May 8, 2018

Clemson University
310 Klugh Avenue
Clemson, South Carolina 29634

Attn: Mr. W. Robert Newberry, IV
E-mail: wnewber@clemson.edu

RE: Avian Pathogen Analysis Report
Clemson University – Brooks Auditorium
Clemson, South Carolina
Terracon Project No. 86127158 – Task 138

Dear Mr. Newberry:

Terracon Consultants, Inc. (Terracon) is pleased to present the results of the avian pathogen sampling and analysis performed on April 16 and 20, 2018 at the referenced site. We understand the purpose of this service is to conduct air sampling in the areas where bat guano was remediated. This service was conducted in general accordance with our Master Service Agreement with Clemson University.

PROJECT DESCRIPTION

Scope of Services

At the request of Clemson University, Terracon conducted ammonia and avian pathogen air testing in Brooks Auditorium following the cleaning of areas where bats have entered and nested. Initial testing for the ammonia and avian pathogens was conducted on April 16, 2018, and after a second cleaning, additional testing for the avian pathogens on April 20, 2018.

Standard of Care

This limited indoor environmental quality investigation was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. Terracon did not attempt to identify every potential exposure or hazard present in the subject building. The results, findings, conclusions and recommendations expressed in this report are based on conditions observed during our sampling. Many factors, such as weather conditions, building occupancy, ventilation patterns and seasonal variations, can affect the conditions observed. The information contained in this report should not be relied upon to represent conditions that existed prior to or after this sampling. Terracon does not warrant the services of regulatory agencies, laboratories or other third parties supplying information that may have been used in the preparation of this report.

SAMPLE COLLECTION

Air samples were collected on a 37 mm 0.45µ polycarbonate membrane filter with a calibrated vacuum pump. A volume of greater than 1,200 liters of air was collected at each sample location. Four samples were collected indoors at various areas. The samples along with a blank sample were sent to EMLab P&K for Avian Pathogen Screen analysis which identifies the presence of DNA for *histoplasma capsulatum*, *cryptococcus neoformans*, and c*hlamydophila psitacci*. Since no regulatory limits are established for these particular pathogens the criteria used was presence/absence. EMLab P&K is accredited by the AIHA® Laboratory Accreditation Programs, LLC under the Environmental Microbiology Laboratory Accreditation Program (EMLAP), Laboratory ID: 102297.

In addition to the avian pathogen screen, four samples were collected for ammonia analysis to further assist in confirming cleaning efforts. Air samples were collected on passive assay badges and submitted to SGS Galson (Galson) for ammonia analysis in accordance with modified OSHA ID-188. Galson is accredited under the AIHA® Industrial Hygiene Laboratory Accreditation Program (IHLAP ID: 100324).

RESULTS

On April 16, 2018, air samples were collected in the four locations of the Brooks Auditorium and analyzed for ammonia, *histoplasma capsulatum*, *cryptococcus neoformans*, and c*hlamydophila psitacci*. The samples were collected on the catwalk adjacent to the bat entry point (sample HS-1, AS-1), near the back of the auditorium on the first floor (HS-2, AS-2), on the right side of the 2nd floor (HS-3, AS-3) and on the left side of the 2nd floor (HS-4, AS-4). See the attached Figure A-1 for a diagram of the auditorium with sample locations. Analytical results were below detection limits with the exception of *histoplasma capsulatum* in sample HS-1.

On April 20, 2018, Terracon returned to the building to conduct a second set of air samples following additional cleaning on the catwalk. Since ammonia results were below detection limits on the April 16 sampling event, the ammonia sampling was not repeated. Samples were again collected on the catwalk adjacent to the bat entry point (sample HS-1A), near the back of the auditorium on the first floor (HS-2A), on the right side of the 2nd floor (HS-3A) and on the left side of the 2nd floor (HS-4A). None of the air samples collected on April 20, 2018 contained *histoplasma capsulatum*, *cryptococcus neoformans*, or c*hamydophila psitacci*. The laboratory results are attached.

CLOSING

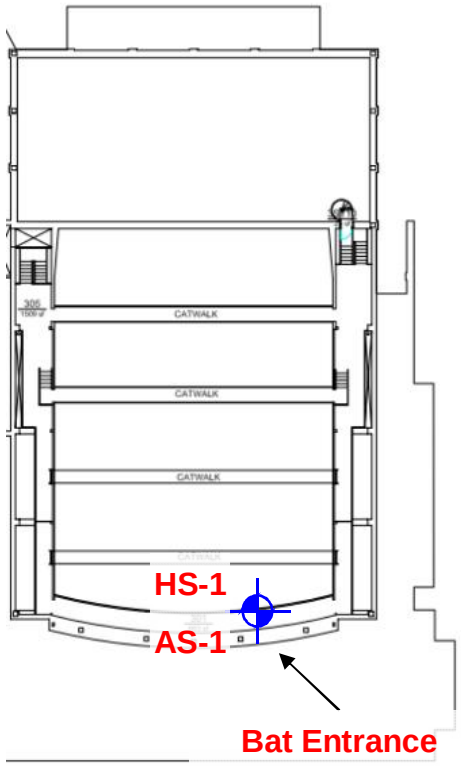
Terracon appreciates the opportunity to provide environmental consulting services to you on this project. If you should have any questions regarding this report please contact the undersigned at (864) 292-2901.

Sincerely,
Terracon Consultants, Inc.

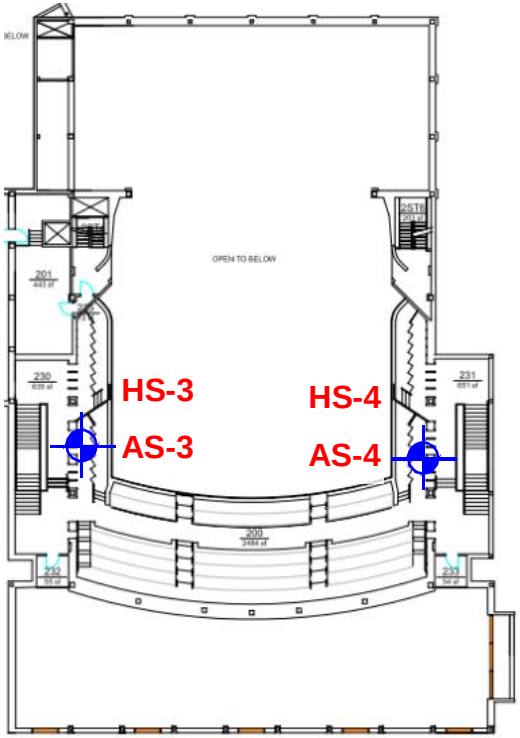
Benjamin Hestir, P.E.
Project Industrial Hygienist

Jeffrey A. Gurrie
Senior Industrial Hygienist

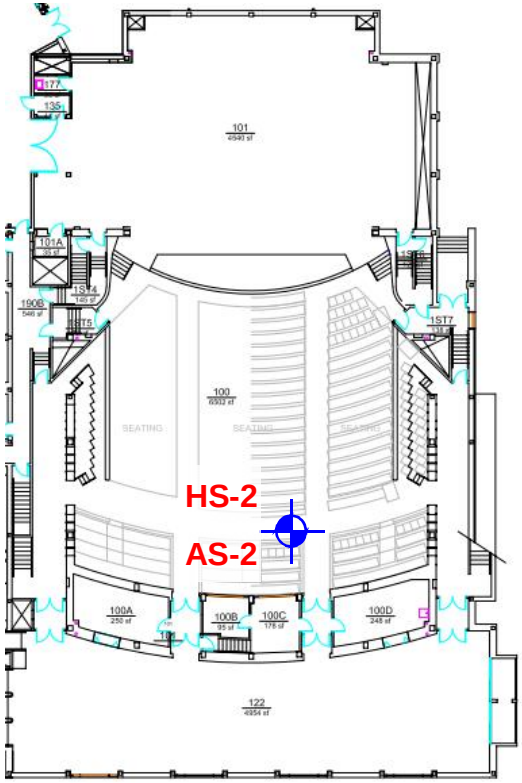
Attachments: Figure A-1 Sample Locations
Laboratory Results



Third Floor



Second Floor



First Floor

N

DIAGRAM PROVIDED BY CLEMSON UNIVERSITY AND IS FOR GENERAL LOCATION ONLY.

Project Manager: JAG	Project No. 86127158
Drawn by: SNE	Scale: N.T.S.
Checked by: JAG	File Name:
Approved by: JAG	Date: 4/30/18

Terracon
Consulting Engineers & Scientists
72 Pointe Circle Greenville, South Carolina 29615
PH. (864) 292-2901 FAX. (864) 292-6361

GENERAL BUILDING LAYOUT / SAMPLE LOCATIONS

CLEMSON UNIVERSITY
BROOKS AUDITORIUM
CLEMSON, SOUTH CAROLINA

Figure
A-1

SGS GALSON

Mr. Jeffrey Gurrie
Terracon
72 Pointe Circle
Greenville, SC 29615

April 19, 2018

DOH ELAP #11626
AIHA-LAP #100324

Account# 25274

Login# L439921

Dear Mr. Gurrie:

Enclosed are the analytical results for the samples received by our laboratory on April 17, 2018. All test results meet the quality control requirements of AIHA-LAP and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

Results in this report are based on the sampling data provided by the client and refer only to the samples as they were received at the laboratory. When possible, non-IOM samples will be retained for 14 days following the date of this report (unless an extension is specifically requested). IOM samples are retained for 7 days.

Current Scopes of Accreditation can be viewed at www.sgsgalson.com in the accreditations section of the "About" page.

Please contact Caroline Hudson at (888) 432-5227, if you would like any additional information regarding this report. Thank you for using SGS Galson.

Sincerely,

SGS Galson

Lisa Swab

Lisa Swab
Laboratory Director

Enclosure(s)

SGS GALSON

LABORATORY ANALYSIS REPORT

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

Client : Terracon
Site : CU-Brooks Auditorium

Date Sampled : 16-APR-18
Date Received : 17-APR-18

Account No.: 25274
Login No. : L439921

Date Analyzed : 19-APR-18
Report ID : 1059632

Ammonia

Sample ID	Lab ID	Time minutes	Total ug	Conc mg/m3	ppm
AS-1	L439921-1	157	<4.7	<1.0	<1.5
AS-2	L439921-2	155	<4.7	<1.1	<1.5
AS-3	L439921-3	152	<4.7	<1.1	<1.5
AS-4	L439921-4	156	<4.7	<1.0	<1.5
AS-5	L439921-5	NA	<4.7	NA	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of quantitation: 5.0 ug
Analytical Method : mod. OSHA ID-188; ISE
OSHA PEL : 50 ppm (TWA)
Collection Media : AN584

Submitted by: SFW/CPS
Approved by : JGC
Date : 19-APR-18
Supervisor: JGC

NYS DOH # : 11626
QC by: AMD

< -Less Than
> -Greater Than
mg -Milligrams
ug -Micrograms
m3 -Cubic Meters
l -Liters
kg -Kilograms
NS -Not Specified
NA -Not Applicable
ppm -Parts per Million
ND -Not Detected

SGS GALSON

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.galsonlabs.com

LABORATORY FOOTNOTE REPORT

Client Name : Terracon
Site : CU-Brooks Auditorium

Date Sampled : 16-APR-18
Date Received: 17-APR-18
Date Analyzed: 19-APR-18

Account No.: 25274
Login No. : L439921

This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Unless otherwise noted below, all quality control results associated with the samples were within established control limits or did not impact reported results.

Note: The findings recorded within this report were drawn from analysis of the sample(s) provided to the laboratory by the Client (or a third party acting at the Client's direction). The laboratory does not have control over the sampling process. The findings herein constitute no warranty of the samples' representativeness of any sampled environment and strictly relate to the samples as they were presented to the laboratory.

Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceeding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.

The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).

Unless otherwise noted below, reported results have not been blank corrected for any field blank or method blank.

L439921 (Report ID: 1059632):
SOPs: ic-assay(17)
Total ug corrected for a desorption efficiency of 106%.

L439921 (Report ID: 1059632):
Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2). The estimated accuracy applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process. The accuracy is based solely on spike recovery data from internal quality control samples. Where N/A appears below, insufficient data is available to provide statistical accuracy and mean recovery values for the associated analyte.

Parameter	Accuracy	Mean Recovery
Ammonia	+/-32%	102%

< -Less Than mg -Milligrams m3 -Cubic Meters kg -Kilograms ppm -Parts per Million
> -Greater Than ug -Micrograms l -Liters NS -Not Specified ND -Not Detected NA -Not Applicable

810810884217
Date:04/17/18
Shipper:FEDEX
Initials:MAK
Prep:UNKNOWN

L439921

31

GALSON CHAIN OF CUSTODY

Turn Around Time (TAT):	(surcharge)
☑ Standard	0%
☐ 4 Business Days	35%
☐ 3 Business Days	50%
☐ 2 Business Days	75%
☐ Next Day by 6pm	100%
☐ Next Day by Noon	150%
☐ Same Day	200%

☐ Samples submitted using the FreePumpLoan™ Program

☑ Samples submitted using the FreeSamplingBadges™ Program

You may edit and complete this COC electronically by logging in to your Client Portal account at https://portal.galsonlabs.com/

Client Acct No.: 25274

Original Prep No.: PSY474192

CS Rep: JWHITE

Online COC No.: 150933

Report To: Mr. Jeffrey Gurrie
Company Name: Terracon
Address 1: 72 Pointe Circle
Address 2:
City, State Zip: Greenville, SC 29615
Phone No.: 864 - 292 - 2901
Cell No.: 864 - 360 - 7572
Email reports to: jagurrie@terracon.com
Comments:

Invoice To: Mr. Jeffrey Gurrie
Company Name: Terracon
Address 1: 72 Pointe Circle
Address 2:
City, State Zip: Greenville, SC 29615
Phone No.: 864 - 292 - 2901
Email Address: jagurrie@terracon.com
Comments:
P.O. No.:
Payment info.: ☐ I will call SGS Galson to provide credit card info
☐ Card on File (enter the last five digits on the line below)

Comments:

State Sampled:

Please indicate which OEL(s) this data will be used for:
☑ OSHA PEL ☐ ACGIH TLV ☐ MSHA ☐ Cal OSHA
☐ IAQ: _____ Specify Limit(s) ☐ Other: _____ Specify Other

Site Name: CU - Brooks Auditorium

Project:

Sampled By: Stephen Ellis

List description of industry or Process/interferences present in sampling area:

Sample ID * (Maximum of 20 Characters)	Date Sampled *	Collection Medium	Sample Volume Sample Time Sample Area *	Liters Minutes in², cm², ft² *	Analysis Requested	Method Reference ^	Hexavalent Chromium Process (e.g., welding, plating, painting, etc.)
AS-1	4-16-18	Assay N584 Ammonia Badge	457	min	Ammonia	mod. OSHA ID-188; ISE	
AS-2	4-16-18	Assay N584 Ammonia Badge	155	min	Ammonia	mod. OSHA ID-188; ISE	

☐ ^ If the method(s) indicated on the COC are not our routine/preferred method(s), we will substitute our routine/preferred methods. If this is not acceptable, check here to have us contact you.

Chain of Custody	Print Name / Signature	Date	Time		Print Name / Signature	Date	Time
Relinquished By:	Stephen Ellis	4-16-18	1800	Received By:			
Relinquished By:				Received By:	Michelle Krause	4/17/18	1119

* You must fill in these columns for any samples which you are submitting.
Samples received after 3pm will be considered as next day's business.

Online COC No.: 150933
Prep No.: PSY474192
Account No.: 25274
Draft: 4/13/2018 3:06:56 PM

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/en/Terms-and-Conditions.aspx

SGS North America Inc. | 6601 Kirkville Road E. Syracuse, NY 13057, USA t +1 888 432 5227 | +1 315 432 5227 www.galsonlabs.com | www.sgs.com

Member of the SGS Group (SGS SA)

SGS GALSON CHAIN OF CUSTODY

Comments :

Sample ID * (Maximum of 20 Characters)	Date Sampled *	Collection Medium	Sample Volume Sample Time Sample Area *	Liters Minutes in², cm², ft² *	Analysis Requested	Method Reference ^	Hexavalent Chromium Process (e.g., welding, plating, painting, etc.)
AS-3	4-16-18	Assay N584 Ammonia Badge	152	min	Ammonia	mod. OSHA ID-188; ISE	
AS-4	4-16-18	Assay N584 Ammonia Badge	156	min	Ammonia	mod. OSHA ID-188; ISE	
AS-5	4-16-18	Assay N584 Ammonia Badge	0	min	Ammonia	mod. OSHA ID-188; ISE	

☐ ^ If the method(s) indicated on the COC are not our routine/preferred method(s), we will substitute our routine/preferred methods. If this is not acceptable, check here to have us contact you.

Chain of Custody	Print Name / Signature	Date	Time		Print Name / Signature	Date	Time
Relinquished By :	Stephen Ellis	4-16-18	1800	Received By :			
Relinquished By :				Received By :	Michelle Krause	4/17/18	1119

* You must fill in these columns for any samples which you are submitting.

Samples received after 3pm will be considered as next day's business.

Online COC No. : 150933
Prep No. : PSY474192
Account No. : 25274
Draft : 4/13/2018 3:06:56 PM

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Member of the SGS Group (SGS SA)

EMLab P&K
A TestAmerica Company

Report for:

Mr. Jeff Gurrie
Terracon Consultants, Inc. - Greenville
72 Pointe Circle
Greenville, SC 29615

Regarding: Project: N/A; CU - Brooks Auditorium
EML ID: 1912569

Approved by:



Operations Manager
Joshua Cox

Dates of Analysis:
PCR screen: Avian Pathogen: 04-18-2018

Service SOPs: PCR screen: Avian Pathogen (EM-BC-S-1097, EM-BS-S-1199 & EM-BC-S1206)

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

EMLab P&K
1501 West Knudsen Drive, Phoenix, AZ 85027
(800) 651-4802 Fax (623) 780-7695 www.emlab.com

Client: Terracon Consultants, Inc. - Greenville
C/O: Mr. Jeff Gurrie
Re: N/A; CU - Brooks Auditorium

Date of Sampling: 04-16-2018
Date of Receipt: 04-17-2018
Date of Report: 04-18-2018

AVIAN PATHOGEN SCREEN: PCR METHODOLOGY

Location:	HS-1: Cart Walk - Left Rear		HS-2: Auditorium - Ground Right		HS-3: Auditorium - 2nd Right		HS-4: Auditorium - 2nd Left		HS-5: Blank	
Comments (see below)	None		None		None		None		None	
Sample Type:	Polycarbonate Air Filter Cassette		Polycarbonate Air Filter Cassette		Polycarbonate Air Filter Cassette		Polycarbonate Air Filter Cassette		Polycarbonate Air Filter Cassette	
Lab ID-Version‡:	8988226-1		8988227-1		8988228-1		8988229-1		8988230-1	
Sample Size:	1.607		1.764		1.243		1.794		1	
Unit:	m3		m3		m3		m3		sample	
	CE*	CE*/Unit	CE*	CE*/Unit	CE*	CE*/Unit	CE*	CE*/Unit	CE*	CE*/Unit
Chlamydophila psittaci	ND	<62	ND	<57	ND	<80	ND	<56	ND	<100
Cryptococcus neoformans	ND	<62	ND	<57	ND	<80	ND	<56	ND	<100
Histoplasma capsulatum §	Present		Absent		Absent		Absent		Absent	

*Cell equivalents ND = Not Detected

Comments:

Method Reference: *Chlamydophila psittaci*- Madico, G., Quinn T.C., Boman, J., and Gaydos C.A. 2000. Touchdown enzyme time release-PCR for detection and identification of *Chlamydia trachomatis, C. pneumoniae,* and *C. psittaci* using the 16S and 16S-23S spacer rRNA genes. J. Clin. Microbiol. Vol. 38. 1085-1093
Method Reference: *Cryptococcus neoformans*- Bialek, R., Weiss, M., Bekure-Nemariam, K., Najvar, L.K., Alberdi, M.B., Graybill, J.R., and U. Reischl. 2002. Detection of *Cryptococcus neoformans* DNA in tissue samples by nested and real-time PCR assays. Clin Diagn Lab Immunol. 9:461-469
Method Reference: *Histoplasma capsulatum*- Reid, T.M. and Schafer, M.P., 1999. Direct detection of *Histoplasma capsulatum* in soil suspensions by two-stage PCR. Mol Cell Probes. 13(4):269-73.

§This organism requires a two-stage PCR method of analysis. As a result, detection can only be reported as "Present" or "Absent".

‡A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

CHAIN OF CUSTODY

www.EMLabPK.com

EMLab P&K
A TestAmerica Company

New Jersey: 3000 Lincoln Drive East, Suite A, Marlton, NJ 08053 * (866) 871-1984
Phoenix, AZ: 1501 West Knudsen drive, Phoenix, AZ 85027 * (800) 651-4802
SSF, CA: 6000 Shoreline Court, Suite 205, South San Francisco, CA 94080 * (866) 888-6653

Weather	Fog	Rain	Snow	Wind	Clear
Level: None	☐	☐	☐	☐	☑
Light	☐	☐	☐	☐	
Moderate	☐	☐	☐	☐	
Heavy	☐	☐	☐	☐	

Non-C
Spore Trap

001912569

CONTACT INFORMATION

Company:	Terracon	Address:	72 Pointe Circle Greenville, SC
Contact:	Jeff Gurrie	Special Instructions:	
Phone:	864-292-2901		

PROJECT INFORMATION

Project ID:			
Project Description:	CU- Brooks Auditorium		
Project Zip Code:	29	Sampling Date & Time:	4-16-18 1400
PO Number:		Sampled By:	SE

TURN AROUND TIME CODES (TAT)

STD – Standard (DEFAULT)
ND – Next Business Day
SD – Same Business Day Rush
WH – Weekend / Holiday

Rushes received after 2 pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

Sample ID	Description	Sample Type (Below)	TAT (Above)	Total Volume / Area (as applicable)	Notes (Time of day, Temp, RH, etc.)
HS-1	Catwalk - Left Rear	O	72hrs	1607L	
HS-2	Auditorium - Ground Right	O		1769L	
HS-3	Auditorium - 2nd Rt	O		1243L	
HS-4	Auditorium - 2nd Left	O		1794L	
HS-5	Blank	O	↓	OL	

Fungi – Spore Trap Analysis	Spore Trap Analysis – Other particles	Direct Microscopic Exam (Qualitative)	Quantitative Spore Count, Direct Exam	1-Media Surface Fungi (Genus ID + Asp. spp.)	2-Media Surface Fungi (Genus ID + Asp. spp.)	3-Media Surface Fungi (Genus ID + Asp. spp.)	Culturable Air Fungi (Genus ID + Asp. spp.)	Gram Stain & Counts (Culturable-Air & Surface Bacteria)	Legionella culture	Total Coliform, E. coli (Presence/Absence)	Membrane Filtration (specify organism):	MPN Bacteria (specify organism):	QuantiTray – Sewage Screen
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
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☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Other Requests

Asbestos Analysis – PCM Airborne Fiber Count (NIOSH 7400)	Asbestos Analysis – PLM (EPA method 600/R-93-116)	PCR (specify test): Aviary Pathogen
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐

SAMPLE TYPE CODES

BC – BioCassette™	ST – Spore Trap: Zefon, Allergenco, Burkard ...	T – Tape	D – Dust
AIS – Anderson		SW – Swab	SO – Soil
SAS – Surface Air Sampler	P – Potable Water	B – Bulk	
CP – Contact Plate	NP – Non-Potable Water	O – Other: PCR Cassette	

RELINQUISHED BY	DATE & TIME	RECEIVED BY	DATE & TIME
	4-16-18 1830		
Fedex 945	4/17/18	KGinthAM	

By submitting this Chain of Custody, you agree to be bound by the terms and conditions set forth at http://www.emlab.com/s/main/service-terms.html

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EMLab P&K
A TestAmerica Company

Report for:

Mr. Jeff Gurrie
Terracon Consultants, Inc. - Greenville
72 Pointe Circle
Greenville, SC 29615

Regarding: Project: 86127158-Tusk 138; CU - Brooks Auditorium Resample
EML ID: 1915376

Approved by:

Operations Manager
Joshua Cox

Dates of Analysis:
PCR screen: Avian Pathogen: 04-24-2018

Service SOPs: PCR screen: Avian Pathogen (EM-BC-S-1097, EM-BS-S-1199 & EM-BC-S1206)

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

EMLab P&K
1501 West Knudsen Drive, Phoenix, AZ 85027
(800) 651-4802 Fax (623) 780-7695 www.emlab.com

Client: Terracon Consultants, Inc. - Greenville
C/O: Mr. Jeff Gurrie
Re: 86127158-Tusk 138; CU - Brooks Auditorium Resample

Date of Sampling: 04-20-2018
Date of Receipt: 04-23-2018
Date of Report: 04-24-2018

AVIAN PATHOGEN SCREEN: PCR METHODOLOGY

Location:	HS-1A: Catwalk		HS-2A: Auditorium Bottom		HS-3A: Auditorium Upper		HS-4A: Auditorium Upper		HS-5A: Blank	
Comments (see below)	None		None		None		None		None	
Sample Type:	Polycarbonate Air Filter Cassette		Polycarbonate Air Filter Cassette		Polycarbonate Air Filter Cassette		Polycarbonate Air Filter Cassette		Polycarbonate Air Filter Cassette	
Lab ID-Version‡:	9004035-1		9004036-1		9004037-1		9004038-1		9004039-1	
Sample Size:	1.224		1.23		1.248		1.218		1	
Unit:	m3		m3		m3		m3		sample	
	CE*	CE*/Unit	CE*	CE*/Unit	CE*	CE*/Unit	CE*	CE*/Unit	CE*	CE*/Unit
Chlamydophila psittaci	ND	<82	ND	<81	ND	<80	ND	<82	ND	<100
Cryptococcus neoformans	ND	<82	ND	<81	ND	<80	ND	<82	ND	<100
Histoplasma capsulatum §	Absent		Absent		Absent		Absent		Absent	

*Cell equivalents ND = Not Detected

Comments:

Method Reference: *Chlamydophila psittaci*- Madico, G., Quinn T.C., Boman, J., and Gaydos C.A. 2000. Touchdown enzyme time release-PCR for detection and identification of *Chlamydia trachomatis, C. pneumoniae,* and *C. psittaci* using the 16S and 16S-23S spacer rRNA genes. J. Clin. Microbiol. Vol. 38. 1085-1093
Method Reference: *Cryptococcus neoformans*- Bialek, R., Weiss, M., Bekure-Nemariam, K., Najvar, L.K., Alberdi, M.B., Graybill, J.R., and U. Reischl. 2002. Detection of *Cryptococcus neoformans* DNA in tissue samples by nested and real-time PCR assays. Clin Diagn Lab Immunol. 9:461-469
Method Reference: *Histoplasma capsulatum*- Reid, T.M. and Schafer, M.P., 1999. Direct detection of *Histoplasma capsulatum* in soil suspensions by two-stage PCR. Mol Cell Probes. 13(4):269-73.

§This organism requires a two-stage PCR method of analysis. As a result, detection can only be reported as "Present" or "Absent".

‡A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

CHAIN OF CUSTODY

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001915376

Weather		Fog	Rain	Snow	Wind	Clear
Level	None	☐	☐	☐	☐	☑
	Light	☐	☐	☐	☐	
	Moderate	☐	☐	☐	☐	
	Heavy	☐	☐	☐	☐	

CONTACT INFORMATION

Company:	Terracon	Address:	72 Pointe Circle Greenville, SC 29615
Contact:	Jeff Gurrie	Special Instructions:	
Phone:	864-292-2901		

PROJECT INFORMATION

Project ID:	86127159 - Task 139		
Project Description:	CU - Brooks Auditorium Resample		
Project Zip Code:		Sampling Date & Time:	4-20-18 1130
PO Number:		Sampled By:	Stephen Ellis

TURN AROUND TIME CODES (TAT)

STD – Standard (DEFAULT)
ND – Next Business Day
SD – Same Business Day Rush
WH – Weekend / Holiday

Rushes received after 2 pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

REQUESTED (Use checkbox)

Sample ID	Description	Sample Type (Below)	TAT (Above)	Total Volume / Area (as applicable)	Notes (Time of day, Temp, RH, etc.)
HS-1A	Catwalk		24Hr	1224 L	22.9% 71.0°
HS-2A	Auditorium Bottom		"	1230 L	23.3% 70.7°
HS-3A	Auditorium Upper		"	1248 L	22.4% 71.7°
HS-4A	Auditorium Upper		"	1218 L	28.0% 71.0°
HS-5A	Blank		"	0 L	

Non-Culturable: Spore Trap; Tape Swab Bulk

Culturable: BioCassette™, Andersen, SAS, Swab, Water, Bulk, Dust, Soil, Contact Plates

Other Requests

Spore Trap: Fungi – Spore Trap Analysis	Spore Trap: Spore Trap Analysis – Other particles	Tape Swab Bulk: Direct Microscopic Exam (Qualitative)	Tape Swab Bulk: Quantitative Spore Count Direct Exam	BioCassette™: 1-Media Surface Fungi (Genus ID + Asp. spp.)	BioCassette™: 2-Media Surface Fungi (Genus ID + Asp. spp.)	BioCassette™: 3-Media Surface Fungi (Genus ID + Asp. spp.)	BioCassette™: Culturable Air Fungi (Genus ID + Asp. spp.)	BioCassette™: Gram Stain & Counts (Culturable Air & Surface Bacteria)	BioCassette™: Legionella culture	BioCassette™: Total Coliform, E. coli (Presence/Absence)	BioCassette™: Membrane Filtration (specify organism):	BioCassette™: MPN Bacteria (specify organism):	BioCassette™: QuantiTray – Sewage Sampler	Other Requests: Asbestos Analysis – PCM Airborne Fiber Count (NIOSH 7400)	Other Requests: Asbestos Analysis – PLM (EPA method 600/R-93-116)	Other Requests: PCR (specify test): Airborne Pathogen
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SAMPLE TYPE CODES

BC – BioCassette™	ST – Spore Trap: Zefon, Allergenco, Burkard ...	T – Tape	D – Dust
AS – Andersen		SW – Swab	SO – Soil
SAS – Surface Air Sampler	P – Potable Water	B – Bulk	
CP – Contact Plate	NP – Non-Potable Water	O – Other:	PCR Cassette

RELINQUISHED BY	DATE & TIME	RECEIVED BY	DATE & TIME
	4-20-18 1700		
Fedex 950	4/23/18	KCantrell	

By submitting this Chain of Custody, you agree to be bound by the terms and conditions set forth at http://www.emlab.com/s/main/service-terms.html

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