - 0.1624, PenAsp - 0.2161

Reporting Limit Calculations

Unless otherwise stated in comments, the following equations are used to calculate the reporting limit per sample: Dust RL - MDL/5 mg Swab RL - MDL/1 swab, Unconcentrated Liquid RL - MDL/0.1 ml, Concentrated Liquid RL - MDL/ml filtered, MTrap RL - MDL × (1000/L sampled)

Assured Bio Identifier: MC Sample Condition: Intact Sample ID: MC Sample Type: Mtrap Sample Description: Morrill Control Sample Volume: 300 L <u>Assay</u> Spores/Cubic Meter 40 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-1 Sample Condition: Intact Sample ID: 222 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 7 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-2 Sample Condition: Intact Sample ID: 223 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 14 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-3 Sample Condition: Intact Sample ID: 224 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** 12 PenAsp: **Below Detectable Limits** Stach:

None.

Comments:

DG101018-4-4 Assured Bio Identifier: Sample Condition: Intact Sample ID: 225 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-5 Sample Condition: Intact Sample ID: 226 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 12 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-6 Sample Condition: Intact Sample ID: 227 Sample Type: Mtrap **Sample Description:** - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 39 PenAsp: **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: DG101018-4-7 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 33

Comments:

Stach:

None.

Below Detectable Limits

DG101018-4-8 Assured Bio Identifier: Sample Condition: Intact Sample ID: 229 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> 14 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-9 Sample Condition: Intact Sample ID: 230 Sample Type: Mtrap Sample Volume: 150 L Sample Description: - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 38 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: DG101018-4-10 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 1 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-11 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 78 Stach: **Below Detectable Limits**

None.

Comments:

DG101018-4-12 Assured Bio Identifier: Sample Condition: Intact Sample ID: 233 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-13 Sample Condition: Intact Sample ID: 234 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 6 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-14 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 16 PenAsp: **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: DG101018-4-15 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 31 Stach: **Below Detectable Limits** Comments: None.

DG101018-4-16 Assured Bio Identifier: Sample Condition: Intact Sample ID: 237 Sample Type: Mtrap Sample Description: Sample Volume: - Room 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 64 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-17 Sample Condition: Intact Sample ID: 238 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 26 PenAsp: Stach: **Below Detectable Limits** Comments: Assured Bio Identifier: DG101018-4-18 Sample Condition: Intact 239 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter 1 PenAsp: Stach: **Below Detectable Limits** Comments: None. DG101018-4-19 Assured Bio Identifier: Sample Condition: Intact Sample ID: 240 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 10 PenAsp: Stach: **Below Detectable Limits** Comments: None.

DG101018-4-20 Assured Bio Identifier: Sample Condition: Intact Sample ID: 241 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 27 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-21 Sample Condition: Intact Sample ID: 242 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 67 PenAsp: Stach: **Below Detectable Limits** Comments: Assured Bio Identifier: DG101018-4-22 Sample Condition: Intact 243 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter 64 PenAsp: Stach: **Below Detectable Limits** Comments: None. DG101018-4-23 Assured Bio Identifier: Sample Condition: Intact Sample ID: 244 Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 6 PenAsp: Stach: **Below Detectable Limits** Comments: None.

DG101018-4-24 Assured Bio Identifier: Sample Condition: Intact Sample ID: 245 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 12 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-25 Sample Condition: Intact Sample ID: 246 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 67 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-26 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter 54 PenAsp: Stach: **Below Detectable Limits** Comments: None. DG101018-4-27 Assured Bio Identifier: Sample Condition: Intact Sample ID: 248 Sample Type: Mtrap Sample Description: Sample Volume: 150 L Room Spores/Cubic Meter <u>Assay</u> 12 PenAsp: Stach: **Below Detectable Limits** Comments: None.

DG101018-4-28 Assured Bio Identifier: Sample Condition: Intact Sample ID: 249 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 12 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-29 Sample Condition: Intact Sample ID: 250 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter **Below Detectable Limits** PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-30 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter 13 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-31 Sample Condition: Intact Sample ID: 252 Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 14 Stach: **Below Detectable Limits** Comments: None.

DG101018-4-32 Assured Bio Identifier: Sample Condition: Intact Sample ID: 253 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 84 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-33 Sample Condition: Intact Sample ID: 254 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 51 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-4-34 Sample Condition: Intact 255 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter PenAsp: 24 Stach: **Below Detectable Limits** Comments: None. DG101018-4-35 Assured Bio Identifier: Sample Condition: Intact Sample ID: 256 Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 31 PenAsp: Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG101018-4-36

Sample ID: 257

Sample Description: - Room

<u>Assay</u>

Spores/Cubic Meter

Sample Condition: Intact

Sample Type:

Sample Volume:

Sample Condition:

Sample Type:

Sample Volume:

Intact

Mtrap

150 L

Mtrap

150 L

PenAsp: 16

Stach: Below Detectable Limits

Comments: None.

Assured Bio Identifier: DG101018-4-37

Sample ID: 258

Sample Description: - Room

Assay Spores/Cubic Meter

PenAsp: 91

Stach: Below Detectable Limits

Comments: None.



| | 223 Floo | | 222 Floor | Sample ID | Vater Temperature: | Residiual Chlorine: | sampling Time: | or Water Tests | (865) 813-1700 | 77 | Company Address: | nspector: | | assuredbio [™] | | | |
|---|--|---|-------------|---|--------------------|---------------------|--------------------------|--|--|--|------------------|-----------------------------------|------------|------------------------------------|--------------------|--|---|
| | | | | Description | SW - Swab | SP - Spore Trap | MT - M-TRAP® | Sample Codes (SC) | 700 | 228 Mildway Ln, Suite B, Oak Ridge, TN 37830 | O Million I | 6/20 | | info@assuredbio.com (865) 813-1700 | www.assuredbio.com | Assured Bio Labs, LLC 228 Midway Lane, Suite B Oak Ridge, TN 37830 | |
| | M | | | SC | W - Water W - Wind | D - Dust R - Rain | TL - Tape Lift C - Clear | B - Bulk Outs | E-mail: info@as | Suite B, O | 2 | Company Name: A | | General Cha | | B | |
| _ | 150 | T | 1501 | Total Volume or Area | Vind O - Other | | lear TS - Thunderstorm | Outside Conditions (Circle all that apply) | E-mail: info@assuredbio.com | ak Ridge, | | Company Name: Assured Bio Labs | | General Chain of Custody | | | |
| | | | | Comments | | | orm | ill that apply) | _ | TN 37830 | | abs | | | | | |
| < | | 4 | | Big 2 | ? (Per | n/Asp | anc | i Sta | chybo | trys) | I | AB Ide | Collect | | Proje | Proje | |
| _ | | | | Species Identification of Airborne Mol MoldScan (Direct Exam) | | | | | | | | entifie | tion Date: | | Project Number: | Project Name | ı |
| _ | | L | $\rfloor $ | | | | | | | | | er: (fo | at e | | mber: | | |
| _ | | | 4 | ViaScan Genus ID Fungi | | | | | | | | rinter | 0 | | | 0 | |
| _ | 4 | L | ╣ | ViaScan Species ID Fungi* | | | | | | | | nal us | 1.10 | | | <u> Ξ.</u> | |
| | 4 | | ┵ | ViaScan Bacterial Colony Count | | | | | | | | entifier: (for internal use only) | 3 3 | ٧٥ | _ | Morrill Hal | |
| _ | ֡֝֝֝֝֡֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֝֡֓֓֡֓֡֝֡֓֓֓֡֝֡֡֡֡֡֡ | _ | ╬ | _ | | pecie | es IC |) Ba | cteria* | | - | -) | emperature | %RH | | <u>a</u> | |
| _ |] [] [| | ╬ | ERM | | n do a | 8.4. | - اماء | /CINA) | | G | 5 | ature | | П | | |
| _ |] | _ | ╬ | Legio | - | | | _ | (SIM) | | _ | - | | | Н | | |
| _ |] [] [| | ᆉ | Legio | | _ | | | | _ | | | | | 5 | | |
| _ |] [] [| | ╡┠ | FHA/ | | A S | | | _ | \dashv | 7-01010 | 2 | | | Inside | | |
| _ |] [] [| | ¦ ⊦ | Colifo | | | _ | _ | .) | - | 0 | 0 | | | Н | | |
| |] [| | ¦⊦ | Other | | | . 001 | . 1. 1 | <u>, </u> | | - | 16 | | | Outside | | |
| | | | L | | | | | | | | | | | | | | |

Relinquished By: *Culture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab. Mary Date: 10.9-18 Time: Received By: Date: 10-10-18 Time: 2:00 Page 1 of 4

230

Floor

229

Floor

231

Floor

233

Floor

M

150 L

M

150 L

M

150 L

Z T

150 L

M

150 L

S

150 L

M

150 L

M

150 L

S

150 L

≤

150 L

<

232

Floor

228

Floor

226

Floor

225

Floor

224

Floor

227

Floor

| | É |) | Assured Bio Labs, LLC | | | | | Project Name: | ا ب | | | | | | |
|---|--------------------|----------------|---|------------------|----------------|--|---------------------|--|--------------|-------------------|---|-----------|--------------------|-----------|---|
| | | | 228 Midway Lane, Suite B Oak Ridge, TN 37830 | ~ | | | | Morrill Hall | \equiv | Hall | | | | | |
| | (| Y | | | i i | | | Project Number: | | % RP H | | \forall | Inside | 1 8 | Outside |
| | | | (865) 813-1700 | | | Concial Chain of Custody | | Collection Date: (0-9-18 | æ | Temperature | fure | | | | + |
| | Inspector: | | | Company Name: | Ass | Company Name: Assured Bio Labs | abs | AB Identifier: (for internal use only) | d use | フト | - | - | - | | : |
| | Company Ad | dress: 228 | Company Address: 228 Midway In S | ן ס | 3 | ַבְּבְּבְּבְּבְּבְּבְּבְּבְּבְּבְּבְּבְּב | 7. 07000 | - | 1 | Ł | 0 | 0 | 0 0 0 | | 7 |
| | | 077 | ildway Ln, | Suite B, | O _a | k Ridge, | Oak Ridge, TN 37830 | | | | | | | | |
| | Filone: (86; | (865) 813-1700 | | E-mail: info@ | ass | E-mail: info@assuredbio.com | | gi | Count | cteria* | (SIM) | | | |) |
| | For Water Tests | Ico | Sample Codes (SC) | B - Bulk | utside | Outside Conditions (Circle all that apply) | II that apply) | of Ai | |) Bad | olds (| | | | |
| | Sampling Time: | | MT - M-TRAP® | TL - Tape Lift C | C - Clear | TS - Thunderstorm | orm | ect E | | es ID | or Mc | ure) | | | |
| | Residiual Chlorine | ne: | _ SP - Spore Trap [| | R - Rain | | | ntifica (Dire | | pecie | ndoo | Cult | | 101 | |
| | Water Temperature: | ure: | SW - Swab | W - Water W | W - Wind | | | Scan | | an S _l | y of Ir | nella (| | , , , , , | m/E. |
| | Sample ID | | Description | (0) | SC 1 | Total Volume or Area | Comments | | | /iaSc ERMI | Surve | .egior | egion | | olifor |
| - | 234 | Floc | | 7 | MT | 150 L | | | ⊒ŀ | =¦⊦ | ╣ | | ⊒H | | |
| C | 235 | Floc | | 7 | M | 150 L | | | ┪╞ | |]] [|][| | | ֓֞֞֞֞֞֞֞֞֞֜֞֞֞֜֞֞֞֞֞֞֞֞֞֞֓֓֞֞֞֞֞֓֡֡֡֡ |
| | 236 | Floo | | 7 | M I | 150 L | | | ╡┝ | |][| JĒ | | _ | jĖ |
| | 237 | Floo | | 7 | M I | 150 L | | | - | | | | | ᆲᆫ | |
| _ | 238 | Floo | | 7 | <u> </u> | 150 L | | | 7 | | ֓֞֞֞֞֞֓֞֞֓֓֓֓֞֓֓֓֓֓֓֡֡֝֓֓֓֡֝֡֓֓֡֡֝֡֡֝֡֡֡֡֡֡֡֡ | | | J [_ | |
| | 239 | Floo | | ~ | M | 150 L | | | = - | | ֓֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֓֓֡֡ | | 4 [| ᆚᄔ | ֓֞֞֞֞֞֓֓֞֞֓֓֓֞֡֓֓֓֓֓֡֡֞֡֓֓֡֡֡֡֡֡֡֡֡֡֡֡֡ |
| _ | 240 | Floo | | ~ | <u>×</u> | 150 L | | | ٦'n | | | | | ᆚᄔ | |
| 1 | 241 | Floo | | < | M I | 150 L | | | 7 | | Ī | | | ᅫᆫ | ĬĖ |
| | 242 | Floo | | МТ | 킈 | 150 L | | | 7 | | | | - - | ᆜᄔ | |
| | 243 | Floo | | M | 킈 | 150 L | | | 5 | | | | $\exists \vdash$ | ᆜᄔ | |
| (| / 244 | Floo | | TM | 긕 | 150 L | | | Ī | | Ī | | $\frac{1}{1}$ | ᆜᄔ | |
| | 245 | Floo | | МТ | - | 150 L | | | | | | _][| \exists \vdash | ᆜᄂ | |
| | Relinquished By: | uished By: MMW | C and Labo, a | Date: $10-9.9$ | Please | specify other analysis. S | Date: 10-9.19 Time: | may be subcontracted to Huffr | nan Labs | , Indoor Biote | chnologi | ₃, EMS | SGS Gals | 9 4 | on, or Ward |
| | | | | ate: V | | Time: Re | Received By: | 9 | Date: | 8-01-0) | S | Time: | 5:00 | | Page 2 of 4 |

Date: (0-10-18 Time: 9:00 Page 2 of 4

| Lescription SC Total Volume or Area Comments is given by the second of t | | W-Water W-Wind O-Other O-Other Scan S S S S S S S S S S S S S S S S S S S | R-Rain S-Snow As p a a ntification (Cultur R-Rain S-Snow) As p a a ntification (QPCR ater R-Rain S-Snow) | ind State apply) and State Exam D Fun Colony Holds Molds re) | ngi* Count (SIM) | lidway Ln, Suite B, Oak Ridge, TN 37830 trys Molds | | Inspector: Company Name: Assured Bio Labs AB Identifier: (for internal use only) | (000) 010-1700 | o.com General Chain of Custody RH | www.assuredbio.com Inside Outside | Assured Bio Labs, LLC 228 Midway Lane, Suite B Cak Ridge TN 37830 | |
|--|--|--|--|--|------------------|--|--|--|----------------|------------------------------------|-----------------------------------|---|--|
|--|--|--|--|--|------------------|--|--|--|----------------|------------------------------------|-----------------------------------|---|--|

Relinquished By: TUN-Date: 10-9-18

*Culture and PCR done at Assured bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab.

253

Floor

252

Floor

249

Floor

248

Floor

250

Floor

251

Floor

254

Floor

M

150 L

M

150 L

MT

150 L

MT

150 L

MT

150 L

M

150 L

M

150 L

257

Floor

256

Floor

MT

150 L

150 L

Z T

150 L

255

Floor

Time: Received By: AM Date: 10-10-17 Time: 9:00 Page 3 of 4

| Tominquisited by. | *Culture and P | | | | | | | | | | | | | MC | | 258 | Sample ID | Water Temperature: | Residiual Chlorine: | Sampling Time: | (805) | Phone: | Company Add | Inspector: | | assur | | |
|-------------------|--|-----------------------|------------|------------|-------------------------------------|-----------|---|--------------------|-----------|--|---|---|--|--|----------|---------------|----------------------|--------------------|-----------------------------|--|-----------------------------|--|-------------|-------------------------------------|------------------|--|--------------------|--|
| | CR done at Assured Bio | | | | | | | | | | | | | MORTH | | Floor | | | | Sa | (865) 813-1/00 | IN 077 | ress: | | 1 | assuredbio" (8 | W | 0 12 2 |
| | c Labs, sequencing sub | | | | | 1088 | | | | | | | 6 | | | | Description | SW - Swab | SP - Spore Trap | Sample Codes (SC) | | idway Ln | | | | into@assuredbio.com (865) 813-1700 | www.assuredbio.com | Assured Bio Labs, LLC 228 Midway Lane, Suite B Oak Ridge, TN 37830 |
| Date: [/ | contracted to ELIM Bio | | | | | | | | | | | | 0.16.10 | | | | | W - Water | l L - Tape Lift D - Dust | B - Bulk | E-mail: info@assuredbio.com | , Suite B |) : | Company Name: Assured Bio | | | | ite B |
| Time | **Please spec | | | | | | - | + | | | | | | M उ | <u> </u> | _ | SC Total | W - Wind | C - Clear R - Rain | Outside Cor | @assur | , Oak |) | ne: Assu | | Chain of | | |
| | ify other analysis | | | | | | | | | | | | | 300 L | 150 L | oranio or And | Total Volume or Area | O - Other | TS - Thunderstorm | nditions (Circle | edbio.co | Ridge, | | red Bio | | General Chain of Custody | | |
| Received By: | *Culture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab | | | | | | | | | | | | | | | Collinging | | | rstorm | Outside Conditions (Circle all that apply) | m | Phone: Co.S. Co. Ivildway Ln, Suite B, Oak Ridge, TN 37830 | 1000 | ahs | | | | |
| XX | ses may be sub | | | | | | | | | | | | | <u>₹</u> | < | - | | | Asp an | | chybo | | | AB | Collection Date: | | Project Number: | rroject Name: |
| _ | Contracte | $\exists \sqsubseteq$ | | <u></u> | | | | | | | | | ֓֞֞֞֞֞֞֓֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֓֡֡֝֡֡֡֝֡֡֡֝ | | | М | loldS | can ([| Direct | Exam |) | | | Identifier: (for internal use only) | Date: | | lumber | ame: |
| | d to Huffi | $\exists \vdash$ | ┧┝ | | | 닉 | L |] <u> </u> 1 - | | | | Ļ | | 4 | | ⊢ | | | nus ID | | | | | inter | 1-9-1 | | | Mol |
| _Date:_ | man Labs | jĖ |] [| - | 7 | \exists | F | | | = | | F | <u> </u> | = | | ⊢ | | | ecies I erial Co | _ | | | | nal use | ā | | | == |
| 10- | , Indoor E | | | <u>ַ</u> | | | | İĒ | ĪĒ | Ĵί | | | ֓֞֞֞֞֞֞֞֞֞֞֞֓֓֓֞֞֞֞֓֓֡֞֞֞֓֓֓֡֞֞֞֡֓֡֡֡ | Ji | | \vdash | - | _ | cies II | | _ | | | 황 | Tem | %RH | П | Morrill Hall |
| 81-01-01 | Siotechno | | ļĻ | | <u> </u> | 4 | | |] |][| | | ֓֞֝֟֝֓֓֓֓֓֓֟֝֝֓֓֓֓֓֓֓֓֓֓֓֓֡֟֝֓֡֡֡֡֝֡֡֡֝֡֡֡ | | | _ | RMI | | | | | | 5 | | Temperature | | | |
| 1 | logies, El | | | | - - | = | | H | |] [] [| 4 | |] <u> </u> 7 | <u> </u> | 4 | | _ | _ | oor M ulture | | SIM) | - | 0 | 1 | | | | |
| Time: 2: | AS, SGS | | ĬĒ | jĖ | ֓֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֞֓֡֞֞֡֡ | | | | | ֓֟֟֓֓֓֓֓֟֟֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓ | | |] | | ᆌ | | | lla (ql | | | | - 1 | S S | | | | Inside | |
| 8 | Galson, c | | |][|] [| | | | | ֓֟֝֟֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓ | | | | ֓֞֞֞֓֞֞֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֝֓֡֓֓֡֝֡֡֡֡֝ | | FH, | A/VA | Wate | r Test | | | | (N) | | | ľ | e | |
| Page 4 of 4 | Ir Ward La | |] |] [] [|] [] [| | 닉 | | |] [] [| 4 | | |][| - | _ | - | /E. cc | oli Tes | t (+/-) | | _ | L | | | 9 | 9 | |
| *** | | J L | J <u>L</u> | J L_ | J L | [| | | L | J L | | L | L | ╛ | -1 | ∪th | er:** | | | | | | | | | a de la constante de la consta | Outeide | |

Big 2 Panel

PenAsp¹ and Stach² Assays

228 Midway Lane, Suite B Oak Ridge, Tennessee 37830 Toll Free: (866) 547-1727 Local: (865) 813-1700 Fax: (865) 813-1705

Fax: (865) 813-1705 Email: info@assuredbio.com www.assuredbio.com



REVIEWED

By Joshua Birkebak, Ph.D. at 10:20 am, Oct 12, 2018

| Inspector: | Dylan Graves | Date Collected: | 10/5/2018 |
|-------------------------|--------------|-----------------|------------|
| Project Name: | Orange Hall | Date Received: | 10/8/2018 |
| Project Number: | | Date Reported: | 10/11/2018 |
| Assured Bio Identifier: | DG100818-6 | Analyst(s): | M. Reed |

Selected References

Haugland, R. A., S. J. Vesper and L. J. Wymer. 1999. Quantitative measurement of *Stachybotrys chartarum* conidia using real-time detection of PCR products with the TagManTM fluorogenic probe system. Molecular and Cellular Probes 13:329-340.

Meklin, T. M., R. A. Haugland, T. Reponen, M. Varma, Z. Lummus, D. Bernstein, L. J. Wymer and S. J. Vesper. 2004. Quantitative PCR analysis of house dust can reveal abnormal mold conditions. Journal of Environmental Monitoring 6:615-620.

Vesper, S. J. 2006. Developing the EPA Relative Moldiness Index® based on mold-specific quantitative PCR. The Synergist April 2006:39-43.

Vesper, S. J., C. McKinstry, C. Yang, R. A. Haugland, C. M. Kercsmar, I. Yike, M. D. Schluchter, H. L. Kirchner, J. Sobolewski, T. M. Alltan and D. G. Dearborn. 2006. Specific molds associated with asthma in water-damaged homes. Journal of Occupational and Environmental Medicine 48:852-858.

Vesper, S., C. McKinstry, P. Ashley, R. Haughland, K. Yeatts, K. Bradhan and E. Svendsen. 2007. Quantitative PCR analysis of molds in the dust from homes of asthmatic children in North Carolina. Journal of Environmental Monitoring 9:826-830.

Accreditation

Assured Bio Labs, LLC is accredited by the American Industrial Hygiene Association Laboratory Accreditation Programs, LLC (AIHA-LAP, LLC; Lab ID # 183867) in the Environmental Microbiology accreditation program for "qPCR - Mold Specific qPCR" Fields of Testing as documented by the Scope of Accreditation Certificate and associated Scope. AIHA-LAP, LLC accreditation complies with the ISO/IEC Standard 17025:2005 requirements, but this does not imply ISO certification or registration."

Limitations

ASSURED BIO LABS, LLC MAKES NO WARRANTIES AND EXPRESSLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PURPOSE. INSPECTOR ACKNOWLEDGES THAT ASSURED BIO LABS, LLC HAS NOT INSPECTED THE SUBJECT PROPERTY AND THAT THE INSPECTOR IS SOLELY RESPONSIBLE FOR CHOOSING THE LOCATION OF SAMPLE COLLECTION. ASSURED BIO LABS, LLC SHALL NOT BE LIABLE TO INSPECTOR FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES OF ANY KIND OR NATURE, INCLUDING, WITHOUT LIMITATION, ANY DAMAGES TO PROPERTY OR PERSONAL INJURY WHETHER SUCH LIABILITY IS ASSERTED ON THE BASIS OF CONTRACT, TORT, OR OTHERWISE, EVEN IF ASSURED BIO LABS, LLC HAS BEEN WARNED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGE. UNDER NO CIRCUMSTANCES SHALL ASSURED BIO LABS, LLC BE LIABLE FOR DAMAGES UNDER OR ARISING OUT OF THIS REPORT IN AN AMOUNT EXCEEDING THE AMOUNT PAID BY THE INSPECTOR TO ASSURED BIO LABS, LLC FOR THIS ANALYSIS AND REPORT. THIS REPORT IS FOR THE SOLE USE OF THE INSPECTOR AND CREATES NO THIRD PARTY BENEFICIARIES OR RIGHTS HEREUNDER.

Methods of Analysis

Assured Bio Labs uses the following methods for the MSQPCR analysis: CD 23: Data Reporting for MSQPCR Testing, CD 143: Preparation, Processing, and Analysis of MSQPCR Samples, CD 225: Bead Based DNA Extraction

Notes

¹The PenAsp assay detects species of the genera *Aspergillus, Penicillium,* and *Paecilomyces variotii.*²The Stach assay detects *Stachybotrys chartarum* also commonly referred to as "toxic black mold."

Reporting Limits

Method Detection Limit (MDL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The minimum concentration of an analyte that, in a given matrix and with a specific method, has a 99 percent probability of being identified, qualitatively or quantitatively measured, and reported to be greater than zero."

Reporting Limit (RL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The lowest concentration of analyte in a sample that can be reported with a defined, reproducible level of certainty."

Values less than one will be rounded up to one per reported unit.

Method Detection Limits (in Spores)

Stac - 0.1624, PenAsp - 0.2161

Reporting Limit Calculations

Unless otherwise stated in comments, the following equations are used to calculate the reporting limit per sample: Dust RL – MDL/5 mg Swab RL – MDL/1 swab, Unconcentrated Liquid RL – MDL/0.1 ml, Concentrated Liquid RL – MDL/ml filtered, MTrap RL – MDL \times (1000/L sampled)

Assured Bio Identifier: OC Sample Condition: Intact OC Sample ID: Sample Type: Mtrap Sample Description: Outside Control Sample Volume: 300 L Spores/Cubic Meter <u>Assay</u> PenAsp: 12 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: Sample Condition: DG100818-6-1 Intact Sample ID: Sample Type: 259 Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 7 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-6-2 Sample Condition: Intact Sample ID: Sample Type: 260 Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** PenAsp: 24 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: DG100818-6-3 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 18 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG100818-6-4 Sample Condition: Intact Sample ID: 262 Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 36 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-6-5 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 6 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-6-6 Sample Condition: Intact Sample ID: 264 Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-6-7 Sample Condition: Intact Sample ID: 265 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 12 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG100818-6-8 Sample Condition: Intact Sample ID: Sample Type: 266 Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 3 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-6-9 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. DG100818-6-10 Assured Bio Identifier: Sample Condition: Intact Sample ID: 268 Sample Type: Mtrap Sample Description: Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 50 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-6-11 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 7 PenAsp: Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG100818-6-12 Sample Condition: Intact Sample ID: 270 Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-6-13 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 26 Stach: **Below Detectable Limits** Comments: None. DG100818-6-14 Assured Bio Identifier: Sample Condition: Intact Sample ID: 272 Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 1 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-6-15 Sample Condition: Intact Sample ID: 273 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 29 PenAsp: Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG100818-6-16 Sample Condition: Intact Sample ID: 274 Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 13 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: Sample Condition: DG100818-6-17 Intact Sample ID: Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: 1 Stach: **Below Detectable Limits** Comments: DG100818-6-18 Assured Bio Identifier: Sample Condition: Intact Sample ID: 276 Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-6-19 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 2 PenAsp: Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG100818-6-20 Sample Condition: Intact Sample ID: 278 Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 15 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-6-21 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter **Assay** PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: Assured Bio Identifier: DG100818-6-22 Sample Condition: Intact Sample ID: 280 Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 16 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG100818-6-23 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 61 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: DG100818-6-24

Sample ID:

282

Sample Description:

- Room

<u>Assay</u>

Spores/Cubic Meter

Sample Type:

Sample Volume:

Sample Condition: Intact

Mtrap

150 L

PenAsp:

25

Stach:

Below Detectable Limits

Comments: None.

Relinquished By: 269 268 267 266 *Culture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab. 265 264 263 Nater Temperature: Phone: (865) 813-1700 Residiual Chlorine: company Address: 228 Midway Ln, Suite B, Oak Ridge, TN 37830 262 Sampling Time: For Water Tests 261 Sample ID 260 259 Inspector: assuredbio" Floor Floor Floo Floo Floc Flo Flo Flo Flo I IJ П Illan Gaves SP - Spore Trap MT - M-TRAP® Sample Codes (SC) (865) 813-1700 info@assuredbio.com Assured Bio Labs, LLC 228 Midway Lane, Suite B www.assuredbio.com Oak Ridge, TN 37830 W - Water B - Bulk D - Dust E-mail: info@assuredbio.com TL - Tape Lift |Company Name: Assured Bio Labs General Chain of Custody ≤ĭ **≥** M **≥** W - Wind R - Rain C - Clear Outside Conditions (Circle all that apply) 150 L 150 L 150 L Total Volume or Area 150 L 0 - Other S - Snow TS - Thunderstorm Received By: (> | MC Comments Big 2 (Pen/Asp and Stachybotrys) AB Identifier: (for internal use only) Collection Date: Project Number: Project Name: Species Identification of Airborne Molds MoldScan (Direct Exam) ViaScan Genus ID Fungi Orange Hall ViaScan Species ID Fungi* ViaScan Bacterial Colony Count ViaScan Species ID Bacteria* Temperature %RH **ERMI** Survey of Indoor Molds (SIM) Legionella (Culture) Legionella (qPCR) Inside FHA/VA Water Test 00 Coliform/E. coli Test (+/-) 1 G Outside Other:**

8)-8.01 Time: .. 7:00 Page1 of 2

Date:

| Relinquished By: Date: 10-5-18 Time: Received By: (5-10-5-18) | *Culture and PCR done at Assured Bio Labs, sequencing sub- | | Floor | Ro | R | Floo | RD 2 | 70 /2 | עס | ט : | 73 | 271 Flo - R | | Trap D - Dust | Sample Codes (SC) B - Bulk MT - M-TRAP® |) 813-1700 | fidway Ln, s | L | (200) 013-1700 | o.com io.com | Assured Bio Labs, LLC 228 Midway Lane, Suite B Oak Ridge, TN 37830 www.assuredbio. |
|--|--|-------|-------|---------|---------|-------|----------|----------|----------------------|-----|---------------------------------|---|--|---|--|---------------|--------------------|---|-----------------------------------|-----------------|--|
| ase specify other analysis. Some nonstandard analyses may Time: Received By: | 150 L | 150 L | 150 L | T 150 L | T 150 L | 150 L | MT 150 L | MT 150 L | MT 150 L Humid in Rm | | MT 150 L Humid in Hallway + Am | Total Volume or Area Comments | 0 - Other | | that apply) | Passiredhio o | Oak Ridge TN 27020 | Company Name: Assured Bio Labs | General Chain of Custody | | |
| be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab. Date: O 5 - (Time: Page 2 of 2 | | | | | | | | | | | V V V Su Leç FH/ | Species MoldSc MoldSc ViaScan ViaScan iaScan RMI rvey of gionella tionella AVVA W form/E. | Identifii an (Di | cation o rect Ex. us ID Fu ies ID F ies ID B i r Molds ure) | ungi* y Count acteria* | e Mold | D6 (008 18-6 | AB Identifier: (for internal line Temperature | Collection Date: %RH Inside Outsi | iall | Project Name: Orange Hall |

Big 2 Panel

PenAsp¹ and Stach² Assays

228 Midway Lane, Suite B
Oak Ridge, Tennessee 37830
Toll Free: (866) 547-1727
Local: (865) 813-1700
Fax: (865) 813-1705
Email: info@assuredbio.com

www.assuredbio.com



REVIEWED

By Joshua Birkebak, Ph.D. at 4:39 pm, Oct 12, 2018

| Inspector: | Shawn McClurg | Date Collected: | 10/4/2018 |
|-------------------------|---------------|-----------------|------------|
| Project Name: | Reese Hall | Date Received: | 10/8/2018 |
| Project Number: | | Date Reported: | 10/12/2018 |
| Assured Bio Identifier: | SM100818-5 | Analyst(s): | M. Reed |

Selected References

Haugland, R. A., S. J. Vesper and L. J. Wymer. 1999. Quantitative measurement of *Stachybotrys chartarum* conidia using real-time detection of PCR products with the TaqManTM fluorogenic probe system. Molecular and Cellular Probes 13:329-340.

Meklin, T. M., R. A. Haugland, T. Reponen, M. Varma, Z. Lummus, D. Bernstein, L. J. Wymer and S. J. Vesper. 2004. Quantitative PCR analysis of house dust can reveal abnormal mold conditions. Journal of Environmental Monitoring 6:615-620.

Vesper, S. J. 2006. Developing the EPA Relative Moldiness Index© based on mold-specific quantitative PCR. The Synergist April 2006:39-43.

Vesper, S. J., C. McKinstry, C. Yang, R. A. Haugland, C. M. Kercsmar, I. Yike, M. D. Schluchter, H. L. Kirchner, J. Sobolewski, T. M. Alltan and D. G. Dearborn. 2006. Specific molds associated with asthma in water-damaged homes. Journal of Occupational and Environmental Medicine 48:852-858.

Vesper, S., C. McKinstry, P. Ashley, R. Haughland, K. Yeatts, K. Bradhan and E. Svendsen. 2007. Quantitative PCR analysis of molds in the dust from homes of asthmatic children in North Carolina. Journal of Environmental Monitoring 9:826-830.

Accreditation

Assured Bio Labs, LLC is accredited by the American Industrial Hygiene Association Laboratory Accreditation Programs, LLC (AIHA-LAP, LLC; Lab ID # 183867) in the Environmental Microbiology accreditation program for "qPCR - Mold Specific qPCR" Fields of Testing as documented by the Scope of Accreditation Certificate and associated Scope. AIHA-LAP, LLC accreditation complies with the ISO/IEC Standard 17025:2005 requirements, but this does not imply ISO certification or registration."

Limitations

ASSURED BIO LABS, LLC MAKES NO WARRANTIES AND EXPRESSLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PURPOSE. INSPECTOR ACKNOWLEDGES THAT ASSURED BIO LABS, LLC HAS NOT INSPECTED THE SUBJECT PROPERTY AND THAT THE INSPECTOR IS SOLELY RESPONSIBLE FOR CHOOSING THE LOCATION OF SAMPLE COLLECTION. ASSURED BIO LABS, LLC SHALL NOT BE LIABLE TO INSPECTOR FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES OF ANY KIND OR NATURE, INCLUDING, WITHOUT LIMITATION, ANY DAMAGES TO PROPERTY OR PERSONAL INJURY WHETHER SUCH LIABILITY IS ASSERTED ON THE BASIS OF CONTRACT, TORT, OR OTHERWISE, EVEN IF ASSURED BIO LABS, LLC HAS BEEN WARNED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGE. UNDER NO CIRCUMSTANCES SHALL ASSURED BIO LABS, LLC BE LIABLE FOR DAMAGES UNDER OR ARISING OUT OF THIS REPORT IN AN AMOUNT EXCEEDING THE AMOUNT PAID BY THE INSPECTOR TO ASSURED BIO LABS, LLC FOR THIS ANALYSIS AND REPORT. THIS REPORT IS FOR THE SOLE USE OF THE INSPECTOR AND CREATES NO THIRD PARTY BENEFICIARIES OR RIGHTS HEREUNDER.

Methods of Analysis

Assured Bio Labs uses the following methods for the MSQPCR analysis: CD 23: Data Reporting for MSQPCR Testing, CD 143: Preparation, Processing, and Analysis of MSQPCR Samples, CD 225: Bead Based DNA Extraction

Notes

¹The PenAsp assay detects species of the genera Aspergillus, Penicillium, and Paecilomyces variotii.

²The Stach assay detects Stachybotrys chartarum also commonly referred to as "toxic black mold."

Reporting Limits

Method Detection Limit (MDL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The minimum concentration of an analyte that, in a given matrix and with a specific method, has a 99 percent probability of being identified, qualitatively or quantitatively measured, and reported to be greater than zero."

Reporting Limit (RL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The lowest concentration of analyte in a sample that can be reported with a defined, reproducible level of certainty."

Values less than one will be rounded up to one per reported unit.

Method Detection Limits (in Spores)

Stac - 0.1624, PenAsp - 0.2161

Reporting Limit Calculations

Unless otherwise stated in comments, the following equations are used to calculate the reporting limit per sample: Dust RL - MDL/5 mg Swab RL - MDL/1 swab, Unconcentrated Liquid RL - MDL/0.1 ml, Concentrated Liquid RL - MDL/ml filtered, MTrap RL - MDL \times (1000/L sampled)

RC Assured Bio Identifier: Sample Condition: Intact RC Sample ID: Sample Type: Mtrap Reese Control **Sample Description:** Sample Volume: 300 L Spores/Cubic Meter **Assay** PenAsp: 95 Stach: **Below Detectable Limits** Comments: None. Sample Condition: Assured Bio Identifier: SM100818-5-1 Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter** <u>Assay</u> PenAsp: 1 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM100818-5-2 Sample Condition: Intact Sample ID: 284 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter** <u>Assay</u> 30 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: Sample Condition: SM100818-5-3 Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter** <u>Assay</u> PenAsp: **Below Detectable Limits**

Comments:

Below Detectable Limits

Stach:

None.

Assured Bio Identifier: SM100818-5-4 Sample Condition: Intact 286 Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 13 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM100818-5-5 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Room **Spores/Cubic Meter** <u>Assay</u> PenAsp: 30 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: SM100818-5-6 Sample Condition: Intact Sample ID: 288 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** PenAsp: 17 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: SM100818-5-7 Sample Condition: Intact Sample ID: 289 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** PenAsp: 15 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: SM100818-5-8 Sample Condition: Intact 290 Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM100818-5-9 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter** <u>Assay</u> PenAsp: 8 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM100818-5-10 Sample Condition: Intact Sample ID: 292 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** PenAsp: 64 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: SM100818-5-11 Sample Condition: Intact Sample ID: 293 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Room Spores/Cubic Meter **Assay** PenAsp: 14 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: SM100818-5-12 Sample Condition: Intact 294 Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 70 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM100818-5-13 Sample Condition: Intact Sample ID: Sample Type: 295 Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter** <u>Assay</u> PenAsp: 18 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM100818-5-14 Sample Condition: Intact Sample ID: 296 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Room Spores/Cubic Meter **Assay** PenAsp: 31 **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: SM100818-5-15 Sample Condition: Intact Sample ID: 297 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter Assay** PenAsp: 12 Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: SM100818-5-16 Sample Condition: Intact 298 Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 20 Stach: **Below Detectable Limits** Comments: None. Sample Condition: Assured Bio Identifier: SM100818-5-17 Intact Sample ID: Sample Type: 299 Mtrap **Sample Description:** Sample Volume: 150 L - Room **Spores/Cubic Meter** <u>Assay</u> PenAsp: 22 Stach: 113 Comments: Assured Bio Identifier: SM100818-5-18 Sample Condition: Intact Sample ID: 300 Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L Room Spores/Cubic Meter **Assay** PenAsp: 1 Stach: 137 Comments: None. Assured Bio Identifier: SM100818-5-19 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: SM100818-5-20

Sample ID:

302

Sample Description:

- Room

Sample Condition: Intact Sample Type: Mtrap Sample Volume: 150 L

Spores/Cubic Meter **Assay**

PenAsp: 35

Below Detectable Limits Stach:

Comments: None.

Assured Bio Identifier: SM100818-5-21

Sample ID:

303

Sample Description:

- Room

Sample Condition: Sample Type: Mtrap Sample Volume: 150 L

Intact

Spores/Cubic Meter Assay

PenAsp: 32

Stach: **Below Detectable Limits**

6

Assured Bio Labs, LLC 228 Midway Lane, Suite B Oak Ridge, TN 37830 www.assuredbio.com Project Name: Reese Hall **Project Number:** Inside Outside

| *Culture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may be subcontracted to Huffman Labs, Received By: Pate: Pate | 294 Floo | 293 Floo | 292 Floo | 291 Floo | 290 Floo | 289 Floo | 288 Floo | 287 Floo | 286 Floo | 285 | 284 | 283 | Sample ID Description | Water Temperature: SW - Swab | Residiual Chlorine: SP - Spore Trap | Sampling Time:MT - M-TRAP® | For Water Tests Sample Codes (SC) | Phone: (865) 813-1700 | 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | Inspector: Shawn McClura | (000) 013-1700 | ASSI I'DO DO (SEE) 813 1700 |
|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------|-------|-------|-----------------------------|------------------------------|-------------------------------------|----------------------------|--|-----------------------------|---|--|-------------------------|-----------------------------|
| contracted to ELIM Bio. **Ple Date: 10 8.18 | TM | TM | MT | TMA | MT | TM | MT | MT | ТМ | TM | MT | TM | SC | W - Water W - Wind | D - Dust R - Rain | ₽Li# | B - Bulk Outsi | E-mail: info@assuredbio.com | Suite B, Oa | Company Name: A | | General Chain of Custody |
| Time: Francisco Some of Procession of Proces | 150 L | 150 L | 150 L | 150 L | Total Volume or Area | | | ear TS - Thunderstorm | Outside Conditions (Circle all that apply) | suredbio.com | ak Ridge, T | Company Name: Assured Bio Labs | | in of Custody |
| Received By: | | | | | | | | | | | - | | Comments | | | orm | Il that apply) | | TN 37830 | abs | | |
| ses may be subcontracted to Huffman Lab. | | | | | | | | | | | | | Spec Mole Vias | dScar Scan | entific n (Dir Genu Spec | rect lus ID | Exar Fur D Fu | n) ngi | Molds | AB Identifier: (for internal use only) | Collection Date: 0-4-18 | |
| bs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab | | | | | | | | | | | | | ViaS ERM Surv Legi | Scan : | Spec Indo | oor Multure | D Ba | s (SIM) | * | 818001 MS (vino | Temperature | |



| Assured Bio Labs, LLC | | | | | Project Name: | vame: | Z D | Reese | | H ₂ H | | | | | | |
|---|-------------------------|------------|--|-----------------------|--|-----------|----------|---------------|---------|------------------|----------|----------------|------------------|----------------|-----------|---|
| Oak Ridge, TN 37830 | Ċ | | | | Project Number: | lumbe | - | | | | | + | | Inside | 1 | Outside |
| info@assuredbio.com | | • | | | • | | | | .0 | %RH | | - | | | | |
| ASSU regiolo (865) 813-1700 | General C | hain | General Chain of Custody | | Collection Date: | Date | 2 | 20 | | Temperature | ature | \dashv | | | - | |
| Inspector: Shawn McClura | Company Name | :Ass | Company Name: Assured Bio Labs | | AB Identifier: (for internal use only) | ifier (f | or inte | ernal u | se on | 2 | > | | 3 | D | P | 2 |
| Company Address: 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | Suite B, | Oak | Ridge, Th | V 37830 | _ | \exists | | | | \dashv | <u> </u> | _ | -18 | | | |
| Phone: (865) 813-1700 | E-mail: info@ |)assu | E-mail: info@assuredbio.com | | achybol irborne | | gi | ıngi* | Count | acteria* | (011.4) | (SIM) | | | /-) | |
| For Water Tests Sample Codes (SC) | B - Bulk | utside (| Outside Conditions (Circle all that apply) | nat apply) | _ | |) Fun | ID Fu | olony | ID Ba | | | | _ | | |
| Sampling Time: MT - M-TRAP® | TL - Tape Lift C | C - Clear | TS - Thunderstorm | | | | us IE | cies | rial C | cies | | | | | - | |
| Residiual Chlorine: SP - Spore Trap | D - Dust | R - Rain | S - Snow | | _ | - | Gen | Spec | Bacte | Spec | | | | _ | | |
| Water Temperature:SW - Swab | W - Water V | W - Wind | O - Other | | - | dSca | Scan | Scan | Scan E | | | | ionell ionell | VVA V | form/ | er:** |
| Sample ID Description | | SC To | Total Volume or Area | Comments | - | _ | Via | Via | ViaS | 2 | ERN | | | | | Othe |
| 295 Floor | | MT | 150 L | | | Н | | | | | Ц | | | \blacksquare | \exists | |
| 296 Floo | | MT | 150 L | | | | | | | Щ | | | = | | | |
| 297 Floo | | TM | 150 L | | | | | | | | | Щ, | | | | |
| 298 Floo | | TM | 150 L | 1 | | | | | | Щ | Щ | | | | \exists | |
| 299 Floor | | TM | 150 L | | | | | | | Щ | | | | | | |
| 300 Floor | | TM | 150 L | | | | | | | Ц | | | _ | | \exists | |
| 301 Floor | Til. | TIM | 150 L | | | | | | | | | \blacksquare | ∦ | | \exists | |
| 302 Floor | 7 | MT | 150 L | | | | | | | | | | | | - | |
| 303 Floo | | TM | 150 L | | | | | | | | | | _ | | | |
| RC Reese Contral SMM | 30 | | | | | H | | | | Щ | | | | | П | |
| 814001 | 81. | | | | | | | | | Щ | | H | | | | |
| | | | | | | | | | | | | | | | \dashv | |
| *Culture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may be subcontracted to | bcontracted to ELIM Bio | . **Please | specify other analysis. So | me nonstandard analys | es may be | subcontr | acted to | Huffman Labs, | n Labs, | Indoor E | iotechn | ologies, | EMS, | SGS Ga | lson, or | Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab. |

Relinquished By:

Date:

Time:

Received By:

Date: 10 - 8 - 18 Time: 9 - 60 Pagg2of 2

Big 2 Panel

PenAsp¹ and Stach² Assays

228 Midway Lane, Suite B Oak Ridge, Tennessee 37830 Toll Free: (866) 547-1727 Local: (865) 813-1700 Fax: (865) 813-1705

Email: info@assuredbio.com www.assuredbio.com





REVIEWED

By Olga Khaliukova at 10:04 am, Oct 18, 2018

Inspector: Dylan Graves Date Collected: 10/16/2018

Project Name: Reese Hall - Retest Date Received: 10/16/2018

Project Number: 2 Date Reported: 10/18/2018

Assured Bio Identifier: DG101618-30 Analyst(s): M. Reed, S. McClurg

Selected References

Haugland, R. A., S. J. Vesper and L. J. Wymer. 1999. Quantitative measurement of *Stachybotrys chartarum* conidia using real-time detection of PCR products with the TaqManTM fluorogenic probe system. Molecular and Cellular Probes 13:329-340.

Meklin, T. M., R. A. Haugland, T. Reponen, M. Varma, Z. Lummus, D. Bernstein, L. J. Wymer and S. J. Vesper. 2004. Quantitative PCR analysis of house dust can reveal abnormal mold conditions. Journal of Environmental Monitoring 6:615-620.

Vesper, S. J. 2006. Developing the EPA Relative Moldiness Index© based on mold-specific quantitative PCR. The Synergist April 2006:39-43.

Vesper, S. J., C. McKinstry, C. Yang, R. A. Haugland, C. M. Kercsmar, I. Yike, M. D. Schluchter, H. L. Kirchner, J. Sobolewski, T. M. Alltan and D. G. Dearborn. 2006. Specific molds associated with asthma in water-damaged homes. Journal of Occupational and Environmental Medicine 48:852-858.

Vesper, S., C. McKinstry, P. Ashley, R. Haughland, K. Yeatts, K. Bradhan and E. Svendsen. 2007. Quantitative PCR analysis of molds in the dust from homes of asthmatic children in North Carolina. Journal of Environmental Monitoring 9:826-830.

Accreditation

Assured Bio Labs, LLC is accredited by the American Industrial Hygiene Association Laboratory Accreditation Programs, LLC (AIHA-LAP, LLC; Lab ID # 183867) in the Environmental Microbiology accreditation program for "qPCR - Mold Specific qPCR" Fields of Testing as documented by the Scope of Accreditation Certificate and associated Scope. AIHA-LAP, LLC accreditation complies with the ISO/IEC Standard 17025:2005 requirements, but this does not imply ISO certification or registration."

<u>Limitations</u>

ASSURED BIO LABS, LLC MAKES NO WARRANTIES AND EXPRESSLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PURPOSE. INSPECTOR ACKNOWLEDGES THAT ASSURED BIO LABS, LLC HAS NOT INSPECTED THE SUBJECT PROPERTY AND THAT THE INSPECTOR IS SOLELY RESPONSIBLE FOR CHOOSING THE LOCATION OF SAMPLE COLLECTION. ASSURED BIO LABS, LLC SHALL NOT BE LIABLE TO INSPECTOR FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES OF ANY KIND OR NATURE, INCLUDING, WITHOUT LIMITATION, ANY DAMAGES TO PROPERTY OR PERSONAL INJURY WHETHER SUCH LIABILITY IS ASSERTED ON THE BASIS OF CONTRACT, TORT, OR OTHERWISE, EVEN IF ASSURED BIO LABS, LLC HAS BEEN WARNED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGE. UNDER NO CIRCUMSTANCES SHALL ASSURED BIO LABS, LLC BE LIABLE FOR DAMAGES UNDER OR ARISING OUT OF THIS REPORT IN AN AMOUNT EXCEEDING THE AMOUNT PAID BY THE INSPECTOR TO ASSURED BIO LABS, LLC FOR THIS ANALYSIS AND REPORT. THIS REPORT IS FOR THE SOLE USE OF THE INSPECTOR AND CREATES NO THIRD PARTY BENEFICIARIES OR RIGHTS HEREUNDER.

Methods of Analysis

Assured Bio Labs uses the following methods for the MSQPCR analysis: CD 23: Data Reporting for MSQPCR Testing, CD 143: Preparation, Processing, and Analysis of MSQPCR Samples, CD 225: Bead Based DNA Extraction

Notes

¹The PenAsp assay detects species of the genera Aspergillus, Penicillium, and Paecilomyces variotii.

²The Stach assay detects *Stachybotrys chartarum* also commonly referred to as "toxic black mold."

Reporting Limits

Method Detection Limit (MDL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The minimum concentration of an analyte that, in a given matrix and with a specific method, has a 99 percent probability of being identified, qualitatively or quantitatively measured, and reported to be greater than zero."

Reporting Limit (RL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The lowest concentration of analyte in a sample that can be reported with a defined, reproducible level of certainty."

Values less than one will be rounded up to one per reported unit.

Method Detection Limits (in Spores)

Stac - 0.1624, PenAsp - 0.2161

Reporting Limit Calculations

Unless otherwise stated in comments, the following equations are used to calculate the reporting limit per sample: Dust RL - MDL/5 mg Swab RL - MDL/1 swab, Unconcentrated Liquid RL - MDL/0.1 ml, Concentrated Liquid RL - MDL/ml filtered, MTrap RL - MDL × (1000/L sampled)

Big Two Assays PenAsp and Stach



| Assured Bio Identifier: | DG101618-30-1 | Sample Condition: | Intact |
|-------------------------|---------------|-------------------|--------|
| Sample ID: | 1 | Sample Type: | Swab |

Sample ID:1Sample Type:SwabSample Description:Composite DustSample Unit:1 Swab

<u>Assay</u> <u>Cells/Swab</u>

PenAsp: 304

Stach: Below Detectable Limits

Comments:

Assured Bio Identifier: DG101618-30-2 Sample Condition: Intact

Sample ID: 2 Sample Type: mTrap

Sample Description: - mTrap Air Sample Unit: 150 L

Assay Spores/m³

PenAsp: 38

Stach: Below Detectable Limits

Comments:

Assured Bio Identifier: DG101618-30-4 Sample Condition: Intact

Sample ID:4Sample Type:SwabSample Description:Inside HVAC Comp.Sample Unit:1 Swab

<u>Assay</u> <u>Cells/Swab</u>

PenAsp: 941,677

Stach: Below Detectable Limits

Big Two Assays PenAsp and Stach

Intact



Assured Bio Identifier:DG101618-30-6Sample Condition:Sample ID:6Sample Type:

Sample ID: 6 Sample Type: Swab
Sample Description: - Composite Dust Sample Unit: 1 Swab

Assay Cells/Swab

PenAsp: 174

Stach: Below Detectable Limits

Comments:

Assured Bio Identifier: DG101618-30-7 Sample Condition: Intact

Sample ID: 7 Sample Type: mTrap

Sample Description: - mTrap Air Sample Unit: 150 L

Assay Spores/m³

PenAsp: 38

Stach: Below Detectable Limits

Comments:

Assured Bio Identifier: DG101618-30-9 Sample Condition: Intact

Sample ID:9Sample Type:SwabSample Description:- Inside HVAC Comp.Sample Unit:1 Swab

Assay Cells/Swab

PenAsp: 1,043,421

Stach: Below Detectable Limits

Project Name:

| 3 | Assured Bio Labs, LLC 228 Midway Lane, Suite B | | | | | | | T | dese | | 2 | i | ではず | 439 | | | |
|------------------------------|---|------------------|--------------|---------------------------|-------------------------|--------------------|-----------------------------------|------------|----------|----------------|-------------|------------|------------|-------------------|---------|---|-----|
| | Oak Ridge, TN 37830 | | | | | Project Number: | Numb | * | | | | I | Н | Inside | | Outside | |
| | www.assuredbio.com info@assuredbio.com |) | | | | | | 0 | 7 | % | %RH | | | | | | |
| assuredbio | (865) 813-1700 | General | Chain | General Chain of Custody | | Collection Date: | n Date: | 1-0 | 7-16-19 | | Temperature | ture | | | | | |
| Inspector: Whan Graves | | Company Name: | | Issured Bio | lerbs | AB Iden | entifier: (for internal use only) | for int | ernal u | se onl | | DG101618- | 819 | 30 | | | 15 |
| | | | - | | | - | IVIOIUS | | | - | | \dashv | | \exists | | \dashv | - 1 |
| Phone: | | E-mail: | | | | achybo Airborne | | | ungi* | y Count | acteria | s (SIM) | (, | | | H-) ——— | |
| For Water Tests | (SC) | B - Bulk | Outside | Condi | that apply) | | ct Exa | ID Fu | s ID F | | s ID B | r Mold | | R) | Test | Test (| |
| Residiual Chlorine: | SP - Spore Trap | D - Dust | R - Rain | S - Snow | orm | | | | Specie | | pecie | | _ | ı (qPC | /ater | coli | |
| Water Temperature: | | W - Water | W - Wind | | | _ | | | Scan S | | | | onella | onella | VVA V | form/l er:** | |
| Sample ID | Description | | SC 1 | Total Volume or Area | Comments | - | - | - | Via | | _ | ERN Sun | _ | Leg | FH/ | _ | |
| _ | - Composite | Dust- | WS | | } | N N | | | | | Щ | 님 | H | П | | | |
| حو | m Trap A. | | 95 | 8 | 59591 | X | 님 | H | | | H | | H | | | | |
| W | - Air | | 95 | 25 | 2339171 | | 40 | | | | | | П | | | | |
| 4 | Insid HVAC | Comp | MS | | | X | | | | | | H | H | Ħ | | | |
| 5 | Inside Sin | C Wall | 36 | 0 | 2234 [72 | P | H | | | | | | H | H | | | |
| 6 | (omposite (|)nst | × | | 1 | × | H | | | | Ц | 님 | H | Ħ | | | |
| 7 | m low Ar | | 3 | 150 | 16867 | X | a | H | | | Ц | 님 | H | | | | |
| 00 | 1:6 | | SP | 25 | 2339131 | | | | | | Щ | | H | П | | | |
| א | Tring HVAC | Com | My | | 1 | X | | | | | 닏 | 님 | H | Ħ | | | |
| 10 | In side Sink | Wa [] | 50 | 0 | 2339151 | | | | | | Ц | H | H | Ħ | | | |
| 11 Owldow | (Combro) | | 9 | 25 | 2339132 | | | | | | | | | H | | | |
| | | | | | | | 님 | H | i | | Ц | Н | H | | | | |
| *Culture and PCR done at Ass | *Culture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may | ntracted to ELIM | 3io. **Pleas | se specify other analysis | . Some nonstandard anal | /ses may b | e subco | ntracted t | o Huffma | ın Labs, | Indoor E | iotechno | ologies, I | ems, sg | S Galso | y be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab. | |
| Relinquished By: | | Date: 10-1 | 10-16-18 | Time: | Received By: Huter | total | Vadall | | | Date: 10/16/18 | 0/16 | 18 | | Time: 3: 10pmPage | 10pm | Page of _ | |

Big 2 Panel

PenAsp¹ and Stach² Assays

228 Midway Lane, Suite B Oak Ridge, Tennessee 37830 Toll Free: (866) 547-1727 Local: (865) 813-1700 Fax: (865) 813-1705

Fax: (865) 813-1705
Email: info@assuredbio.com
www.assuredbio.com



REVIEWED

By Olga Khaliukova at 1:18 pm, Oct 17, 2018

| Inspector: | Hunter Woodall | Date Collected: | 10/9/2018 |
|-------------------------|----------------|-----------------|---------------------|
| Project Name: | Stokely Hall | Date Received: | 10/10/2018 |
| Project Number: | | Date Reported: | 10/17/2018 |
| Assured Bio Identifier: | SM101018-2 | Analyst(s): | M. Reed, S. McClurg |

Selected References

Haugland, R. A., S. J. Vesper and L. J. Wymer. 1999. Quantitative measurement of *Stachybotrys chartarum* conidia using real-time detection of PCR products with the TaqManTM fluorogenic probe system. Molecular and Cellular Probes 13:329-340.

Meklin, T. M., R. A. Haugland, T. Reponen, M. Varma, Z. Lummus, D. Bernstein, L. J. Wymer and S. J. Vesper. 2004. Quantitative PCR analysis of house dust can reveal abnormal mold conditions. Journal of Environmental Monitoring 6:615-620.

Vesper, S. J. 2006. Developing the EPA Relative Moldiness Index© based on mold-specific quantitative PCR. The Synergist April 2006:39-43.

Vesper, S. J., C. McKinstry, C. Yang, R. A. Haugland, C. M. Kercsmar, I. Yike, M. D. Schluchter, H. L. Kirchner, J. Sobolewski, T. M. Alltan and D. G. Dearborn. 2006. Specific molds associated with asthma in water-damaged homes. Journal of Occupational and Environmental Medicine 48:852-858.

Vesper, S., C. McKinstry, P. Ashley, R. Haughland, K. Yeatts, K. Bradhan and E. Svendsen. 2007. Quantitative PCR analysis of molds in the dust from homes of asthmatic children in North Carolina. Journal of Environmental Monitoring 9:826-830.

Accreditation

Assured Bio Labs, LLC is accredited by the American Industrial Hygiene Association Laboratory Accreditation Programs, LLC (AIHA-LAP, LLC; Lab ID # 183867) in the Environmental Microbiology accreditation program for "qPCR - Mold Specific qPCR" Fields of Testing as documented by the Scope of Accreditation Certificate and associated Scope. AIHA-LAP, LLC accreditation complies with the ISO/IEC Standard 17025:2005 requirements, but this does not imply ISO certification or registration."

Limitations

ASSURED BIO LABS, LLC MAKES NO WARRANTIES AND EXPRESSLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PURPOSE. INSPECTOR ACKNOWLEDGES THAT ASSURED BIO LABS, LLC HAS NOT INSPECTED THE SUBJECT PROPERTY AND THAT THE INSPECTOR IS SOLELY RESPONSIBLE FOR CHOOSING THE LOCATION OF SAMPLE COLLECTION. ASSURED BIO LABS, LLC SHALL NOT BE LIABLE TO INSPECTOR FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES OF ANY KIND OR NATURE, INCLUDING, WITHOUT LIMITATION, ANY DAMAGES TO PROPERTY OR PERSONAL INJURY WHETHER SUCH LIABILITY IS ASSERTED ON THE BASIS OF CONTRACT, TORT, OR OTHERWISE, EVEN IF ASSURED BIO LABS, LLC HAS BEEN WARNED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGE. UNDER NO CIRCUMSTANCES SHALL ASSURED BIO LABS, LLC BE LIABLE FOR DAMAGES UNDER OR ARISING OUT OF THIS REPORT IN AN AMOUNT EXCEEDING THE AMOUNT PAID BY THE INSPECTOR TO ASSURED BIO LABS, LLC FOR THIS ANALYSIS AND REPORT. THIS REPORT IS FOR THE SOLE USE OF THE INSPECTOR AND CREATES NO THIRD PARTY BENEFICIARIES OR RIGHTS HEREUNDER.

Methods of Analysis

Assured Bio Labs uses the following methods for the MSQPCR analysis: CD 23: Data Reporting for MSQPCR Testing, CD 143: Preparation, Processing, and Analysis of MSQPCR Samples, CD 225: Bead Based DNA Extraction

Notes

¹The PenAsp assay detects species of the genera Aspergillus, Penicillium, and Paecilomyces variotii.

²The Stach assay detects *Stachybotrys chartarum* also commonly referred to as "toxic black mold."

Reporting Limits

Method Detection Limit (MDL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The minimum concentration of an analyte that, in a given matrix and with a specific method, has a 99 percent probability of being identified, qualitatively or quantitatively measured, and reported to be greater than zero."

Reporting Limit (RL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The lowest concentration of analyte in a sample that can be reported with a defined, reproducible level of certainty."

Values less than one will be rounded up to one per reported unit.

Method Detection Limits (in Spores)

Stac - 0.1624, PenAsp - 0.2161

Reporting Limit Calculations

Unless otherwise stated in comments, the following equations are used to calculate the reporting limit per sample: Dust RL - MDL/5 mg Swab RL - MDL/1 swab, Unconcentrated Liquid RL - MDL/0.1 ml, Concentrated Liquid RL - MDL/ml filtered, MTrap RL - MDL × (1000/L sampled)

Assured Bio Identifier: SC Sample Condition: Intact Sample ID: SC Sample Type: Mtrap Sample Description: Stokely Control Sample Volume: 300 L <u>Assay</u> Spores/Cubic Meter 25 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-1 Sample Condition: Sample ID: 304 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 24 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-2 Sample Condition: Intact Sample ID: 305 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** PenAsp: 11 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-3 Sample Condition: Intact Sample ID: 306 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** 1 PenAsp: **Below Detectable Limits** Stach:

None.

SM101018-2-4 Assured Bio Identifier: Sample Condition: Intact Sample ID: 307 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> 13 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-5 Sample Condition: Intact Sample ID: 308 Sample Type: Mtrap Sample Volume: 150 L Sample Description: - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 23 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-6 Sample Condition: Intact Sample ID: Sample Type: Mtrap **Sample Description:** - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> **Below Detectable Limits** PenAsp: **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: SM101018-2-7 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L Room Spores/Cubic Meter <u>Assay</u> PenAsp: 79 Stach: **Below Detectable Limits**

None.

SM101018-2-8 Assured Bio Identifier: Sample Condition: Intact Sample ID: 311 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-9 Sample Condition: Intact Sample ID: 312 Sample Type: Mtrap Sample Description: Sample Volume: 150 L Room Spores/Cubic Meter <u>Assay</u> PenAsp: 40 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-10 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> **Below Detectable Limits** PenAsp: **Below Detectable Limits** Stach: Comments: None. Assured Bio Identifier: SM101018-2-11 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 17 Stach: **Below Detectable Limits**

None.

SM101018-2-12 Assured Bio Identifier: Sample Condition: Intact Sample ID: 315 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 17 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-13 Sample Condition: Intact Sample ID: 316 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 1 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-14 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter PenAsp: 22 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-15 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 31 PenAsp: Stach: **Below Detectable Limits** Comments: None.

SM101018-2-16 Assured Bio Identifier: Sample Condition: Intact Sample ID: 319 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 16 Stach: Below Detectable Limits Comments: None. Assured Bio Identifier: SM101018-2-17 Sample Condition: Intact Sample ID: 320 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 17 PenAsp: Stach: **Below Detectable Limits** Comments: Assured Bio Identifier: SM101018-2-18 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter PenAsp: 11 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-19 Sample Condition: Intact Sample ID: 322 Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 4 PenAsp: Stach: **Below Detectable Limits** Comments: None.

SM101018-2-20 Assured Bio Identifier: Sample Condition: Intact Sample ID: 323 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 17 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-21 Sample Condition: Intact Sample ID: 324 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 34 PenAsp: Stach: **Below Detectable Limits** Comments: Assured Bio Identifier: SM101018-2-22 Sample Condition: Intact 325 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter PenAsp: 25 Stach: 1 Comments: None. Assured Bio Identifier: SM101018-2-23 Sample Condition: Intact Sample ID: 326 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 34 PenAsp: Stach: **Below Detectable Limits** Comments: None.

SM101018-2-24 Assured Bio Identifier: Sample Condition: Intact Sample ID: 327 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 47 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-25 Sample Condition: Intact Sample ID: 328 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 29 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-26 Sample Condition: Intact 329 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter PenAsp: 29 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-27 Sample Condition: Intact Sample ID: 330 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 63 PenAsp: Stach: **Below Detectable Limits** Comments: None.

SM101018-2-28 Assured Bio Identifier: Sample Condition: Intact Sample ID: 331 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-29 Sample Condition: Intact Sample ID: 332 Sample Type: Mtrap Sample Volume: 150 L Sample Description: - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 6 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-30 Sample Condition: Intact Sample ID: 333 Sample Type: Mtrap **Sample Description:** - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 7 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-31 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 19 Stach: **Below Detectable Limits** Comments: None.

SM101018-2-32 Assured Bio Identifier: Sample Condition: Intact Sample ID: 335 Sample Type: Mtrap Sample Volume: Sample Description: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 34 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-33 Sample Condition: Intact Sample ID: 336 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 3 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-34 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room <u>Assay</u> Spores/Cubic Meter PenAsp: 45 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: SM101018-2-35 Sample Condition: Intact Sample ID: 338 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 82 PenAsp: Stach: **Below Detectable Limits** Comments: None.

Assured Bio Identifier: SM101018-2-36

Sample ID: 33

339

Sample Description: - Room

Sample Condition: Intact
Sample Type: Mtrap
Sample Volume: 150 L

Assay Spores/Cubic Meter

PenAsp: 11

Stach: Below Detectable Limits

Comments: None.



| | <u> </u> | THE RESIDENCE OF THE PERSON NAMED IN COLUMN 2 IS NOT THE OWNER, THE PERS | | | |
|---|---|--|---------------|--------|---------|
| Assured Bio Labs, LLC 228 Midway Lane, Suite B | 8 | Project Name: Stokely Hall | Hall | | |
| Www assuredbio com | | Project Number: | | Inside | Outside |
| info@assuredbio.com | General Chain of Custody | | %RH | | |
| (000) 813-1700 | | Collection Date: 10/9/18 | Temperature | | |
| er Woodall | Company Name: Assured Bio Labs | AB Identifier: (for internal use o | ral use only) | 0 0 0 | نا |
| 2 1 12 Midway 1 2 CC | | ds s | 7 | | 1 |
| 228 Midway Ln, | 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | rys) Molds | | | |
| | | pol ne | a* | | |

| Assured Bio Labs, LLC 228 Midway Lane, Suite B | .abs, LLC .ane, Suite B | | | Stokely | Hall | |
|--|----------------------------------|--|---------------------------------|---|----------------------------------|--------------------------|
| Oak Ridge, TN 37830 www.assuredbio.com | N 37830 hio com | | | Project Number: | Inside | Outside |
| | | General Chain of Custody | | | %RH | |
| (865) 813-1700 | | Chain of Charce | Jy | Collection Date: 10/9/18 | Temperature | |
| Inspector: Hunter Woodall | | Company Name: Assured Bio Labs | , | AB Identifier: (for internal use only) | 1010 | 2-8-7 |
| company Address: 228 Midway Ln, | Ln, Suite B, | Oak Ridge, | e, TN 37830 | Molds | | |
| Phone: (865) 813-1700 | | E-mail: info@assuredbio.com | om | gi | cteria* |) |
| For Water Tests Sample Codes (SC) | | Outside Conditions (Circle all that apply) | ircle all that apply) | of Ai Exam Fung D Fu | olds | |
| | TL - Tape Lift | C - Clear TS - Thu | TS - Thunderstorm | rect E us ID ties II | or Molture) | |
| Residiual Chlorine: SP - Spore Trap | D - Dust | R - Rain S - Snow | N | n (Di Geni Spec | Indo | _ |
| Water lemperature:SW - Swab | W - Water | W - Wind O - Other | | dScan Scan | vey of onell | /VA \ form/l er:** |
| | tion | SC Total Volume or Area | Area Comments | Spe Mo Via | ER Sur Leg | - |
| 304 FIG | | MT 150 L | | | | |
| 305 Flc | | MT 150 L | | | | |
| 306 Flc | | MT 150 L | | | | |
| 307 Flo | | MT 150 L | | | | |
| 308 Flc | | MT 150 L | | | | |
| 309 Flo | | MT 150 L | | | | |
| 310 Flo | | MT 150 L | | ✓ | | |
| 311 Flo | | MT 150 L | | √ | | |
| 312 Flo | | MT 150 L | | | | |
| 313 Flo | | MT 150 L | | | | |
| 314 Flo | | MT 150 L | | | | |
| 315 Flo | | MT 150 L | | | | |
| Culture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may be subcontracted to Huffman Labs, | vencing subcontracted to ELIM Bi | io. **Please specify other ar | alysis. Some nonstandard analys | es may be subcontracted to Huffman Labs | Indoor Biotechnologies, EMS, SGS | Galson, or Ward Lab. |

Relinquished By: Huther Wood all

Date: 10/10/18

Time:

Received By

Date: 10-10-18 Time: 9:00 Page 1 of 3

| assuredbio** | Assured Bio Labs, LLC 228 Midway Lane, Suite B Oak Ridge, TN 37830 www.assuredbio.com info@assuredbio.com (865) 813-1700 | General Ch | General Chain of Custody | | Project Name: Stokely Hal Project Number: RH Collection Date: Temperal | Hall Inside %RH Temperature | Outside |
|-----------------------|--|---------------|--|----------|---|--|-------------------|
| Company Address: | Midwood | company Name: | | - | AB Identifier: (for internal use only) | 101010H | 18-2 |
| Phone: (865) 813-1700 | HUWMAY LIT, | -mail: info@a | | IN 3/830 | ji* | | |
| or Water Tests | ample Codes (SC) | B - Bulk Ou | Outside Conditions (Circle all that apply) | | of Airl xam) Fung Fung | | (+/-) |
| Sampling Time: | | e Lift | C - Clear TS - Thunderstorm | | ect E | r Mol ure) R) | |
| Residiual Chlorine: | _ SP - Spore Trap D | | | | ntifica (Dire Senus pecie | ndoo (Culti | |
| Vater Temperature: | | W - Water W - | _ | | Scan Scan G Scan Sp | y of Ir nella (nella (| m/E. |
| Sample ID | Description | SC | C Total Volume or Area | Comments | | ViaSc ERMI Surve _egior _egior | Colifor Other: |
| 316 Floo | | MT | 150 L | | | | |
| 317 Floo | | MT | 150 L | | | | |
| 318 Floo | | MT | T 150 L | | | | |
| 319 Floc | | MT | T 150 L | | | | |
| 320 Floc | | MT | T 150 L | | | | |
| | | TM | T 150 L | | | | |
| 322 Floc | | MT | T 150 L | | | | |
| 323 Floc | | MT | T 150 L | | | | |
| 324 Floc | | MT | T 150 L | | | | |
| 325 Floo | | MT | T 150 L | 4 | | | |
| 326 Floo | | TM | T 150 L | | | | |
| 327 Floo | | TM | T 150 L | 271 | | | |
| | | | | | | | |

Relinquished By: _

Date:

Time:

Received By: G-M

Date: (0-10-18 Time: 9:00 Page 2 of 3

*Culture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab.

Water Temperature: Residiual Chlorine: Phone: (865) 813-1700 Company Address: 228 Midway Ln, Sampling Time: For Water Tests inspector: Sample ID assuredbio assuredbio SP - Spore Trap Assured Bio Labs, LLC 228 Midway Lane, Suite B Oak Ridge, TN 37830 SW - Swab MT - M-TRAP® Sample Codes (SC) (865) 813-1700 www.assuredbio.com info@assuredbio.com Suite B, Oak Ridge, TN 37830 W - Water D - Dust B - Bulk E-mail: info@assuredbio.com TL - Tape Lift Company Name: Assured Bio Labs General Chain of Custody W - Wind R - Rain C - Clear Outside Conditions (Circle all that apply) S - Snow 0 - Other TS - Thunderstorm Big 2 (Pen/Asp and Stachybotrys) AB Identifier: (for internal use only) Collection Date: Project Number: Project Name: 10-10-18 am pecies Identification of Airborne Molds NoldScan (Direct Exam) Stokely Hall iaScan Genus ID Fungi aScan Species ID Fungi* aScan Bacterial Colony Count aScan Species ID Bacteria* %RH Temperature 罗图 rvey of Indoor Molds (SIM) 0 gionella (Culture) 0 ionella (qPCR) \$ AVVA Water Test form/E. coli Test (+/-) Outside

Description

Time:

Received By:

Date: (0-10-18

_Time:__/

9'.00 Page 3 of 3

Big 2 Panel

PenAsp¹ and Stach² Assays

228 Midway Lane, Suite B Oak Ridge, Tennessee 37830 Toll Free: (866) 547-1727 Local: (865) 813-1700 Fax: (865) 813-1705 Email: info@assuredbio.com

www.assuredbio.com



REVIEWED

By Olga Khaliukova at 4:09 pm, Oct 16, 2018

| Inspector: | Dylan Graves | Date Collected: | 10/8/2018 |
|-------------------------|----------------|-----------------|---------------------|
| Project Name: | Volunteer Hall | Date Received: | 10/10/2018 |
| Project Number: | | Date Reported: | 10/16/2018 |
| Assured Bio Identifier: | DG101018-5 | Analyst(s): | M. Reed, S. McClurg |

Selected References

Haugland, R. A., S. J. Vesper and L. J. Wymer. 1999. Quantitative measurement of *Stachybotrys chartarum* conidia using real-time detection of PCR products with the TagManTM fluorogenic probe system. Molecular and Cellular Probes 13:329-340.

Meklin, T. M., R. A. Haugland, T. Reponen, M. Varma, Z. Lummus, D. Bernstein, L. J. Wymer and S. J. Vesper. 2004. Quantitative PCR analysis of house dust can reveal abnormal mold conditions. Journal of Environmental Monitoring 6:615-620.

Vesper, S. J. 2006. Developing the EPA Relative Moldiness Index© based on mold-specific quantitative PCR. The Synergist April 2006:39-43

Vesper, S. J., C. McKinstry, C. Yang, R. A. Haugland, C. M. Kercsmar, I. Yike, M. D. Schluchter, H. L. Kirchner, J. Sobolewski, T. M. Alltan and D. G. Dearborn. 2006. Specific molds associated with asthma in water-damaged homes. Journal of Occupational and Environmental Medicine 48:852-858.

Vesper, S., C. McKinstry, P. Ashley, R. Haughland, K. Yeatts, K. Bradhan and E. Svendsen. 2007. Quantitative PCR analysis of molds in the dust from homes of asthmatic children in North Carolina. Journal of Environmental Monitoring 9:826-830.

Accreditation

Assured Bio Labs, LLC is accredited by the American Industrial Hygiene Association Laboratory Accreditation Programs, LLC (AIHA-LAP, LLC; Lab ID # 183867) in the Environmental Microbiology accreditation program for "qPCR - Mold Specific qPCR" Fields of Testing as documented by the Scope of Accreditation Certificate and associated Scope. AIHA-LAP, LLC accreditation complies with the ISO/IEC Standard 17025:2005 requirements, but this does not imply ISO certification or registration."

Limitations

ASSURED BIO LABS, LLC MAKES NO WARRANTIES AND EXPRESSLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PURPOSE. INSPECTOR ACKNOWLEDGES THAT ASSURED BIO LABS, LLC HAS NOT INSPECTED THE SUBJECT PROPERTY AND THAT THE INSPECTOR IS SOLELY RESPONSIBLE FOR CHOOSING THE LOCATION OF SAMPLE COLLECTION. ASSURED BIO LABS, LLC SHALL NOT BE LIABLE TO INSPECTOR FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES OF ANY KIND OR NATURE, INCLUDING, WITHOUT LIMITATION, ANY DAMAGES TO PROPERTY OR PERSONAL INJURY WHETHER SUCH LIABILITY IS ASSERTED ON THE BASIS OF CONTRACT, TORT, OR OTHERWISE, EVEN IF ASSURED BIO LABS, LLC HAS BEEN WARNED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGE. UNDER NO CIRCUMSTANCES SHALL ASSURED BIO LABS, LLC BE LIABLE FOR DAMAGES UNDER OR ARISING OUT OF THIS REPORT IN AN AMOUNT EXCEEDING THE AMOUNT PAID BY THE INSPECTOR TO ASSURED BIO LABS, LLC FOR THIS ANALYSIS AND REPORT. THIS REPORT IS FOR THE SOLE USE OF THE INSPECTOR AND CREATES NO THIRD PARTY BENEFICIARIES OR RIGHTS HEREUNDER.

Methods of Analysis

Assured Bio Labs uses the following methods for the MSQPCR analysis: CD 23: Data Reporting for MSQPCR Testing, CD 143: Preparation, Processing, and Analysis of MSQPCR Samples, CD 225: Bead Based DNA Extraction

Notes

¹The PenAsp assay detects species of the genera Aspergillus, Penicillium, and Paecilomyces variotii.

²The Stach assay detects *Stachybotrys chartarum* also commonly referred to as "toxic black mold."

Reporting Limits

Method Detection Limit (MDL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The minimum concentration of an analyte that, in a given matrix and with a specific method, has a 99 percent probability of being identified, qualitatively or quantitatively measured, and reported to be greater than zero."

Reporting Limit (RL): The American Industrial Hygiene Association defines this term in AIHA-LAP, LLC Policy Document – Module 9 as "The lowest concentration of analyte in a sample that can be reported with a defined, reproducible level of certainty."

Values less than one will be rounded up to one per reported unit.

Method Detection Limits (in Spores)

Stac - 0.1624, PenAsp - 0.2161

Reporting Limit Calculations

Unless otherwise stated in comments, the following equations are used to calculate the reporting limit per sample: Dust RL - MDL/5 mg Swab RL - MDL/1 swab, Unconcentrated Liquid RL - MDL/0.1 ml, Concentrated Liquid RL - MDL/ml filtered, MTrap RL - MDL \times (1000/L sampled)

Assured Bio Identifier: VHC Sample Condition: Sample ID: VHC Sample Type:

Sample Description: Volunteer Hall Control Sample Volume: 300 L

Assay Spores/Cubic Meter

Intact

Mtrap

Intact

Intact

PenAsp: 17

Stach: Below Detectable Limits

Comments: None.

Assured Bio Identifier: DG101018-5-1 **Sample Condition:**

Sample ID: 340 Sample Type: Mtrap

Sample Description: Sample Volume: 150 L

Assay Spores/Cubic Meter

PenAsp: 29

Stach: Below Detectable Limits

Comments: None.

Comments:

Assured Bio Identifier: DG101018-5-2 Sample Condition: Intact

Sample ID: 341 Sample Type: Mtrap
Sample Description: Sample Volume: 150 L

Assay Spores/Cubic Meter

PenAsp: 8

Stach: Below Detectable Limits

Comments: None.

None.

Assured Bio Identifier: DG101018-5-3 **Sample Condition:**

Sample ID: 342 Sample Type: Mtrap
Sample Description: Sample Volume: 150 L

Assay Spores/Cubic Meter

PenAsp: 22

Stach: Below Detectable Limits

Confidential Page 3 of 10 Proprietary Document of Assured Bio Labs, LLC

DG101018-5-4 Sample Condition: Assured Bio Identifier: Intact 343 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 16 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-5-5 Sample Condition: Intact Sample ID: 344 Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 18 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-5-6 Sample Condition: Intact Sample ID: 345 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 38 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-5-7 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** 19 PenAsp: **Below Detectable Limits** Stach: Comments: None.

DG101018-5-8 Assured Bio Identifier: Sample Condition: Intact 347 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 66 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-5-9 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> **Below Detectable Limits** PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-5-10 Sample Condition: Intact Sample ID: 349 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 67 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-5-11 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** PenAsp: 31 **Below Detectable Limits** Stach: Comments: None.

Assured Bio Identifier: DG101018-5-12 Sample Condition: Intact Sample ID: 351 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: **Below Detectable Limits** Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-5-13 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 7 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-5-14 Sample Condition: Intact Sample ID: 353 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 30 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-5-15 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** PenAsp: 24 **Below Detectable Limits** Stach:

None.

Comments:

DG101018-5-16 Sample Condition: Assured Bio Identifier: Intact 355 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 5 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-5-17 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 9 PenAsp: Stach: **Below Detectable Limits** Comments: Assured Bio Identifier: DG101018-5-18 Sample Condition: Intact Sample ID: 357 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> 7 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-5-19 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** 34 PenAsp: **Below Detectable Limits** Stach: Comments: None.

DG101018-5-20 Sample Condition: Assured Bio Identifier: Intact 359 Sample ID: Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> PenAsp: 32 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-5-21 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 61 PenAsp: Stach: **Below Detectable Limits** Comments: Assured Bio Identifier: DG101018-5-22 Sample Condition: Intact Sample ID: 361 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 16 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-5-23 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** 7 PenAsp: **Below Detectable Limits** Stach: Comments: None.

DG101018-5-24 Assured Bio Identifier: Sample Condition: Intact 363 Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> PenAsp: 18 Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-5-25 Sample Condition: Intact Sample ID: 364 Sample Type: Mtrap Sample Description: - Room Sample Volume: 150 L Spores/Cubic Meter <u>Assay</u> 34 PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-5-26 Sample Condition: Intact Sample ID: 365 Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter <u>Assay</u> **Below Detectable Limits** PenAsp: Stach: **Below Detectable Limits** Comments: None. Assured Bio Identifier: DG101018-5-27 Sample Condition: Intact Sample ID: Sample Type: Mtrap Sample Description: Sample Volume: 150 L - Room Spores/Cubic Meter **Assay** 7 PenAsp: **Below Detectable Limits** Stach: Comments: None.

Assured Bio Identifier: DG101018-5-28

Sample ID: 367

Sample Description: - Room

Assay Spores/Cubic Meter

Sample Condition: Intact

Mtrap

150 L

Sample Type:

Sample Volume:

PenAsp: 12

Stach: Below Detectable Limits

Comments: None.

| B | Project Name: Volunteer Hall | er Hall | | |
|----------------------------|--|-------------|--------|---------|
| \ | Project Number: | | Inside | Outside |
| Protection of Clarks | | %RH | | |
| sielai Cilalli di Custody | Collection Date: 10-8-18 | Temperature | | |
| any Name: Assured Bio Labs | AB Identifier: (for internal use only) | 2 | 4.7.9 |) |

| | | Assured Bio Labs, LLC 228 Midway Lane, Suite B Oak Ridge, TN 37830 www.assuredbio.com | | 4., | / <u>R</u> | Project Name: Project Number: | | olur | | fg | nteer H | teer Hal | Volunteer Hall | + | teer Hall | + |
|--|-------------------|---|-----------------------------|--|--|----------------------------------|----------------|-----------------|---------------------------|----------------------------------|---|--|---|--|---|--|
| assu | assuredbio** | (865) 813-1700 | General Chain of Custody | of Custody | | Collection Date: | ate: | 1 | 200 | 23 | 8-18 | 8-18 | 8-18 | 8-18 | 8-18 | 8-18 |
| Inspector: | 11/45 | (Graves comp | Company Name: Assured Bio | ured Bio La | | λB Identifi | r: (fo | Ť | r internal | r internal use or | AB Identifier: (for internal use only) | 5) | 3 | 1000 | 3 | 91019CL |
| company , | 228 200 Market | 228 Midway Ln, Suite B, Oak Ridge, TN 37830 | e B, Oak | Ridge, T | N 37830 | - | - 1 | \dashv | \exists | | - | | * | | | |
| Phone: (8) | (865) 813-1700 | 700 E-mail | E-mail: info@assuredbio.com | redbio.com | | achybo Airborne | | | ngi | ngi ungi* | ngi ungi* / Count | ngi ungi* / Count acteria | ngi ungi* / Count acteria | ngi ungi* / Count acteria | ngi ungi* / Count acteria | ngi ungi* / Count acteria* |
| For Water Tests | sts | (SC) | Outside C | Outside Conditions (Circle all that apply) | that apply) | | _ | | D Fur | D Fur | D Fur | D Fur | D Fur ID Fu Colony ID Ba | D Fur ID For Colony ID Ba Molds | D Fur D Fur D Fur D Fur D Fur D Bar Molds Tre) | D Fur ID Fu Colony ID Ba Molds Molds () |
| Sampling Time: | , e. | | e Lift | TS - Thunderstorm | m : | | | irect | irect nus ID | irect nus IE | irect nus IE cies I | irect nus IE cies I erial Co | nus IE cies I cies I | nus IE cies I cies I cies I | nus IE cies I cies I cies I cor N | us IE cies I cie |
| Residiual Chlorine:_ Water Temperature: | orine: rature: | SP - Spore Trap D - Dust SW - Swab W - Water | ter W - Wind | S - Snow O - Other | | (Pen/As | 3 Ideilill | Scan (D | | Scan (D can Gen | Scan (D can Gen can Spe an Bacte can Spe | Scan (D can Gen can Spe an Bacte can Spe | Scan (D can Gen can Spe an Bacte can Spec | Scan (D can Gen can Spe an Bacte can Spe | Scan (D can Gen can Spe- an Bacte can Spe- can Spe- can Spe- can Spe- | Scan (D can Gen can Spe- an Bacte can Spe- cy of Indi nella (C nella (ql |
| Sample ID | | Description | SC To | Total Volume or Area | Comments | _ | Speci | Mold | Mold | Mold ViaS ViaS | Mold ViaS ViaS ViaS | Mold ViaS ViaS ViaS ERM | Mold ViaS ViaS ViaS ERM Surve | Mold ViaS ViaS ViaS ERM Surve | Mold ViaS ViaS ViaS ERM Surve Legic | Mold ViaS ViaS ViaS ERM Surve Legic FHA/ |
| 340 | Floo | | MT | 150 L | | <u> </u> | | | | | | | | | | |
| 341 | Floo | | MT | 150 L | | | | | | | | | | | | |
| 342 | Floo | | МТ | 150 L | | | Ш | | | | | | | | | |
| 343 | Floo | | MT | 150 L | | | | | | | | | | | | |
| 344 | Floo | | TM | 150 L | | | = | | | | | | | | | |
| 345 | Floo | | M | 150 L | | | Щ | | | | | | | | | |
| 346 | Floo | | ТМ | 150 L | | | \sqcup | | | | | | | | | |
| 347 | Floo | | M | 150 L | | | \blacksquare | | | | | | | | | |
| 348 | Floo | | M | 150 L | | | Ш | | | | | | | | | |
| \349 | Floo | | M | 150 L | | | | | | | | | | | | |
| 350 | Floo | | M | 150 L | | | | | | | | | | | | |
| 351 | 00 | | MT | 150 L | | | Ш | | | | | | | | | |
| *Culture an Relinquished By: | nd PCR done at | Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may be subcontracted to Date: 10-8-18 Time: Received By: | 10-8-18 | specify other analysis. S Time: Re | s. Some nonstandard analys Received By: | as may | be sub | be subcontracte | be subcentracted to Huffm | be subcontracted to Huffman Labs | be subcontracted to Huffman Labs, Indoor B Date: (O - (| be subcontracted to Huffman Labs, Indoor Biotechno | be subcontracted to Huffman Labs, Indoor Biotechnologies, E | be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SG: Date: (0-(0-t)) Time: 7 | be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson Date: (0 - (0 - l\forall Time: 9:00) | Huffman Labs, Indoor Biotechnologies, EMS, Date: (O-(O-tY) Time: |
| | • | | | | | | | | | Date. | | | | | I III d. | I III d. |

| | 3 | 5 | \w | w | 3 | 3 | S | 7 | ω | S | (i) | 5 | San | Water | Residi | Phonu For Wasampli Residiu Water | | | | | | ŭ | \ | |
|--|----------|-------------------|----------|----------|----------|------------|------------------|-------|--------------|----------|----------|-------|--|--------------------|---------------------|---|-------------------|-----------------------------|----------------------|--|----------------|---------------------------|---------------------|---|
| *Culture and | 363 | 362 | 361 | 360 | 359 | 358 | 357 | 356 | 355 | 354 | 353 | 352 | Sample ID | Water Temperature: | Residiual Chlorine: | Sampling Time: | For Water Tests | e: (865 | pany Add | Inspector: | | | 7 | M |
| PCR done at | Floor | Floor | Floor | Floor | Floor | Floor | Floo | Floo | Floo | Floo | Floo | Floo | | re: | 9 | | | Phone: (865) 813-1700 | ^{ress:} 228 | | | | | 1 |
| *Culture and PCR done at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may be subsontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab | | | | | | | | | | | | | Description | SW - Swab | SP - Spore Trap | MT - M-TRAP® | Sample Codes (SC) | 700 | 228 Midway Ln, | | (865) 813-1700 | | Oak Ridge, TN 37830 | Assured Bio Labs, LLC 228 Midway Lane, Suite B |
| contracted to ELIM Bio. **P | | | | | | | | | | | | | | W - Water | D - Dust | TL - Tape Lift | R-Rik | E-mail: info(| Suite B, | Company Nam | | General | | œ |
| io. **Please | MT | TM | ТМ | M | TM | TM | ТМ | TM | TM | ТМ | ТМ | МТ | SC To | W - Wind | R - Rain | C - Clear | Outeida | @assu | Oak | ne: Ass | | Chain | | |
| specify other analysis | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | 150 L | Total Volume or Area | 0 - Other | S - Snow | C - Clear TS - Thunderstorm | anditions (Circle | E-mail: info@assuredbio.com | Ridge, | Company Name: Assured Bio Labs | or oustony | General Chain of Cristody | | |
| . Some nonstandard analy | | | | | | | | | | | | | Comments | | | ali macappiy) itorm | all that annia | 3 | Oak Ridge, TN 37830 | abs | | | | |
| ses may be | <u> </u> | | ✓ | ▼ | | | <u> </u> | | | | | | Big 2 (Pen/Asp and Stachybotrys) Species Identification of Airborne Molds | | | | | | \neg | AB Identifier: (for internal use only) | Collectio | | Project Number: | Project Name: |
| subsontra | | | | | | | | | | | | | MoldScan (Direct Exam) ViaScan Genus ID Fungi ViaScan Species ID Fungi* ViaScan Bacterial Colony Count ViaScan Species ID Bacteria* ERMI Survey of Indoor Molds (SIM) Legionella (Culture) Legionella (qPCR) | | | | | Moids | tifier: (f | llection Date: | | Numbe | Name: | |
| icted to | | | | | | | | | | | | | | | | | | | or inter | 10-8- | | 7 | Volunteer Hall | |
| uffman L | _ | | | | <u> </u> | | | | | | | 릵 | | | | | | | nal use | 8/2 | | | nnt | |
| abs, Indo | | | | | | | | | | | | 뒴 | | | | | | | only) | Тепт | %RH | Н | eer | |
| or Biotech | | | | Ī | | | | | | | | | | | | | | | V | Temperature | - | | 끊 | |
| inologies | <u> </u> | | | | | | | | | | | ᆜ┠ | | | | | | | (9) | 40 | | Ц | = | |
| EMS, S | <u> </u> | <u> </u> | <u> </u> | ┩╏ | <u> </u> | - | <u> </u> [| | <u> </u> | <u> </u> | <u> </u> | ᆜᅡ | | | | | | - | 010 | | | Ins | | |
| GS Galso | - | <u> </u> | ᅱ | | | <u>ا</u> [| <u> </u> | | <u> </u> | [| ╡╏ | ᆜᅡ | FHA/ | _ | _ | | | | - | 010 | | | Inside | |
| on, or W | | | | | | | | | | | | | Colifo | orm/E | . coli | Test | (+/- | ·) | | 1 | | | H | |
| ard Lab. | | | | | | | | | | | | | Other | ** | | | | | | 2 | | | Outside | |

Date: 10-10-17 Time: 9:00 Page 2 of 3

Company Address: 228 Midway Ln, Phone: (865) 813-1700 Water Temperature: **NHC** Sampling Time: For Water Tests Inspector: Residiual Chlorine: /366 /367 Sample ID 365 364 assured**bio**" Floor Floor Floor Voluntees Floor 10-16-18 SW - Swab SP - Spore Trap MT - M-TRAP® Sample Codes (SC) (865) 813-1700 www.assuredbio.com info@assuredbio.com Oak Ridge, TN 37830 Assured Bio Labs, LLC 228 Midway Lane, Suite B Description Suite B, Oak Ridge, TN 37830 Contro D - Dust E-mail: info@assuredbio.com W - Water Company Name: Assured Bio Labs TL - Tape Lift **General Chain of Custody** C - Clear R - Rain 3 M **≤** M W - Wind S Outside Conditions (Circle all that apply) SC Total Volume or Area 300 L 150 L 150 L 150 L 150 L 0 - Other S - Snow TS - Thunderstorm Comments Project Name: Volunteer Hall AB Identifier: (for internal use only) Project Number: Collection Date: 10-8-18 Big 2 (Pen/Asp and Stachybotrys) Species Identification of Airborne Molds MoldScan (Direct Exam) ViaScan Genus ID Fungi ViaScan Species ID Fungi* ViaScan Bacterial Colony Count %RH Temperature ViaScan Species ID Bacteria* **ERMI** 000 Survey of Indoor Molds (SIM) Legionella (Culture) Inside 50 Legionella (qPCR) FHA/VA Water Test 5 Coliform/E. coli Test (+/-) Outside Other:**

Relinquished By:

Date: 10-8-18 Time:

gone at Assured Bio Labs, sequencing subcontracted to ELIM Bio. **Please specify other analysis. Some nonstandard analyses may be subcontracted to Huffman Labs, Indoor Biotechnologies, EMS, SGS Galson, or Ward Lab.

Received By:

Date: 10-16-14

Time:

9':00 Page 3 of 3